FINAL ENVIRONMENTAL IMPACT STATEMENT

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for the proposed

CITY OF PORT ORCHARD
DOWNTOWN PORT ORCHARD SUBAREA PLAN

prepared by

City of Port Orchard

April 2021

CITY OF PORT ORCHARD
Department of Community Development
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April 26, 2021

TO: Recipients of the Final Environmental Impact Statement (FEIS)
Downtown Port Orchard Subarea Plan

The City of Port Orchard, with a consultant team led by GGLO Architects and Planners, began working in 2020 to develop a subarea plan, environmental impact statement (EIS), and Planned Action Ordinance for the City's existing Downtown and County Government Campus centers. The result of the planning process will be a single Downtown Port Orchard Subarea Plan, which will be incorporated into the City's Comprehensive Plan. The Plan will provide long-range goals and policies to form a framework for redevelopment, as well as specific goals and policies for land use, environmental protection, and transportation. The final draft Subarea Plan, dated April 21, 2021, is available for review at the link provided below.

A public hearing on the final draft Subarea Plan is scheduled for May 4, 2021 at 6:00 p.m. before the Port Orchard Planning Commission, via Zoom teleconference. For information on how to attend or participate in the public hearing, please see: https://www.cityofportorchard.us/departments/planning-commission/

This FEIS has been prepared to evaluate the impacts of the subarea plan. The FEIS considers potential impacts and mitigation measures for two land use alternatives that include policy changes and land use/zoning changes in the subareas, as well as a no-action alternative. The issues addressed include current land uses, development capacity, future development mix and location of densities and uses, transportation, utilities, public facilities and amenities, cultural resources, and natural resources.

The City of Port Orchard is the lead review agency for purposes of the State Environmental Policy Act (SEPA). For more information on the Subarea Plan or the FEIS, please see: https://www.cityofportorchard.us/downtown-and-county-government-campus-subarea-plan/

If you have any questions about this project, please contact: planninginfo@cityofportorchard.us.

FINAL

ENVIRONMENTAL IMPACT STATEMENT

for the

CITY OF PORT ORCHARD
DOWNTOWN PORT ORCHARD SUBAREA PLAN

This Final Environmental Impact Statement (FEIS) for the proposed ***Downtown Port Orchard Subarea Plan*** has been prepared in compliance with the State Environmental Policy Act (SEPA) of 1971 (Chapter 43.21C, Revised Code of Washington); the SEPA Rules (Chapter 197-11, Washington Administrative Code); and rules adopted by the City of Port Orchard implementing SEPA. Preparation of this EIS is the responsibility of the City of Port Orchard, and based on a scoping process has directed the areas of research and analysis that were undertaken in preparation of this EIS. This document is not an authorization for an action, nor does it constitute a decision or a recommendation for an action. In its final form – as a Final EIS – it will accompany the proposed ***Downtown Port Orchard Subarea Plan*** and will be considered in making final decisions concerning the Subarea Plan, as well as new policies and regulations, and the site-specific Kitsap County Courthouse project proposed within the Subarea Plan area.

Date of Draft EIS Issuance...**January 19, 2021**

Date of Final EIS Issuance.. **April 27, 2021**

PREFACE

The purpose of this Final Environmental Impact Statement (FEIS) is to:

- identify and evaluate probable adverse environmental impacts that could result from development of the *Proposed Action* and alternatives, and the *No Action Alternative;* and
- identify measures to mitigate those impacts.
- Respond to comments received on the Draft EIS

This Final EIS is a non-project document in that ***1)*** addresses an approximately 329-acre area of Port Orchard and presents cumulative impact analyses for the entire subarea, rather than piecemeal analysis on a project-by-project basis; ***2)*** it is an EIS aimed at comprehensiveness yet conciseness to improve usefulness; and ***3)*** for the approximately 34.5 acre Downtown area, it is a "Planned Action" EIS with the objective of eliminating the need for subsequent environmental review associated with site-specific development or redevelopment -- providing certainty for future development and simplifying and expediting the permitting process in order to foster the realization of high quality urban development in the subarea. The "Planned Action" EIS is an upfront environmental review of the Downtown Port Orchard Subarea Plan prepared pursuant to the authorization and requirements of RCW 43.21C.420, .440, .229, regulations set forth in Chapter 197-11 WAC, and the requirements set forth in the Port Orchard Municipal Code. Once complete, the EIS will allow the City Council to enact ordinances that use one or more or a hybrid of the upfront environmental review tools authorized by these statutory provisions, and to authorize or grant permits and approvals based upon certain "upfront" EIS provisions.

The environmental elements that are analyzed in this EIS were determined as a result of the formal, public EIS scoping process, which occurred from August 14, 2020, through September 4, 2020, with a virtual public scoping meeting held on September 1, 2020 . The SEPA Determination of Significance/Scoping Notice was mailed to numerous agencies and organizations, as well as owners and current occupants of parcels located within the Subarea Plan area and surrounding the Subarea Plan area boundary. Following review of the comments received during the scoping period, the City of Port Orchard determined the issues and alternatives to be analyzed in this EIS. They include seven broad areas of environmental review consisting of: land use/relationship to plans and policies, housing/population/employment, aesthetics/visual resources, public services; transportation; and utilities. The Table of Contents for this FEIS is contained in the **Fact Sheet**. The FEIS is organized into five major chapters:

- **Fact Sheet** (immediately following this Preface) provides an overview of the proposed action and alternatives, major approvals needed, contact information and the Table of Contents;
- **Chapter 1** (beginning on page 1-1) summarizes the description of the proposed project, the Proposed Action and development alternatives, and the No Action Alternative, as well as provides a summary of environmental impacts, mitigation measures, and significant unavoidable adverse impacts;
- **Chapter 2** (beginning on page 2-1) provides a detailed description of the Proposed Action and development alternatives and the No Action Alternative; and,
- **Chapter 3** (beginning on page 3-1) is an analysis of potential impacts in the subject areas mentioned above for the Proposed Action and development alternatives. This chapter also identifies relevant mitigation measures and potential significant unavoidable adverse environmental impacts.

- **Chapter 4** (beginning on page 4-1) provide all public comments received on the Draft EIS, and responses to all comment received.

FACT SHEET

Name of Proposal **Downtown Port Orchard Subarea Plan**

Proponent City of Port Orchard

Location The *Downtown Port Orchard Subarea Plan* encompasses approximately 329 acres, proposed changes are only proposed for targeted areas in or near the existing urban centers (Downtown and County Campus centers), along existing principal arterials, and currently underutilized parcels. The area within the *Downtown Port Orchard Subarea Plan* subject to proposed changes totals approximately 34.5 acres, or approximately 9 percent of the 329-acre planning area. Land use policies related to the existing residential neighborhoods and area associated with Kitsap High School would remain as currently established.

Proposed Action The Proposed Actions include:

- Determination of whether one of the development alternatives contained in the Subarea Plan, a hybrid alternative derived from the development alternatives, or the No Action Alternative is the preferred alternative.

- Adoption of the *Downtown Port Orchard Subarea Plan* as an element of the City's Comprehensive Plan (RCW 36.70A.080(2)).

- Implementation of the associated Planned Acton Ordinance for the proposal and associated upfront SEPA compliance.

The *Downtown Port Orchard Subarea Plan* primarily represents code changes to implement the vision of creating a vibrant urban center that is economically feasible and context sensitive, and specific development projects are generally not identified. However, the Subarea Plan does incorporate the currently proposed Kitsap County Courthouse project, which includes planned improvements and expansion of the existing county government campus.

EIS Alternatives

In order to conduct a comprehensive environmental review, the No Action Alternative (Alternative 1) and two development alternatives meeting the objectives of the Subarea Plan are analyzed in this EIS including Alternative 2 (Residential Focus) and Alternative 3 (Mixed-Use Focus). The alternatives are described in detail in Chapter 2 of this EIS.

SEPA Responsible Official

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Phased Environmental Review[1]

This is a Planned Action EIS, which is a streamlined environmental review process that applies to the specific geographic area associated with the Downtown Subarea. In general, the objective of the Planned Action EIS is to evaluate probable environmental impacts of the development alternatives in this early planning stage to eliminate the need for subsequent environmental review of site-specific development or redevelopment. Such is expected to provide certainty for future site specific development proposals and both simplify and expedite the permit process for such projects. The no further environmental review provision applies to development that complies with the subarea's development regulations. If, however, substantial changes occur to the plan following issuance of the Final EIS or new environmental information is identified, the SEPA Lead Agency may determine that subsequent environmental analysis is necessary in order to address the changes and/or the new environmental information.

Required Approvals and/or Permits

Approvals associated with the Downtown Port Orchard Subarea Plan include:

- Adoption of the *Downtown Port Orchard Subarea Plan* as an element of the City's Comprehensive Plan, along with adjacent areas, pursuant to RCW 36.70A.080(2).

- Implementation of the associated Planned Acton Ordinance for the project and associated upfront SEPA compliance.

Federal, state and local approvals would be required for individual projects within the Downtown Port Orchard Subarea Plan boundary,

[1] WAC 197-11-060(5)

including the Kitsap County Courthouse Project. The types of local permits (City of Port Orchard) include but are not limited to:

- Demolition Permit
- Commercial Building Permit
- Residential Building Permit
- Plumbing and Mechanical Permit
- Conditional Use Permit
- Shoreline Substantial Development Permit
- Land Disturbing Activity Permit
- Stormwater Drainage Permit
- Shoreline CUP
- Shoreline Exemption
- Right of Way Permit
- Binding Site Plan
- Subdivision
- Short Subdivision
- Development Agreement

Authors and Principal Contributors to this EIS

This *Downtown Port Orchard Subarea Plan* EIS has been prepared under the direction of the City of Port Orchard, as SEPA Lead Agency. Research and analysis associated with this EIS were provided by the following consulting firms:

- **EA** – lead EIS consultant; document preparation; environmental analysis – Land Use, Relationship to Plans and Policies, Aesthetics, and Public Services.
- **GGLO** – lead subarea plan consultant, Aesthetics simulations, project graphics.
- **Heartland** – Economic profile and capacity analysis.
- **Transportation Solutions** – Transportation.
- **BHC Consultants** – Utilities (sewer and water)
- **Reid Middleton** – Utilities (stormwater)

Location of Background Data

EA Engineering, Science and Technology, Inc., PBC
2200 Sixth Avenue, Suite 707
Seattle, WA 98121

City of Port Orchard
Department of Community Development
216 Prospect Street
Port Orchard, WA 98366

Date of Issuance of this Final EIS

April 27, 2021

Availability of this Final EIS

Copies of this FEIS or a Notice of Availability have been distributed to agencies, organizations and individuals noted on the Distribution List (**Chapter 6** of this document). Notice of Availability of the FEIS has also been provided to organizations and individuals that requested to become parties of record, and that provided EIS Scoping comments.

This FEIS and the appendices are also available online at: https://www.cityofportorchard.us/downtown-and-county-government-campus-subarea-plan/

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CHAPTER 1
SUMMARY

1.1 INTRODUCTION

This chapter provides a summary of the Final Environmental Impact Statement (FEIS) for the Downtown Port Orchard Subarea Plan Project. **Chapter 1** briefly describes the No Action (Alternative 1), Alternative 2 (Residential Focus) and Alternative 3 (Mixed-Use Focus), and contains a comprehensive overview of environmental impacts identified for the EIS Alternatives. Please see **Chapter 2** of this FEIS for a more detailed description of the Proposed Actions and alternatives and **Chapter 3** for a detailed description of the affected environment, environmental impacts, mitigation measures, and significant unavoidable adverse impacts. Information added subsequent to the issuance of the Draft EIS is shaded to ease in the identification of added information.

The *Downtown Port Orchard Subarea Plan* encompasses approximately 329 acres, proposed changes are only proposed for targeted areas in or near the existing urban centers (Downtown and County Campus centers[1]), along existing principal arterials, and currently underutilized parcels. The area within the *Downtown Port Orchard Subarea Plan* subject to proposed changes totals approximately 34.5 acres, or approximately 9 percent of the 329-acre planning area. Land use policies related to the existing residential neighborhoods and area associated with Kitsap High School would remain as currently established.

The *Downtown Port Orchard Subarea Plan* primarily represents code changes to implement the vision of creating a vibrant urban center that is economically feasible and context sensitive, and specific development projects are generally not identified. However, the Subarea Plan does incorporate the currently proposed Kitsap County Courthouse project, which includes planned improvements and expansion of the existing campus.

In order to conduct a comprehensive environmental review, the No Action Alternative (Alternative 1) and two development alternatives meeting the objectives of the Subarea Plan are analyzed in this EIS including Alternative 2 (Residential Focus) and Alternative 3 (Mixed-Use Focus). The alternatives are described in detail in Chapter 2 of this Final EIS

[1] These existing centers would be consolidated into a single Downtown Port Orchard Countywide Center under the proposed Subarea Plan.

No Action Alternative

Under the No Action Alternative, the City of Port Orchard's existing Comprehensive Plan, Zoning Map, and the Zoning Code (Port Orchard Municipal Code Title 20) would remain in effect. Existing planning and implementation policies and development regulations would continue to guide development decisions for properties within the Downtown Port Orchard Subarea area. No Planned Action Ordinance would be adopted and the advantages of upfront SEPA compliance would not occur.

Under the No Action Alternative, it is assumed that growth in the Downtown area would continue under current policies and guidelines, although the City would lose opportunities for future development that may be more consistent with the direction outlined in the *Downtown Port Orchard Subarea Plan* and the broader Comprehensive Plan. Development of the currently proposed expansion of the County Governmental Campus is assumed to occur under the No Action Alternative.

The levels of population and employment capacity for the No Action Alternative would increase in 2040, but the increase would be less that under the development alternatives. For example, the available residential capacity (in units) under the No Action Alternative would be 1,074 units compared to 1,610 units under Alternative 2 (Residential Focus). Commercial capacity (square footage) would be 622,800 sq. ft. under the No Action Alternative compared to 869,400 sq. ft. under Alternative 3 (Mixed-Use Focus).

Development of the Kitsap County Courthouse Project is assumed to occur under Alternative 1.

Development Alternatives

The City of Port Orchard identified goals and objectives which are included in the *Downtown Port Orchard Subarea Plan* and noted in Section 2.3 of this Chapter. Based on these goals and objectives, the City identified two development alternatives that could feasibly attain or approximate the project goals and objectives. For the Downtown areas, this includes promoting a vibrant walkable community that showcases the City's waterfront. In the County Government Campus (and the uphill neighborhood) the plan incorporates planned expansion at the county campus, provides development flexibility along the Sydney and Cline corridors, and preserves residential areas throughout most of the neighborhood. The primary variable between the development alternatives under the subarea plan (Alternatives 2 and 3) is if future development will consist primarily of residential and stand-alone commercial (Alternative 2 – Residential Focus) or if future development will consist primarily of mixed-use development (Alternative 3 – Mixed-Use Focus).

Alternative 2 – Residential Focus

Alternative 2 assumes a mostly residential development focus with commercial development occurring in standalone buildings in commercial zones only. The maximum building heights and densities would generally be consistent with the existing land use code, but assumes a greater mix of structures parking to achieve greater densities than the existing development patterns.

Potential changes to zoning and allowable building height would focus on increasing residential capacity in existing commercial only zones.

Compared to Alternative 1 (No Action), Alternative 2 would result in an increase of approximately 293 residential units, approximately 612 residents, approximately 110,800 sq.ft. of commercial space, and approximately 221 employees.

Compared to Alternative 3 (Mixed-Use Focus), Alternative 2 would result in a greater increase in residential units and residents, and a lesser increase in commercial space and employees.

Development of the Kitsap County Courthouse Project is assumed to occur under Alternative 2.

Alternative 3 – Mixed-Use Focus

Alternative 3 assumes an increase in mixed-use residential, commercial retail, and office development. This alternative would include some standalone commercial development in mixed-use zones and in commercial only zones. The maximum building height and densities would generally be consistent with the existing land use code, but assumes a greater mix of parking structures to achieve greater density than the existing development pattern.

Potential zoning changes would focus on increasing residential capacity in both existing commercial and residential only zones.

Compared to Alternative 1 (No Action), Alternative 3 would result in an increase of approximately 37 residential units, approximately 77 residents, approximately 246,600 sq. ft. of commercial space, and approximately 493 employees.

Compared to Alternative 2 (Residential Focus), Alternative 3 would result in a greater increase in commercial space and employees, and a lesser increase in residential units and residents.

Development of the Kitsap County Courthouse Project is assumed to occur under Alternative 3.

1.2 IMPACTS, MITIGATION MEASURES AND SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

The following highlights the impacts, mitigation measures, and significant unavoidable adverse impacts that would potentially result from the alternatives analyzed in this EIS. **Table 1-1** provides a summary of the potential impacts that would be anticipated under the EIS Alternatives. This summary is not intended to be a substitute for the complete discussion of each element that is contained in **Chapter 3**.

Table 1-1
IMPACT SUMMARY MATRIX

	Alternative 1 No Action	Alternative 2 Residential Focus	Alternative 3 Mixed-Use Focus
3.1 – LAND USE/RELATIONSHIP TO PLANS AND POLICIES			
Construction Activities	• Development under the No Action Alternative would include construction of infrastructure and buildings temporarily generating noise, dust and traffic. • Phased construction of the Kitsap County Courthouse Project would temporarily generate noise, dust and traffic.	• Alternative 2 would include construction of infrastructure and buildings temporarily generating noise, dust and traffic; up to 494,600 sq.ft. more building development than under No Action. • Phased construction of the Kitsap County Courthouse Project under Alternative 2 same as under No Action Alternative.	• Alternative 3 would include construction of infrastructure and buildings temporarily generating noise, dust and traffic; up to 411,883 sq.ft. more building development than under No Action. • Phased construction of the Kitsap County Courthouse Project under Alternative 3 same as under No Action Alternative
Displacement/ Conversion of Existing Uses	• Because the majority of the land within the Subarea Plan area is currently developed, the majority of development under the No Action Alternative would result in the displacement of some existing uses. • The Kitsap County Courthouse Project would result in the phased displacement of some existing uses, with replacement with new courthouse uses.	• Similar to the No Action Alternative, Alternative 2 would result in some displacement of existing uses; potential for displacement greater than No Actin Alternative given 494,600 sq.ft. of additional new building space. • Kitsap County Courthouse Project displacements under Alternative 2 would be the same as under the No Action Alternative.	• Similar to the No Action Alternative, Alternative 3 would result in some displacement of existing uses; potential for displacement greater than No Actin Alternative given 411,883 sq.ft. of additional new building space. • Kitsap County Courthouse Project displacements under Alternative 3 would be the same as under the No Action Alternative.
Relationship to Surrounding Uses	• New uses would be similar to existing pattern of land uses, and consistent with adjacent uses. • New development would result in increased	• Similar to No Action, Alternative 2 would result in new uses similar to existing pattern of land uses, and consistent with adjacent uses. • New development under Alternative 2	• Similar to No Action, Alternative 3 would result in new uses similar to existing pattern of land uses, and consistent with adjacent uses. • New development under Alternative 3

	Alternative 1 No Action	Alternative 2 Residential Focus	Alternative 3 Mixed-Use Focus
	activity associated with new population, including noise and traffic. New uses and activity levels would be consistent with existing uses and activity.	would result in similar uses and increased activity levels compared to the No Action Alternative. As under the No Action Alternative, new uses and activity would be consistent with existing uses and activity.	would result in similar uses and increased activity levels compared to the No Action Alternative. As under the No Action Alternative, new uses and activity would be consistent with existing uses and activity.
Building Height, Bulk, Scale	• Maximum building height regulations under the No Action Alternative would not change from existing conditions.	• Maximum building height regulations in the majority of the Subarea Plan area under Alternative 2 would remain as current. Maximum building heights would increase in two small portions of the Subarea Plan area; both area are located outside the VPOD.	• Maximum building height regulations in the majority of the Subarea Plan area under Alternative 3 would remain as current. Maximum building heights would increase in two small portions of the Subarea Plan area; both area are located outside the VPOD.
Indirect	• Redevelopment would contribute to cumulative residential and employment growth in Kitsap County, with associated increased demand for goods and services. Majority of demand would be met in City of Port Orchard and immediate area, including Bremerton.	• Indirect conditions under Alternative 2 would be similar to the No Action Alternative, although increase in demand for goods and services would be somewhat greater.	• Indirect conditions under Alternative 3 would be similar to the No Action Alternative, although increase in demand for goods and services would be somewhat greater.
3.2 – HOUSING, POPULATION & EMPLOYMENT			
Construction	• Development under the No Action Alternative would result in new construction employment opportunities associated with new residential and commercial construction.	• Alternative 2 would provide more construction employment opportunities than the No Action Alternative due to the increased amount of development under Alternative 2.	• Alternative 3 would provide more construction employment opportunities than the No Action Alternative due to the increased amount of development under Alternative 3.
Operational – Housing	• The No Action Alternative would provide approximately 1,074 new residential units within the Subarea.	• Alternative 2 would provide approximately 1,610 new residential units within the Subarea.	• Alternative 2 would provide approximately 1,288 new residential units within the Subarea.

	Alternative 1 No Action	Alternative 2 Residential Focus	Alternative 3 Mixed-Use Focus
Operational – Population	• New residences under the No Action Alternative would provide capacity for approximately 4,051 new residents.	• New residences would provide capacity for approximately 4,663 new residents under Alternative 2.	• New residences would provide capacity for approximately 4,128 new residents under Alternative 2.
Operational – Employment	• Development under the No Action Alternative would include approximately 622,800 sq. ft. of commercial uses which would provide space for approximately 3,396 new employees.	• Alternative 2 would include approximately 673,500 sq. ft. of commercial uses which would provide space for approximately 3,617 new employees.	• Alternative 2 would include approximately 848,600 sq. ft. of commercial uses which would provide space for approximately 3,889 new employees.
3.3 – AESTHETICS/LIGHT AND GLARE			
Aesthetics	• Future development under the No Action Alternative would primarily occur in the most developed portions of the Subarea Plan area and would affect the aesthetic character. New development would be expected to reflect a continuation of the existing aesthetic character. • No changes to the current building height limits would occur under the No Action Alternative. • Development of the Kitsap County Courthouse Project would increase the visible building area which would appear as a continuation of existing development.	• Although the level of redevelopment under Alternative 2 would be greater than under the No Action Alternative (494,600 sq.ft. more), new development would generally reflect a continuation of the existing development pattern and result an aesthetic character similar to the No Action Alternative. • Maximum building height regulations in the majority of the Subarea Plan area under Alternative 2 would remain as current. Maximum building heights would increase in two small portions of the Subarea Plan area; both area are located outside the VPOD. • Kitsap County Courthouse Project aesthetic conditions under Alternative 2 would be the same as under the No Action Alternative.	• Although the level of redevelopment under Alternative 3 would be greater than under the No Action Alternative (411,883 sq.ft. more), new development would generally reflect a continuation of the existing development pattern and result an aesthetic character similar to the No Action Alternative. • Maximum building height regulations in the majority of the Subarea Plan area under Alternative 3 would remain as current. Maximum building heights would increase in two small portions of the Subarea Plan area; both area are located outside the VPOD • Kitsap County Courthouse Project aesthetic conditions under Alternative 3 would be the same as under the No Action Alternative.

	Alternative 1 No Action	Alternative 2 Residential Focus	Alternative 3 Mixed-Use Focus
Light and Glare	• Future development under the No Action Alternative, including the Kitsap County Courthouse Project, would increase light and glare. The levels of light and glare would be similar to existing levels and would appear as an extension of the current conditions.	• Future development under Alternative 2 would increase light and glare at levels greater than under the No Action Alternative; as under the No Action Alternative, light and glare would appear as an extension of the current conditions.	• Future development under Alternative 3 would increase light and glare at levels greater than under the No Action Alternative; as under the No Action Alternative, light and glare would appear as an extension of the current conditions
3.4 – UTILITIES			
Stormwater	• New development under the No Action Alternative would be anticipated to primarily occur as redevelopment of currently developed properties and any increase in impervious surface would be limited. • New development under the No Action Alternative would be required to comply with 2012 Western Washington Stormwater Manual, and stormwater quantity and quality conditions would improve or would not change.	• Similar to the No Action Alternative, development under Alternative 2 would primarily occur as redevelopment of currently developed properties, and any increase in impervious surface would be limited. • Similar to the No Action Alternative, new development under Alternative 2 would be required to comply with 2012 Western Washington Stormwater Manual, and stormwater quantity and quality conditions would improve or would not change.	• Similar to the No Action Alternative, development under Alternative 3 would primarily occur as redevelopment of currently developed properties, and any increase in impervious surface would be limited. • Similar to the No Action Alternative, new development under Alternative 3 would be required to comply with 2012 Western Washington Stormwater Manual, and stormwater quantity and quality conditions would improve or would not change.
Water	• Increased population under Alternative 1 would increase the demand for water. Implementation of planned water system improvements would adequately serve future growth under all EIS Alternatives (including No Action Alternative).	• Increased population under Alternative 2 would increase the demand for water. Implementation of planned water system improvements would adequately serve future growth under all EIS Alternatives.	• Increased population under Alternative 3 would increase the demand for water. Implementation of planned water system improvements would adequately serve future growth under all EIS Alternatives.
Sewer	• Increased population under Alternative 1 would increase sewer system demand. Implementation of planned sewer system	• Increased population under Alternative 2 would increase sewer system demand. Implementation of planned sewer system	• Increased population under Alternative 3 would increase sewer system demand. Implementation of planned sewer system

	Alternative 1 No Action	Alternative 2 Residential Focus	Alternative 3 Mixed-Use Focus
	improvements would adequately serve future growth under all EIS Alternatives (including No Action Alternative).	improvements would adequately serve future growth under all EIS Alternatives.	improvements would adequately serve future growth under all EIS Alternatives.
3.5 – TRANSPORTATION			
	• The intersection of Bay St (SR 166) & Port Orchard Blvd currently operates poorly at LOS F in the PM peak hour. The intersection would continue to operate at LOS F with high minor-approach delays under all EIS Alternatives (including the No Action Alternative).	• The intersection of Bay St (SR 166) & Port Orchard Blvd. would operate under Alternative 2 similar to that described for Alternative 1.	• The intersection of Bay St (SR 166) & Port Orchard Blvd. would operate under Alternative 3 similar to that described for Alternative 1
	• The segment of Bay St (SR 166) from Sidney Ave to Bethel Rd would operate at LOS E under all EIS Alternatives (including the No Action Alternative). Based the current minimum LOS D standard, the segment would be LOS-deficient.	• The segment of Bay St (SR 166) from Sidney Ave to Bethel Rd would operate under Alternative 2 similar to that described for Alternative 1.	• The segment of Bay St (SR 166) from Sidney Ave to Bethel Rd would operate under Alternative 3 similar to that described for Alternative 1.
	• The segment of Bay St (SR 166) from Port Orchard Blvd to Sidney Ave would operate at LOS F under Alternative 1.	• The segment of Bay St (SR 166) from Port Orchard Blvd to Sidney Ave would operate at LOS F under Alternative 2.	• The segment of Bay St (SR 166) from Port Orchard Blvd to Sidney Ave would operate at LOS E in Alternative 3, crossing the volume-to-capacity threshold of 0.90 to reach LOS-deficient status.
3.6 – PUBLIC SERVICES			
Construction	• Development under the No Action Alternative would result in construction-related impacts such as increased calls to South Kitsap Fire and Rescue (SKFR) and the Port Orchard Police Department to respond	• Construction-related impacts under Alternative 2 would be similar to the No Action Alternative but would be anticipated to result in a greater number of calls to SKFR and the Port Orchard Police	• Construction-related impacts under Alternative 3 would be similar to the No Action Alternative but would be anticipated to result in a greater number of calls to SKFR and the Port Orchard Police

	Alternative 1 No Action	Alternative 2 Residential Focus	Alternative 3 Mixed-Use Focus
	to construction-related injuries, theft, and vandalism.	Department due to the increased amount of development.	Department due to the increased amount of development.
Operational – Fire/EMS	• Development under the No Action Alternative would generate the need for approximately 3.6 new career firefighters and 0.9 new paramedics.	• Alternative 2 would generate the need for approximately 4.2 new career firefighters and 1.1 new paramedics.	• Alternative 2 would generate the need for approximately 3.7 new career firefighters and 1.0 new paramedics.
Operational – Police	• The No Action Alternative would generate the need for approximately 5.9 new patrol officers.	• Development under Alternative 2 would generate the need for approximately 6.8 new patrol officers.	• Development under Alternative 3 would generate the need for approximately 6.1 new patrol officers.
Operational – Public Schools	• Residential development under the No Action Alternative would generate approximately 558 new students within the South Kitsap School District boundaries.	• Under Alternative 2, new residential development would generate approximately 837 new students within the South Kitsap School District.	• Under Alternative 3, new residential development would generate approximately 670 new students within the South Kitsap School District.

Land Use

Mitigation Measures

Required/Proposed

- Development under all EIS Alternatives would be subject to applicable provisions of the Port Orchard Municipal Code, including Chapter 20 (Unified Development Code), including Subtitle III (Zoning Regulations).

- All new development would be in compliance with the City of Port Orchard Municipal Code Titles 12 (Streets and Sidewalks), 13 (Public Utilities), and 15 (Buildings and Structures).

Incorporated Plan Features

- As described in Chapter 2, although the *Downtown Port Orchard Subarea Plan* encompasses approximately 329 acres, proposed changes are targeted for areas in or near the existing urban centers (Downtown and County Campus centers), along existing principal arterials, and currently underutilized parcels. The area within the *Downtown Port Orchard Subarea Plan* subject to proposed changes totals approximately 34.5 acres, or approximately 9 percent of the 329-acre planning area. Land use policies related to the existing residential neighborhoods and area associated with Kitsap High School would remain as currently established.

- The proposed *Downtown Port Orchard Subarea Plan* incorporates goals and policies to minimize the potential for land use impacts associated with increased density including:

  - Goal LUH – 01 - Develop a land use pattern that is environmentally sustainable and economically vibrant and accommodates additional housing and businesses.
  - Goal LUH – 02 - Encourage increased development in existing centers and along existing primary circulation corridors to create vibrant walkable neighborhoods.
  - Goal LUH – 03 – Ensure that new development largely maintains existing views.
  - Goal LUH – 04 – Transform the existing East Downtown from a largely car dominant development pattern to an extension of the existing walkable West Downtown area.
  - Provide increased pedestrian access and recreational opportunities at the waterfront (Goal EOS - 01).
  - Streets should terminate at the waterfront with a small plaza, overlook, or pocket park (Policy EOS – 03).

- Convert Orchard and Port Streets to pedestrian plazas with limited vehicle access (Policy EOS – 04).
- Support the development of a new park in the existing public right-of-way on the west side of the Blackjack Creek outfall (Policy EOS – 07).

Regulations

- Development under all EIS Alternatives would be subject to applicable provisions of the Port Orchard Municipal Code, including Chapter 20 (Unified Development Code).

- Comprehensive Plan and Zoning Code amendments as necessary to fully integrate the *Downtown Port Orchard Subarea Plan*.

Cultural Resources Measures Applicable to Planned Action Area

Overall

- Pertinent cultural resources regulations would be followed for all development projects proposed within the Subarea Plan area.

- The Suquamish Tribe will be notified, on a project-by-project basis, when development proposals are submitted to the City of Port Orchard for properties within the Planned Action area of the Downtown Port Orchard Subarea Plan.

  Noticing and coordination with Suquamish Tribe would be conducted by the City of Port Orchard as the lead agency under the State Environmental Policy Act (SEPA) and/or Governor's Executive Order 05-05.

- If a project is proposed in the Planned Action area of the Downtown Port Orchard Subarea Plan, a project specific desktop analysis accompanied by a project site visit by a Secretary of Interior Qualified archaeologist would be provided, and an inadvertent discovery plan prepared. The project site visit would be coordinated with the Tribe, and would be geared toward assessing and documenting obvious signs of landscape modification. An archaeological inventory may be needed if no obvious signs of landscape modification are observed. Information generated would be provided to the Suquamish Tribe and the Washington State Department of Archaeology and Historic Preservation prior to the issuance of land use permits for the subject property.

Inadvertent Discovery of Archaeological Resources

- In the event that archaeological deposits are inadvertently discovered during construction of at a potential development site, ground-disturbing activities should be halted immediately, and City of Port Orchard should be notified. The City would then contact DAHP and the Suquamish Tribe, as appropriate, and as described in the recommended inadvertent discovery plan.

Discovery of Human Remains

- Any human remains that are discovered during construction at a potential development site would be treated with dignity and respect.

  - If ground-disturbing activities encounter human skeletal remains during the course of construction, then all activity that may cause further disturbance to those remains must cease, and the area of the find must be secured and protected from further disturbance. In addition, the finding of human skeletal remains must be reported to the county coroner and local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed.

  - The county coroner will assume jurisdiction over the human skeletal remains, and make a determination of whether those remains are forensic or non-forensic. If the county coroner determines the remains are non-forensic, they will report that finding to the DAHP. DAHP will then take jurisdiction over those remains and report them to the appropriate cemeteries and affected tribes. The State Physical Anthropologist will make a determination of whether the remains are Indian or non-Indian, and report that finding to any appropriate cemeteries and the affected tribes. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

Significant Unavoidable Adverse Impacts

Development Alternatives 2 and 3 include policies and regulations which would allow for increased density in the Subarea Plan area, resulting in an intensification of uses and an associated increase in activity levels. It is assumed that proposed redevelopment would occur consistent with adopted standards, guidelines, and regulations, including new goals, policies and regulations associated with the *Downtown Port Orchard Subarea Plan*. Therefore, with the implementation of the required/proposed mitigation measures listed above, no significant unavoidable adverse land use impacts would be anticipated.

Housing/Population/Employment

Mitigation Measures

Increases in housing, population and employment would occur gradually under the EIS Alternatives over the 20-year buildout of the Downtown Port Orchard Subarea. No significant housing, population, and employment impacts are anticipated, and no mitigation measures are identified.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse housing, population or employment impacts are anticipated.

Aesthetics/Visual Resources

Mitigation Measures

Required/Proposed

- Development under all EIS Alternatives would be subject to applicable provisions of the Port Orchard Municipal Code, including Chapter 20 (Unified Development Code).
- All new development would be in compliance with the City of Port Orchard Development Standards (Chapter 20.120), including Design Standards (20.127), and Landscaping (20.128).

Incorporated Plan Features

- The proposed *Downtown Port Orchard Subarea Plan* incorporates goals and policies to minimize the potential for aesthetic impacts associated with increased density including:
  - Ensure that proposed new development largely maintains existing views (Goal LUH – 03).

  - Allow for buildings up to 5-stories on the east side of Bethel between Dekalb Street to Mile Hill Drive (Policy LH – 07).

  - Modify the Downtown Height Overlay District as follows (Policy LH – 08):

    Allow the building height for new development along Bay Street to be measured from the future road elevation consistent with Sea level rise contemplated in the Shoreline Master Plan.

    Amend 20.38.640 (1) as follows:
    (1) DHOD Height Zones Established. Within the DHOD as shown on the zoning map, there are three different DHOD height zones with height limits established as follows:
    (a) DHOD 3: 48 feet – three stories.
    (b) DHOD 4: 58 feet – four stories.
    (c) DHOD 5: 68 feet – five stories.

Amend the height along the block south of Bay Street between Robert Geiger and Frederick to allow 5 stories except within 50 feet of Robert Geiger Street which shall be limited to 4 stories.

Significant Unavoidable Adverse Impacts

Under Alternatives 2 and 3, portions of the Subarea Plan area (including Downtown and County Campus areas) would gradually be redeveloped consistent with applicable provisions of Port Orchard Municipal Code and Comprehensive Plan (including applicable provisions of the proposed Downtown Port Orchard Subarea Plan). The proposed Subarea Plan would increase allowable building height in two portions of the Subarea Plan area, although significant impacts to views would not be anticipated.

As noted previously, the determination as to whether a particular aesthetic change could be adverse is often defined by the subjective reaction of an individual viewer.

Redevelopment in the Subarea Plan area would result in an increase in light and glare. Any increase in light and glare would be consistent with and a continuation of current light and glare conditions, and significant impacts would not be anticipated.

Utilities

Mitigation Measures

Required/Proposed

- Development under all EIS Alternatives would adhere to the requirements of the 2012 Western Washington Stormwater Manual which would offset, if not eliminate any potential impacts to the City's stormwater management system from new development.
- Development under all EIS Alternatives would be constructed in compliance with the City of Port Orchard Municipal Cope Chapter 13.04 (Water and Sewer).
- Implementation of currently planned water and sewer system improvements associated with the Subarea Plan area would minimize the potential for impacts under all EIS Alternatives.

Significant Unavoidable Adverse Impacts

With continued compliance with the 2012 Western Washington Stormwater Manual, no significant stormwater impacts are anticipated.

With implementation of identified mitigation measures, no significand sewer system and water system impacts are anticipated.

Transportation

Mitigation Measures

Required/Proposed

- Development under all EIS Alternatives would be subject to applicable provisions of the Port Orchard Municipal Code, including Chapter 20 (Unified Development Code).

- A single-lane roundabout is recommended to support travel demand growth at the intersection of Bay St (SR 166) & Port Orchard Blvd. Under all EIS Alternatives (including the No Action Alternative), a two-lane roundabout would allow the intersection to operate at LOS A through 2045.

- On Bay St (SR 166), it is recommended that the City adopt modified LOS standards to allow future capital improvements to prioritize safety, active transportation, and other subarea priorities.

- Prior to approval of building permits associated with the Kitsap County Courthouse Project, a parking study verifying the adequacy of campus parking supply to accommodate development under each phase will be provided to, and approved by, the City of Port Orchard. Parking requirements of POMC 20.124 shall be met and if a parking reduction is to be permitted, it shall be submitted as an administrative variance.

Incorporated Plan Features

- Improve Bay and Bethel corridors such that they are safer for all users and that they define a place rather than act as just a highway (Goal CAP – 01).

- Ensure that adequate parking is available to support the marina and allow for downtown businesses to thrive while promoting a walkable main-street character (Goal CAP – 02).

- Encourage development in the west downtown to face the waterfront and Bay Street (Goal CAP – 03).

- Provide improved pedestrian circulation within the west downtown between the waterfront and Prospect Street (Goal CAP – 04).

- Transform the existing East Downtown from a largely car dominant development pattern to an extension of the existing walkable downtown West Downtown area (Goal CAP – 05)

- Discourage new development from locating parking between new development and the waterfront (Goal CAP – 06).

- Encourage the replacement of the existing Bay Street sidewalk marquee (Goal CAP – 07).

Significant Unavoidable Adverse Impacts

Under all EIS Alternatives, certain intersections and roadway segments would experience LOS deficiencies in 2045. With implementation of required/proposed mitigation measures, the potential for impacts would be limited.

Public Services

Mitigation Measures

Required/Proposed

- Development under all EIS Alternatives would be subject to applicable provisions of the Port Orchard Municipal Code, including Chapter 20 (Unified Development Code) and Chapter 20.182 (Impact Fees).

- All new buildings would be constructed in compliance with the City of Port Orchard Fire Prevention Code (Chapter 20.204), which is comprised of the 2015 International Fire Code with City of Port Orchard amendments.

- A portion of the tax revenues directly and indirectly generated from development under the EIS Alternatives – including construction sales tax, retail sales tax, property tax, utility tax and other fees, licenses and permits - would accrue to the City of Port Orchard and could help offset demand for public services.

- Increases in student population over the buildout period would be addressed through the South Kitsap School District's planning processes. The District could take any or a combination of the following actions to match capacity and enrollment under the EIS Alternatives:
    - Providing transportation service to schools with capacity;

- Adjusting school boundaries;
- Adding or removing portables; and/or
- Adding to or renovating buildings.

Significant Unavoidable Adverse Impacts

Development under the EIS Alternatives would result in increased demand for public services which would occur incrementally over the buildout of the *Downtown Port Orchard Subarea Plan*. With the implementation of the required/proposed mitigation measures listed above, no significant unavoidable adverse impacts to public services would be anticipated.

Chapter 2

DESCRIPTION OF PROPOSED ACTION(S) & ALTERNATIVES

CHAPTER 2
DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This chapter of the Final Environmental Impact Statement (FEIS) describes the Proposed Action and EIS Alternative for the *Downtown Port Orchard Subarea Plan*. A detailed description of the affected environment, environmental impacts, mitigation measures, and significant unavoidable adverse impacts is provided in **Chapter 3** of this FEIS. Information added subsequent to the issuance of the Draft EIS is shaded to ease in the identification of added information.

2.1 APPLICANT AND PROJECT LOCATION

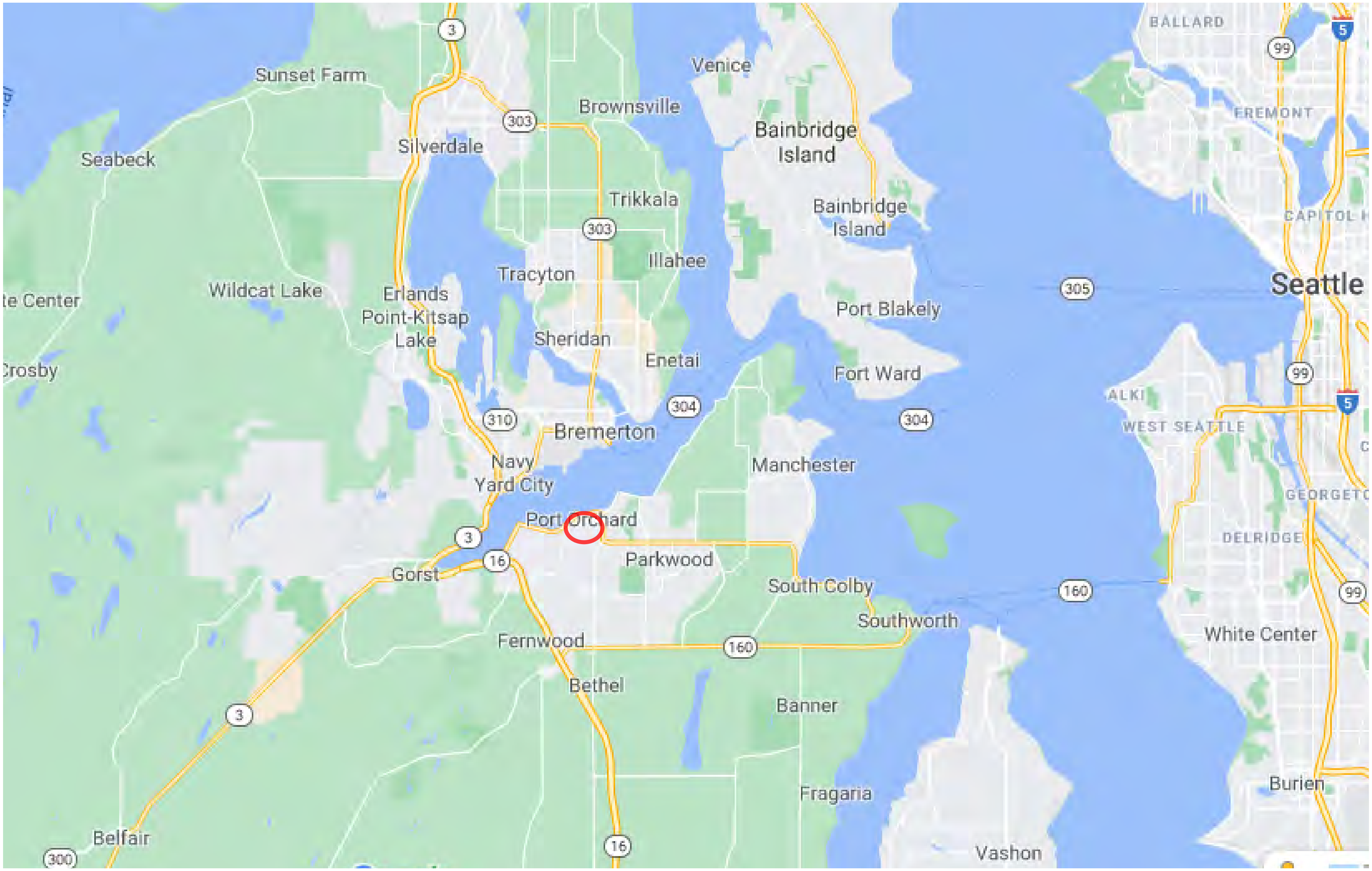
The proposed *Downtown Port Orchard Subarea Plan* (Subarea Plan) is sponsored by the City of Port Orchard.

The project includes the existing Downtown and County Campus centers, as designated in the City Comprehensive Plan, as well as other adjacent areas, for a total of approximately 329 acres[1]. The western portion of the project area (Waterfront and Uphill Area) is generally bordered by Sinclair Inlet on the north, the right-of-way of West Avenue (undeveloped) on the west, Melcher Street on the south, and Harrison, Taylor, Seattle and Kitsap Streets on the east. The eastern portion of the project area (Bethel Corridor and Mitchell Corridor) is generally bordered by Sinclair Inlet on the north, Maple Avenue and Bethel Avenue on the west, Stockton Street, Decatur Avenue, Guy Wetzel Street, Tracy Avenue and the South Kitsap High School on the east, and Mile Hill Road on the south (see **Figures 2-1** and **2-2**). **Figure 2-3** illustrates the existing Centers that are proposed to be consolidated into a single Downtown Port Orchard Countywide Center.

The City of Port Orchard and Sinclair Inlet are within the Suquamish Tribe's adjudicated Usual and Accustomed (U&A) fishing, hunting and gathering area. The Tribe has a strong historical and present connection in Sinclair Inlet that is significant and well documented. Ethnographic and archaeological evidence demonstrates that the Suquamish Tribe inhabited the area in and around Port Orchard and Sinclair Inlet and has utilized its natural resources (including fish and shellfish) for thousands of years. Sinclair Inlet has been and continues to be an important cultural, historical, economical, and a place of well-being of the Suquamish Tribe. Significant tribal salmon fisheries exist in the inlet.

[1] These existing centers would be consolidated into a single Downtown Port Orchard Countywide Center under the proposed Subarea Plan.

Port Orchard Downtown and County Campus Subarea Plan Project
Final EIS



Project Site Area

Note: This figure is not to scale.

North

Source: Google Maps and EA Engineering, 2020

EA Engineering, Science, and Technology, Inc., PBC

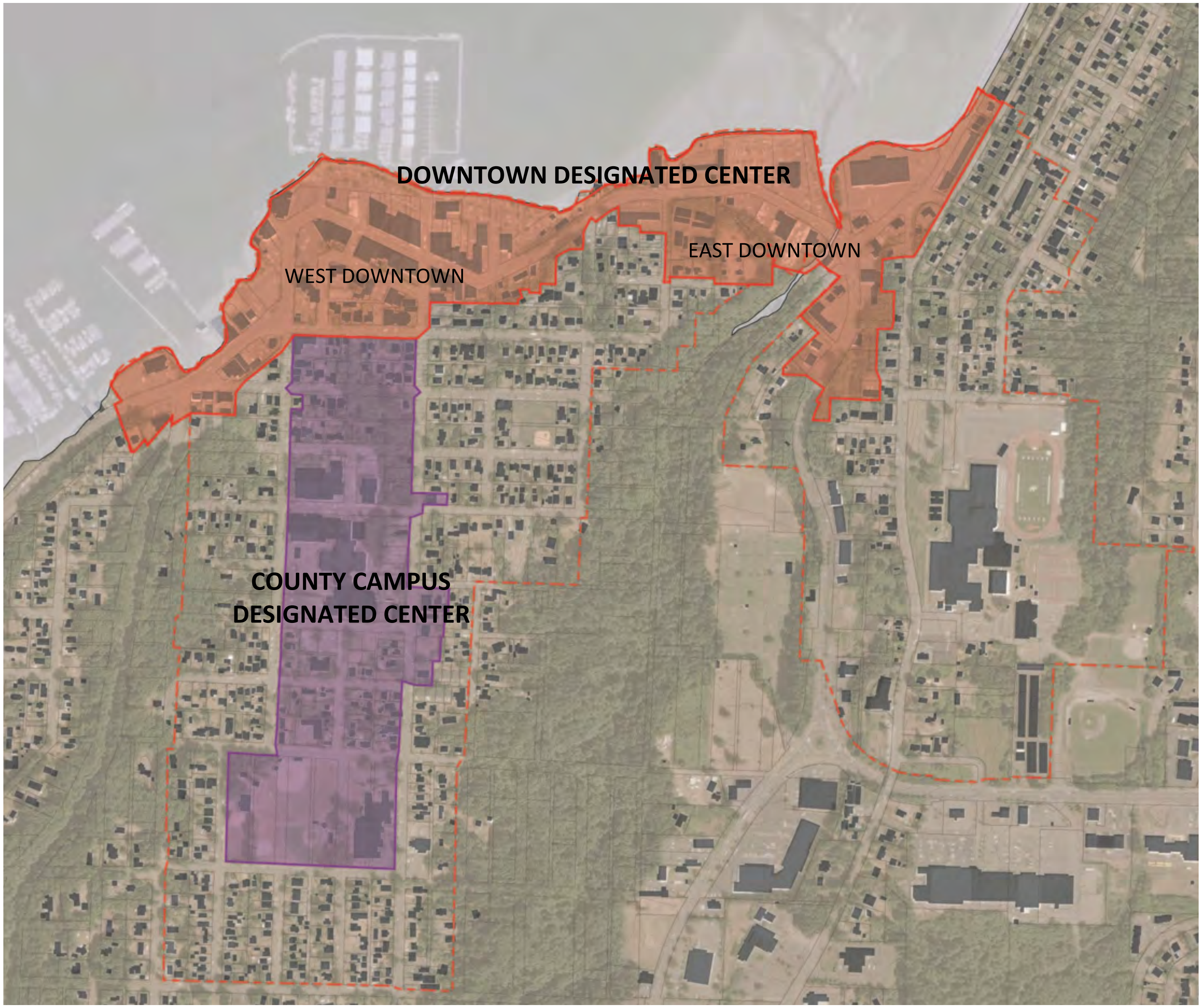
Figure 2-1

Vicinity Map

Source: GGLO, 2020

Figure 2-2
Aerial Map

Port Orchard Downtown and County Campus Subarea Plan Project
Final EIS



North

Note: This figure is not to scale.

Source: GGLO, 2020

EA Engineering, Science, and Technology, Inc., PBC

Figure 2-3

Existing Centers

2.2 PROJECT OVERVIEW

Utilizing E2SHB grant[2] and other city monies, the City of Port Orchard proposes to develop and adopt a subarea plan for the Downtown Center, as designated in the City's Comprehensive Plan, along with adjacent areas, pursuant to RCW 36.70A.080(2). These areas have conditions that are unique to the City, and would benefit from the subarea plan because they are anticipated to accommodate a share of the City's future growth. The completed Subarea Plan will be incorporated into the Comprehensive Plan and will provide long-range goals and policies to form a framework for redevelopment as well as specific goals and policies for land use, housing, environmental protection, and transportation.

Additionally, the Subarea Plan will address the Puget Sound Regional Council (PSRC) regional centers criteria to support the City's designated Countywide Center.

The *Downtown Port Orchard Subarea Plan* is designed to satisfy the requirements of the State's Growth Management Act for Port Orchard to plan for forecasted growth, and to support the goals of the PSRC's VISION 2050. The primary goals of VISION 2050 include: increase housing choices and affordability; provide opportunities for all; sustain a strong economy; significantly reduce greenhouse gas emissions; keep the region moving; restore Puget Sound health; protect a network of open spaces; grow in centers and near transit; and, act collaboratively and support local efforts.

The goals, policies, and recommendations of the *Downtown Port Orchard Subarea Plan* are in alignment with VISION 2050. The *Downtown Port Orchard Subarea Plan* provides the local focus and additional analysis necessary to coordinate and bridge planning efforts at the state and regional levels to the local level.

Specifics of the Proposed Action and the two alternatives that could implement the proposed *Downtown Port Orchard Subarea Plan* are described in Section 2.4 of this chapter, along with the No Action Alternative.

Subarea Plan Public Participation Process

The Subarea Plan was developed over an approximately eight-month process and represents integration of input from a broad range of stakeholders and interested parties as listed below.

- General public including Port Orchard residents, property owners, and business owners.

[2] Washington State E2SHB grants are intended to encourage local efforts for more residential development capacity and increased emphasis on affordable housing.

- Elected and appointed officials including City Council members, Planning Commissioners, and Design Review Board members.

- Non-City service providers including special districts such as Water and Sewer District, Fire District, Kitsap Transit, etc.

- State, regional, and other local governments including Puget Sound Regional Council, Kitsap County, Kitsap Regional Council, the Suquamish Tribe, WSDOT, the Department of Commerce, the Department of Ecology, the Port of Bremerton, City of Bremerton, and the Department of Natural Resources

Overview of the Environmental Review Process

As noted, the *Downtown Port Orchard Subarea Plan* is a land use plan that establishes the framework for future development and redevelopment of the subarea planning area based on several possible scenarios or alternatives. The purpose of this State Environmental Policy Act (SEPA) Environmental Impact Statement (EIS) is to identify and evaluate the possible significant environmental impacts associated with each development alternative, as well as the No Action Alternative.

This is a Planned Action EIS, which is a streamlined environmental review process that applies to the specific geographic area associated with the Downtown Port Orchard Subarea. In general, the objective of the Planned Action EIS is to evaluate probable environmental impacts of the development alternatives in this early planning stage to eliminate the need for subsequent environmental review of site-specific development or redevelopment. Such is expected to provide certainty for future site specific development proposals and both simplify and expedite the permit process for such projects. The no further environmental review provision applies to development that complies with the subarea's development regulations.

The Planned Action EIS is intended to provide upfront SEPA review specifically for the Downtown (including West Downtown and East Downtown) and the County Campus areas of the proposed Subarea Plan (see Figure 2-3) as described below.

The West Downtown is Port Orchard's current and historical cultural, civic, and recreational hub. The area includes a mix of land uses, including Port Orchard's City Hall and public library, numerous retail and service businesses, a marina and ferry dock, public parking, and a waterfront park and trail. With access from the water and from state highways 3 and 16, it remains the City's primary center for community events and activities. Currently planned future development in West Downtown includes the South Kitsap Community Events Center and a new Kitsap Bank headquarters as part of a larger mixed-use development.

The East Downtown is geographically separated from the West Downtown and includes a mix of commercial uses primarily on larger lots fronting the Bay Street and Bethel Ave commercial corridors.

The County Campus contains the Kitsap County Courthouse and Administration Building complex which is the City's largest employer. The Port Orchard Blvd and Black Jack Creek valleys along with slopes separates this area from the Downtown and limits pedestrian connections. Sidney and Cline avenues provide vehicle and transit access between Highway 16 and the downtown. Kitsap County is currently proposing a phased development for the expansion of County facilities within the City of Port Orchard over the next 40 years.

The EIS process consists of three phases: **EIS Scoping**, the **Draft EIS** and the **Final EIS**. Each phase is briefly described below:

- **EIS Scoping** – This is the first crucial step in the EIS process. This step defines the alternatives and the range of environmental issues to be evaluated in the EIS. The purpose of scoping is to narrow the focus of the EIS -- to address only those environmental parameters that could be significantly affected as a result of the alternatives. The EIS Scoping process for this project occurred **August 14 through September 4, 2020**. A virtual EIS Scoping meeting was held on September 1, 2020 to provide an opportunity for agencies, organizations and the public to present comments in addition to submittal of written comments. At the conclusion of the Scoping process, the City confirmed the scope of the EIS.

  Following completion of the EIS scoping process the elements of the environment and alternatives to be evaluated in the EIS are listed below.

  Elements of the environment
  - Land Use/Relationship to Existing Plans and Policies
  - Population/Employment/Housing
  - Aesthetics/Visual Resources
  - Utilities
  - Transportation
  - Public Services

  Alternatives
  - Alternative 1 – No Action
  - Alternative 2 – Higher Capacity Residential Focus
  - Alternative 3 – Higher Capacity Mixed-Use Focus

- **Draft EIS** – The Draft EIS represents the City's best determination of probable significant environmental impacts associated with each of the subarea plan alternatives. The *Proposed Action* and the alternatives are described in **Section 2.4** of the Draft EIS and each alternative is evaluated based on six environmental parameters (e.g., land use, transportation, etc.) in **Section 3** of the Draft EIS. Copies of the Draft EIS have been distributed to agencies (federal, state, regional, City), organizations, and the public for a 30-day public review and comment period.

- **Final EIS** -- The Final EIS completes the environmental review process for the project. It incorporates changes or clarifications regarding the Draft EIS, all comment letters and testimony received from agencies, organizations and individuals during the public comment period, and contains responses to the comments raised. The Final EIS is the SEPA document that the City will use to assist in the decision on which subarea alternative to pursue. Copies of the Final EIS will be made available to those agencies (federal, state, regional, City), organizations, and the individuals that received the Draft EIS and/or provided comments on the Draft EIS.

2.3 PROJECT GOALS

The initial goal of the *Downtown Port Orchard Subarea Plan* is:

- Establish a vision for a vibrant urban center that is economically feasible and context sensitive.

The city is defined by its physical and social environments and the ways in which they are connected. This Subarea Plan seeks to lay out a vision for Port Orchard that is founded on connectivity and the idea that stronger connections will ultimately lead to a stronger community.

The following goals were derived from City of Port Orchard Department of Community Development initial project definition goals summary.

- Develop a Subarea Plan that establishes a vision for Port Orchard as a vibrant urban center that supports denser residential living in a walkable neighborhood.

- Increase Housing supply consistent with the goals of the E2SHB grant.

- Focus growth in designated centers to support residential living in walkable neighborhoods.

- Focused growth in designated centers to support denser residential living in a walkable neighborhood.

- The plan should support a potential future PSRC Countywide Center designation.

- Planned Action EIS to reduce barriers to SEPA regulatory compliance and encourage economic development.

- Plan for the City of Port Orchard to accommodate a share of regional growth as a proposed high capacity transit community under PSRC's VISION 2050.

2.4 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

As indicated earlier in this chapter, the City of Port Orchard proposes to develop and adopt a subarea plan for the existing Downtown and County Government Campus Centers[3], as designated in the City's Comprehensive Plan, along with adjacent areas. This area has conditions that are unique to the City, and would benefit from the subarea plan because they are anticipated to accommodate a significant share of the City's future growth. The completed Subarea Plan will be incorporated into the Comprehensive Plan and will provide long-range goals and policies to form a framework for redevelopment as well as specific goals and policies for land use, housing, environmental protection, and transportation through the year 2044.

The following identifies the Proposed Actions and alternatives analyzed in this EIS.

Proposed Actions

The Proposed Actions consist of several related decisions by the City of Port Orchard regarding the *Downtown Port Orchard Subarea Plan*.

- Publication of the Final EIS as a document that is adequate for SEPA compliance, supporting decision making, and implementation of the upfront SEPA process.

- Implementation of the associated Planned Action Ordinance for the project and associated upfront SEPA compliance.

[3] These existing centers would be consolidated into a single Downtown Port Orchard Center under the proposed Subarea Plan.

- Determination of whether one of the development alternatives contained in the Subarea Plan, a hybrid alternative derived from the development alternatives, or the No Action Alternative is the preferred alternative.

- Adoption of the *Downtown Port Orchard Subarea Plan* as an element of the City's Comprehensive Plan, along with adjacent areas, pursuant to RCW 36.70A.080(2).

Alternatives

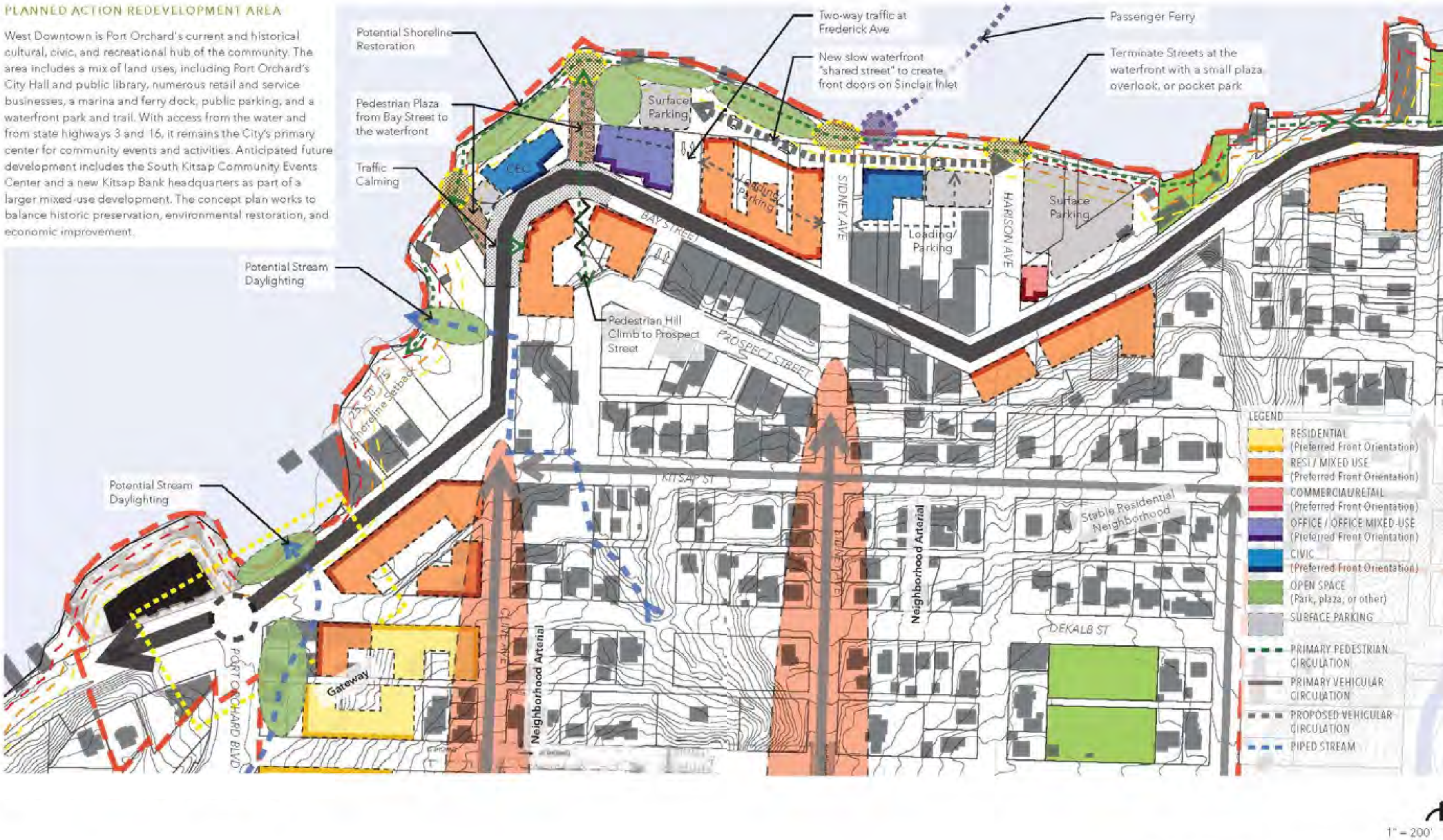
SEPA requires analysis of "reasonable alternatives" as part of an EIS and defines reasonable as "actions that could feasibly attain or approximate a proposer's objectives, but at a lower environmental cost or decreased level of environmental degradation." In every EIS, the No Action Alternative must also be evaluated. Consistent with the August 2020 DS issued by the City of Port Orchard, the following describes the No Action and development alternatives analyzed in this EIS.

Although the *Downtown Port Orchard Subarea Plan* encompasses approximately 329 acres, proposed changes are only proposed for targeted areas in or near the existing urban centers (West Downtown, East Downtown, and County Campus), along existing principal arterials, and currently underutilized parcels. The area within the *Downtown Port Orchard Subarea Plan* subject to proposed changes totals approximately 34.5 acres, or approximately 9 percent of the 329-acre planning area (see Figure 2-3). Land use policies related to the existing residential neighborhoods and area associated with Kitsap High School would remain as currently established.

The *Downtown Port Orchard Subarea Plan* redevelopment concept for West Downtown area is illustrated in **Figure 2-4**, the redevelopment concept for East Downtown area is illustrated in **Figure 2-5**, and the redevelopment concept for the County Campus area is illustrated in **Figure 2-6**.

The proposed Subarea Plan includes several goals and policies specific to changes in existing zoning that are considered under Alternatives 2 and 3 as described below and illustrated in **Figure 2-7**.

> Policy LUH – 02 – Rezone parcels along Cline and Sidney Street from R2 to Neighborhood Mixed-use to provide a moderate increase in development and provide a transition to the residential zones.
>
> Policy LUH – 05 - Rezone the Commercial Heavy Parcels in the East Downtown to Commercial Mixed-use (CMU).
>
> Policy LUH – 06 - Rezone the Commercial Mixed-Use Parcels on the east side of Bethel between Dekalb Street to Mile Hill Drive from Commercial Mixed-Use (CMU) to Gateway Mixed-use (GMU).



Source: GGLO, 2021

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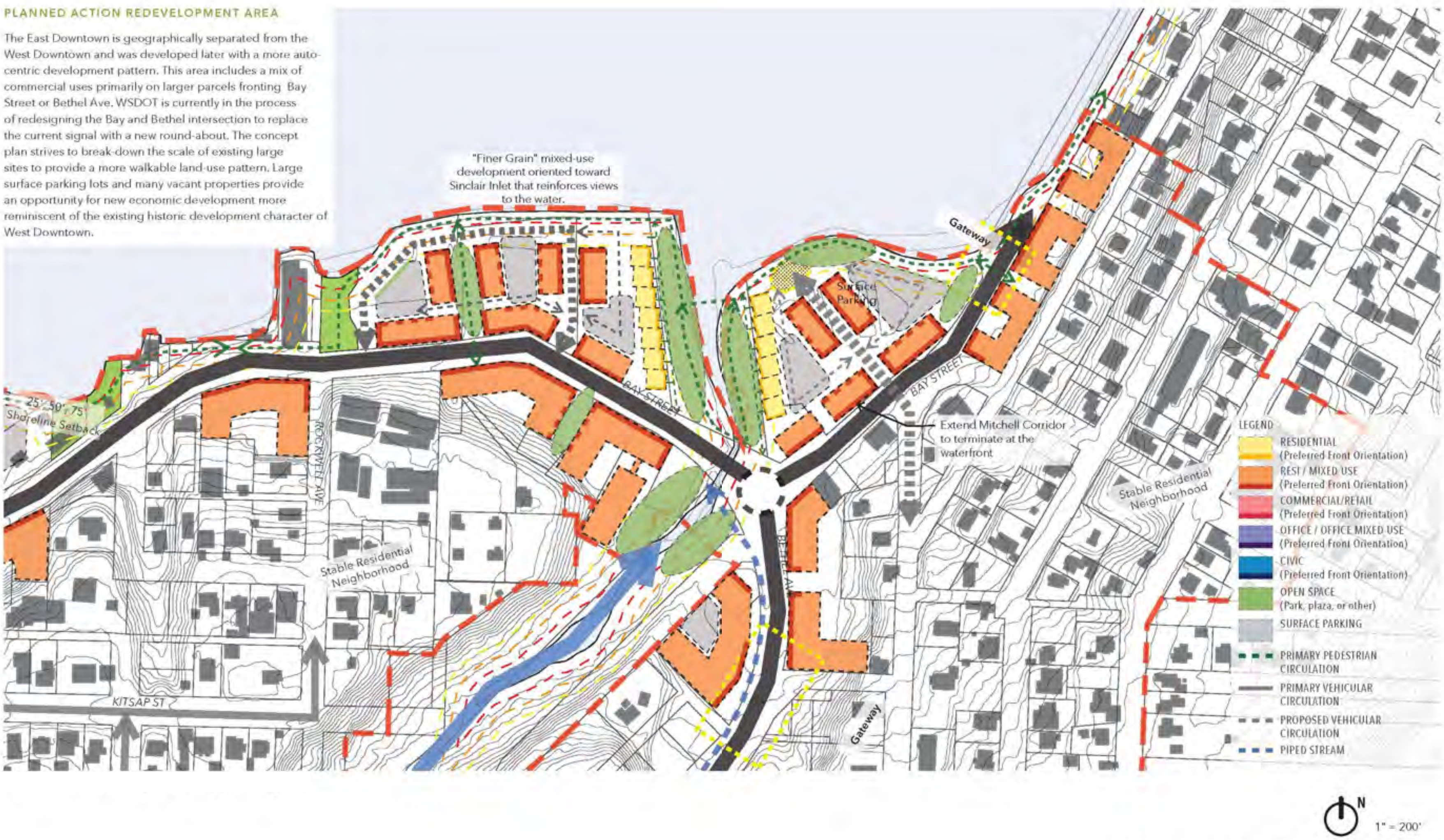
Figure 2-4

West Downtown Redevelopment Concept



Source: GGLO, 2021

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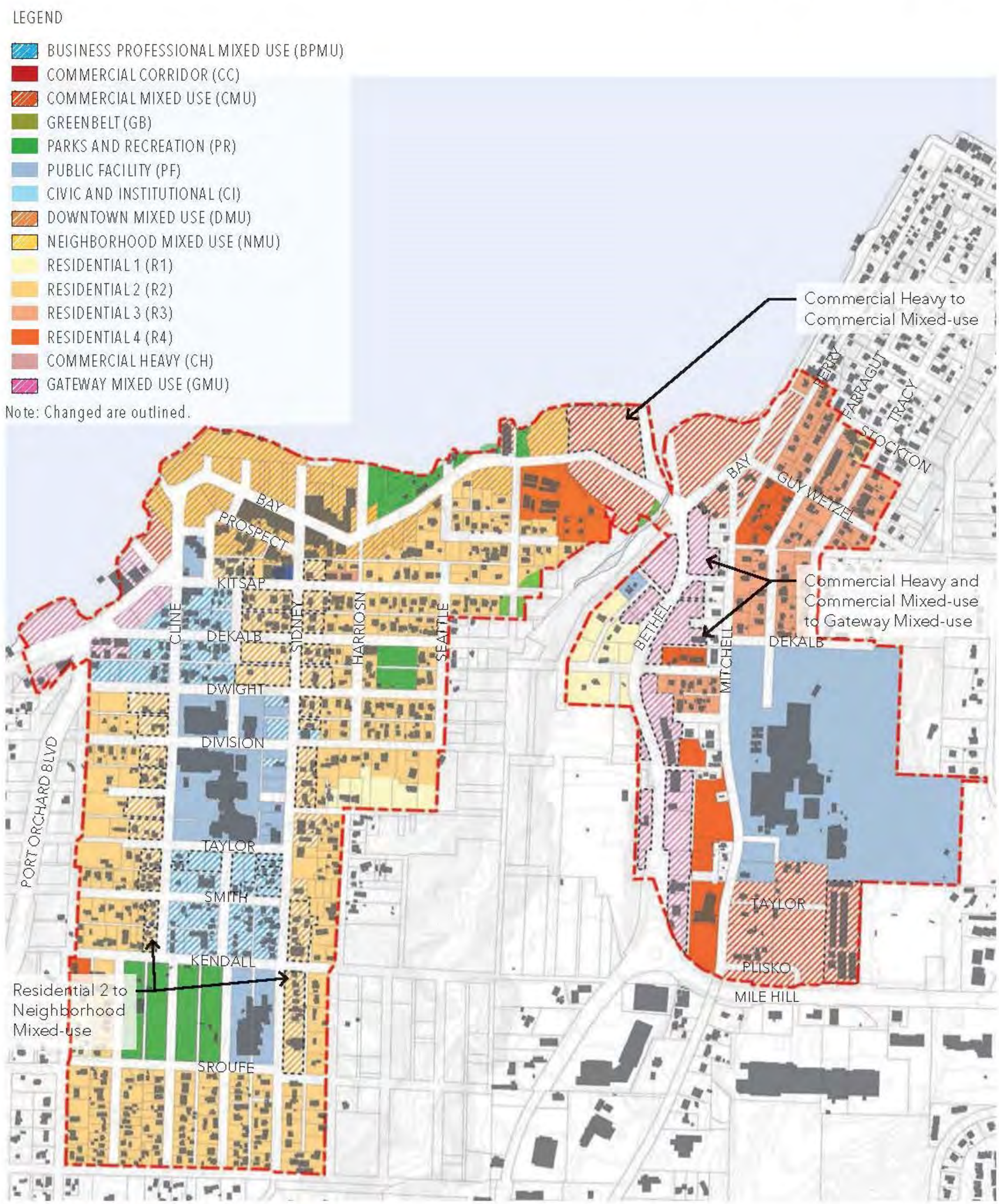
Figure 2-5

East Downtown Redevelopment Concept

Source: GGLO, 2020

Figure 2-6

County Campus Redevelopment Concept

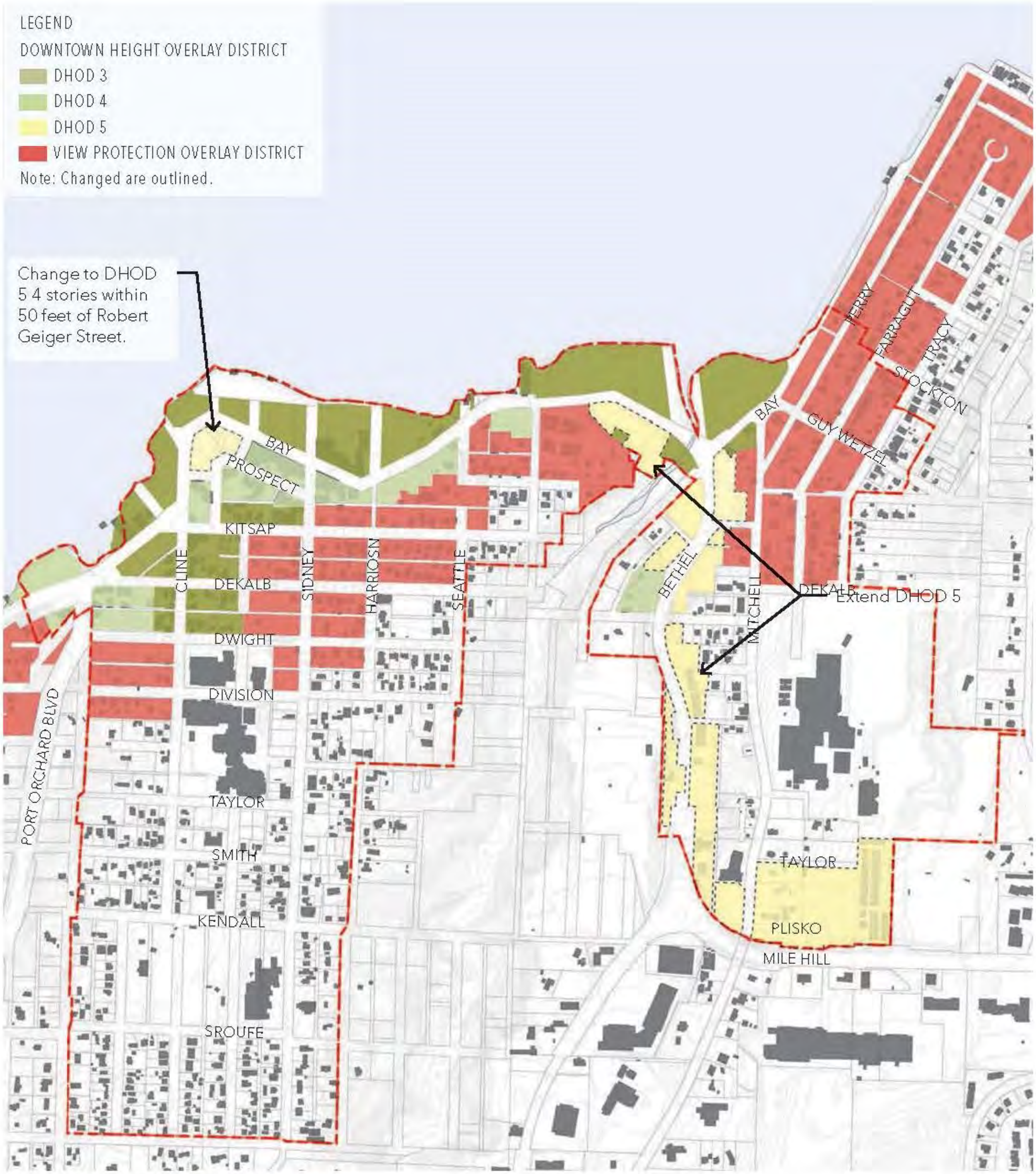


Proposed Zoning Map Adjustments

Source: GGLO, 2020

Figure 2-7

Potential Zoning Changes



Proposed Height Overlay Map Adjustments

Source: GGLO, 2020

Figure 2-8

Potential Height Changes

EA Engineering, Science, and Technology, Inc., PBC

The proposed Subarea Plan includes several goals and policies specific to changes in existing maximum building height that are considered under Alternatives 2 and 3 as described below and illustrated in **Figure 2-8**.

- Policy LUH – 07 – Allow for buildings up to 5-stories on the east side of Bethel between Dekalb Street to Mile Hill Drive.

- Policy LH -08- Modify the Downtown Height Overlay District as follows:

  Allow the building height for new development along Bay Street to be measured from the future road elevation consistent with Sea level rise contemplated in the Shoreline Master Plan.

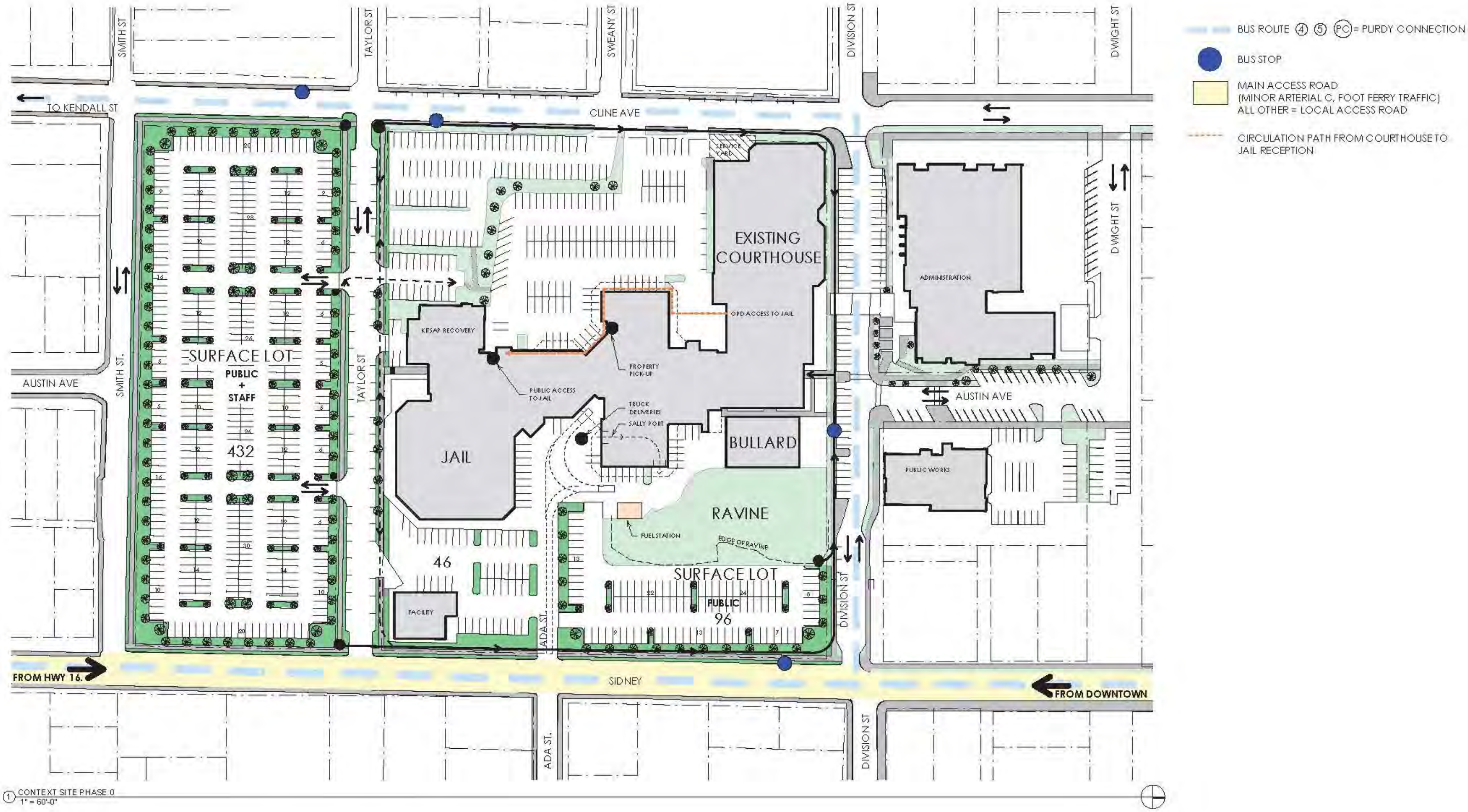
  Amend 20.38.640 (1) as follows:
  (1) DHOD Height Zones Established. Within the DHOD as shown on the zoning map, there are three different DHOD height zones with height limits established as follows:
  (a) DHOD 3: 48 feet – three stories.
  (b) DHOD 4: 58 feet – four stories.
  (c) DHOD 5: 68 feet – five stories.

  Amend the height along the block south of Bay Street between Robert Geiger and Frederick to allow 5 stories except within 50 feet of Robert Geiger Street which shall be limited to 4 stories.

The *Downtown Port Orchard Subarea Plan* primarily represents code changes to implement the vision of creating a vibrant urban center that is economically feasible and context sensitive, and specific development projects are generally not identified. However, the Subarea Plan does incorporate the currently proposed Kitsap County Courthouse project, which includes planned improvements and expansion of the existing campus. The Kitsap County Courthouse Campus is boarded by Dwight Street on the north, Smith Street on the south, Cline Avenue on the west, Sidney Avenue on the east, and contains the Kitsap County Courthouse (including jail) and Kitsap County Administration Building. The proposed Kitsap County Building Project is proposed to be developed in phases[4] as illustrated on **Figure 2-9**, **Figure 2-10**, and **Figure 2-11**, and described below.

[4] Phasing schedule is uncertain, although phased construction is anticipated to occur between 2023 and 2040.

Port Orchard Downtown and County Campus Subarea Plan Project
Final EIS



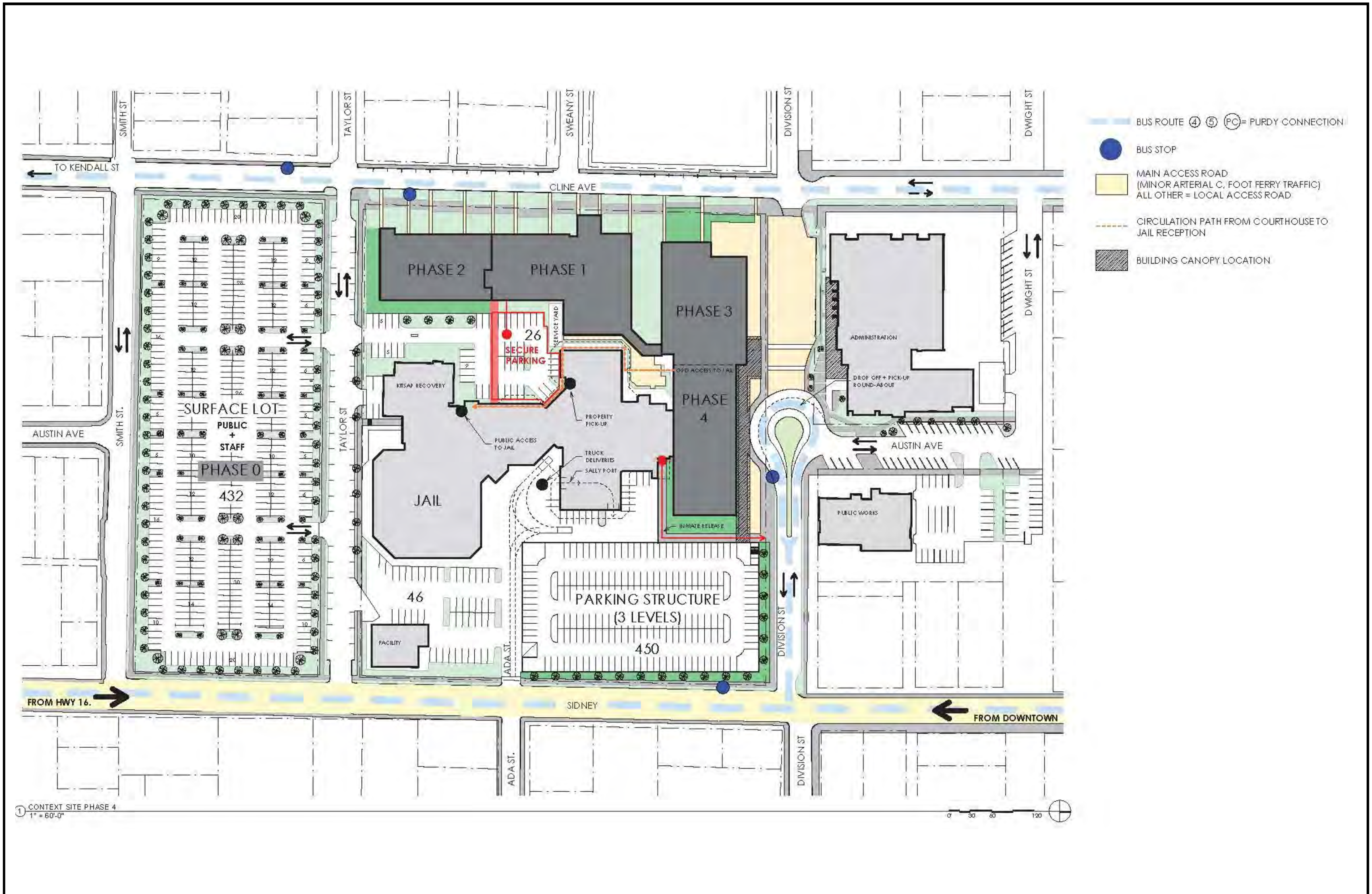
Source: Thomas Architecture Studios, 2020

EA Engineering, Science, and Technology, Inc., PBC

Figure 2-9

County Courthouse Existing Conditions

Port Orchard Downtown and County Campus Subarea Plan Project
Final EIS



Source: Thomas Architecture Studios, 2020

EA Engineering, Science, and Technology, Inc., PBC

Figure 2-10

County Courthouse Proposed Plan

Source: *Thomas Architecture Studios, 2020*

Figure 2-11

County Courthouse Conceptual Rendering

- Phase 0 – Demolish existing single-family residence, multifamily apartment building, and gravel parking areas between Sydney and Cline avenues and Smith and Taylor streets to construct a new 432 stall surface parking lot. This initial phase also includes demolition of existing single-family residence and gravel parking area to construct a new 96 stall surface parking lot.

- Phase 1 – Construct a new approximately 82,000 square foot, four-story courthouse addition building on existing surface parking. Phase 1 also includes approximately 136,000 square feet of adaptive reuse of the existing Courthouse, and modifications and landscape[5].

- Phase 2 – Construct a new approximately 57,000 square foot, four-story courthouse building on existing surface parking (the Phase 2 building is an addition to the new building under Phase 1)[3]

- Phase 3 and Phase 4 – Demolition of portions of the existing courthouse building, existing Bullard Building, and service yard, and construction of approximately 99,500 square feet of new building space. A portion of Division Street would be vacated to provide a pedestrian plaza. Full street improvements along a portion of Division Street (from Austin Avenue to Sydney Avenue) and a new courtyard would be provided. A potential Phase 4B includes demolition of surface parking, infill of existing ravine, and construction of a three-level parking structure with 450 spaces.

Because the Kitsap County Courthouse Project is not dependent on the proposed *Downtown Port Orchard Subarea Plan* and is anticipated to go forward with or without the proposed Subarea Plan, the Kitsap County Courthouse Project is assumed for all alternatives evaluated in this EIS.

No Action Alternative

Under the No Action Alternative, the City of Port Orchard's existing Comprehensive Plan, Zoning Map, and the Zoning Code (Port Orchard Municipal Code Title 20) would remain in effect. Existing planning and implementation policies and development regulations would continue to guide development decisions for properties within the Downtown Port Orchard Subarea area. No Planned Action Ordinance would be adopted and the advantages of upfront SEPA compliance would not occur.

Under the No Action Alternative, it is assumed that growth in the Downtown area would continue under current policies and guidelines, although the City would lose opportunities for future development that may be more consistent with the direction outlined in the

[5] Access to the existing courthouse and jail visitation would be maintained during construction

Downtown Port Orchard Subarea Plan and the broader Comprehensive Plan. Development of the currently proposed expansion of the County Governmental Campus is assumed to occur under the No Action Alternative.

As shown in **Table 2-1**, the levels of population and employment capacity for the No Action Alternative would increase in 2040, but the increase would be less that under the development alternatives. For example, the available residential capacity (in units) under the No Action Alternative would be 1,074 units compared to 1,610 units under Alternative 2 (Residential Focus). Commercial capacity (square footage) would be 622,800 sq. ft. under the No Action Alternative compared to 869,400 sq. ft. under Alternative 3 (Mixed-Use Focus).

Development of the Kitsap County Courthouse Project as described earlier in this chapter is assumed to occur under Alternative 1.

Development Alternatives

The City of Port Orchard identified goals and objectives which are included in the *Downtown Port Orchard Subarea Plan* and noted in Section 2.3 of this Chapter. Based on these goals and objectives, the City identified two development alternatives that could feasibly attain or approximate the project goals and objectives. For the Downtown areas, this includes promoting a vibrant walkable community that showcases the City's waterfront. In the County Government Campus (and the uphill neighborhood) the plan incorporates planned expansion at the county campus, provides development flexibility along the Sydney and Cline corridors, and preserves residential areas throughout most of the neighborhood. The primary variable between the development alternatives under the subarea plan (Alternatives 2 and 3) is if future development will consist primarily of residential and stand-alone commercial (Alternative 2 – Residential Focus) or if future development will consist primarily of mixed-use development (Alternative 3 – Mixed-Use Focus).

Each of these alternatives (as well as the No Action Alternative) are summarized in **Table 2-1** and **Table 2-2**; with each of the alternatives defined in terms of the net available capacity increase in the assumed buildout year 2040 relative to:

- Commercial Capacity
- Residential Capacity
- Population
- Employment

Table 2-1[1]
COMMERCIAL AND RESIDENTIAL CAPACITY

	Alternative 1 No Action	Alternative 2 Residential Focus	Alternative 3 Mixed-Use Focus
Net Development Area (acres)	34.5	34.5	34.5
Commercial Capacity (sq.ft.)[2]	622,800	673,500	848,600
Residential Capacity (sq.ft)	566,200	1,010,100	752,283
Residential Units	1,074	1,610	1,288

Source: GGLO, 2020

1 *Reflect pipeline projects including 370,000 sq.ft. of commercial space and 246 residential units.*

2 *Commercial capacity within structures.*

Table 2-2
POPULATION AND EMPLOYMENT

	Existing	Alt. 1 - No Action	Alt. 2 – Residential Focus	Alt. 3 Mixed-Use Focus
Total Population	1,806	4,051	4,663	4,128
Employment	2,150	3,396	3,617	3,889
Total Units/Acre	12	23	26	25
Units - Residential	46%	54%	60%	54%
Units - Employment	54%	46%	40%	46%

Source: GGLO, 2020

Alternative 2 – Residential Focus

Alternative 2 assumes a mostly residential development focus with commercial development occurring in standalone buildings in commercial zones only. The maximum building heights and densities would generally be consistent with the existing land use code, but assumes a greater mix of structured parking to achieve greater densities than the existing development patterns.

Potential changes to zoning and allowable building height would focus on increasing residential capacity in existing commercial only zones; see **Figure 2-7** for a map showing potential zoning changes and **Figure 2-8** for a map showing areas of potential height changes.

Compared to Alternative 1 (No Action), Alternative 2 would result in an increase of approximately 293 residential units, approximately 612 residents, approximately 110,800 sq.ft. of commercial space, and approximately 221 employees.

Compared to Alternative 3 (Mixed-Use Focus), Alternative 2 would result in a greater increase in residential units and residents, and a lesser increase in commercial space and employees.

Development of the Kitsap County Courthouse Project as described earlier in this chapter is assumed to occur under Alternative 2.

Alternative 3 – Mixed-Use Focus

Alternative 3 assumes an increase in mixed-use residential, commercial retail, and office development. This alternative would include some standalone commercial development in mixed-use zones and in commercial only zones. The maximum building height and densities would generally be consistent with the existing land use code, but assumes a greater mix of parking structures to achieve greater density than the existing development pattern.

Potential zoning changes would focus on increasing residential capacity in both existing commercial and residential only zones. See **Figures 2-7** and **2-8** for a maps showing areas of potential zone and/or height changes.

Compared to Alternative 1 (No Action), Alternative 3 would result in an increase of approximately 37 residential units, approximately 77 residents, approximately 246,600 sq. ft. of commercial space, and approximately 493 employees.

Compared to Alternative 2 (Residential Focus), Alternative 3 would result in a greater increase in commercial space and employees, and a lesser increase in residential units and residents.

Development of the Kitsap County Courthouse Project as described earlier in this chapter is assumed to occur under Alternative 3.

2.5 BENEFITS & DISADVANTAGES OF DEFERRING IMPLEMENTATION OF THE PROPOSL

The benefits of deferring approval of the proposed *Downtown Port Orchard Subarea Plan* include the deferral of:

- Future construction associated with additional level of development.
- Increased demand on public services associated with additional level of development.

The disadvantages of deferring the approval of the proposed *Downtown Port Orchard Subarea Plan* include the deferral of:

- Ability to establish a vision for a vibrant urban center that is economically feasible and context sensitive.
- Ability to concentrate development within an urban center allowing for more efficient use of infrastructure.

Chapter 3

AFFECTED ENVIRONMENT, IMPACTS, MITIGATION MEASURES, & SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

CHAPTER 3

AFFECTED ENVIRONMENT, IMPACTS, MITIGATION MEASURES AND SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Chapter 3 describes the affected environment and impacts of the EIS Alternatives and identifies mitigation measures to address impacts and any significant unavoidable adverse impacts on the environment that are anticipated from implementation of the *Downtown Port Orchard Subarea Plan*. Information added subsequent to the issuance of the Draft EIS is shaded to ease in the identification of added information.

3.1 LAND USE

Information presented in this section addresses the effects of the alternatives relative to land use patterns within or proximate to the Subarea Plan area, as well as consistency of the proposed *Downtown Port Orchard Subarea Plan* relative to adopted land use plans and development regulations. The analysis of Land Use Patterns is presented in Part A of this section and the consistency analysis is in Part B.

PART A – LAND USE PATTERNS

3.1.1 Affected Environment

The *Downtown Port Orchard Subarea Plan* area includes approximately 329 acres of contiguous waterfront and upland property in north central Port Orchard. The western portion of the project area (Waterfront and Uphill Area) is generally bordered by Sinclair Inlet on the north, the right-of-way of West Avenue (undeveloped) on the west, Melcher Street on the south, and Harrison, Taylor, Seattle and Kitsap Streets on the east. The eastern portion of the project area (Bethel Corridor and Mitchell Corridor) is generally bordered by Sinclair Inlet on the north, Maple Avenue and Bethel Avenue on the west, Stockton Street, Decatur Avenue, Guy Wetzel Street, Tracy Avenue and the South Kitsap High School on the east, and Mile Hill Road on the south.

Existing Land Uses

Historic and Current Land Uses

The City of Port Orchard and Sinclair Inlet are within the Suquamish Tribe's adjudicated Usual and Accustomed (U&A) fishing, hunting and gathering area. The Tribe has a strong historical and present connection in Sinclair Inlet that is significant and well documented. Ethnographic and archaeological evidence demonstrates that the Suquamish Tribe inhabited the area in and around Port Orchard and Sinclair Inlet and has utilized its natural resources (including fish and shellfish) for thousands of years. Sinclair Inlet has been and continues to be an important cultural, historical, economical, and a place of well-being of the Suquamish Tribe. Significant tribal salmon fisheries exist in the inlet.

Port Orchard was first platted in 1886 and incorporated 1890[1]. Originally named Sidney, the town was renamed Port Orchard in 1892. The town of Port Orchard became known for its lumber industry, pottery works, small businesses, and agricultural support. The residents of Port Orchard took an active role in bringing the Puget Sound Naval Station (later Puget Sound Naval Shipyard) to Kitsap County. The Navy employed many residents of Port Orchard and greater Kitsap County from the turn of the century onwards and became the largest employer in the County.

In 1893, after construction of the courthouse and donation of the courthouse to the County, Port Orchard was chosen as the county seat and remains so today. Port Orchard continued to grow due partially to expansion of the naval yard during the Great Depression, World War II, the Korean War, and through 1960s and 1970s. The City also grew due to Port Orchard's reputation as a quiet waterfront community located close to Tacoma and Seattle.

Overall Land Use Pattern and Zoning

The pattern of land use in the *Downtown Port Orchard Subarea Plan* area is influenced by the physical nature of the waterfront[2], topography, and stream ravines[3], as well as established land use designations.

Overall, the Subarea Plan area's topography influences the development pattern and consists of relatively level land along the Sinclair Inlet waterfront, with moderate slopes rising from the waterfront to the south, and relatively level area above the slope (including the area containing the County Campus area). Steep slopes are associated with the Blackjack Creek ravine at the eastern portion of the Subarea Plan area. The most densely developed portions of the Subarea Plan area are Downtown (located in the level area along the waterfront) and the County Campus area (located in the relatively level area above the slope).

The Subarea encompasses a wide range of existing land uses, as shown in **Figure 3.1-1**). The land use in the area is generally consistent with existing zoning, with medium-density residential, mixed-use commercial, downtown mixed-use, and civic and institutional being

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[1] First incorporated town in Kitsap County.
[2] Much of the Downtown area between Bay Street and the waterfront is fill.
[3] Including Black Jack Ravine.

the primary land uses. Other land uses in the subarea include business professional, public facility, and park/recreational use (see **Figure 3.1-1**).

Port Orchard Municipal Code Chapter 20 establishes the land use and development code regulations for the following primary zoning districts within the Subarea Plan area:

Residential 2 (R2) – This zoning district is primarily intended to accommodate detached housing, duplex, and townhouse development. The R2 district is intended to implement the residential medium density comprehensive plan designation. The maximum building height in the R2 zone for principal structures is three stories/35 feet.

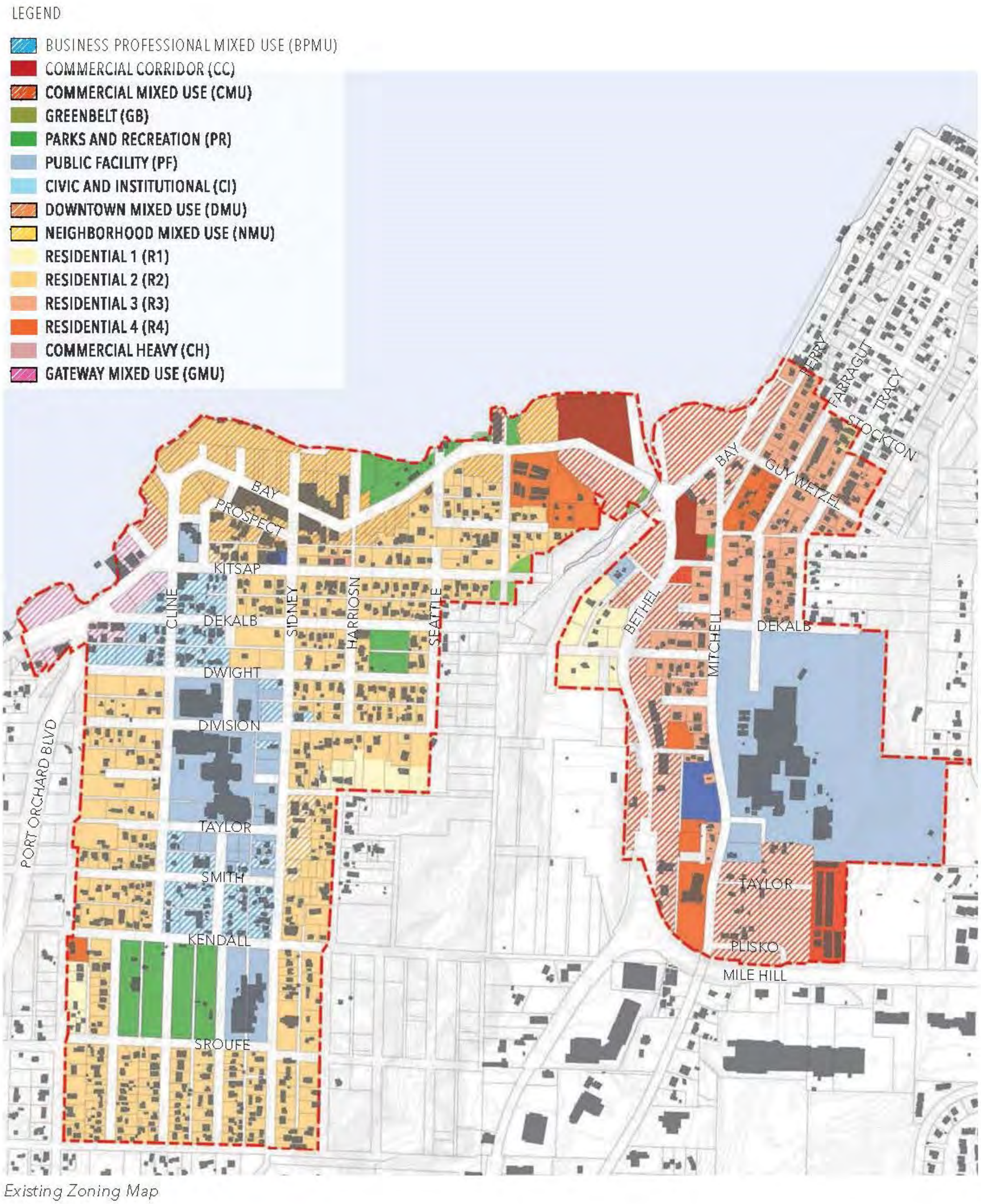
Downtown Mixed Use (DMU) – This zoning district is intended to provide for mixed-use, pedestrian-oriented development in downtown. Building options include live-work, single-story shopfront and mixed-use shopfront. The maximum building height in the DMU zone is three stories/38 feet, unless an alternate height is established under the Downtown Height Overlay District.

The intent of the downtown height overlay district (DHOD) is to protect scenic views on north facing slopes in the vicinity of Sinclair Inlet and downtown, protect property values, provide access to light, ensure that the scale of development in downtown Port Orchard does not negatively impact the historic character of the community, and otherwise protect the general health, safety, and welfare of the community. The intent of the DHOD is to be achieved by establishing height limits for buildings and by establishing a method of measuring buildings that is different than the methods used elsewhere. **Figure 3.1-2** illustrates the maximum building heights in the downtown area.

Business Professional Mixed Use (BPMU) – The intent of this district is to accommodate mixed use development as well as a mix of uses that are oriented around the existing areas of medical, business professional, and residential uses and structures. Development in this zone is to be at a scale appropriate for uses ranging from single-family detached to large medical buildings to be designed to be more compatible with smaller structures. The maximum building height in the BPMU zone is three stories/40 feet.

Commercial Mixed Use (CMU) – This district is intended to accommodate a broader range of residential and nonresidential activity. Building types include townhouse, apartment, live-work, shopfront house, single-story shopfront, mixed-use shopfront, and general building. Maximum building height in the CMU zone is three and one-half stories/40 feet.

Public Facilities (PF) – This district is intended to provide for public facility uses that serve the city and which may not readily assimilate into other zoning districts. The public facilities district intends to accommodate buildings of a public nature such as police, fire or EMS stations and government offices. Maximum building height in the PF zone is five stories/85 feet or produce intense



Source: GGLO, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.1-1

Existing Zoning

Port Orchard Downtown and County Campus Subarea Plan Project
Final EIS

Source: GGLO, 2021

Figure 3.1-2

Existing Building Height Overlay

EA Engineering, Science, and Technology, Inc., PBC

Commercial Heavy (CH) - Commercial heavy is intended for auto-oriented and heavy commercial uses. To help ensure compatibility, residential uses are not allowed. Building type options include single-story shopfront and general building. The commercial heavy district should be applied in areas where the existing or proposed land use pattern contains a variety of auto-oriented and heavy commercial uses and in areas designated as commercial in the comprehensive plan. Maximum building height in the CH zone is three stories/35 feet.

Commercial Corridor (CC) - The commercial corridor district is intended to serve as a commercial gateway and to take advantage of proximity to major roadways. Therefore, the quality and aesthetics of new development is very important. Building type options include live-work unit, shopfront house, single-story shopfront, mixed use shopfront and general building. The commercial corridor district should be applied along commercial corridors that serve as entrances to downtown or other pedestrian-oriented activity areas. Maximum building height in the CC zone is three stories/35 feet.

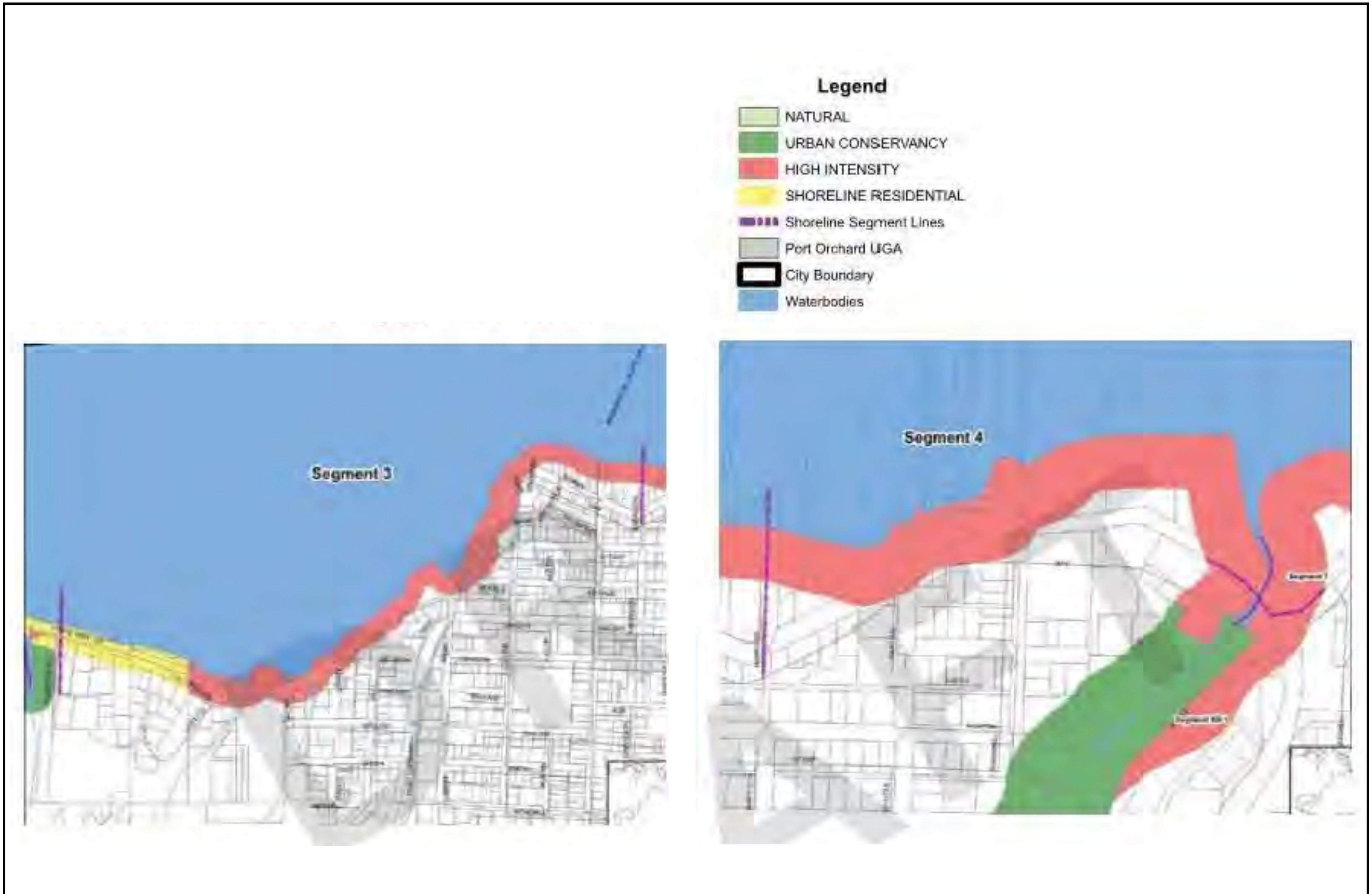
Civic and Institutional (CI) – This district is intended to protect civic uses that serve the surrounding neighborhoods or produce intense civic activities that do not readily assimilate into other zoning districts. Activities may include, but are not limited to religious facilities, and schools. Maximum building height in the CI zone is three stories/55 feet.

Parks and Recreation (PR) – This district is intended to meet the active and recreational needs of residents. Activities may include playgrounds, recreational fields, ballfields, sports courts, dog parks, and associated facilities. Maximum building height in the PR zone is 35 feet.

Greenbelt (GB) – The Greenbelt District is intended to protect sensitive natural resources and critical areas. Residential development at up to one single-family residential unit per two acres is permitted. The maximum building height established for the GB zone is three stories/35 feet.

Shoreline Environment

The *Downtown Port Orchard Subarea Plan* area contains shorelines associated with Sinclair Inlet and Blackjack Creek (see **Figure 3.1-3**).



Source: GGLO, 2020

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.1-3

Existing Shoreline Designations

Sinclair Inlet

According to the Port Orchard Shoreline Master Program (SMP), the Sinclair Inlet shoreline is highly urbanized and physically altered, with approximately 89 percent of the shoreline being armored. There are also State highways, City Streets, and County roads along the entire length of the shoreline, with bridges or culverts constraining the streams that run to the Inlet. Much of the road bed areas, and most development waterward of the roads were built on fill and are protected by various types of shoreline armoring. Native vegetation has been removed from much of the Sinclair Inlet shoreline as well

Although the Port Orchard shoreline is heavily developed, the shoreline is not entirely devoid of any habitat function. Shorebirds, great blue herons, and bald eagles utilize the nearshore and mudflats for forage. Surf smelt and sand lance spawning is documented along much of the intertidal, and clams and other invertebrates utilize the area as well. Additionally, the nearshore is a migratory corridor for salmon. The opportunity to view wildlife foraging on the tideflats enhances the downtown recreational experience for residents and visitors, and the waterfront trail is frequented by birders and photographers. Kayakers and paddleboarders also enjoy these opportunities, and families and walkers enjoy access to the beach. Seasonally, recreational anglers also utilize Port Orchard beaches for salmon and cutthroat trout fishing.

The portion of the Sinclair Inlet shoreline within the *Downtown Port Orchard Subarea Plan* area is designed High Intensity by the SMP. The purpose of the "high-intensity" environment is to provide for high-intensity water-oriented commercial, mixed-use, transportation, and industrial uses while protecting existing ecological functions.

Blackjack Creek

According to the Port Orchard Shoreline Master Program (SMP), the majority of the Blackjack Creek shoreline is relatively intact. The mouth of the Creek has been highly altered with shoreline armoring, paving, and channelization. However, just upstream, the Blackjack Creek corridor becomes nearly a wilderness area, with natural vegetation, wildlife corridors, and a healthy salmon stream.

The portion of the Blackjack shoreline within the *Downtown Port Orchard Subarea Plan* area is designated “High Intensity” (mouth of Blackjack Creek) and “Urban Conservancy” (south of Bay Street). The purpose of the "urban conservancy" environment is to protect and restore ecological functions of open space, floodplain and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses. It should be applied to those areas where most benefit the public if their existing character is maintained but can also tolerate limited development. The remaining portion of Blackjack Creek to the south is designated “Natural”

3.1.2 Impacts

The *Downtown Port Orchard Subarea Plan* is proposed to satisfy the requirements of the State's Growth Management Act for Port Orchard to plan for forecasted growth, and to support the goals of the PSRC's VISION 2050. The primary goals of VISION 2050 include: increase housing choices and affordability; provide opportunities for all; sustain a strong economy; significantly reduce greenhouse gas emissions; keep the region moving; restore Puget Sound health; protect a network of open spaces; grow in centers and near transit; and, act collaboratively and support local efforts.

The initial goal of the *Downtown Port Orchard Subarea Plan* is to "*Establish a vision for a vibrant urban center that is economically feasible and context sensitive*". Goals and policies of the proposed Subarea Plan include: "*Develop a Subarea Plan that establishes a vision for Port Orchard as a vibrant urban center that supports denser residential living in a walkable neighborhood*"; "*Increase Housing supply consistent with the goals of the E2SHB grant*"; "*Focus growth in designated centers to support residential living in walkable neighborhoods*"; "*Focused growth in designated centers to support denser residential living in a walkable neighborhood*"; and, "*The plan should support a potential Countywide Center designation*".

Proposed Subarea Plan goals and policies specific to Land Use include:

Goal LUH – 01 - Develop a land use pattern that is environmentally sustainable and economically vibrant and accommodates additional housing and businesses.

Goal LUH – 02 - Encourage increased development in existing centers and along existing primary circulation corridors to create vibrant walkable neighborhoods.

Goal LUH – 03 – Ensure that new development largely maintains existing views.

Goal LUH – 04 – Transform the existing East Downtown from a largely car dominant development pattern to an extension of the existing walkable West Downtown area.

Policy LUH – 01 – Expand the Center boundaries to capture the Sidney and Cline corridors and additional area along East Downtown.

Policy LUH – 02 – Rezone parcels along Cline and Sidney Street from R2 to Neighborhood Mixed-use to provide a moderate increase in development and provide a transition to the residential zones.

Policy LUH – 03 – Extend the varied frontage designation along Cline Street from Kitsap Street to Kendall Street.

Policy LUH – 04 – Revise frontage requirements along the new waterfront street and in the East Downtown to reflect the proposed concept design plan.

Policy LUH – 05 - Rezone the Commercial Heavy Parcels in the East Downtown to Commercial Mixed-use (CMU).

Policy LUH – 06 - Rezone the Commercial Mixed-Use Corridor parcels on the east side of Bethel between Dekalb Street to Mile Hill Drive from Commercial Mixed-Use Corridor to Gateway Mixed-Use (GMU).

Policy LUH – 07 – Allow for buildings up to 5-stories on the east side of Bethel between Dekalb Street to Mile Hill Drive.

Policy LH -08- Modify the Downtown Height Overlay District as follows:

Allow the building height for new development along Bay Street to be measured from the future road elevation consistent with Sea level rise contemplated in the Shoreline Master Plan.

Amend 20.38.640 (1) as follows:
(1) DHOD Height Zones Established. Within the DHOD as shown on the zoning map, there are three different DHOD height zones with height limits established as follows:
(a) DHOD 3: 48 feet – three stories.
(b) DHOD 4: 58 feet – four stories.
(c) DHOD 5: 68 feet – five stories.

Amend the height along the block south of Bay Street between Robert Geiger and Frederick to allow 5 stories except within 50 feet of Robert Geiger Street which shall be limited to 4 stories.

The area within the *Downtown Port Orchard Subarea Plan* subject to proposed changes totals approximately 34.5 acres, or approximately 9 percent of the 329-acre planning area (see **Figure 2-3** and **Figure 2-7**). Land use policies related to the existing residential neighborhoods and area associated with Kitsap High School would remain as currently established. Thus, for the majority of the Subarea Plan area, the potential for displacement of existing uses would not increase compared to the No Acton Alternative.

No Action Alternative

Under the No Action Alternative, the City of Port Orchard's existing Comprehensive Plan, Zoning Map, and the Zoning Code (Port Orchard Municipal Code Title 20) would remain in effect. All existing planning and implementation policies and development regulations would continue to guide development decisions for properties within the Downtown Port Orchard Subarea area.

Under the No Action Alternative, it is assumed that growth in the subarea plan area would continue under current policies and guidelines, with development occurring on a project-by-project basis. Given consistency with existing regulations, development under the No Action Alternative would not be anticipated to result in significant land use impacts, although the opportunity for future development that may be more consistent with the direction outlined in the *Downtown Port Orchard Subarea Plan* and the broader Comprehensive Plan would not occur.

Proposed under current Port Orchard regulations, the Kitsap County Courthouse Project would occur as described in Chapter 2 of this Final EIS. Construction of the proposed Kitsap County Courthouse Project would result in phased construction. Construction activities would include site preparation, building demolition, infrastructure improvements, and building construction. Construction-related impacts (noise, dust, equipment emissions, vehicle traffic, and vibration) would be temporary and would move around the campus commensurate with phasing. Adjacent uses that could temporally be impacted by construction include Kitsap County Administration Building and Public Works Building to the north across Division Street, single-family residential and office uses to the west across Cline Avenue, surface parking and single-family residential to the south across Taylor Street, and single-family residential to the east across Sidney Avenue.

Construction activities would be regulated by applicable federal, state, and local (City of Port Orchard) regulations related to site preparation, demolition and construction would be implemented during construction activities, and significant impacts to land uses in proximity to construction activities would not be anticipated.

Development Alternatives (Alternatives 2 and 3)

Each of the development alternatives would continue the redevelopment trends of properties in the Downtown Port Orchard subarea plan area. Development under either of the development alternatives would result in varying degrees of additional residential development capacity, residential units and commercial capacity compared to levels under the No Action Alternative. **Table 3.1-1** illustrates the differing levels of future residential capacity, residential units and commercial capacity under the development alternatives compared to levels under the No Action Alternative.

Table 3.1-1
COMMERCIAL AND RESIDENTIAL CAPACITY

	Alternative 1 No Action	Alternative 2 Residential Focus	Alternative 3 Mixed-Use Focus
Commercial Capacity (sq.ft.)[4]	622,800	673,500	848,600
Residential Capacity (sq.ft)	566,200	1,010,100	752,283
Residential Units	1,074	1,610	1,288

Source: GGLO, 2020

The overall types of land use impacts that could potentially occur with the proposed regulatory changes under the Downtown Port Orchard Subarea Plan and associated increased residential and commercial capacity under the EIS development alternatives (Alternatives 2 and 3) generally relate to construction impacts, displacement/conversion of existing land uses, changes in relationships to surrounding uses, and changes to building height/bulk and scale. Indirect land use impacts that could occur include the potential for increases in development outside the Subarea Plan area. These types of impacts are discussed below.

Construction Impacts

Future development assumed under Alternatives 2 and 3 would generally consist of: 1) construction of new site infrastructure, including roadway and utility improvements; and, 2) construction of new buildings, associated parking, and sidewalks/trails.

Site preparation and infrastructure development (including roadway and utility improvements) would generally occur commensurate with the development of specific building projects over the assumed buildout of the subarea (see **Chapter 2**). Buildout of the proposed redevelopment is anticipated to occur over an approximately 20-year timeframe (2040), although actual buildout would depend on property owners' decisions and market conditions.

Site preparation and construction of infrastructure and buildings could result in periodic, temporary impacts to adjacent land uses over the assumed approximately 20-year period. Construction-related impacts would include additional amounts of air pollution as a result of dust and emissions from construction equipment and vehicles; increased noise levels from construction activities; vibration associated with construction activities and vehicle movement; and increased traffic associated with construction vehicles and construction

[4] Employment capacity within structures.

workers. Construction activities would occur incrementally over the approximately 20-year planning period, such activity would occur in different portions of the Subarea Plan area and could result in temporary impacts to adjacent land uses when construction occurs in close proximity to the existing uses.

Construction of the proposed Kitsap County Courthouse Project would result in phased construction as described for Alternative 1 (No Action). Construction activities would be regulated by applicable federal, state, and local (City of Port Orchard) regulations related to site preparation, demolition and construction would be implemented during construction activities, and significant impacts to land uses in proximity to construction activities would not be anticipated.

Displacement/Conversion of Existing Uses

The area within the *Downtown Port Orchard Subarea Plan* subject to proposed changes totals approximately 34.5 acres, or approximately 9 percent of the 329-acre planning area (see **Figure 2-3**). Land use policies related to the existing residential neighborhoods and area associated with Kitsap High School would remain as currently established. Thus, for the majority of the Subarea Plan area the potential for displacement of existing uses would not increase compared to the No Acton Alternative.

Under **Alternative 2 (Residential Focus)** potential changes to zoning and allowable building height would focus on increasing residential capacity in existing commercial only zones. Compared to Alternative 1 (No Action), Alternative 2 would result in an increase of approximately 443,900 sq. ft. of residential building space and an increase of approximately 50,700 sq. ft. of commercial building space.

Alternative 3 (Mixed Use Focus) assumes an increase in mixed-use residential, commercial retail, and office development, including some standalone commercial development in mixed-use zones and in commercial only zones. Compared to the No Action Alternative (Alternative 1), Alternative 3 would result in an increase of approximately 186,083 sq. ft. of residential building space, and an increase of approximately 225,800 sq. ft. of commercial building space.

Because the majority of land within the Downtown Port Orchard focus areas is currently developed, the majority of redevelopment under Alternatives 2 and 3 would occur on developed properties and would result in some displacement of existing uses. Note that uses displaced would be replaced with uses and densities consistent with the Port Orchard Comprehensive Plan and Zoning Code, including incorporated provisions of the *Downtown Port Orchard Subarea Plan*.

The Kitsap County Courthouse Project would result the in the phased displacement of some existing uses on the campus, including: adaptive reuse of a portion of the Courthouse under Phase 1; demolition of a portion of the existing Courthouse for construction of new building, and demolition of the east portion of the existing Courthouse and existing Bullard Building, for construction of new building and courtyard area under Phases 3/4.

Relationship to Surrounding Uses

The relationship of redevelopment consistent with new policies and regulations under the *Downtown Port Orchard Subarea Plan* to surrounding uses (including existing uses within the Subarea Plan and uses surrounding the Subarea Plan area) would primarily be a function of the intensity of the new uses (such as the types of uses, density of the development, and levels of activity associated with the development), the intensity of surrounding uses, the proximity of new uses to surrounding uses, and the provisions of buffers between new uses and surrounding uses.

The land uses that are encouraged under the *Downtown Port Orchard Subarea Plan* under Alternative 2 and Alternative 3 would reflect the existing uses within the Subarea Plan area (including residential and commercial) and would be generally similar to surrounding land uses. However, the overall building density and land use intensity could be greater on certain redeveloped parcels. Overall, the additional amount of building square footage within the Subarea Plan area (including residential and commercial space) would increase by approximately 494,600 sq. ft. of building space (with 612 additional residents and 221 additional employees) under Alternative 2 with approximately 411,883 sq. ft. of building space (including 77 additional residents and 493 additional employees) under Alternative 3.

Activity levels (i.e., noise, traffic, etc. associated with new population) within the Subarea Plan area would increase as a result of development under the Subarea Plan due to the increase in density and associated on-site population (residents and employees) and visitors. Redevelopment under the *Downtown Port Orchard Subarea Plan* would result in additional residents living within the Subarea Plan area and additional residents and employees traveling to and from the Subarea Plan area each day. The increase in on-site population would result in increased activity levels, including pedestrian activity and vehicular traffic travelling to and from the Subarea Plan area. (see **Section 3.5**, **Transportation**, and **Appendix C** for details on traffic).

In general, while activity levels within the Subarea Plan area with new redevelopment under Alternatives 2 and 3 would be greater than the new commercial, residential and other uses under Alternative 1 (No Action), new activity could be considered a consistent extension and intensification of existing commercial and residential uses, and would not be anticipated to result in significant land use impacts.

Building Height/Bulk/Scale

Port Orchard Municipal Code 20.38.800 contains provisions for a view protection overlay district (VPOD) to protect views. The intent of the VPOD is to protect scenic views on north facing slopes in the vicinity of Sinclair Inlet and downtown, protect property values, provide access to light, ensure that the scale of development in downtown Port Orchard does not negatively impact the historic character of the community, and otherwise protect the general health, safety, and welfare of the community (see **Figure 3.1-2** for a mapping of the existing VPOD.

Port Orchard Municipal Code 20.38.600 contains provisions for a downtown height overlay district (DHOD). Similar to the VPOD, the intent of the DHOD is to further protect scenic views on north facing slopes in the vicinity of Sinclair Inlet and downtown. The height limits established by the DHOD are listed below and illustrated in **Figure 3.1-2**.

DHOD 3: 38 feet – three stories

DHOD 4: 48 feet – four stories

DHOD 5: 58 feet – five stories

The Downtown Port Orchard Subarea Plan includes two areas where extended DHOD 5 is proposed, including an area within the Downtown area (East Downtown) and an area along Bethel Avenue (see **Figure 2-8**). Both of the areas where extended DHOD 5 building heights are proposed are located outside of the VPOD.

Overall, policies related to building height/bulk under the *Downtown Port Orchard Subarea Plan* would be compatible with the height/bulk and scale of buildings within the Subarea Plan area and in the vicinity.

Indirect Impacts

Redevelopment within the Subarea Plan area under Alternatives 2 and 3 would contribute to the cumulative residential and employment growth in Kitsap County and the Port Orchard community. An increase in visitors, resident, and employment population would also contribute to a cumulative increase in vehicular traffic on surrounding roads. The increase in population, visitors and employment could also result in an increased demand for goods and services. It is likely that a majority of this demand would be fulfilled by commercial/retail uses in Port Orchard, although a portion of this demand could also be fulfilled by businesses in the vicinity (including in Bremerton).

To the extent that area property owners perceive an opportunity for development based, in part, on new employees, visitors and residents associated with the proposed Subarea Plan, some new development in the area could be indirectly generated. Any development generated indirectly by development within the Subarea Plan area would likely occur incrementally over time. New development in the vicinity would be controlled by existing zoning and Comprehensive Plan regulations, including new regulations associated with the *Downtown Port Orchard Subarea Plan*, as applicable. As a result, significant indirect/cumulative impacts to land uses would not be anticipated.

3.1.3 Mitigation Measures

Required/Proposed Mitigation

- Development under all EIS Alternatives would be subject to applicable provisions of the Port Orchard Municipal Code, including Chapter 20 (Unified Development Code), including Subtitle III (Zoning Regulations).

- All new development would be in compliance with the City of Port Orchard Municipal Code Titles 12 (Streets and Sidewalks), 13 (Public Utilities), and 15 (Buildings and Structures).

Incorporated Plan Features

- As described in Chapter 2, although the *Downtown Port Orchard Subarea Plan* encompasses approximately 329 acres, proposed changes are targeted for areas in or near the existing urban centers (Downtown and County Campus centers), along existing principal arterials, and currently underutilized parcels. The existing centers are proposed to be consolidated into a single Downtown Port Orchard Center under the proposed Subarea Plan. The area within the *Downtown Port Orchard Subarea Plan* subject to proposed changes totals approximately 34.5 acres, or approximately 9 percent of the 329-acre planning area. Land use policies related to the existing residential neighborhoods and area associated with Kitsap High School would remain as currently established.

- The proposed *Downtown Port Orchard Subarea Plan* incorporates goals and policies to minimize the potential for land use impacts associated with increased density including:

    - Goal LUH – 01 - Develop a land use pattern that is environmentally sustainable and economically vibrant and accommodates additional housing and businesses.
    - Goal LUH – 02 - Encourage increased development in existing centers and along existing primary circulation corridors to create vibrant walkable neighborhoods.
    - Goal LUH – 03 – Ensure that new development largely maintains existing views.
    - Goal LUH – 04 – Transform the existing East Downtown from a largely car dominant development pattern to an extension of the existing walkable West Downtown area.
    - Provide increased pedestrian access and recreational opportunities at the waterfront (Goal EOS - 01).
    - Streets should terminate at the waterfront with a small plaza, overlook, or pocket park (Policy EOS – 03).
    - Convert Orchard and Port Streets to pedestrian plazas with limited vehicle access ((Policy EOS – 04).

- Support the development of a new park in the existing public right-of-way on the west side of the Blackjack Creek outfall (Policy EOS – 07).

Regulations

- Development under all EIS Alternatives would be subject to applicable provisions of the Port Orchard Municipal Code, including Chapter 20 (Unified Development Code).

- Comprehensive Plan and Zoning Code amendments would be accomplished as necessary to fully integrate the *Downtown Port Orchard Subarea Plan*.

Cultural Resources Measures Applicable to Planned Action Area

Overall

- Pertinent cultural resources regulations would be followed for all development projects proposed within the Subarea Plan area.

- The Suquamish Tribe will be notified, on a project-by-project basis, when development proposals are submitted to the City of Port Orchard for properties within the Planned Action area of the Downtown Port Orchard Subarea Plan.

  Noticing and coordination with Suquamish Tribe would be conducted by the City of Port Orchard as the lead agency under the State Environmental Policy Act (SEPA) and/or Governor's Executive Order 05-05.

- If a project is proposed in the Planned Action area of the Downtown Port Orchard Subarea Plan, a project specific desktop analysis accompanied by a project site visit by a Secretary of Interior Qualified archaeologist would be provided, and an inadvertent discovery plan prepared. The project site visit would be coordinated with the Tribe, and would be geared toward assessing and documenting obvious signs of landscape modification. An archaeological inventory may be needed if no obvious signs of landscape modification are observed. Information generated would be provided to the Suquamish Tribe and the Washington State Department of Archaeology and Historic Preservation prior to the issuance of land use permits for the subject property.

Inadvertent Discovery of Archaeological Resources

- In the event that archaeological deposits are inadvertently discovered during construction of at a potential development site, ground-disturbing activities should be halted immediately, and City of Port Orchard should be notified. The City would then contact DAHP and the Suquamish Tribe, as appropriate, and as described in the recommended inadvertent discovery plan.

Discovery of Human Remains

- Any human remains that are discovered during construction at a potential development site would be treated with dignity and respect.
    - If ground-disturbing activities encounter human skeletal remains during the course of construction, then all activity that may cause further disturbance to those remains must cease, and the area of the find must be secured and protected from further disturbance. In addition, the finding of human skeletal remains must be reported to the county coroner and local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed.
    - The county coroner will assume jurisdiction over the human skeletal remains, and make a determination of whether those remains are forensic or non-forensic. If the county coroner determines the remains are non-forensic, they will report that finding to the DAHP. DAHP will then take jurisdiction over those remains and report them to the appropriate cemeteries and affected tribes. The State Physical Anthropologist will make a determination of whether the remains are Indian or non-Indian, and report that finding to any appropriate cemeteries and the affected tribes. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

Additional mitigation measures related to aesthetics, transportation, public services and utilities would be provided to minimize overall impacts from development of the site (see **Section 3.3 Aesthetics**; **Section 3.4**, **Utilities; Section 3.5**, **Transportation**; and **Section 3.6**, **Public Services** for further details).

3.1.4 Significant Unavoidable Adverse Impacts

Development Alternatives 2 and 3 include policies and regulations which would allow for increased density in the Subarea Plan area, resulting in an intensification of uses and an associated increase in activity levels. It is assumed that proposed redevelopment would occur consistent with adopted standards, guidelines, and regulations, including new goals, policies and regulations associated with the *Downtown Port Orchard Subarea Plan*. Therefore, with the implementation of the required/proposed mitigation measures listed above, no significant unavoidable adverse land use impacts would be anticipated.

PART B – RELATIONSHIP TO PLANS AND POLICIES

3.1.5 Relationship to Plans and Policies

This section of the EIS describes the relationship of the EIS Alternatives to relevant Washington State, Kitsap County, and City of Port Orchard land use plans, policies, and regulations.

Washington State Growth Management Act

Summary: The Growth Management Act (GMA) (RCW 36.70A), adopted in 1990 and subsequently amended, provides a comprehensive framework for managing growth and coordinating land use planning with the provision of infrastructure. The general goals of the GMA include, in part: directing growth to urban areas; reducing sprawl; encouraging economic development consistent with adopted comprehensive plans; protecting private property rights; providing efficient multi-modal transportation systems; encouraging a variety of housing types and densities affordable to all economic segments of the population; protecting the environment; and, ensuring that public facilities and services necessary to support development meet locally established minimum standards at the time development is in place (RCW 36.70A.020).

Jurisdictions subject to the GMA must prepare and adopt: countywide planning policies; comprehensive plans containing policies with specific elements for land use, transportation, housing, capital facilities, utilities, rural lands, parks and recreation, and economic development (both contingent on state funding); shoreline goals and policies (from the applicable Shoreline Master Program); and, development regulations implementing those plans. Several optional elements are also identified, including subarea plans. The GMA requires that each city and county in Washington comprehensively review and revise its comprehensive plan and development regulations, as necessary, every seven years to ensure that they comply with the GMA.

The GMA directs cities and counties to adopt Urban Growth Areas (UGAs). These UGAs must be sized to accommodate the anticipated population growth during the 20-year period following adoption of the UGA. The Office of Financial Management (OFM) prepares population growth forecasts for counties subject to GMA requirements to use to prepare their comprehensive plans. Counties, with input from cities, allocate population “targets” to jurisdictions for their planning activities.

Discussion: The City of Port Orchard has adopted a Comprehensive Plan and development regulations to fulfill its responsibilities under the GMA. The proposed Downtown Port Orchard Subarea Plan, as described in **Chapter 2** of this Final EIS, is intended to satisfy many relevant GMA goals, including: directing growth to urban areas; encouraging economic development; providing a variety of housing types and densities (including provisions for affordable housing); protecting the environment; and, ensuring that adequate public facilities and services are available to serve the project.

Proposed development under the EIS Alternatives would accommodate a portion of the anticipated housing, population, and employment growth as contemplated by GMA. These targets are indicated in the Comprehensive Plan and are for GMA planning purposes; they are not interpreted to place a limit or cap on population or housing growth in the City (see Section 3.2, **Housing, Population, & Employment**, for details on the City’s adopted growth targets and the relationship of the EIS Alternatives to these targets).

City of Port Orchard Comprehensive Plan

Summary: The City of Port Orchard's Comprehensive Plan was most recently updated in July 2020, in compliance with the GMA. The City's Comprehensive Plan establishes goals and policies which will guide decision-making and development in the City by ensuring that ordinances, regulations, programs and projects are developed in accordance with community values and goals. The goals and polices of the Plan specify measurable, achievable actions that most effectively utilize limited resources, retain the small-town character of Port Orchard, and build an even stronger community. The Plan's policies also serve as a guide and foundation for the City's Unified Development Code (Port Orchard Municipal Code Title 20). The City of Port Orchard Comprehensive Plan includes the following elements:

- Land Use
- Housing
- Parks
- Natural Systems
- Economic Development
- Utilities
- Transportation
- Capital Facilities

Discussion: The relationship of the EIS Alternatives to relevant goals and policies from the Comprehensive Plan are discussed below. Relevant policies are summarized, followed by a brief discussion. Note that this summary is necessarily selective and does not discuss all Plan policies. Where appropriate, goals/policies with similar themes are aggregated and a common discussion provided.

Land Use Element

Relevant Goals & Policies:

Goal 1: Retain Port Orchard's small town commercial and residential character while accommodating allocated growth citywide.

Goal 2: Ensure that sufficient land is available for development to accommodate allocated growth in population and employment.

Policy LU-8: Provide a variety of housing types and employment opportunities that meet the needs of diverse socioeconomic interests.

Goal 3: Implement a strategy to develop local centers of importance.

Policy LU-11: Within centers of local importance, set minimum building densities that enable lively and active streets and commercial destinations. Such limits may take the form of minimum floors or building height, floor-area ratios and lot coverage, and maximum street setbacks and parking spaces.

Goal 4: Ensure that both public services and infrastructure are developed in an efficient and cost-effective manner.

Goal 5: Protect, enhance and maintain the values and functions of Port Orchard's natural areas, open spaces, and critical areas.

Goal 7: Encourage the development of active, vibrant, and attractive destinations throughout the community.

Goal 9: Encourage the ongoing development of downtown as an attractive, vibrant community, commercial, social and civic center while respecting its historic character.

Policy LU-28: In conjunction with the proposed Centers strategy, enhance downtown Port Orchard's role as the center of the South Kitsap region, reflecting the following principles in development standards and land use plans:

- *Encourage land uses that support transit centers and promote pedestrian activity.*
- *Promote a mix of uses, including retail, office and housing.*
- *Encourage uses that will provide both daytime and evening activities.*
- *Support civic, cultural and entertainment activities.*
- *Provide sufficient public open space and recreational opportunities.*
- *Enhance and provide access to the waterfront.*
- *Develop enhanced design guidelines and design review requirements that promote attractive, pedestrian-scale development and redevelopment within the City's historic downtown area.*

Discussion: Alternative 1 – No Action Alternative assumes that growth in the Downtown area would continue under current policies and guidelines. New development would allow for additional housing, population, and employment opportunities within the Downtown area.

Alternatives 2 and 3 are intended to provide goals and policies for the Downtown Port Orchard Subarea that would create a specific strategy for development within two of the City's centers of local importance. Alternatives 2 and 3 are intended to promote a vibrant, walkable community that showcases the City's waterfront area, while accommodating planned expansion of the County Campus and preserving residential areas throughout the surrounding neighborhood. Development under Alternative 2 is assumed to consist primarily of residential and stand-alone commercial uses, while Alternative 3 would consistent primarily of mixed-use development. New development under Alternatives 2 and 3 would provide increased housing, population, and employment opportunities when compared to Alternative 1 and would be located within centers of local importance.

Section 2.7 of the Land Use Element identifies the City's Centers Strategy. Centers are considered focused areas of development that have key uses which enable the City to deliver services more cost-efficiently and equitably pursue a development pattern that is environmentally and economically sound and provides a means of influencing growth and change through collaboration with the community in planning the future of these areas. The following are relevant general goals and polices that Centers should seek to fulfill:

Policy CN-1: Prioritize the City's residential, commercial and light industrial growth and infrastructure investments within designated Centers.

Policy CN-2: Focus future growth in designated, higher intensity areas in an effort to encourage the preservation of open space and maintain surrounding neighborhood character.

Policy CN-3: Provide commercial services that serve the population of the Center, surrounding neighborhoods, the city and the region.

Policy CN-6: Balance objectives for accommodating growth, encouraging compatibility, promoting housing affordability, and offering a wide range of housing types.

Policy CN-8: During subarea planning for Centers, develop and implementation plan that addresses how the City will meet the Center goals through appropriate land use designations, annexation, development of capital facilities and utilities, and related measures.

Policy CN-12: The City shall create and designate zoning that allows a mix of uses to accommodate concentrations of employment and housing.

Policy CN-12: The City shall encourage a broad range of housing types and commercial uses within designated Centers, through zoning and development regulations that serve a local, citywide, or regional market.

Discussion: Under the No Action Alternative, the City of Port Orchard's existing Comprehensive Plan, Zoning Code, and Zoning Map would remain in effect. Existing planning and implementation policies and development regulations would continue to guide development decisions for properties in the Downtown Port Orchard Subarea. Growth and development in the Subarea would occur in accordance with those current policies and regulations. Future development would include residential and commercial uses consistent with those policies and would provide for associated growth in population and employment opportunities.

Under Alternatives 2 and 3, the proposed Subarea Plan would be intended to focus growth and development within the designated Downtown Port Orchard Center to create a more vibrant, walkable community that showcases the City's waterfront area, while accommodating planned expansion of the County Campus. The Subarea Plan includes several goals and policies specific to changes in existing zoning to allow for increased development within Downtown Port Orchard and provide a transition to the residential zones. The proposed Subarea Plan also includes several goals and policies specific to changes in existing maximum building height that are considered under Alternatives 2 and 3 which would allow for increased development within specific areas of Downtown. Development under Alternatives 2 and 3 would allow for increased residential and commercial development when compared to the No Action Alternative, with Alternative 2 consisting of residential and stand-alone commercial uses and Alternative 3 consisting primarily of mixed-use development.

The Downtown and County Campus areas are both designated as Countywide Centers. The following are relevant goals and policies for the Downtown Port Orchard Subarea Plan.

Goal 10: Update the existing Downtown Development Regulations to better define design guidelines, the design review process, and encourage a balance between historic preservation and redevelopment.

Goal 11: Provide zoning that is consistent with Port Orchard's existing built environment, topography, and lot sizes that allow for financially viable and high quality development.

Policy CN-17: Allow bulk standards (height, setbacks, building size, parking requirements, etc.) and building types to determine residential density.

Goal 13: Encourage mixed use development within the Downtown and Gateways.

Goal 14: Encourage facilities that will draw local residents and tourists to Downtown and the Gateways.

Discussion: Future development within the Downtown Center under the No Action Alternative would occur consistent with existing polices and regulations.

Under Alternatives 2 and 3, the proposed Subarea Plan would provide specific goals and policies to guide development in the Downtown Center which would encourage development in the Center and along circulation corridors to create an economically vibrant and more walkable area. The Subarea Plan would also allow for to changes in existing maximum building height to allow for buildings up to five-stories on the east side of Bethel between Dekalb Street and Mile High Drive. Potential development under Alternative 2 is assumed to contain primarily residential and stand-alone commercial development, while Alternative 3 is assumed to include increased mixed-use development.

The following are relevant goals and policies for the County Campus area.

Goal 19: Encourage campus-like development in an orderly and aesthetic manner supporting the needs of the Kitsap County Government Uses.

Policy CN-35: Encourage development of community-oriented uses and services that support the mission of the County Seat.

Policy CN-36: Support limited business and professional uses that serve the governmental officers and provide services to the employees and citizens.

Policy CN-38: Support residential use within the overlay district and ensure new development is sensitive to those uses.

Discussion: Under the No Action Alternative it is assumed that growth in the County Campus Center area would continue under current policies and guidelines. Development of the currently proposed expansion of the Kitsap County Governmental Campus is assumed to occur under the No Action Alternative and future development in the County Campus area would include residential and commercial uses that would be consistent with those existing policies and regulations.

Development of Alternatives 2 and 3 would incorporate the goals and objectives identified in the proposed *Downtown Port Orchard Subarea Plan*. With regard to the County Campus Center area, the Subarea Plan incorporates planned expansion of the Kitsap County Government Campus, provides development flexibility along the Sydney and Cline corridors, and preserves existing residential areas throughout the majority of the remaining neighborhood areas. Alternative 2 assumes a mostly residential development focus with commercial development occurring in standalone buildings in commercial zones. Alternative 3 assumes an increase in mixed-use residential, commercial retail, and office development.

Housing Element

Relevant Goals & Policies:

The Housing Element of the Comprehensive Plan summarizes the City's existing housing stock and associated demographics, and also identifies the City's population growth allocations and capacity. Port Orchard was provided a population growth allocation through the Kitsap Regional Coordinating Committee's adopted Countywide Planning Policies. The allocation that was adopted for the City for the 2010-2036 planning period was 8,235 additional people. Based on American Community Survey data for 2014, the average number of people per household in Port Orchard is 2.59, which means that approximately 3,180 additional housing units would be needed. Relevant goals and polices from the Housing Element are provided below.

Policy HS-1: Identify a sufficient amount of land for housing, including but not limited to government-assisted housing, housing for low income families, manufactured housing, multifamily housing, group homes, and foster care facilities.

Policy HS-2: Support the development of a variety of housing types, including apartments, townhomes, mixed-use and live-work development, small lot and zero-lot line single family homes, and manufactured homes, as well as traditional single family homes, through innovative planning, efficient and effective administration of land and building codes, and where available, applicable financial assistance.

Goal 3: Encourage the clustering of new housing developments in designated mixed-use Centers where residential uses are co-located with commercial uses.

Goal 5: Promote the efficient use of residential land in order to maximize development potential.

Policy HS-14: Implement zoning and development regulations which encourage infill housing on empty and redevelopable parcels.

Policy HS-16: Consider increasing maximum housing densities and implementing minimum housing densities in appropriate areas.

Goal 9: Ensure that future residential development protects and maintains natural ecosystems and critical areas, including wetlands, streams and wildlife habitats.

Policy HS-26: Prioritize residential growth in centers of local importance.

Discussion: Under the No Action Alternative, existing planning and implementation policies and development regulations would continue to guide development decisions for properties within the Downtown Port Orchard Subarea. Residential capacity (in units) under the No Action Alternative would be approximately 1,074 residential units.

The goals and objectives that are identified in the *Downtown Port Orchard Subarea Plan* are intended to promote a vibrant, walkable community that showcases the City's downtown waterfront area, while also incorporating planned expansion of the County Campus and preserving residential areas throughout the majority of the neighborhoods. Development under Alternative 2 would be assumed to focus on residential uses and stand-alone commercial uses with a residential capacity of approximately 1,610 residential units. Alternative 3 is assumed to include more mixed-use development (residential, commercial retail and office) and would have the capacity for approximately 1,288 residential units.

Parks Element

Relevant Goals & Policies:

Policy PK-1: Preserve and enhance the natural and aesthetic qualities of shoreline areas while allowing reasonable development to meet the needs of residents.

Goal 6: The waterfront should be preserved and protected to enhance public use.

Policy PK-27: Public access to the water is required for new municipal development unless such access is shown to be incompatible due to reasons of safety, security or impacts to the shoreline environment, and it should be provided for new commercial development unless such improvements are demonstrated to be infeasible or present hazards to life and property.

Goal 7: Provide a variety of water and shoreline-related recreational opportunities for the public.

Goal 8: Provide open space within residential and commercial developments and preserve critical areas within open space.

Discussion: Under the No Action Alternative, development of parks, recreation, and open space areas would occur in accordance with existing plans, policies and regulations, including the City's Capital Facilities Plan and Parks, Recreation and Open Space Plan.

The proposed *Downtown Port Orchard Subarea Plan* identifies specific goals and policies to enhance the environment and public realm for City residents and guests, including increased pedestrian access and recreational opportunities along the waterfront and incorporating new open space within required shoreline buffers so they can serve dual purposes. The *Downtown Port Orchard Subarea Plan* also identifies several proposed open space projects, including the Port Orchard Boat Launch Estuary Restoration, the Port Street Plaza and Viewpoint, the Orchard Street Plaza and Viewpoint, a Kayak Launch Dock, the Prospect Street Hill Climb, Waterfront Trail enhancements, Waterfront Shoreline enhancements, and Blackjack Creek Estuary Park and Etta Turner Park expansions/enhancements.

Economic Development Element

Relevant Goals & Policies:

As identified in the Economic Development Element, the City has also been allocated a set amount of employment growth by the Kitsap Countywide Planning Policies in which the City must plan for an additional 3,132 new jobs between 2010-2036 with 2,571 of those being commercial jobs and 560 being industrial jobs. Relevant goals and polices from the Economic Development Element are provided below.

Goal 2: Encourage new commercial development to occur within designated centers of activity near housing, multi-modal transportation connections and urban services.

Policy ED-7: The City shall prioritize economic development and redevelopment in local centers.

Goal 3: Encourage growth and diversification that maximizes employment and improves opportunity for residents to both work and live in Port Orchard.

Policy ED-27: The City shall, through changes to the land use code, encourage mixed use developments within centers of local importance that will enhance the visual, economic, and environmental quality of these areas and improve the transition between commercial and residential districts.

Discussion: Existing plans, policies and regulations would continue to guide development under the No Action Alternative. Approximately 622,800 sq. ft. of commercial capacity is assumed under the No Action Alternative which would provide space for approximately 3,396 employees.

The proposed *Downtown Port Orchard Subarea Plan* strives to create vibrant centers within the Downtown and County Campus areas and provide more walkable neighborhoods for residents and visitors. Commercial development would be focused within these centers. Alternative 2 would have a commercial capacity of approximately 673,500 sq. ft. and commercial development would be assumed to occur as stand-alone commercial buildings. Alternative 3 would provide a greater amount of commercial capacity (approximately 848,600 sq. ft.) with future development assumed to occur in mixed-use structures (residential, commercial retail and office uses). Alternative 2 would provide commercial space for approximately 3,617 employees while Alternative 3 would provide space for approximately 3,889 employees.

Transportation Element

Relevant Goals & Policies:

Goal 2: Provide a safe, comfortable and reliable transportation system.

Goal 10: Promote pedestrian, bicycle and other non-motorized travel.

Policy TR-37: Ensure that trails and paths provide convenient connections within the City.

Goal 12: Create a walking and bicycling network for Port Orchard that prioritizes safety, connectivity, convenience and cost effectiveness.

Goal 18: Provide aesthetically pleasing streets.

Goal 19: Recognize the importance of easily accessible, attractive, and well dispersed parking as a valuable community asset.

Goal 24: Provide a transportation system that will support economic development.

Discussion: Under the No Action Alternative, the development of transportation improvements would occur in accordance with existing plans, including the City's Comprehensive Plan Transportation Element, the Transportation Improvement Plan, and the Capital Facilities Plan.

The proposed *Downtown Port Orchard Subarea Plan* identifies several circulation and access goals and policies that are intended to refocus new development towards the water and improve pedestrian access and safety throughout the Downtown and County Campus areas. Goals in the Subarea Plan include improving the safety of the Bay Street and Bethel Avenue Corridors, providing improved pedestrian circulation within West Downtown between the waterfront and Prospect Street, and transforming East Downtown to an extension of the walkable West Downtown. Several transportation projects are identified as part of the *Downtown Port Orchard Subarea Plan* including, Bay Street/Port Orchard Boulevard intersection reconfiguration, Fredrick Avenue improvements, a new waterfront street between Frederick Avenue and Harrison Avenue, Sidney Street frontage improvements, Harrison Avenue frontage improvements, a Bay Street/Bethel Avenue Corridor plan, Bay Street/Mitchell Avenue intersection reconfiguration, and Bay Street/Guy Wetzel Road intersection reconfiguration.

City of Port Orchard Shoreline Master Program

Summary: The City of Port Orchard Shoreline Master Program (SMP), which was updated in March 2021, implements the State Shoreline Management Act (RCW 90.58). The overall purpose of the SMP is to promote uses and development of the Port Orchard shoreline consistent with the City's Comprehensive Plan while protecting and restoring environmental resources. The SMP is also intended to promote the public health, safety and general welfare by providing a guide and regulation for the future development of the shoreline resources of the City of Port Orchard.

The SMP includes various shoreline environment designations, as required by WAC 173-26-211, and are intended to serve as a tool for applying the statewide policies to local shorelines. Shoreline environment designations are assigned to reflect the type of development that has taken place over time, as well as development, or lack of it, that should take place in the future in order to preserve ecological functions. The *Downtown Port Orchard Subarea Plan* area contains shorelines associated with Sinclair Inlet and Blackjack Creek.

The Sinclair Inlet shoreline is highly urbanized and physically altered, with approximately 89 percent of the shoreline being armored. There are also State Highways, City streets, and County roads along the entire length of the shoreline, with bridges or culverts constraining the streams that run to the Inlet. Native vegetation has been removed from much of the Sinclair Inlet shoreline as well. The portion of the Sinclair Inlet shoreline within the *Downtown Port Orchard Subarea Plan* area is designated as High Intensity by the SMP. The purpose of the "high-intensity" environment is to provide for high-intensity water-oriented commercial, mixed-use, transportation, and industrial uses while protecting existing ecological functions.

In general, the majority of the Blackjack Creek shoreline is relatively intact. The mouth of the Creek has been highly altered with shoreline armoring, paving and channelization, and the northwest portion of Blackjack Creek is designated “High Intensity”. However, just upstream, the Blackjack Creek corridor becomes nearly a wilderness area, with natural vegetation, wildlife corridors, and a healthy salmon stream, and a portion of Blackjack Creek south of Bay Street designated “Urban Conservancy”. The purpose of the "Urban Conservancy" environment is to protect and restore ecological functions of open space, floodplain and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses. It should be applied to those areas where most benefit the public if their existing character is maintained, but can also tolerate limited development. The remaining portion of Blackjack Creek to the south is designated “Natural”.

Discussion: Existing plans, policies and regulations would continue to guide development under the No Action Alternative. Assumed development under the No Action Alternative would be intended to comply with the applicable provisions of the City’s Shoreline Master Program.

The proposed *Downtown Port Orchard Subarea Plan* identifies several goals and policies to enhance the environment and public realm for City residents and guests, including increased pedestrian access and recreational opportunities along the waterfront and incorporating new open space within required shoreline buffers so they can serve dual purposes. In addition, assumed development under Alternatives 2 and 3 in accordance with the proposed Subarea Plan is intended to create a more vibrant, walkable community that showcases the City’s waterfront area. Potential development under the Subarea Plan would be intended to comply with the applicable provisions of the City’s Shoreline Master Program.

City of Port Orchard Zoning Regulations

Summary: Port Orchard Municipal Code Chapter 20 establishes the land use and development code regulations for the City of Port Orchard. The Downtown Port Orchard Subarea includes several different types of zoning districts, including the following:

Residential 2 (R2) – This zoning district is primarily intended to accommodate detached housing, duplex, and townhouse development. The R2 district is intended to implement the residential medium density comprehensive plan designation. The maximum building height in the R2 zone for principal structures is three stories/35 feet.

Downtown Mixed Use (DMU) – This zoning district is intended to provide for mixed-use, pedestrian-oriented development in downtown. Building options include live-work, single-story shopfront and mixed-use shopfront. The maximum building height in the DW zone is three stories/38 feet, unless an alternate height is established under the Downtown Height Overlay District.

The intent of the downtown height overlay district (DHOD) is to protect scenic views on north facing slopes in the vicinity of Sinclair Inlet and downtown, protect property values, provide access to light, ensure that the scale of development in downtown Port Orchard does not negatively impact the historic character of the community, and otherwise protect the general health, safety, and welfare of the community. The intent of the DHOD is to be achieved by establishing height limits for buildings and by establishing a method of measuring buildings that is different than the methods used elsewhere.

Business Professional Mixed Use (BPMU) – The intent of this district is to accommodate mixed use development as well as a mix of uses that are oriented around the existing areas of medical, business professional, and residential uses and structures. Development in this zone is to be at a scale appropriate for uses ranging from single-family detached to large medical buildings to be designed to be more compatible with smaller structures. The maximum building height in the BPMU zone is three stories/40 feet.

Commercial Mixed Use (CMU) – This district is intended to accommodate a broader range of residential and nonresidential activity Building types include townhouse, apartment, live-work, shopfront house, single-story shopfront, mixed-use shopfront, and general building. Maximum building height in the CMU zone is three and one-half stories/40 feet.

Public Facilities (PF) – This district is intended to provide for public facility uses that serve the city and which may not readily assimilate into other zoning districts. The public facilities district intends to accommodate buildings of a public nature such as police, fire or EMS stations and government offices. Maximum building height in the PF zone is five stories/85 feet.

Commercial Heavy (CH) - Commercial heavy is intended for auto-oriented and heavy commercial uses. To help ensure compatibility, residential uses are not allowed. Building type options include single-story shopfront and general building. The commercial heavy district should be applied in areas where the existing or proposed land use pattern contains a variety of auto-oriented and heavy commercial uses and in areas designated as commercial in the comprehensive plan. Maximum building height in the CH zone is three stories/35 feet.

Commercial Corridor (CC) - The commercial corridor district is intended to serve as a commercial gateway and to take advantage of proximity to major roadways. Therefore, the quality and aesthetics of new development is very important. Building type options include live-work unit, shopfront house, single-story shopfront, mixed use shopfront and general building. The commercial corridor district should be applied along commercial corridors that serve as entrances to downtown or other pedestrian-oriented activity areas. Maximum building height in the CC zone is three stories/35 feet.

Civic and Institutional (CI) – This district is intended to protect civic uses that serve the surrounding neighborhoods or produce intense civic activities that do not readily assimilate into other zoning districts. Activities may include, but are not limited to religious facilities, and schools. Maximum building height in the CI zone is three stories/55 feet.

Parks and Recreation (PR) – This district is intended to meet the active and recreational needs of residents. Activities may include playgrounds, recreational fields, ballfields, sports courts, dog parks, and associated facilities. Maximum building height in the PR zone is 35 feet.

Greenbelt (GB) – The Greenbelt District is intended to protect sensitive natural resources and critical areas. Residential development at up to one single-family residential unit per two acres is permitted. The maximum building height established for the GB zone is three stories/35 feet.

Discussion: Under the No Action Alternative, the City of Port Orchard's existing Zoning Code, and Zoning Map would remain in effect. Existing planning and implementation policies and development regulations would continue to guide development decisions for properties in the Downtown Port Orchard Subarea. Growth and development in the Subarea would occur in accordance with those current policies and regulations.

Under Alternatives 2 and 3, the proposed *Downtown Port Orchard Subarea Plan* includes several goals and policies specific to changes in existing zoning that are intended to allow the designated centers within the Subarea to support denser residential areas in walkable neighborhoods and showcases the City's waterfront areas. The *Downtown Port Orchard Subarea Plan* primarily represents code changes to implement the vision of creating a vibrant urban center that is economically feasible and context sensitive, and specific development projects are generally not identified. Under Alternative 2, potential zoning changes would be focused on increasing the residential capacity in existing commercial-only zones. Under Alternative 3, potential zoning changes would focus on increasing residential capacity in both commercial-only and residential-only zones.

Proposed changes to existing zoning would affect specific areas within the Subarea, including:

- Policy LUH – 02 – Rezone parcels along Cline and Sidney Street from R2 to Neighborhood Mixed-use to provide a moderate increase in development and provide a transition to the residential zones.

- Policy LUH – 05 - Rezone the Commercial Heavy Parcels in the East Downtown to Commercial Mixed-Use (CMU).

- Policy LUH – 06 - Rezone the Commercial Mixed-Use Parcels on the east side of Bethel between Dekalb Street to Mile Hill Drive from Commercial Mixed-Use Corridor to Gateway Mixed-Use (GMU).

The proposed Subarea Plan also includes policies specific to changes in maximum building heights which would occur in specific areas to allow for increased residential development capacity and flexibility in development, including:

- Policy LUH – 07 – Allow for buildings up to 5-stories on the east side of Bethel between Dekalb Street to Mile Hill Drive.

- Policy LH -08- Modify the Downtown Height Overlay District as follows:

  Allow the building height for new development along Bay Street to be measured from the future road elevation consistent with Sea level rise contemplated in the Shoreline Master Plan.

  Amend 20.38.640 (1) as follows:
  (1) DHOD Height Zones Established. Within the DHOD as shown on the zoning map, there are three different DHOD height zones with height limits established as follows:
  (a) DHOD 3: 48 feet – three stories.
  (b) DHOD 4: 58 feet – four stories.
  (c) DHOD 5: 68 feet – five stories.

  Amend the height along the block south of Bay Street between Robert Geiger and Frederick to allow 5 stories except within 50 feet of Robert Geiger Street which shall be limited to 4 stories.

3.2 HOUSING, POPULATION & EMPLOYMENT

Information presented in this section addresses the effects of the EIS Alternatives relative to housing, population and employment. Information for this section is based off of the *City of Port Orchard Downtown Subarea Plan – Economic Profile and Capacity Analysis* that was prepared by Heartland (June 2020).

3.2.1 Affected Environment

The *Downtown Port Orchard Subarea Plan* area includes approximately 329 acres of contiguous waterfront and upland property in north central Port Orchard. The western portion of the project area (Waterfront and Uphill Area) is generally bordered by Sinclair Inlet on the north, the right-of-way of West Avenue (undeveloped) on the west, Melcher Street on the south, and Harrison, Taylor, Seattle and Kitsap Streets on the east. The eastern portion of the project area (Bethel Corridor and Mitchell Corridor) is generally bordered by Sinclair Inlet on the north, Maple Avenue and Bethel Avenue on the west, Stockton Street, Decatur Avenue, Guy Wetzel Street, Tracy Avenue and the South Kitsap High School on the east, and Mile Hill Road on the south.

Housing

In 2019, there were approximately 6,015 housing units in the City of Port Orchard; an increase of approximately 30 percent (1,379 housing units) since 2010. **Table 3.2-1** provides a summary of housing supply in Port Orchard since 2010.

Table 3.2-1
PORT ORCHARD HOUSING UNIT SUMMARY – 2010 TO 2019

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Housing Units	4,636	4,780	4,888	5,375	5,527	5,695	5,791	5,862	5,911	6,015

Source: Heartland, 2020.

Of the approximately 6,015 housing units within the City of Port Orchard, approximately 31 percent were single family residences, approximately 66 percent were multi-unit residences, and 3 percent were mobile homes. Within the City, approximately 60 percent of the housing units were owner-occupied and 68 percent of the housing units were occupied by a family household (versus non-family households such as non-related roommates).

A household's income also dictates its housing decisions and opportunities. Based on data from 2018, the City of Port Orchard's median household income was approximately $70,598.

Median household income for the City of Port Orchard was slightly lower than Kitsap County overall (approximately $71,610) but was slightly higher than the neighboring City of Bremerton (approximately $50,311).

As identified in the City of Port Orchard Comprehensive Plan (Chapter 3 – Housing), the City was provided a population growth allocation through the Kitsap Regional Coordinating Committee's adopted Countywide Planning Policies in accordance with PSRC's Vision 2040 framework. The allocation for the 20-year planning period (2016-2036) was an additional 8,235 people which would mean that the City would need approximately 3,180 new housing units to serve that new population.

Population

The City of Port Orchard's population in 2019 was approximately 14,390 people. Similar to housing trends, the population within the City has steadily increased since 2010 with an increase of approximately 29 percent (3,233 people). **Table 3.2-2** provides a summary of the population in the City of Port Orchard since 2010.

Table 3.2-2
PORT ORCHARD POPULATION SUMMARY – 2010 TO 2019

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Population	11,157	11,440	11,780	12,870	13,150	13,510	13,810	13,990	14,160	14,390

Source: Heartland, 2020.

Forecasted population projections for the City of Port Orchard by the Puget Sound Regional Council (PSRC) anticipate that the City will add approximately 8,500 new residents by the year 2040 (approximately 59 percent increase). By comparison, the City of Bremerton is anticipated to have an increase of approximately 26,469 residents (approximately 63 percent increase) by 2040.

As noted above under Housing, the City of Port Orchard Comprehensive Plan (Chapter 3 – Housing) identifies the population growth that was allocated to the City through the Kitsap Regional Coordinating Committee's adopted Countywide Planning Policies in accordance with PSRC's Vision 2040 framework. The allocation for the City of Port Orchard during the 20-year planning period (2016-2036) was an additional 8,235 people.

Employment

In 2018, there were approximately 7,520 employees working in the City of Port Orchard. The three largest employment sectors within the City were services, retail, and government. Forecasted employment projections for the City of Port Orchard by PSRC anticipate that the

City will add approximately 2,835 new jobs by the year 2040 (approximately 38 percent increase). By comparison, the City of Bremerton is anticipated to have an increase of approximately 11,715 jobs (approximately 38 percent increase) by 2040.

As identified in the City of Port Orchard Comprehensive Plan (Chapter 6 – Economic Development), the City was allocated a set amount of employment growth by the Kitsap Countywide Planning Policies. The allocation for the 20-year planning period (2016-2036) was an additional 3,132 new jobs, which 2,571 being commercial jobs and 560 being industrial jobs.

3.2.2 Impacts

The *Downtown Port Orchard Subarea Plan* is designed to satisfy the requirements of the State's Growth Management Act for Port Orchard to plan for forecasted growth, and to support the goals of the PSRC's VISION 2050. The primary goals of VISION 2050 include: increase housing choices and affordability; provide opportunities for all; sustain a strong economy; significantly reduce greenhouse gas emissions; keep the region moving; restore Puget Sound health; protect a network of open spaces; grow in centers and near transit; and, act collaboratively and support local efforts.

Alternative 1 – No Action Alternative

Under the No Action Alternative, the City of Port Orchard's existing Comprehensive Plan, Zoning Map, and the Zoning Code (Port Orchard Municipal Code Title 20) would remain in effect. All existing planning and implementation policies and development regulations would continue to guide development decisions for properties within the Downtown Port Orchard Subarea area. Under the No Action Alternative, it is assumed that growth in the subarea plan area would continue under current policies and guidelines, with development occurring on a project-by-project basis.

The types of direct impacts that could potentially occur under the EIS development alternatives generally relate to construction impacts and impacts from operation of new development. These types of impacts are discussed below.

Construction Impacts

Development under the No Action Alternative would result in construction-related impacts from new construction employment opportunities that would occur in the City associated with the development of new residential and commercial construction. These employment opportunities could be fulfilled by contractors/companies located within the City or from outside the City.

Operational Impacts

Development under the EIS Alternatives would result in new housing and employment uses within the Downtown Port Orchard subarea, which would generate associated increases in population and employees. **Table 3.2-3** summarizes the development assumptions for the No Action Alternative, as well as Alternatives 2 and 3.

Table 3.2-3
SUMMARY OF DEVELOPMENT UNDER EIS ALTERNATIVES

	Alternative 1 - No Action	Alternative 2	Alternative 3
Residential Capacity	566,200 sq ft	1,010,100 sq ft	752,283 sq ft
Commercial Capacity	622,800 sq ft	673,500 sq ft	848,600 sq ft
Residential Units	1,074	1,610	1,288
Population	4,051	4,663	4,128
Employment	3,396	3,617	3,889

Source: GGLO, 2020.

Housing

Development under the No Action Alternative would provide approximately 1,074 new residential units within the Downtown Port Orchard Subarea by 2044. It is anticipated that these units would be built out incrementally over the 20-year planning period. Compared to the historic increase in housing in the City over the last 10 years (increase of 1,379 units or 30 percent increase), development under the No Action Alternative would represent an increase of approximately 18 percent over a 20-year period.

As noted under the Affected Environment discussion, the City of Port Orchard Comprehensive Plan (Chapter 3 – Housing) identifies the population growth allocation and housing targets for the City that were established through the Kitsap Regional Coordinating Committee's adopted Countywide Planning Policies. The population growth allocation for the 20-year planning period (2016-2036) would require approximately 3,180 new residences within the City of Port Orchard. Development under the No Action Alternative would provide approximately 34 percent of those residential units during the 20-year planning period.

Population

The approximately 1,074 new residential units under the No Action Alternative would be anticipated to accommodate a population of approximately 4,051 new residents. Similar to the development of housing, this increase in population would occur incrementally over the 20-year planning period. New population growth within the Downtown Port Orchard Subarea would represent approximately 48 percent of the City's 20-year population projection as identified by PSRC.

The City of Port Orchard's population growth allocations as established by the Kitsap Regional Coordinating Committee and PSRC were approximately 8,235 new residents by 2036. New development within the Downtown Port Orchard Subarea under the No Action Alternative would provide approximately 49 percent of the City's identified population growth allocation during the 20-year planning period.

Employment

Development under the No Action Alternative is anticipated to include approximately 622,800 sq. ft. of commercial uses which would provide building space for approximately 3,396 new jobs. New employment growth within the Downtown Port Orchard Subarea would exceed the City's 20-year employment projection as identified by PSRC (2,835 jobs). In addition, new jobs that would be generated by development under the No Action Alternative would exceed the employment growth allocation that was established by the Kitsap Countywide Planning Policies (3,132 new jobs by 2036).

Development Alternatives (Alternatives 2 and 3)

Each of the development alternatives would continue the redevelopment trends of properties in the Downtown and County Campus portions of the subarea plan area. Development under either of the development alternatives would result in varying degrees of additional residential units and commercial capacity compared to levels under the No Action Alternative. **Table 3.2-3** illustrates the differing levels of future residential units and commercial capacity under the development alternatives compared to levels under the No Action Alternative.

The types of direct impacts that could potentially occur under the EIS development alternatives generally relate to construction impacts and impacts from operation of new development. These types of impacts are discussed below.

Construction Impacts

Similar to the No Action Alternative, development under Alternatives 2 and 3 would result in construction-related impacts from new construction employment opportunities that would occur in the City associated with the development of new residential and commercial construction. These employment opportunities could be fulfilled by contractors/companies located within the City or from outside the City. It is anticipated that construction-related impacts would be greater under Alternatives 2 and 3 when compared to the No Action Alternative, due to the increased amount of residential and commercial development.

Operational Impacts

Development under the EIS Alternatives would result in new housing and employment uses within the Downtown Port Orchard subarea, which would generate associated increases in population and employees. **Table 3.2-3** summarizes the development assumptions for Alternatives 2 and 3.

Housing

Development under the Alternatives 2 and 3 would provide approximately 1,610 new residential units and 1,288 new residential units, respectively, within the Downtown Port Orchard Subarea by 2044. It is anticipated that these units would be built out incrementally over the 20-year planning period. Compared to the historic increase in housing in the City over the last 10 years (increase of 1,379 units or 30 percent increase), development under Alternative 2 would represent an increase of approximately 27 percent over a 20-year period, while Alternative 3 would result in an approximately 21 percent increase.

As noted under the Affected Environment discussion, the City of Port Orchard Comprehensive Plan (Chapter 3 – Housing) identifies the population growth allocation and housing targets for the City that were established through the Kitsap Regional Coordinating Committee's adopted Countywide Planning Policies. The population growth allocation for the 20-year planning period (2016-2036) would require approximately 3,180 new residences within the City of Port Orchard. Development under Alternative 2 would provide approximately 51 percent of those residential units during the 20-year planning period. Development under Alternative 3 would provide approximately 41 percent of those residential units during the 20-year planning period.

Population

The approximately 1,610 new residential units under Alternative 2 would be anticipated to accommodate a population of approximately 4,663 new residents; Alternative 3 would accommodate a population of approximately 4,128 residents. Similar to the development of housing, this increase in population would occur incrementally over the 20-year planning period. New population growth within the Downtown Port Orchard Subarea under Alternative 2 would represent approximately 55 percent of the City's 20-year population projection as identified by PSRC, while Alternative 3 would represent approximately 49 percent of the 20-year projection.

The City of Port Orchard's population growth allocations as established by the Kitsap Regional Coordinating Committee and PSRC were approximately 8,235 new residents by 2036. New development within the Downtown Port Orchard Subarea under Alternative 2 would also provide approximately 57 percent of the City's identified population growth allocation during the 20-year planning period; Alternative 3 would provide approximately 50 percent.

Employment

Development under the Alternative 2 is anticipated to include approximately 673,500 sq. ft. of commercial uses which would provide building space for approximately 3,617 new jobs. Alternative 3 would include approximately 848,600 sq. ft. of commercial space and approximately 3,889 new jobs. New employment growth within the Downtown Port Orchard Subarea under both Alternatives 2 and 3 would exceed the City's 20-year employment projection as identified by PSRC (2,835 jobs). New jobs that would be generated by development under the Alternatives 2 and 3 would also exceed the employment growth allocation that was established by the Kitsap Countywide Planning Policies (3,132 new jobs by 2036).

Indirect Impacts

Proposed development under Alternatives 2 and 3 could result in some indirect population growth and related demand for housing, primarily due to commercial development and associated new jobs within the Downtown Port Orchard Subarea. The increase in residents would also create new economic activity and demands for goods and services within the City.

3.2.3 Mitigation Measures

Increases in housing, population and employment would occur gradually under the EIS Alternatives over the 20-year buildout of the Downtown Port Orchard Subarea. No significant housing, population, and employment impacts are anticipated, and no mitigation measures are identified.

3.2.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse housing, population or employment impacts are anticipated.

3.3 AESTHETICS / LIGHT AND GLARE

This section of the FEIS describes the general existing aesthetic conditions within the Subarea Plan area, and evaluates how redevelopment under the *Downtown Port Orchard Subarea Plan* would change the aesthetic character and potentially affect surrounding uses. Existing light and glare conditions are also described and potential light and glare impacts are analyzed. Information added subsequent to the issuance of the Draft EIS is shaded to ease in the identification of added information.

3.3.1 Affected Environment

Aesthetics

Character and Views

Port Orchard is located in central Kitsap County along the southern shore of Sinclair Inlet. The aesthetic character of the Downtown Port Orchard Subarea Plan area is influenced by the physical environment of the area, including the waterfront and topography, and the character of the built environment.

Overall, the Subarea Plan area's topography influences the development pattern and consists of relatively level land along the Sinclair Inlet waterfront, with moderate slopes rising from the waterfront to the south, and relatively level area above the slope (including the area containing the County Campus area). Steep slopes are associated with the Blackjack Creek ravine at the eastern portion of the Subarea Plan area. The most densely developed portions of the Subarea Plan area are Downtown (located in the level area along the waterfront) and the County Campus area (located in the relatively level area above the slope).

Buildings within the Downtown area are generally low-rise (one to four stories), interspersed with roadways and drives, surface parking, walkways, and pocket parks. The Downtown area also includes the Port Orchard City Hall, the Port Orchard Marina and Port Orchard Foot Ferry Dock. Landscaping is limited to street trees, pocket parks, and landscaping associated with buildings and surface parking lots. The visual character of the Downtown area can be characterized as "small town waterfront".

The visual character of the County Campus area reflects a variety of building types and sizes, including one- and two-story residential buildings, one- and two-story residential buildings converted to office uses, and buildings associated with the Kitsap County Courthouse and Kitsap County Administration Building campus (Campus). The buildings associated with the Campus are generally two to five stories in height and reflect a public facilities character, with associated drives, surface and structured parking, courtyards, and landscaping.

Views to and from the Subarea Plan area are primarily available from area roadways, including SW Bay Street, Cline Avenue, and Sidney Avenue, the waters of Sinclair Inlet, as well as from certain areas of Bremerton across Sinclair Inlet, to the north. The varied topography of the Subarea Plan area provides opportunities for views, particularly from higher elevation areas to the north toward Downtown and Sinclair Inlet.

View Protection Overlay

Port Orchard Municipal Code 20.38.800 contains provisions for a view protection overlay district (VPOD) to protect views. The intent of the VPOD is to protect scenic views on north facing slopes in the vicinity of Sinclair Inlet and downtown, protect property values, provide access to light, ensure that the scale of development in downtown Port Orchard does not negatively impact the historic character of the community, and otherwise protect the general health, safety, and welfare of the community (see Figure 3.1-2 in the Land Use Section for a mapping of the existing VPOD).

Port Orchard Municipal Code 20.38.600 contains provisions for a downtown height overlay district (DHOD). Similar to the VPOD, the intent of the DHOD is to further protect scenic views on north facing slopes in the vicinity of Sinclair Inlet and downtown. The height limits established by the DHOD are listed below and illustrated in Figure 3.1-2.

DHOD 3: 38 feet – three stories
DHOD 4: 48 feet – four stories
DHOD 5: 58 feet – five stories

Light and Glare

Light and glare in an urban setting such as the *Downtown Port Orchard Subarea Plan* area can be produced from a variety of sources, including automobile headlights, exterior building illumination, street lights, and illuminated signs. The more intensely developed portions of the Subarea Plan area, including the Downtown and County Campus areas, currently have the highest levels of light and glare. The less intensely developed single-family areas have relatively low levels of light and glare.

3.3.2 Impacts of the Alternatives

Under all EIS Alternatives (Alternatives 1, 2, and 3) the Subarea Plan area is expected to experience gradual growth, including the conversion of existing developed parcels to more intensive uses. This redevelopment would result in changes to the current aesthetic light/glare conditions in the area.

Proposed *Downtown Port Orchard Subarea Plan* goals and policies specific to aesthetics and light/glare include:

- Goal LUH – 03 - Ensure that proposed new development largely maintains existing views.

- Policy LUH – 07 – Allow for buildings up to 5-stories on the east side of Bethel between Dekalb Street to Mile Hill Drive.

- Policy LH -08- Modify the Downtown Height Overlay District as follows:

  Allow the building height for new development along Bay Street to be measured from the future road elevation consistent with Sea level rise contemplated in the Shoreline Master Plan.

  Amend 20.38.640 (1) as follows:
  (1) DHOD Height Zones Established. Within the DHOD as shown on the zoning map, there are three different DHOD height zones with height limits established as follows:
  (a) DHOD 3: 48 feet – three stories.
  (b) DHOD 4: 58 feet – four stories.
  (c) DHOD 5: 68 feet – five stories.

  Amend the height along the block south of Bay Street between Robert Geiger and Frederick to allow 5 stories except within 50 feet of Robert Geiger Street which shall be limited to 4 stories.

Alternative 1 - No Action Alternative

Under the No Action Alternative, it is assumed that growth in the subarea plan area would continue under current policies and guidelines, with development occurring on a project-by-project basis. No changes in regulations related to building height is assumed.

Aesthetics

Similar to current conditions, it is assumed that the majority of future development in the Subarea Plan area under the No Action Alternative would occur in the most densely developed portions of the Subarea Plan area, specifically the Downtown and County Campus areas. Future development would have the potential to affect the visual character of the parcels developed and area in the vicinity. The level and pace of future development under the No Action Alternative would occur at a somewhat slower pace than under the development alternatives (Alternatives 2 and 3).

Under the No Action Alternative, no changes to the existing allowable building height limits would occur, and the No Action Alternative would have a low potential to impact views.

Development associated with the proposed Kitsap County Courthouse Project would increase the amount of building space on the campus. The proposed expansion would appear as an extension of the existing buildings on the campus and would not be anticipated to substantially affect the aesthetic character of the campus, or substantially affect views. All proposed redevelopment associated with the Kitsap County Courthouse Project would be in compliance with existing code requirements related to building height, setbacks and building design.

Light and Glare

Future development within the Subarea Plan area under the No Action Alternative would result in an increased level of ambient light and glare. Future development of commercial or mixed-use development under the No Action Alternative would increase light and glare levels as businesses stay open into the evening hours and building illumination and signage lighting increase. Additional traffic in the Subarea Plan area would also increase light associated with vehicle headlights during the evening and reflective glare during daytime.

Development of the Kitsap County Courthouse Project would increase the amount of ambient light and glare in the area on a phased basis. The new building space on the campus would produce additional interior and exterior building lighting, and security lighting, with increased reflective glare from building surfaces (including windows). Light and glare would increase from any increase in vehicle traffic associated with the new building space, including vehicle headlights during the evening and reflective glare during daytime. New sources of light and glare associated with the Kitsap County Courthouse Project would be similar to those that currently exist on the campus and could be perceived as a continuation of the existing light and glare generated on the campus.

Development Alternatives (Alternatives 2 and 3)

Each of the development alternatives would continue the redevelopment trends in the Subarea Plan area, including within the Downtown and County Campus areas. Future development under Alternatives 2 and 3 would result in additional building space and activity (including vehicle traffic) beyond that assumed under the No Action Alternative (Alternative 1). Compared to Alternative 1 (No Action Alternative), Alternative 2 (Residential Focus) would result in approximately 494,600 sq. ft. of additional building space, and Alternative 3 (Mixed-Use Focus) would result in approximately 411,883 sq. ft. of additional building space, over an approximately 20-year period.

Alternatives 2 and 3 also assume areas where extended DHOD 5 building height is proposed, including an area within the Downtown area (East Downtown) and an area along Bethel Avenue (see Figure 2-8 in Chapter 2). The areas where extended DHOD 5 building heights are proposed are located outside of the existing view protection overlay district.

Aesthetics

Each of the proposed development alternatives would continue the redevelopment trend in the Downtown and County Campus areas, at levels somewhat greater than under the No Action Alternative (Alternative 1). Although the level of redevelopment would be greater than under the No Action Alternative, new development would generally reflect a continuation of the existing pattern of development and would result in an aesthetic character similar to existing conditions and the No Action Alternative.

Alternatives 2 and 3 reflect the City's objective for future development within the Subarea Plan area, including a vision to encourage creation of a "*vibrant urban center that supports denser residential living in a walkable neighborhood*." Future development for the majority of the Subarea Plan area would occur under current regulations for building height, setbacks, and design.

As indicated, Alternatives 2 and 3 also assume areas where extended DHOD 5 is proposed, including an area within the Downtown area (East Downtown) and an area along Bethel Avenue. The proposed height limit for parcels between Bay Street and the waterfront west of Blackjack Creek, and on the east side of Bethel Avenue between Dekalb Street to Mile Hill Drive, is proposed to be increased from the existing three stories (35 feet) to five stories (58 feet). Specific locations and design of future development within these areas would not be defined until specific projects are proposed. The proposed height increase would be limited to approximately 20 feet above existing limits, is limited to properties outside of the view protection overlay district, and significant impacts to views would not be anticipated.

Aesthetic conditions associated with the Kitsap County Courthouse Project would be as described under Alternative 1 (No Action).

Light and Glare

Future development within the Subarea Plan area under Alternatives 2 and 3 would result in an increase in ambient light and glare at levels greater than under Alternative 1 (No Action) due to the assumed additional development. Future development of commercial or mixed-use development would increase light and glare levels as businesses stay open into the evening hours and building illumination and signage lighting increase. Additional traffic in the Subarea Plan area would also increase light associated with vehicle headlights during the evening and reflective glare during daytime. Although the level of increased light and glare is anticipated to be somewhat greater than under Alternative 1, light and glare conditions under Alternatives 2 and 3 could be perceived as a continuation of current conditions and significant impacts are not anticipated.

Light and glare associated with development of the Kitsap County Courthouse Project would be the same as under Alternative 1 (No Action) and significant impacts are not anticipated.

Conclusion

Changes in the visual and aesthetic character in portions of the Subarea Plan area would occur over the 20-year assumed planning period, and changes in visual conditions would thus occur incrementally over time. At full buildout, development under Alternatives 1, 2 and 3 would change the aesthetic character of the Subarea Plan area by continuing and increasing the amount of building space visible in these areas; in general, redevelopment in these areas would appear as an extension of the current visual character. The effect of the change in area character to a particular viewer is generally a function of the locational relationship between the viewer and the development. For example, viewers at a similar elevation as the development and/or in close proximity could perceive a substantial change in visual character, including increased building scale and altered views. Conversely, viewers at a higher elevation and/or at a distance could perceive a limited change in the visual character.

The determination as to whether a particular change could be adverse is often defined by the subjective reaction of an individual viewer. For example, some viewers could perceive a change in character as a negative impact, while others could perceive this change as a positive condition. On an overall basis, positive or negative perceptions related to visual aesthetic character would likely relate to the quality and consistency of building design, the public access improvements and the “pedestrian-friendliness” of the development.

3.3.3 Mitigation Measures

The following measures have been incorporated into the proposal and/or identified in the EIS to minimize the potential for aesthetic/light and glare impacts.

Required/Proposed Mitigation

- Development under all EIS Alternatives would be subject to applicable provisions of the Port Orchard Municipal Code, including Chapter 20 (Unified Development Code).

- All new development would be in compliance with the City of Port Orchard Development Standards (Chapter 20.120), including Design Standards (20.127), and Landscaping (20.128).

Incorporated Plan Features

- The proposed *Downtown Port Orchard Subarea Plan* incorporates goals and policies to minimize the potential for aesthetic impacts associated with increased density including:
    - Ensure that proposed new development largely maintains existing views (Goal LUH – 03).

3.3.4 Significant Unavoidable Adverse Impacts

Under Alternatives 2 and 3, portions of the Subarea Plan area (including Downtown and County Campus areas) would gradually be redeveloped consistent with applicable provisions of Port Orchard Municipal Code and Comprehensive Plan (including applicable provisions of the proposed Downtown Port Orchard Subarea Plan). The proposed Subarea Plan would increase allowable building height in two portions of the Subarea Plan area, although significant impacts to views would not be anticipated.

As noted previously, the determination as to whether a particular aesthetic change could be adverse is often defined by the subjective reaction of an individual viewer.

Redevelopment in the Subarea Plan area would result in an increase in light and glare. Any increase in light and glare would be consistent with and a continuation of current light and glare conditions, and significant impacts would not be anticipated.

3.4 UTILITIES

This section of the FEIS describes the existing utilities (stormwater, sewer and water) within the *Downtown Port Orchard Subarea Plan* area and evaluates how redevelopment under the Subarea Plan would affect utilities. This discussion is based on stormwater system information prepared by Reid Middleton, and water and wastewater (sewer) information prepared by BHC Consultants.

3.4.1 Affected Environment

Stormwater

The area generating stormwater runoff within and draining through the Subarea Plan is comprised of a wide diversity of land uses ranging from single-family residential properties to urban commercial properties. In general, impervious surfaces (pavement, building roofs, sidewalks, etc.) will comprise a greater percentage of the individual parcel as the intensity of land use increases. **Table 3.4-1** provides the total acreage of parcels with the same property classifications within and draining through the Subarea Plan area. The table assumes an average percentage of impervious surface for all properties within the classification and yields a rough total of impervious surface for that classification.

Table 3.4-1
EXISTING IMPERVIOUS SURFACE

Property Classification	Acreage	% Impervious	Acres Impervious
111- Single family residence	90.84	50%	45.42
118- MH - Leased land	0.87	70%	0.61
119- MH - Real Property	1.78	70%	1.25
121- Duplex	3.86	70%	2.70
122- Triplex	2.70	75%	2.02
123- Four units	5.38	80%	4.30
131- 5-9 units	0.38	80%	0.30
132- 10-14 units	0.00	80%	0.00
132- 10-14 units	0.97	80%	0.77
136- 40-49 units	1.09	80%	0.87
160- Hotels and motels	1.40	85%	1.19
183- Sheds and garages	0.67	85%	0.57
198- Cabins	0.07	50%	0.04
460- Parking	9.15	90%	8.24
470- Communications	1.70	70%	1.19
483- Water systems	0.56	60%	0.33
489- State-assessed utilities	0.10	60%	0.06
543- Conv. store w/o gas pumps	1.78	85%	1.52
550- Retail, automotive	3.22	85%	2.74
580- Restaurants	1.86	85%	1.58

Property Classification	Acreage	% Impervious	Acres Impervious
581- Fast food	0.26	90%	0.24
582- Tavern	0.17	85%	0.14
590- Other retail trade	4.35	85%	3.69
591- Neighborhood center	6.39	80%	5.11
592- Community center	3.38	80%	2.70
611- Banks	1.32	85%	1.12
624- Cemeteries	0.13	15%	0.02
637- General warehouse	0.45	85%	0.39
638- Mini-warehouse	2.97	85%	2.52
640- Repair services	1.69	85%	1.43
651- Medical/dental offices	0.64	80%	0.52
670- Governmental services	11.07	80%	8.86
680- Educational services	35.92	75%	26.94
690- Misc. services	5.85	75%	4.39
691- Churches	0.65	75%	0.49
720- Public assembly	4.57	80%	3.66
740- Recreational	0.24	20%	0.05
744- Marina	0.02	85%	0.01
760- Parks	8.42	15%	1.26
910- Undeveloped land	24.45	0%	0.00
911- Common area	2.61	0%	0.00
Totals	**243.92**		**139.25**

Source: Reid Middleton, 2020.

The *City of Port Orchard Downtown Subarea Plan Economic Profile and Capacity Analysis*[1] identifies redevelopable parcels within the study area that are undeveloped or under-utilized. **Table 3.4-2** presents the same information as explained above for **Table 3.4-1**, but limits the parcel selection to just the parcels having redevelopment potential as identified in the Capacity Analysis.

Table 3.4-2
EXISTING IMPERVIOUS SURFACE WITHIN REDEVELOPABLE AREAS

Property Classification	Parcel Area	% Impervious	Acres Impervious
111- Single family residence	16.01	50%	8.01
119- MH - Real Property	1.77	70%	1.24
122- Triplex	0.61	75%	0.46

[1] *City of Port Orchard Downtown Subarea Plan – Economic Profile and Capacity Analysis*, Heartland, June 17, 2020

Property Classification	Parcel Area	% Impervious	Acres Impervious
183- Sheds and garages	0.67	85%	0.57
460- Parking	3.78	90%	3.40
470- Communications	1.70	70%	1.19
550- Retail, automotive	2.29	85%	1.94
580- Restaurants	0.23	85%	0.20
590- Other retail trade	0.40	85%	0.34
591- Neighborhood center	1.60	80%	1.28
592- Community center	3.38	80%	2.70
611- Banks	0.45	85%	0.38
637- General warehouse	0.45	85%	0.39
640- Repair services	0.81	85%	0.68
670- Governmental services	0.25	80%	0.20
690- Misc. services	0.59	75%	0.44
720- Public assembly	3.17	80%	2.54
910- Undeveloped land	22.53	0%	0.00
Totals	**60.69**		**25.96**

Source: Reid Middleton, 2020.

Stormwater Collection and Piping System

Stormwater from the area is collected and conveyed by a series of catch basins and storm drainpipe to the various outfalls into Sinclair Inlet. There are five major collection and conveyance routes within the drainage basin.

The first main conveyance route is along Sidney Avenue from Taylor Street to the marina. The conveyance system collects stormwater from Sidney Avenue and tributary roadway surfaces east of Sidney. Stormwater from the residential properties drain onto the adjacent roadways via sheet flow or through weep holes in the sidewalks. As the conveyance system nears the marina, portions of the marina parking lot are collected and conveyed to this system before discharging into Sinclair Inlet.

A second main conveyance route is along the existing unnamed stream channel corridor that stretches from Division Street to Kitsap Street. The developments surrounding the stream corridor include residential properties, most of the Kitsap County courthouse complex, and the Kitsap County Public Works building. Stormwater from the municipal building and roadways is tight-lined to the stream by storm drain pipe. Stormwater from the residential properties discharges to the stream via sheet flow or splash blocks. The stream channel eventually discharges to a 36-inch pipe system near Austin Avenue heading northwest to the westernmost outfall near Water Street.

A third main conveyance route is along Cline Avenue from Taylor Street to Bay Street. Stormwater from this system eventually discharges to the existing 36-inch storm pipe system described above. The system receives runoff from adjacent residential properties, portion of the Kitsap County courthouse complex, and Kitsap County Administrative Services building.

A fourth conveyance system collects stormwater generated from properties lying along Bethel Avenue. This system extends down to Bay Street where it joins a network of storm conveyance pipes the discharge into Blackjack Creek downstream of the Bay Street bridge.

The fifth conveyance system lies along Mitchell Avenue and collects stormwater from properties along that street, including portions of the South Kitsap High School Campus. The system flows north down to Bay Street, then west to discharge into Blackjack Creek at the outfall mentioned in the Bethel Avenue system above.

The remaining major tributary area is situated between Bay Street and the waterfront plus some tributary areas along Prospect Street. This area collects stormwater from Bay Street, Prospect Street, and the adjacent commercial properties. Stormwater along Bay Street is collected and routed west within a series of storm pipe and trench drains. These storm pipes eventually merge with another storm system at Sydney Avenue (described above) or a storm system along Orchard Avenue. Orchard Avenue system also receives stormwater flows from Prospect Street and portion of the North-South leg of Bay Street before discharging through another pipe outfall. Stormwater from waterfront parking lot area is collected and conveyed to the other outfalls along the waterfront through a series catch basins and storm pipe.

Level of Service Standards

The City of Port Orchard has adopted the 2012 Western Washington Stormwater Manual to govern the design and construction of stormwater management systems in the City. Generally speaking, the manual requires that all redevelopment and new development projects over certain impervious area size thresholds design stormwater management systems that will detain or retain stormwater to match the runoff rates associated with pre-development forested conditions. These requirements generally have the effect of reducing runoff from sites that were previously developed over roughly 25 to 30 years ago. Those projects that are able to discharge stormwater to an approved receiving water body through means of a man-made conveyance system are exempt from the requirement to detain or retain stormwater generated on their site if the conveyance system is sized to handle projected flows generated by the project. The manual does provide other options for meeting the objectives of the manual, but they are generally not applicable to properties within the study area.

In addition, the manual requires stormwater treatment by all redevelopment and new development projects. The level of treatment is dependent on the amount of impervious area generating the runoff, but the threshold is low enough that virtually all but the smallest of projects will require some type of water quality treatment. The manual provides a list of

Washington Department of Ecology approved best management practices (BMP's) and technologies for treating stormwater runoff.

Known Capacity Constraints

The City of Port Orchard is aware that certain portions of the stormwater system within the area are under capacity, have condition problems due to advanced age, and/or impeded outflow due to backwater conditions caused by tidal influence and the rising level of the receiving water body. The City is currently conducting an investigation of stormwater systems within the West Downtown/County Campus portion of the area and will be investigating other areas as funding allows. The findings of the investigations will be documented and will include recommended measures to mitigate the deficiencies identified.

Water

Water service within the area is provided by the City of Port Orchard. The City's water system is managed and maintained by the City of Port Orchard Public Works Department under the supervision of the Public Works Operations Manager.

The City's water system currently consists of two hydraulically separate municipal water systems, both owned and operated by the City of Port Orchard. The City System serves most of the area within City limits, and the McCormick Woods System serves the McCormick Woods area in the western portion of the City. As of December 2018, the systems served approximately 3,245 connections in the City System and 890 connections in the McCormick Woods System. Plans are currently under way to combine the City and McCormick Woods systems, which will allow Public Works personnel to transfer water between the two systems if needed.

The Subarea Plan area is located within the City System. The City System consists of three pressure zones to regulate pressure within the community. The West Downtown and East Downtown areas are in the 260 Pressure Zone, while the County Campus area is in both 260 and 390 Pressure Zones.

Water Supply

Water is supplied to the City System primarily through City-owned and operated groundwater wells and through interties with the City of Bremerton. The City maintains three existing water rights to the various wells that serve the City portion of the system during normal conditions (City Wells 6, 7, and 8/9); two additional wells are currently being developed. Treatment is provided to reduce hydrogen sulfide, iron, and manganese. Chlorine and fluoride are added to the City System. Interties with the City of Bremerton and with West Sound Utility District are in place in case of an emergency.

Water Storage

Storage in the 260 Pressure Zone is provided by two water tanks, the Morton St. Standpipe and the Van Zee Park buried concrete reservoir. Additional storage located in the 390 Pressure Zone can provide water to the 260 zone through pressure reducing valves if needed, offering redundant supply options into the zone. **Table 3.4-3** below shows the existing and proposed storage facilities owned and operated by the City of Port Orchard.

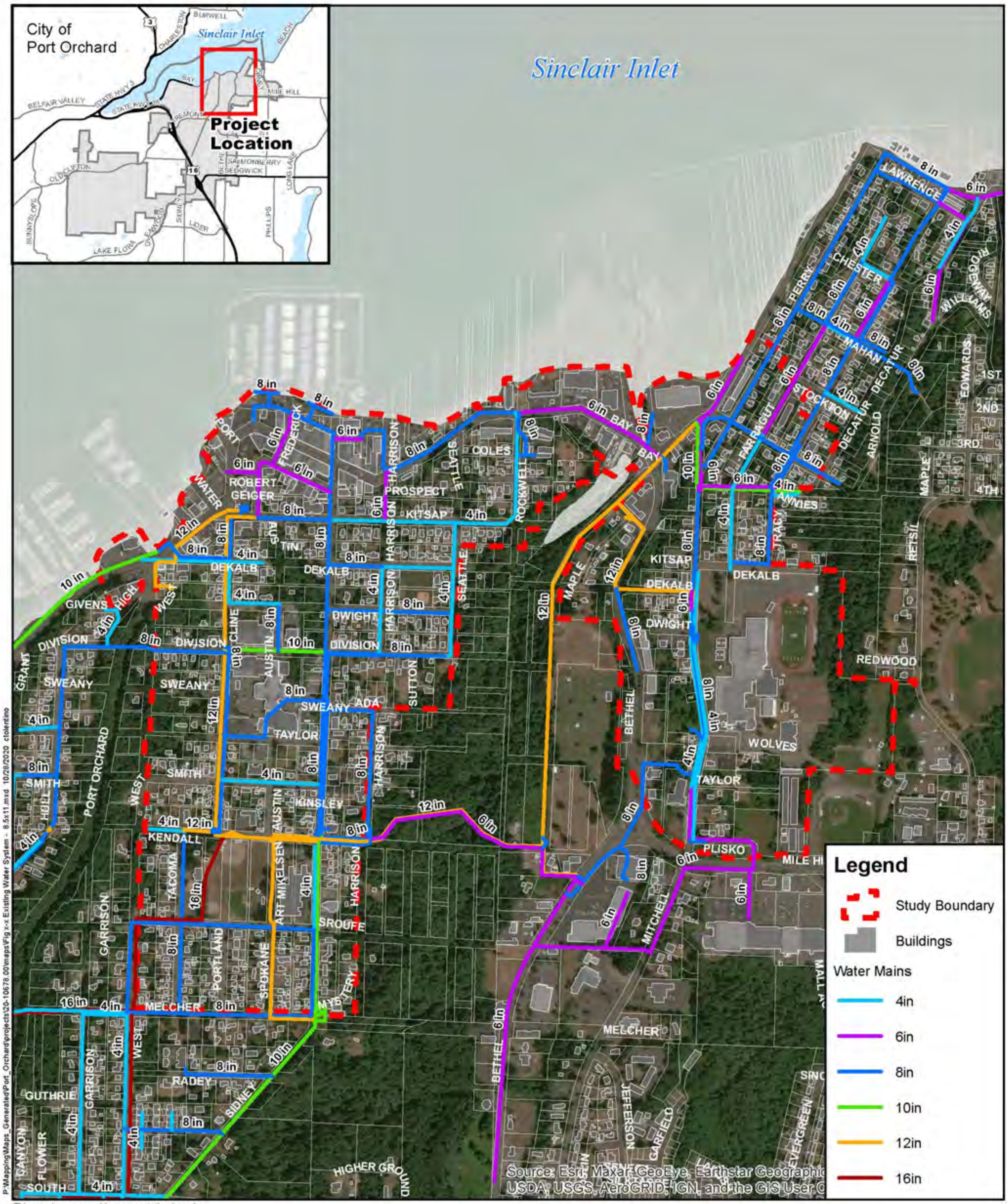
Table 3.4-3
WATER STORAGE TANKS

Tank	Date Constructed	Capacity (MG)	Diameter (ft)	Height (ft)	Construction Type	Zone Served
Van Zee Park	-	2.0	130		Buried Concrete	260 Zone
Morton Street	1990	0.1	14.59	100	Standpipe	260 Zone
Old Clifton	1977	1.03	100	30	Concrete	390 Zone
Sedgwick	2000	1.09	68	40	Steel	390 Zone
McCormick Woods 580	1995	0.45		42	Steel	580 Zone
McCormick Woods Tank 1	1986	0.06	25	15	Concrete	431 Pumped to 580 Zone
McCormick Woods Tank 2	1992	0.06	25	15	Concrete	431 Pumped to 580 Zone
Proposed 580 Tank	Proposed					580 Zone
Proposed 660 Tank	Proposed					660 Zone

Source: BHC Consultants, 2020.

Water Distribution

The City's water distribution system consists of a network of pipes ranging in size from 16 inches in diameter to less than four inches in diameter. The Downtown Port Orchard Subarea Plan's Development Areas are located in an area of the water system that was first constructed and as a result, the distribution system there includes some of the oldest and smallest diameter water mains in the system. Water mains in the Subarea Plan Area range between two-inches and eight-inches in diameter with most of the piping being four-inches and six-inches in size. **Figure 3.4-1** shows the existing network of water main piping in the Study Area.



Note: This figure is not to scale.

North

Source: BHC Consultants 2020

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.4-1

Existing Water System

Known Capacity Constraints

During periods of average water demand, water pressure is adequate throughout the area. However, many of the small diameter mains cannot convey current fire flow rates without experiencing pressure loss. The City is actively making ongoing improvements to the water system through its Capital Improvement Program, which provides the framework and funding required to supply water service throughout the growing City's service area and to improve fire suppression flow to areas that need it.

Sewer

The City of Port Orchard owns, operates, and maintains wastewater collection and conveyance facilities that provide sewer service to the City's current service area of approximately 2,100 acres. The collection system consists of gravity sewers, pump stations, force mains, and grinder pump systems. Septic tank effluent pump (STEP) systems serve the McCormick Woods developments in the eastern portion of the City's UGA. All wastewater is conveyed to the South Kitsap Water Reclamation Facility (SKWRF). The SKWRF is owned jointly by the City and WSUD and operated and maintained by WSUD. According to the 2016 General Sewer Plan (GSP) Update, at the time, the existing system included approximately 49 miles of gravity sewers, eight miles of force mains, and 16 pump stations. Service to McCormick Woods is provided with a STEP system that replaced individual on-site septic systems. The City also maintains a telemetry system to monitor the operating conditions of system components.

These systems were converted by installing a pump in each septic tank and rather than discharging the effluent to a drain field it is instead pumped into a force main which ultimately discharges to gravity conveyance piping, and ultimately conveyed to the SKWRF.

Population and Wastewater Flows

For planning and operational purposes, the City's service area is divided into a series of sewer basins and mini-basins. The GSP defines population and employment, and the resulting sewage loadings, based on existing and future population in these sewer basins. **Table 3.4-4** shows population and employment estimates for each of the GSP planning years.

Table 3.4-4
SEWER SERVICE AREA POPULATION AND EMPLOYMENT ESTIMATES

Year	Population	Employment
2016	11,837	4,779
2022	13,558	5,114
2026	14,706	5,338
2036	17,575	5,898
Buildout	24,074	8,343

Source: BHC Consultants, 2020.

All wastewater from the City's sewer collection system is pumped through the Marina Pump Station (MPS) to the SKWRF. Plans are currently underway to upgrade the MPS. Selected flow parameters recorded at the MPS and SKWRF are summarized in **Table 3.4-5** from the 2016 General Sewer Plan.

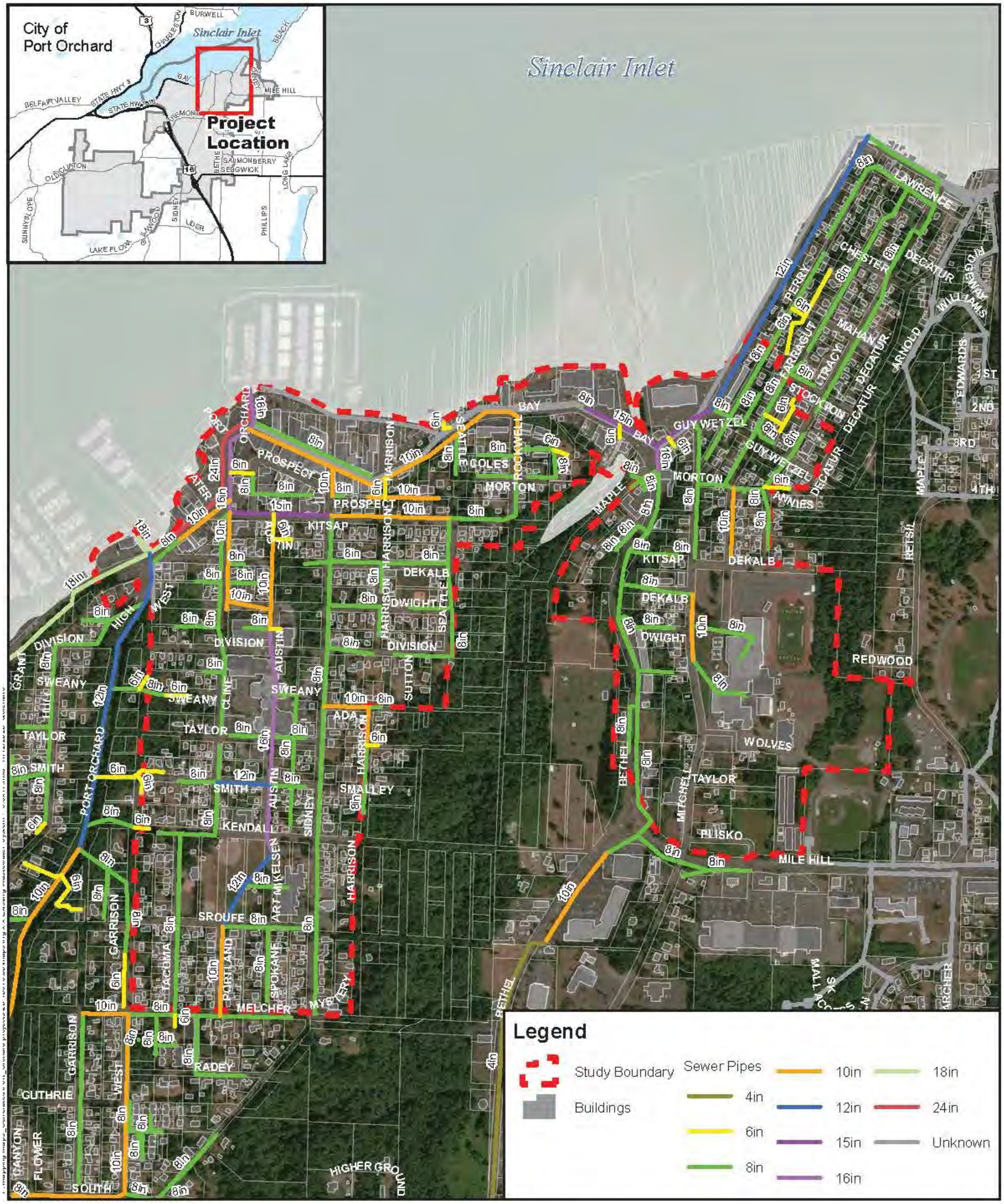
Table 3.4-5
SOUTH KITSAP WATER RECLAMATION FACILITY

Parameter	2012 (MPS)	2013 (SKWRF)	2014 (SKWRF)
Avg. Annual Flow	NA	0.947	1.006
Minimum Day Flow	NA	0.757	0.797
Peak Day Flow	3.433	1.646	2.564
Peak Day Flow Date	11/19/12	1/10/13	3/6/14
Peak Day Rainfall (inches)	2.26	1.10	1.56

Source: BHC Consultants, 2020.

Figure 3.4-2 shows the existing network of sanitary sewer system in the Subarea Plan area.

Port Orchard Downtown and County Campus Subarea Plan Project
Final EIS



Note: This figure is not to scale.

North

Source: BHC Consultants 2020

Figure 3.4-2

Existing Sewer System

EA Engineering, Science, and Technology, Inc., PBC

3.4.2 Impacts of the Alternatives

The *Downtown Port Orchard Subarea Plan* is designed to satisfy the requirements of the State's Growth Management Act for Port Orchard to plan for forecasted growth, and to support the goals of the PSRC's VISION 2050. The primary goals of VISION 2050 include: increase housing choices and affordability; provide opportunities for all; sustain a strong economy; significantly reduce greenhouse gas emissions; keep the region moving; restore Puget Sound health; protect a network of open spaces; grow in centers and near transit; and, act collaboratively and support local efforts.

Stormwater

Alternative 1 – No Action

Under the No Action Alternative, the City of Port Orchard's existing Comprehensive Plan, Zoning Map, and the Zoning Code (Port Orchard Municipal Code Title 20) would remain in effect. All existing planning and implementation policies and development regulations would continue to guide development decisions for properties within the Downtown Port Orchard Subarea area.

Under the No Action Alternative, it is assumed that growth in the subarea plan area would continue under current policies and guidelines, with development occurring on a project-by-project basis. New development under the No Action Alternative would be anticipated to primarily occur as redevelopment of currently developed properties, and any increase in impervious surface would be limited. However, to provide a conservative analysis it is assumed new development would result in an associated increase in impervious surfaces. **Table 3.4-6** provides a summary of projected impervious surface based on the assumed growth under the No Action Alternative.

Table 3.4-6
PROJECTED IMPERVIOUS SURFACES – NO ACTION ALTERNATIVE

	Capacity	Floor/Area Ratio	% Impervious	Sq. Ft.	Acres
Commercial Capacity	622,800 sq. ft.	1.50	100%	415,200	9.53
Residential Capacity	566,200 sq. ft.	2.00	85%	240,635	5.52
			Totals	655,835	15.06

Source: Reid Middleton, 2020.

To the extent that potential development under the No Action Alternative continues to comply with the 2012 Western Washington Stormwater Manual, it is anticipated that any existing stormwater system condition deficiencies would not be exacerbated, and in some cases would see some relief as reduced stormwater runoff rates "spread out" the flow from developed surfaces over a longer period of time. Stormwater quality would also be expected to improve incrementally as new development comes online that employs the manual's BMP's for stormwater treatment.

Alternatives 2 and 3

Each of the development alternatives (Alternatives 2 and 3) would continue the redevelopment trends of properties in the Downtown and County Campus portions of the subarea plan area. Development under either of the development alternatives would result in varying degrees of additional residential development capacity, residential units and commercial capacity compared to levels under the No Action Alternative.

New development under Alternatives 2 and 3 would be anticipated to primarily occur as redevelopment of currently developed properties, and any increase in impervious surface would be limited. However, to provide a conservative analysis, it is assumed new development would result in an associated increase in impervious surfaces within the *Downtown Port Orchard Subarea Plan.* **Table 3.4-7** summarizes the projected impervious surface for the area based on the assumed growth under Alternatives 2 and 3.

Table 3.4-7
PROJECTED IMPERVIOUS SURFACES – ALTERNATIVES 2 AND 3

	Capacity	Floor/Area Ratio	% Impervious	Sq. Ft.	Acres
Alternative 2					
Commercial Capacity	673,500 sq. ft.	1.50	100%	449,000	10.31
Residential Capacity	1,010,100 sq. ft.	2.00	85%	429,293	9.86
			Totals	878,293	20.16
Alternative 3					
Commercial Capacity	848,600 sq. ft.	1.50	100%	565,733	12.99
Residential Capacity	752,283 sq. ft.	2.00	85%	319,720	7.34
			Totals	885,454	20.33

Source: Reid Middleton, 2020.

As described under the No Action Alternative, to the extent that potential development under Alternatives 2 and 3 continues to comply with the 2012 Western Washington Stormwater Manual, it is not anticipated that any existing stormwater system condition deficiencies would not be exacerbated, and in some cases would see some relief as reduced stormwater runoff rates "spread out" the flow from developed surfaces over a longer period of time. Stormwater quality would also be expected to improve incrementally as new development comes online that employs the manual's BMP's for stormwater treatment.

Water and Sewer

Water

Population Projections

During the development of the *City of Port Orchard 2020 Water System Plan* (WSP) population projections were made for the 10- and 20-year planning horizons. The water service area is similar but not identical to the city's corporate boundary. **Table 3.4-8** shows the projected water service area population as compared to the forecasted in the *City of Port Orchard Downtown Subarea Plan – Economic Profile and Capacity Analysis* population projection.

Table 3.4-8
WATER SYSTEM PLAN POPULATION PROJECTION COMPARED TO SUBAREA PLAN PROJECTION

Water System Service Area Population (2039)		Subarea Plan Port Orchard Population (2040)	
Population	Employment	Population	Employment
21,314	7,993	22,902	11,158

Source: BHC Consultants, 2021.

The estimated residential population values shown above are similar; however, the employment population estimated in the WSP is somewhat lower than the Subarea Plan's projection. The WSP's projections are city-wide estimates, therefore water demands within the Subarea Plan's study area were not uniquely defined in the WSP.

For perspective, the largest impact on water demands and system pressure would be by far the influence of fire suppression activities. Fire flow requirements for residential construction varies depending on density and year of construction and are typically in the 1,000 gpm to 1,500 gpm range, while commercial developments are often requiring 3,500 gpm to 4,000 gpm depending on the Fire Marshall's analysis. This evaluation assumes that the higher employment population values would occur. However, the impact of employment population on water demands is relatively minor when compared to fire suppression demands, which were extensively evaluated in the WSP.

Known Constraints to Growth

For public water systems, including the City of Port Orchard's, multiple water sources are recommended in combination with adequate emergency reserve in gravity storage to allow for interruption of supply, while still maintaining an adequate water supply to the system. The City's water system, including the within the study area, is currently constrained by limited source water and by limited storage. An additional constraint could be maintaining system pressure during fire flow events. The source water and storage constraints are largely a result of population growth and the resultant demands placed on the system. The fire flow suppression constraint is due to an aging system that includes some small diameter piping.

Planned Improvements

Capital improvement planning and analysis efforts have identified a series of projects that will be required to maintain and strengthen the performance of the City's water supply system and to provide capacity for future growth. To improve the water supply system reliability the City intends to develop additional well supplies to provide sufficient capacity for the City. The City plans to become self-sufficient without requiring the interties with the City of Bremerton currently in use. Future plans include converting existing interties into the 260 and 390 Pressure Zones into standby or emergency sources of water, rather than as continuous sources.

New pipelines are planned be installed to improve the system's capability to move water throughout the system and to improve fire suppression throughout the system. In addition, new storage reservoir(s) planned to optimize system performance and provide water to meet operational and firefighting capacity requirements. A new storage facility for the 580 Pressure Zone is currently under construction which will replace the tank currently in use. Several water system projects are planned for construction in the near future that will increase system reliability and provide for future growth. A list of projects that are planned to benefit the entire water system is provided in the WSP. A subset of those projects that will most benefit the water system within the study area is provided in **Table 3.4-9.**

Implementation of the projects listed in **Table 3.4-9** is anticipated to adequately provide for future growth within the study area, regardless of which Alternative occurs within the Subarea (including the No Action Alternative).

Table 3.4-9
PLANNED WATER SYSTEM IMPROVEMENTS BENEFITTING THE STUDY AREA

CIP No.	Project	Project Benefits
1	580 Zone Storage	Provides additional Storage to the water system
2A	Well 13 Development & Treatment	Provides additional source water for the City
2B	Maple Ave Improvements and Water Main Replacement	Provides enhance movement of water between the 390 zone and the 260 zone and the lower portion of the study area
2C	390 to 260 Rezone PRVs	Provides increased water pressure in the upper portion of the study area
3	Well 11 Development, Treatment, and Booster Pump Station	Provides additional source water for the City

CIP No.	Project	Project Benefits
5	390 Zone Storage	Provides additional Storage to the water system
9	Well 12 Development, Treatment, and Booster Pump Station	Provides additional source water for the City
16	Well 7 Treatment/Pump Station Upgrades	Provides additional source water for the City
20	Annual Main Replacement Program	Replace ageing water mains and enhanced fire suppression capabilities within the study area

Source: BHC Consultants, 2021.

Sewer

Population Projections

During the development of the *City of Port Orchard 2016 General Sewer Plan* (GSP) population projections were made for the 10-year and 20-year planning horizons. The sewer service area is similar but not identical to the city's corporate boundary. **Table 3.4-10** shows the projected sewer service area population derived in the GSP as compared to forecasted populations in the *City of Port Orchard Downtown Subarea Plan – Economic Profile and Capacity Analysis*.

As with the previous WSP discussion, the estimated residential population values IN Table 3.4-7 from the GSP are similar to the Subarea Plan's; however, the employment population estimated in the GSP is approximately 25% lower than the Subarea Plan's projection. The GSP's projections are city-wide estimates and population-based sewer flows within the Subarea Plan's study area were not uniquely defined in the GSP.

Table 3.4-10
GENERAL SEWER PLAN POPULATION PROJECTION COMPARED TO SUBAREA PLAN POPULATION PROJECTION

General Sewer Plan Service Area Population (2039)		Subarea Plan Port Orchard Population (2040)	
Population	Employment	Population	Employment
24,094	8,343	22,902	11,158

Source: BHC Consultants, 2021.

Sewage flow from the larger Subarea Plan's population value was used to assess effects of development within the Subarea Plan area on the sewer collection system. The impact of the difference in sewage flows resulting from the higher Employment value is approximately 84,000 gal/day, or about 0.03% of Peak Day flow entering SKWRF.

Known Constraints to Growth

A portion of the Subarea's sewer system flows to the Bay Street Pump Station, which in turn pumps to the Marina Pump Station. The Marina Pump Station pumps all wastewater generated within the City's sewer service area to the South Kitsap Reclamation Facility. Both of these pump stations are in need of an upgrade.

Improvements to the City's sewer collection system primarily are needed to address deficiencies in the existing system that are generally due to aging and insufficient capacity. If not corrected, these deficiencies will be exacerbated as the City continues to grow. Improvements should include provisions to construct needed infrastructure to accommodate future growth.

Planned Improvements

In the GSP's near-term future Capital Improvement Plan (0-6 years), the focus of sewer collection system capital improvements is on the replacement or retrofitting of key pumping components. Long-term improvements (7-20 years) are more focused on conveyance pipelines throughout the City, including the Bay Street and Port Orchard Boulevard gravity sewer lines located within or near the study area. A list of projects that are planned to benefit the entire sewer collection system is provided in the GSP. A subset of those projects that will most benefit the sewer system within and downstream of the study area is provided in **Table 3.4-11**.

Implementation of the projects listed in Table 3.4-11 is anticipated to adequately provide for future growth within the study area, regardless of which Action Alternative occurs within the Subarea.

Table 3.4-11
PLANNED SEWER SYSTEM IMPROVEMENTS BENEFITTING THE STUDY AREA

CIP No.	Project	Project Benefits
6-1	Marina Pump Station Improvements	Replace existing pumps and equipment and remove sanitary sewer overflow pipe; coordinate site improvements with planned development. This project is currently being designed
6-2A	Bay St. Pump Station Improvements	Replace existing pumps and equipment; site improvements

Source: BHC Consultants, 2021.

3.4.3 Mitigation Measures

The following measures have been incorporated into the proposal and/or identified in the EIS to minimize the potential for impacts to utilities.

Required/Proposed Mitigation

- Development under all EIS Alternatives would adhere to the requirements of the 2012 Western Washington Stormwater Manual which would offset, if not eliminate any potential impacts to the City's stormwater management system from new development.
- Development under all EIS Alternatives would be constructed in compliance with the City of Port Orchard Municipal Cope Chapter 13.04 (Water and Sewer).
- Implementation of currently planned water and sewer system improvements associated with the Subarea Plan area would minimize the potential for impacts under all EIS Alternatives.

3.4.4 Significant Unavoidable Adverse Impacts

With continued compliance with the 2012 Western Washington Stormwater Manual, no significant stormwater impacts are anticipated.

With implementation of identified mitigation measures, no significand sewer system and water system impacts are anticipated.

3.5 TRANSPORTATION

This section of the FEIS describes the existing transportation systems and traffic operations on and in the vicinity of the Subarea Plan area, and evaluates potential impacts associated with assumed redevelopment under the EIS alternatives. The section is based on the Transportation Technical Memo (January 2021) prepared by Transportation Solutions (see Appendix C of the DEIS for the full memo) and the March 2021 West Downtown Parking Study in **Appendix A** to this FEIS. A Traffic Impact Analysis for the Kitsap County Courthouse (SCJ Alliance, April 2020) and a Parking Demand Analysis for the Kitsap County Courthouse (SCJ Alliance, January 2020) are also included as **Appendix B** and **Appendix C** to this FEIS. Information added subsequent to the issuance of the Draft EIS is shaded to ease in the identification of added information.

3.5.1 Affected Environment

This section describes the existing transportation conditions within the Subarea Plan area and surrounding area, including discussion on the existing roadway network, data collection methodology, existing multimodal transportation, and existing level of service.

Existing Roadway Network

The transportation network in the Subarea Plan area is illustrated in **Figure 3.5-1** and, consists of the following roadways (see Appendix C of the DEIS for a detailed discussion on roadway functional classification):

Bay Street/SR 166 is an east-west principal arterial which begins at SR 16 and terminates at Bethel Road. The street functions as an important corridor for commute, retail, and freight travel. In the Subarea Plan area, Bay Street consists of two 11-foot travel lanes, a two-way left-turn lane (TWLT) with 0 to 3-foot paved shoulders. Bay Street includes curb and gutter, roadway ditch, and short sections of concrete sidewalk near new developments. This segment of Bay Street is designated by Washington State Department of Transportation (WSDOT) as SR 166.

Bay Street is an east-west minor arterial east of Bethel Road. The street provides access to residential and commercial development along the waterfront, as well as the Foot Ferry. In the subarea, Bay Street consists of two 12-foot travel lanes, with 0- to 3-foot paved shoulders. Bay Street includes curb and gutter, roadway ditch, and short sections of concrete sidewalk near new developments.

Bethel Road/SR 166 is a north-south primary arterial to the south of Bay Street. Between Bay Street and Mile Hill Drive, Bethel Road is designated as SR 166. It provides access to developed areas to the south and East Port Orchard. The road consists of two 12-foot travel lanes and a two-way left-turn lane (TWLT) with 0- to 3-foot paved shoulders.

Port Orchard Downtown and County Campus Subarea Plan Project
Final EIS

North

Note: This figure is not to scale.

Source: Transportation Solutions, 2020

Figure 3.5-1

Existing Functional Classification System

EA Engineering, Science, and Technology, Inc., PBC

Sidney Avenue is a north-south minor arterial which connects Bay Street with Tremont Street to the south. Sidney Avenue provides access to the County Campus. The street consists of two travel lanes with on-street parking in the study area.

Port Orchard Boulevard is a north-south major collector which connects Bay Street with Tremont Street. Port Orchard Boulevard functions as a connection between the two roads, with minimal driveway access points. Port Orchard Boulevard consists of three 10-foot travel lanes, two northbound and one southbound, with 2-foot paved shoulders in the Subarea Plan area.

Mitchell Avenue is a two-lane north-south major collector which provides access to local streets and a connection between Bay Street and Mile Hill Drive (SR 166).

Peak Hour Traffic Volumes

Intersection turning movement counts were collected at eight locations in the study area during the week of March 12, 2019. Traffic counts in the study area include the following six locations:

- Bay St & Port Orchard Blvd
- Bay St & Sidney Ave
- Bay St & Bethel St
- Sidney Ave & Kitsap St
- Mitchell Ave & Dekalb St
- Sidney Ave & Division St
- Sidney Ave & Kendall St
- Bay St & Mitchell Ave

Traffic counts were collected on weekdays from 4-6 PM to capture the PM peak period of travel. The Port Orchard traffic models are calibrated to the PM peak hour, defined as the highest four consecutive fifteen-minute volume intervals during the PM peak period. PM peak hour represents the one-hour period when traffic volumes are typically at their peak, and generally corresponds to the period of rush hour traffic with commuters returning home from work; see DEIS Appendix C, Table 3 for intersection PM peak hour turning movement volumes.

Multimodal Transportation

Transit Service

Fixed-route transit service in the Port Orchard area is currently provided via Kitsap Transit Routes 9 and 81 in the east downtown area, with Routes 4, 5, 86, and the Purdy Connection serving the west downtown area. Route 8 connects north-south along Bethel Road.

Most bus stops in the study area are marked with Kitsap Transit signs. Park and Rides are available at the Ferry Dock, Port Orchard Armory, and the First Lutheran Church. **Figure 3.5-2** shows transit routes through the Subarea Plan area.

Route 4 provides weekday commuter service between the Youth Services Center and the Port Orchard Ferry Dock. The route includes stops along Sidney Avenue at Bay Street and at Division Street.

Route 5 provides weekday commuter service between Sedgwick Landing and the Port Orchard Ferry Dock. The route includes stops along Sidney Avenue at Division Street and at Bay Street.

Weekday commuter routes include Routes 9 and 81. Route 9 provides service between East Port Orchard, the Annapolis Foot Ferry Dock and the Port Orchard Ferry Dock. Route 81 provides service between East Port Orchard and the Annapolis Foot Ferry Terminal, with stops along Bay Street at Sidney Avenue and at Bethel Road in the Subarea Plan study area.

Route 86 provides a connection between the Port Orchard Ferry Dock and the Southworth Ferry Terminal.

The Purdy Connection connects the Purdy Park and Ride to the Port Orchard Ferry Dock.

In addition to the fixed-route service described above, dial-a-ride service is provided via Kitsap Transit's ACCESS program.

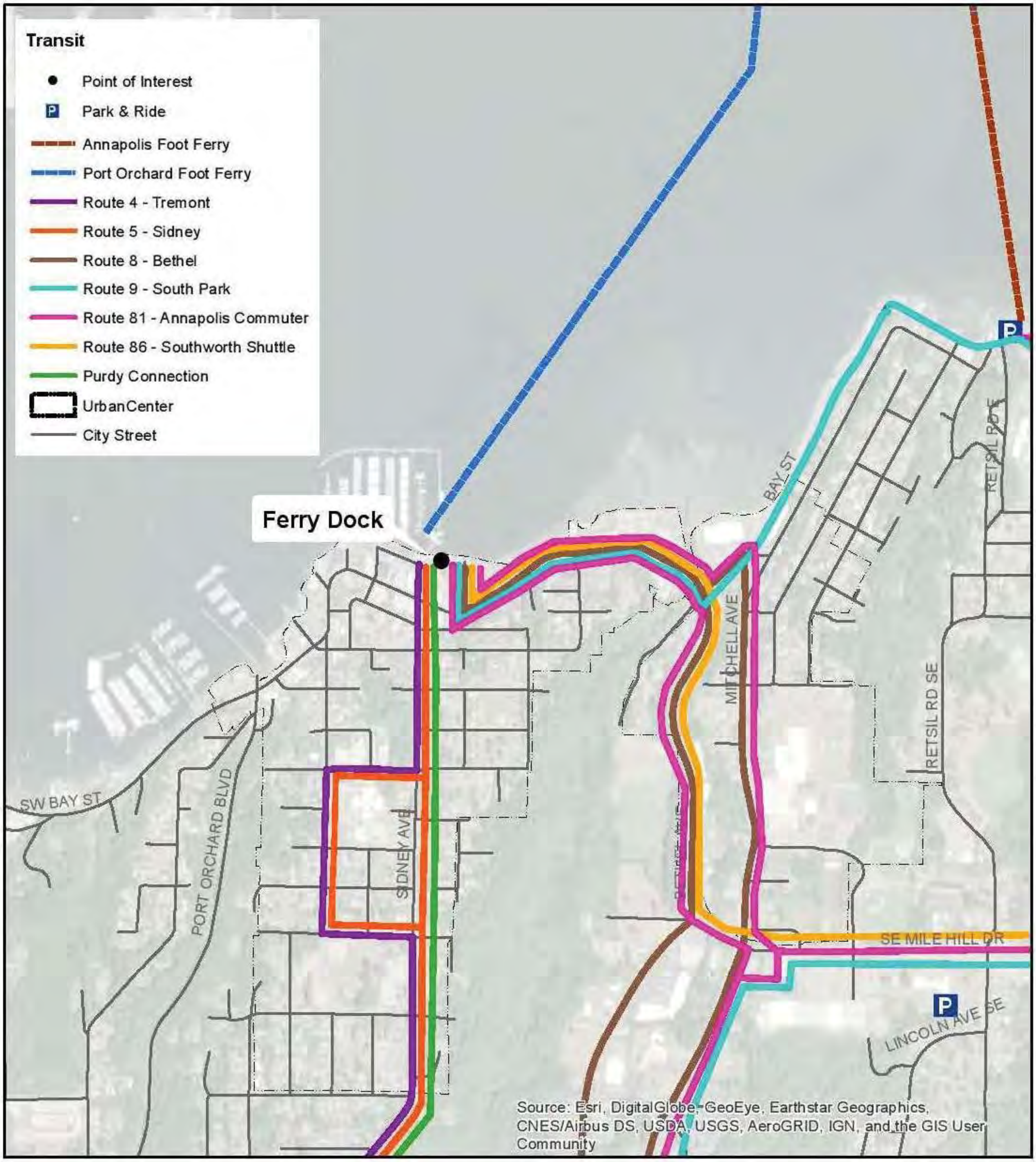
The Annapolis Foot Ferry Terminal and the Port Orchard Ferry Dock provide foot ferry connections to the Bremerton Ferry Terminal, which provides connections throughout Kitsap County and Seattle.

Non-Motorized Transportation

Streets within the Subarea Plan area generally consist of two paved travel lanes with limited or no paved shoulder. Sidewalks exist along arterial, collector, and many local streets within the area, although many sidewalks and curb ramps are older and do not meet current Americans with Disabilities Act (ADA) standards. No designated on- or off-street bicycle facilities currently exist in the area. A map of non-motorized facilities is presented below in **Figure 3.5-3**.

Level of Service

Level of service (LOS) is a qualitative description of the operating performance of an element of transportation infrastructure such as a roadway or an intersection. LOS is typically expressed as a letter score from LOS A, representing free flow conditions with minimal delays, to LOS F, representing breakdown flow with high delays.



Note: This figure is not to scale.

Source: Transportation Solutions, 2020

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.5-2

Existing Fixed Route Transit Service

Note: This figure is not to scale.

Source: Transportation Solutions, 2020

Figure 3.5-3

Existing Non-Motorized Transportation Facilities

EA Engineering, Science, and Technology, Inc., PBC

Intersection LOS is based on the average delay experienced by a vehicle traveling through an intersection. Delay at a signalized intersection can be caused by waiting for the signal or waiting for the queue ahead to clear the signal. Delay at roundabouts and stop-controlled intersections is caused by waiting for a gap in traffic or waiting for a queue to clear the intersection or roundabout (refer to DEIS Appendix C for detail on delay calculation methodology).

Port Orchard has defined LOS D as the minimum Level of Service standards for all segments and intersections on the City's arterial street system. LOS standards for WSDOT routes, including SR 166 through the area, are set by WSDOT. WSDOT has adopted a minimum LOS D standard for SR 166, which is consistent with City of Port Orchard policy. Intersection LOS was analyzed for PM peak hour of travel and is summarized in **Table 3.5-1** and **Figure 3.5-4**.

Table 3.5-1
2019 INTERSECTION LEVEL OF SERVICE

ID	Location	Control Type	PM Peak Hr	
			Volume, vph	LOS (Delay)
2	Bay St & PO Blvd	TWSC	1734	F (176.4)
3	Bay St & Sidney Ave	Signal	1724	C (32.4)
4	Bay St & Bethel St	Signal	1864	B (19.8)
7	Sidney Ave & Kitsap St	TWSC	469	B (14.8)
8	Mitchell Ave & Dekalb St	TWSC	208	A (9.8)
9	Sidney Ave & Division St	TWSC	426	B (13.3)
11	Sidney Ave & Kendall St	TWSC	449	B (12.5)
50	Bay St & Mitchell Ave	TWSC	782	C (20.9)

Source: Transportation Solutions, 2021.

The intersection of Bay Street and Port Orchard Boulevard is currently LOS-deficient, with average delay of 176 seconds per vehicle for northbound left-turn movements during the PM peak hour. All other study intersections satisfy minimum intersection LOS standards (intersection LOS reports are included in DEIS Appendix C).

Street segment LOS was evaluated for each segment based on 2019 PM peak hour volumes and capacity thresholds consistent with the Port Orchard Transportation Plan. Results are summarized in **Table 3.5-2**.

Note: This figure is not to scale.

Source: Transportation Solutions, 2020

Figure 3.5-4

2019 Intersection Level of Service

EA Engineering, Science, and Technology, Inc., PBC

Table 3.5-2
2019 STREET SEGMENT LEVEL OF SERVICE

Street Name	Location	Capacity	Volume	V/C	LOS
			PM	PM	PM
Bay St	w/o Sidney Ave	2375	1453	0.61	B
Sidney Ave	s/o Bay St	1385	430	0.31	A
Sidney Ave	s/o Division St	1385	430	0.31	A
Bay St	e/o Sidney Ave	2375	1627	0.69	B
Bay St	e/o Bethel Rd	1835	678	0.37	A
Bay St	e/o Mitchell Ave	1385	531	0.38	A
Mitchell Ave	s/o Bay St	1150	199	0.17	A

Source: Transportation Solutions, 2021.

All monitored segments currently operate at LOS B or better, per Port Orchard capacity standards. Street segment LOS standards are satisfied.

Existing Off-Street Parking

To provide a representative estimation of parking conditions under the Downtown Port Orchard Subarea Plan, an analysis of parking conditions in the West Downtown area[1] was prepared (see **Appendix A** to this Final EIS for detail). The Port Orchard Municipal Code off-street parking requirement for off-street parking requires 395 spaces for West Downtown.

3.5.2 Impacts of the Alternatives

Under all EIS Alternatives (Alternatives 1, 2, and 3) the Subarea Plan area is expected to experience gradual growth, including the conversion of existing developed parcels to more intensive uses.

Proposed Downtown Port Orchard Subarea Plan goals and policies specific to transportation include:

- Improve Bay and Bethel corridors such that they are safer for all users and that they define a place rather than act as just a highway (Goal CAP – 01).

[1] *West Downtown is bound by Bay Street on the west, Kitsap Street on the south, Sydney Avenue on the east, and the waterfront to the north.*

- Ensure that adequate parking is available to support the marina and allow for downtown businesses to thrive while promoting a walkable main-street character (Goal CAP – 02).
- Encourage development in the West Downtown to face the waterfront and Bay Street (Goal CAP – 03).
- Provide improved pedestrian circulation within the West Downtown between the waterfront and Prospect Street (Goal CAP – 04).
- Transform the existing East Downtown from a largely car dominant development pattern to an extension of the existing walkable downtown West Downtown area (Goal CAP – 05)
- Discourage new development from locating parking between new development and the waterfront (Goal CAP – 06).
- Encourage the replacement of the existing Bay Street sidewalk marquee (Goal CAP – 07).

The proposed *Downtown Port Orchard Subarea Plan* includes additional policies related to transportation.

Alternatives Evaluated

Three Subarea Plan alternatives, with varying levels of commercial and residential development capacity, are evaluated in this EIS. Subarea development capacity for each alternative is summarized in **Table 3.5-3**. These represent the quantity of new development which will be supported at full build-out based on each planning alternative. Employment growth capacity ranged from 622,800 new square feet of development in Alternative 1 to 848,600 square feet in Alternative 3. Residential development capacity ranged from 1,074 new dwelling units in Alternative 1 to 1,610 new dwelling units in Alternative 2.

Table 3.5-3
SUBAREA DEVELOPMENT CAPICITY

Development Scenario	Commercial Capacity (square feet)	Commercial Capacity (employees)	Residential Capacity (dwelling units)
Alternative 1 – No Action	622,800	1,725	1,074
Alternative 2 – Residential Focus	673,800	1,868	1,610
Alternative 3 – Mixed-Use Focus	848,600	2,342	1,288

In addition to the subarea-wide development capacity, commercial and residential growth is allocated into 11 Transportation Analysis Zones (TAZs), the geographic units used by the Port

Orchard travel demand model to represent development. TAZ-based growth maps are provided in DEIS Appendix C.

Travel Demand

Development trips were forecast for the PM peak hour of travel based on trip generation rates used in the calibrated Port Orchard travel demand model. Trips with an origin or destination external to the Port Orchard planning area (including the City of Port Orchard and Urban Growth Area) were adjusted to account for origin-destination associated with growth internal to the planning area.

The calculated PM peak hour trip generation forecasts were input to the travel demand model, which was used to calculate trip distribution and assignment forecasts for every trip in the Port Orchard planning area.

The future conditions analysis assumed an analysis year of 2045. This represents a hypothetical five-year extension from the current Port Orchard Comprehensive Plan 2040 horizon. The 2045 analysis year was chosen to reflect the additional growth assumed in the subarea analysis "full buildout" development forecasts relative to the market-constrained growth forecasts used in the 2040 Comprehensive Plan land use forecasts.

Level of Service

2045 Intersection LOS

Intersection Level of Service (LOS) forecasts were calculated for each alternative based on the PM peak hour traffic volume forecasts calculated by the travel demand model. Intersection LOS results are summarized in **Table 3.5-4**.

Table 3.5-4
2045 INTERSECTION LEVELS OF SERVICE

ID	Location	Control Type	Alternative 1 "No Action"		Alternative 2 "Residential"		Alternative 3 "Mixed-Use"	
			Volume, vph	LOS (Delay)	Volume, vph	LOS (Delay)	Volume, vph	LOS (Delay)
2	Bay St & PO Blvd							
	with Existing TWSC	TWSC	2,416	**F (>300)**	2,422	**F (>300)**	2,487	**F (>300)**
	with 2-lane Roundabout	RAB	2,416	A (7.9)	2,422	A (7.8)	2,487	A (8.2)
3	Bay St & Sidney Ave	Signal	2,062	C (21.5)	2,083	C (21.0)	2,108	D (21.2)
4	Bay St & Bethel St	Signal	2,516	C (27.7)	2,497	C (23.2)	2,555	C (25.4)

ID	Location	Control Type	Alternative 1 "No Action"		Alternative 2 "Residential"		Alternative 3 "Mixed-Use"	
			Volume, vph	LOS (Delay)	Volume, vph	LOS (Delay)	Volume, vph	LOS (Delay)
7	Sidney Ave & Kitsap St	TWSC	976	D (29.3)	943	D (27.4)	976	D (30.6)
8	Mitchell Ave & Dekalb St	TWSC	388	B (10.9)	491	B (12.0)	532	B (12.6)
9	Sidney Ave & Division St	TWSC	992	C (22.1)	1,051	D (26.4)	1,088	D (28.8)
11	Sidney Ave & Kendall St	TWSC	1,011	C (16.8)	1,051	C (16.9)	1,114	C (19.3)
50	Bay St & Mitchell Ave	TWSC	374	A (7.2)	379	A (7.2)	382	A (7.2)

Source: Transportation Solutions, 2021.

The intersection of Bay St & Port Orchard Blvd is an existing LOS deficiency, with average delay of 176 seconds per vehicle for northbound left-turn movements in the 2019 PM peak hour and delays greater than 300 seconds per northbound left turning vehicle in all 2045 alternatives. The intersection is programmed for a new roundabout as project 2.13 in the Port Orchard 20-Year 2027-2040 Transportation Improvement Program.

This analysis evaluated a two-lane roundabout at Bay St & Port Orchard Rd A conceptual roundabout layout is provided in DEIS Appendix C. The roundabout would operate well at LOS A with less than 10 seconds per vehicle of average PM peak hour delay in all alternatives. Critical approach v/c ratio would be less than 0.85 in all scenarios.

This conceptual analysis demonstrates that a two-lane roundabout would be required to serve current and future traffic volumes. Per the WSDOT Design Manual, an Intersection Control Evaluation (ICE) will be required to determine the ultimate intersection control type and configuration.

All other study intersections satisfy minimum LOS requirements for all alternatives.

2045 Street Segment LOS

Street segment LOS was evaluated for each concurrency segment based on 2045 PM peak hour volumes and capacities calculated for each of the identified alternatives. Results are summarized in **Table 3.5-5**.

Bay St (SR 166) from Sidney Ave to Bethel Rd would operate below minimum LOS standard in all 2045 alternatives (including the No Action Alternative). In Alternative 3, Bay St (SR 166) from Port Orchard Blvd to Sidney Ave is anticipated to cross the threshold into LOS-deficient status with v/c ratio of 0.90 and LOS E. A reduction in demand of 5 vehicles per hour would improve the segment to LOS D and satisfy minimum LOS standard. Such variation is well within the margin of error of the travel demand model.

To satisfy minimum LOS along Bay St (SR 166), per current City of Port Orchard capacity policy as defined in the 2016 Comprehensive Plan, widening to four lanes would be required. This is unlikely to be practical or desirable given the physical constraints and downtown character of the corridor. It is therefore recommended that the City consider a modified segment LOS standard of LOS E or F in the downtown corridor. This modified standard would allow future capital improvements to prioritize safety, active transportation, and other priorities which are not directly related to vehicle delay in the subarea. No mitigation is recommended.

Table 3.5-5
2045 STREET SEGMENT LEVELS OF SERVICE

Street Name	Limits	Alternative 1 "No Action"		Alternative 2 "Residential"		Alternative 3 "Mixed-Use"	
		Volume	LOS (V/C)	Volume	LOS (V/C)	Volume	LOS (V/C)
Bay St (SR 166)	P.O. Blvd to Sidney Ave	2,050	D (0.86)	2,070	D (0.87)	2,140	**E (0.90)**
Bay St (SR 166)	Sidney Ave to Bethel Rd	2,250	**E (0.95)**	2,250	**E (0.95)**	2,300	**E (0.97)**
Bay St	Bethel Rd to Mitchell Ave	840	A (0.46)	870	A (0.47)	880	A (0.48)
Bay St	Mitchell Ave to Retsil Rd	600	A (0.43)	630	A (0.45)	630	A (0.45)
Sidney Ave	Tremont St to Bay St	990	C (0.71)	980	C (0.71)	1,050	C (0.76)
Mitchell Ave	Bay St to Lincoln Ave	360	A (0.31)	450	A (0.39)	480	A (0.42)

Source: Transportation Solutions, 2021.

The Port Orchard Six-Year Transportation Improvement Program (TIP) identifies a future 14-foot multi-use pathway along the Bay St corridor between the Sidney Ave and Annapolis Foot Ferry. This would improve nonmotorized and transit access in the subarea.

Off-Street Parking

Under the Preferred Alternative, the parking analysis indicates an average parking demand in West Downtown of 1,069 spaces based on ITE methodology, and Port Orchard Municipal Code off-street parking requirement of 669 spaces for West Downtown.

As indicated above, the ITE estimated average parking demand exceeds the POMC off-street parking requirement. Several factors can reduce the need for off-street parking supply relative to ITE average parking demand, including:

- Vehicles may utilize on-street parking which is available throughout the Downtown area.
- Mixed-use developments often include uses which peak at different times of day, such as multifamily residential and commercial uses. The use of shared parking in these developments reduces parking requirements.
- Mixed-use development increases the likelihood of nonmotorized trips between uses, including walking, bike, or transit. For example, commercial uses may have reduced parking demand due to employees or customers living nearby and walking or biking.

Summary of Findings

- The intersection of Bay St (SR 166) & Port Orchard Blvd currently operates poorly at LOS F in the PM peak hour. The intersection would continue to operate at LOS F with high minor-approach delays under all EIS Alternatives (including the No Action Alternative).
- The segment of Bay St (SR 166) from Sidney Ave to Bethel Rd would operate at LOS E under all EIS Alternatives (including the No Action Alternative). Based the current minimum LOS D standard, the segment would be LOS-deficient.
- The segment of Bay St (SR 166) from Port Orchard Blvd to Sidney Ave would operate at LOS E in Alternative 3, crossing the volume-to-capacity threshold of 0.90 to reach LOS-deficient status.
- To satisfy minimum LOS D along Bay St (SR 166), widening to a four- or five-lane section would be required. This is not practical or desirable for the Bay St corridor.

3.5.3 Mitigation Measures

The following measures have been incorporated into the proposal and/or identified in the EIS to minimize the potential for transportation impacts.

Required/Proposed Mitigation

- Development under all EIS Alternatives would be subject to applicable provisions of the Port Orchard Municipal Code, including Chapter 20 (Unified Development Code).
- A single-lane roundabout is recommended to support travel demand growth at the intersection of Bay St (SR 166) & Port Orchard Blvd. Under all EIS Alternatives (including the No Action Alternative), a two-lane roundabout would allow the intersection to operate at LOS A through 2045.

- On Bay St (SR 166), it is recommended that the City adopt modified LOS standards to allow future capital improvements to prioritize safety, active transportation, and other subarea priorities.

- Prior to approval of building permits associated with the Kitsap County Courthouse Project, a parking study verifying the adequacy of campus parking supply to accommodate development under each phase will be provided to, and approved by, the City of Port Orchard. Parking requirements of POMC 20.124 shall be met and if a parking reduction is to be permitted, it shall be submitted as an administrative variance.

Incorporated Plan Features

Proposed Downtown Port Orchard Subarea Plan goals and policies specific to transportation include:

- Improve Bay and Bethel corridors such that they are safer for all users and that they define a place rather than act as just a highway (Goal CAP – 01).
- Ensure that adequate parking is available to support the marina and allow for downtown businesses to thrive while promoting a walkable main-street character (Goal CAP – 02).
- Encourage development in the West Downtown to face the waterfront and Bay Street (Goal CAP – 03).
- Provide improved pedestrian circulation within the West Downtown between the waterfront and Prospect Street (Goal CAP – 04).
- Transform the existing East Downtown from a largely car dominant development pattern to an extension of the existing walkable downtown West Downtown area (Goal CAP – 05)
- Discourage new development from locating parking between new development and the waterfront (Goal CAP – 06).
- Encourage the replacement of the existing Bay Street sidewalk marquee (Goal CAP – 07).

The *Downtown Port Orchard Subarea Plan* includes additional policies related to transportation.

3.5.4 Significant Unavoidable Adverse Impacts

Under all EIS Alternatives, certain intersections and roadway segments would experience LOS deficiencies in 2045. With implementation of required/proposed mitigation measures, the potential for impacts would be limited.

3.6 PUBLIC SERVICES

Information presented in this section addresses the effects of the EIS Alternatives relative to public services, including fire and emergency services, police services, and public schools.

Methodology

For the purposes of this analysis, it is generally assumed that staffing needs for fire/emergency services and police would increase in direct proportion to population increases under the *Downtown Port Orchard Subarea Plan.* Population-based standards for these services are often adopted by local jurisdictions to guide levels of service, and the use of such standards for estimating and analyzing incremental public service impacts in environmental documents is a common, generally accepted, and reasonable tool. It is noted, however, that this assumption is likely conservative (i.e., overestimates need to some extent) because it does not account for some efficiencies or economies of scale that may be experienced as agencies grow in size.

The analysis of potential impacts on public schools was based on school capacities, existing and projected enrollment, and student generation from potential development.

3.6.1 Affected Environment

The *Downtown Port Orchard Subarea Plan* area includes approximately 329 acres of contiguous waterfront and upland property in north central Port Orchard. The western portion of the project area (Waterfront and Uphill Area) is generally bordered by Sinclair Inlet on the north, the right-of-way of West Avenue (undeveloped) on the west, Melcher Street on the south, and Harrison, Taylor, Seattle and Kitsap Streets on the east. The eastern portion of the project area (Bethel Corridor and Mitchell Corridor) is generally bordered by Sinclair Inlet on the north, Maple Avenue and Bethel Avenue on the west, Stockton Street, Decatur Avenue, Guy Wetzel Street, Tracy Avenue and the South Kitsap High School on the east, and Mile Hill Road on the south.

Fire/Emergency Medical Services

Fire and emergency medical services for the *Downtown Port Orchard Subarea Plan* area is provided by South Kitsap Fire and Rescue (SKFR). SKFR serves the City of Port Orchard, as well as the surrounding communities of Orchard Heights, Retsil, Manchester, Olalla, Burley, Glenwood, Sunnyslope, Navy Yard City, and Gorst. In total, SKFR serves an area of approximately 117 square miles and an estimated population of approximately 76,980 people.

SKFR provides service from 12 fire stations, including seven staffed stations and five volunteer stations. Station 8 (located at 1974 Fircrest Drive SE) serves as the headquarters station and is the central office for the SKFR administrative division and management team. SKFR is staffed by approximately 101 employees (including a Fire Chief, 2 Deputy Chiefs, 3 Division Chiefs, 4 Battalion Chiefs, 15 Lieutenants, 6 Captains, 41 career firefighters and 18 paramedics), as well as 29 volunteer firefighters. Apparatus and vehicles for SKFR include 7 career firefighter engines, 5 volunteer firefighter engines, 2 reserve engines, 5 medic units, 4 aid units, 6 tenders, 2 command vehicles, a career ladder truck, and an air support unit (*South Kitsap Fire and Rescue, 2020*).

The closest stations that would serve the *Downtown Port Orchard Subarea Plan* area are Station 8 and Station 31 (located at 200 Tremont Street). Station 8 includes a career firefighter engine, a medic unit, an aid unit and a command vehicle, while Station 31 includes a career firefighter engine, a medic unit, and the career ladder truck (*South Kitsap Fire and Rescue, 2020*).

In 2019, SKFR received approximately 10,720 calls for service. The majority of these calls (approximately 68 percent) were for emergency medical service (EMS); approximately two percent of the total service calls were for fire incidents. Over the past five years, calls for service have increased by approximately 13 percent (see **Table 3.6-1**).

Table 3.6-1
SKFR CALLS FOR SERVICE: 2015-2019

Year	Calls for Service
2015	9,490
2016	9,519
2017	9,980
2018	10,408
2019	10,720

Source: South Kitsap Fire and Rescue, 2020.

SKFR's most recent strategic plan (*SKFR 5-Year Capital Plan 2020-2024* and *Strategic Capital Facilities Plan*) was completed in 2020 and identified long-term planning objectives and goals for the fire district. The *5-Year Capital Plan 2020-2024* identified equipment and fleet needs over the next five years, as well as needs for existing SKFR facilities upgrades and maintenance. The *Strategic Capital Facilities Plan* identified long-term needs for locating staff, equipment and fleet to best serve current needs and future growth within the SKFR service area. It also identifies future facilities needs that would be potentially funded by an upcoming capital facilities bond (Proposition 1) that was to be voted on in November 2020. Needed facilities and improvements included the construction of three new fire stations, redevelopment of the headquarters facility, and seismic upgrades to other fire stations. At the time of publication of the DEIS, Proposition 1 had not received the necessary 60 percent approval by the community in the November 2020 election.

Police Service

Police services for the *Downtown Port Orchard Subarea Plan* area is provided by the City of Port Orchard Police Department. The Police Department serves the City of Port Orchard and its approximately 15,000 residents; however, with the City as the County seat, the Department further serves an area population of approximately 60,000 people within South Kitsap County. The Port Orchard Police Department Station is located within the City of Port Orchard City Hall building at 216 Prospect Street. The Department utilizes approximately 5,500 sq. ft. on the ground floor of City Hall. Based on the City's Capital Facilities Plan, the Department indicates that they will need approximately 10,000 to 15,000 sq. ft. of additional office space and 3,000 to 5,000 sq. ft. of storage to meet their needs over the next 20 years. The Department also utilizes a Police Shooting Range that is located at 1278 Lloyd Parkway (*City of Port Orchard, 2018*).

The Port Orchard Police Department currently maintains a staffing level of 23 commissioned positions, including 2 command staff officers (non-patrol response), 2 detectives (non-patrol response), 1 school resource officer (non-patrol response during the school year), and 18 patrol officers[1] (*Port Orchard Police Department, 2020*).

In 2019, the Port Orchard Police Department received approximately 20,550 calls for service[2]. Over the past four years, calls for service have remained relatively stable with an increase of approximately two percent since 2016 (see **Table 3.6-2**).

Table 3.6-2
PORT ORCHARD POLICE DEPARTMENT CALLS FOR SERVICE: 2016-2019

Year	Calls for Service
2016	20,115
2017	20,440
2018	20,657
2019	20,553

Source: Port Orchard Police Department, 2020.

[1] While Department staffing currently includes 18 patrol officers, the Department has also indicated that they are currently short four patrol officers.
[2] It should be noted that these numbers only reflect responses to calls for service that are dispatched from Kitsap 911 and do not reflect other patrol responses such as patrol checks or vehicles pulled over by on-duty patrol.

Public Schools

The City of Port Orchard and the *Downtown Port Orchard Subarea Plan* area are within the service boundaries of the South Kitsap School District. The South Kitsap School District has an enrollment of approximately 9,910 students (as of the 2019/2020 school year) and is comprised of 17 schools, including 10 elementary schools, three middle schools, two high schools, and two other learning centers (Explorer Academy and Madrona Heights Preschool). Student enrollment in the District has slightly increased over the past five years by approximately three percent (*South Kitsap School District, 2020*). **Table 3.6-3** summarizes the historic enrollment for the District since the 2015-16 school year.

Table 3.6-3
SOUTH KITSAP SCHOOL DISTRICT ENROLLMENT SUMMARY

School Year	Students
2015-16	9,592
2016-17	9,862
2017-18	9,816
2018-19	9,797
2019-20	9,910

Source: Washington State OSPI, 2020.

The *Downtown Port Orchard Subarea Plan* area is generally located within the enrollment boundaries for East Port Orchard Elementary, Orchard Heights Elementary, Marcus Whitman Middle School, and South Kitsap High School. **Table 3.6-4** provides a summary of each school's capacity and enrollment trends.

Table 3.6-4
SOUTH KITSAP SCHOOL DISTRICT – SCHOOL CAPACITY & ENROLLMENT

School	Existing Capacity	2015-16 Enrollment	2016-17 Enrollment	2017-18 Enrollment	2018-19 Enrollment	2019-20 Enrollment
East Port Orchard Elem.	467	514	470	400	467	478
Orchard Heights Elem	729	741	779	667	645	654
Marcus Whitman MS	796	709	692	656	662	705
South Kitsap HS	1,972	1,916	2,272	2,756	2,675	2,558

Source: South Kitsap School District and Washington State OSPI, 2020.

The South Kitsap School District maintains a six-year Capital Facilities Plan that is reviewed and updated on an annual basis. The plan is developed and updated based on development and population implications of the City of Port Orchard, City of Bremerton and Kitsap County Comprehensive Plans, and the ability of District facilities to support current and projected future enrollment. For planning purposes, the Capital Facilities Plan identifies student generation rates for new development that could occur, including 0.52 students per single family residence and 0.36 students per multifamily residence. The City of Port Orchard Municipal Code (POMC 20.182) also identifies school impact fees for new residential construction. Residential building development with up to four units requires a school impact fee of $1,370.83 per unit and residential development with five units or more requires an impact fee of $861.65.

3.6.2 Impacts

The *Downtown Port Orchard Subarea Plan* is designed to satisfy the requirements of the State's Growth Management Act for Port Orchard to plan for forecasted growth, and to support the goals of the PSRC's VISION 2050. The primary goals of VISION 2050 include: increase housing choices and affordability; provide opportunities for all; sustain a strong economy; significantly reduce greenhouse gas emissions; keep the region moving; restore Puget Sound health; protect a network of open spaces; grow in centers and near transit; and, act collaboratively and support local efforts.

Alternative 1 – No Action Alternative

Under the No Action Alternative, the existing City of Port Orchard's existing Comprehensive Plan, Zoning Map, and the Zoning Code (port Orchard Municipal Code Title 20) would remain in effect. All existing planning and implementation policies and development regulations would continue to guide development decisions for properties within the Downtown and County Campus Subarea area. Under the No Action Alternative, it is assumed that growth in the subarea plan area would continue under current policies and guidelines, with development occurring on a project-by-project basis.

The types of direct impacts that could potentially occur under the EIS development alternatives generally relate to construction impacts and impacts from operation of new development. These types of impacts are discussed below.

Construction Impacts

Development under the No Action Alternative would result in construction-related impacts to fire/emergency medical services and police services. Construction activities would result in the potential for an increase in calls for service for SKFR due to construction-related workplace injuries or fire incidences during the construction process. Construction activities would also generate the potential for new calls for the Port Orchard Police Department, primarily related to construction site theft, vandalism, and injuries.

Operational Impacts

Operational impacts on public services primarily relate to new population that would be generated by residential development. For the purposes of this analysis, it is generally assumed that staffing needs would increase in direct proportion to population increases. New residents on the site would create additional demand for public services as development occurs within the *Downtown Port Orchard Subarea Plan* area. The commercial development would generate some additional minor demand for services. **Table 3.6-5** summarizes the development assumptions for the No Action Alternative, as well as Alternatives 2 and 3.

Table 3.6-5
SUMMARY OF DEVELOPMENT UNDER EIS ALTERNATIVES

	Alternative 1 - No Action	Alternative 2	Alternative 3
Residential Capacity	566,200 sq ft	1,010,100 sq ft	752,283 sq ft
Commercial Capacity	622,800 sq ft	673,500 sq ft	848,600 sq ft
Residential Units	1,074	1,610	1,288
Population	4,051	4,663	4,128
Employment	3,396	3,617	3,889

Source: GGLO, 2020.

Fire/Emergency Medical Services

Development under the No Action Alternative and associated new residents would generate additional demand for fire and emergency medical services. It is anticipated that new service demand generated by additional residents would include a mix of calls related to fire protection, first aid/injuries, and emergency medical services. Following the pattern of existing services calls, it is assumed that the majority of calls generated by new residents would be for emergency medical services.

Based on the current staffing levels for SKFR (approximately 69 career firefighting personnel[3] and 18 paramedics per 76,980 service population), it is anticipated that the No Action Alternative would generate the need for approximately 3.6 new career firefighters and 0.9 new paramedics. In addition, SKFR has also identified several equipment and facilities needs as part of their strategic plan. These equipment and facility upgrades are currently needed and would be needed to serve future development under the No Action Alternative.

Police Services

Development and associated new residents under the No Action Alternative would generate increased demand for police services, including new calls for services from the site. Increased demand for police services would create an increased need for additional officers to serve the new residents over the course of development under the No Action Alternative.

[3] Includes career firefighters, Captains, Lieutenants, Battalion Chiefs and Division Chiefs.

As noted above under the Affected Environment, the Port Orchard Police Department maintains a staffing level with 18 patrol officers. However, the Department has also indicated that they are currently short four officers from their staff, so in order to provide a conservative analysis of police service impacts, potential staffing needs associated with the EIS Alternatives will utilize a staffing level of 22 patrol officers. Based on the number of new residents anticipated under the No Action Alternative (4,051 residents) and police staffing levels, it is anticipated that new development under the No Action Alternative would generate the need for approximately 5.9 new patrol officers. It is also anticipated that any new officers that would be needed would also require new equipment and vehicles to provide patrol response.

Public Schools

Development under the No Action Alternative and associated new residents would be anticipated to generate new students and increased demand for public school services from the South Kitsap School District. New students that would be generated by new residential development can be calculated based on the student generation rates that have been established by the South Kitsap School District. Since the specific types of residential units under the No Action Alternative and *Downtown Port Orchard Subarea Plan* are not established at this time, the analysis of student generation has utilized the single family residential student generation rate to provide a conservative calculation of the potential students that would be generated under the EIS Alternatives.

Based on a student generation rate of 0.52 students per single family residence, it is anticipated that residential development under the No Action Alternative would generate approximately 558 new students within the South Kitsap School District boundaries. While the specific grade levels of potential new students cannot be determined, it is anticipated that students generated by new development under the No Action Alternative would be dispersed across a range of grade levels over the course of development on the site. As noted in the *Affected Environment* discussion, some of the schools are currently below capacity. However, with the introduction of new students, it is anticipated that some or all of the schools could exceed their capacity limits of their existing facilities. In the event that this occurs over the course of the planning period, portable classroom buildings at the school sites or additions to existing building facilities could be required.

Development Alternatives (Alternatives 2 and 3)

Each of the development alternatives would continue the redevelopment trends of properties in the Downtown and County Campus portions of the subarea plan area. Development under either of the development alternatives would result in varying degrees of additional residential units and commercial capacity compared to levels under the No Action Alternative. **Table 3.6-4** illustrates the differing levels of future residential units and commercial capacity under the development alternatives compared to levels under the No Action Alternative.

The types of direct impacts that could potentially occur under the EIS development alternatives generally relate to construction impacts and impacts from operation of new development. These types of impacts are discussed below.

Construction Impacts

Development under Alternatives 2 and 3 would result in construction-related impacts to fire/emergency medical services and police services. Construction activities would result in an increase in calls for service for SKFR due to construction-related workplace injuries or fire incidences during the construction process. Construction activities would also generate new calls for the Port Orchard Police Department, primarily related to construction site theft, vandalism, and injuries. It is anticipated that construction-related impacts would be greater under Alternatives 2 and 3 when compared to the No Action Alternative, due to the increased amount of residential and commercial development.

Operational Impacts

Operational impacts on public services primarily relate to new population that would be generated by residential development. As noted under the No Action Alternative, it is generally assumed that staffing needs would increase in direct proportion to population increases. New residents on the site would create additional demand for public services as development occurs within the *Downtown Port Orchard Subarea Plan* area. Commercial development would generate some additional minor demand for services. **Table 3.6-4** summarizes the development assumptions for Alternatives 2 and 3.

Fire/Emergency Medical Services

New residents associated with development under Alternatives 2 and 3 would generate additional demand for fire and emergency medical services. It is anticipated that new service demand generated by additional residents would include a mix of calls related to fire protection, first aid/injuries, and emergency medical services. Following the pattern of existing services calls, it is assumed that the majority of calls generated by new residents would be for emergency medical services.

Based on the current staffing levels for SKFR (approximately 69 career firefighting personnel and 18 paramedics per 76,980 service population), it is anticipated that the Alternative 2 would generate the need for approximately 4.2 new career firefighters and 1.1 new paramedics, while Alternative 3 would generate the need for approximately 3.7 new career firefighters and 1.0 new paramedics. In addition, SKFR has also identified several equipment and facilities needs as part of their strategic plan. These equipment and facility upgrades are currently needed and would be needed to serve future development under the No Action Alternative.

Police Services

Similar to the No Action Alternative, development and associated new residents under Alternatives 2 and 3 would generate increased demand for police services, including new calls for services from the site. Increased demand for police services would create an increased need for additional officers to serve the new residents over the course of development under the No Action Alternative.

Based on the number of new residents anticipated under Alternative 2 (4,663 residents) and police staffing levels, it is anticipated that new development under the Alternative 2 would generate the need for approximately 6.8 new patrol officers. Alternative 3 (4,128 new residents) would generate the need for approximately 6.1 new patrol officers. It is also anticipated that any new officers that would be needed would also require new equipment and vehicles to provide patrol response.

Public Schools

Similar to the No Action Alternative, new development under Alternatives 2 and 3 and associated new residents would be anticipated to generate new students and increased demand for public school services from the South Kitsap School District. Based on a student generation rate of 0.52 students per single family residence, it is anticipated that residential development under Alternative 2 would generate approximately 837 new students within the South Kitsap School District boundaries, while Alternative 3 would generate approximately 670 new students.

While the specific grade levels of potential new students cannot be determined, it is anticipated that students generated by new development under Alternatives 2 and 3 would be dispersed across a range of grade levels over the course of development on the site. As noted in the *Affected Environment* discussion, some of the schools are currently below capacity. However, with the introduction of new students, it is anticipated that some or all of the schools could exceed their capacity limits of their existing facilities. In the event that this occurs over the course of the project, portable classroom buildings at the school sites or additions to existing building facilities could be required.

Indirect Impacts

Proposed development under Alternatives 2 and 3 could result in some indirect impacts to public service agencies that could potentially provide assistance through mutual aid agreements, such as the Port Orchard Police Department and SKFR. Additional indirect student generation in the South Kitsap School District could also occur from growth in population associated with new employment at commercial development under Alternatives 2 and 3. It would be anticipated that any indirect impacts associated with commercial development would be lower under Alternative 2 than Alternative 3.

3.6.3 Mitigation Measures

Required/Proposed Mitigation

- Development under all EIS Alternatives would be subject to applicable provisions of the Port Orchard Municipal Code, including Chapter 20 (Unified Development Code) and Chapter 20.182 (Impact Fees).

- All new buildings would be constructed in compliance with the City of Port Orchard Fire Prevention Code (Chapter 20.204), which is comprised of the 2015 International Fire Code with City of Port Orchard amendments.

- A portion of the tax revenues directly and indirectly generated from development under the EIS Alternatives – including construction sales tax, retail sales tax, property tax, utility tax and other fees, licenses and permits - would accrue to the City of Port Orchard and could help offset demand for public services.

- Increases in student population over the buildout period would be addressed through the South Kitsap School District's planning processes. The District could take any or a combination of the following actions to match capacity and enrollment under the EIS Alternatives:
  - Providing transportation service to schools with capacity;
  - Adjusting school boundaries;
  - Adding or removing portables; and/or
  - Adding to or renovating buildings.

3.6.4 Significant Unavoidable Adverse Impacts

Development under the EIS Alternatives would result in increased demand for public services which would occur incrementally over the buildout of the *Downtown Port Orchard Subarea Plan*. With the implementation of the required/proposed mitigation measures listed above, no significant unavoidable adverse impacts to public services would be anticipated.

Chapter 4

COMMENT LETTERS AND RESPOSNES

CHAPTER 4
COMMENT LETTERS AND RESPONSES

This chapter of the Final Environmental Impact Statement (FEIS) for the *Downtown Port Orchard Subarea Plan* contains comments received on the Draft Environmental Impact Statement (DEIS), and provides responses to the comments.

Six letters with comments on the DEIS and comments provided at the public meeting were received during the public comment period. Each letter is included in this section of the FEIS. Comment letters/numbers appear in the margins of the comment letters and are cross-referenced to the corresponding responses. Responses are provided directly after each comment letter.

The following comment letters on the DEIS were received:

Tribes

1. The Suquamish Tribe

Agencies

2. Washington State Department of Fish and Wildlife (EIS Comments)
3. Washington State Department of Fish and Wildlife (Subarea Plan comments)

Individuals

4. Dana Harmon
5. John Lackey
6. Marcia Stocking/Fran Olin/Nick & Elissa Whittleton
7. Transcript of Public Meeting

From:	Alison Osullivan
To:	Keri Sallee
Cc:	planninginfo@cityofportorchard.us; Gordon, Brittany N (DFW)
Subject:	Downtown and County Campus Subarea Plan Draft Environmental Impact Statement
Date:	Thursday, February 18, 2021 4:22:02 PM
Attachments:	image001.jpg

The City of Port Orchard lies within the Suquamish Tribe's "Usual and Accustomed Fishing Area" (U & A). The Tribe seeks protection of all treaty-reserved natural resources through avoidance of impacts to habitat and natural systems. The Tribe urges the City of Port Orchard to avoid land use decisions that will impact natural resources within the Tribe's U & A. The Tribe has reviewed the information provided regarding the proposed Downtown and County Campus Subarea Plan Draft Environmental Impact Statement and has the following comments.

General Comments

- The Suquamish Tribe (Tribe) prefers to have early and continuous participation. Meetings should have occurred and a draft document provided to the agencies (WDFW and DOE) and the Tribe well in advance of the planning commission discussion and public comment period. **1** EA

- There is no discussion regarding current or historic use of the area by the Suquamish Tribe. The City of Port Orchard and Sinclair Inlet are within the Tribe's adjudicated Usual and Accustomed (U&A) fishing, hunting and gathering area. The Tribe has a strong historical and present connection in Sinclair Inlet that is significant and well documented. Ethnographic and archaeological evidence demonstrates that the Suquamish Tribe inhabited the area in and around Port Orchard and Sinclair Inlet and has utilized its natural resources (including fish and shellfish) for thousands of years. Sinclair Inlet has been and continues to be an important cultural, historical, economical, and a place of well-being of the Suquamish Tribe. Significant tribal salmon fisheries exist in the inlet. **2** EA

- The Tribe requests that we be notified on a project by project basis to allow for review and comment regarding potential impacts to cultural and Tribal treaty natural resources. The City's shorelines were historically used by the Suquamish Tribe and unrecorded archaeological resources occur within shoreline areas. Any development on and adjacent to the former shoreline of Sinclair Inlet and on the lower reach and mouth of Blackjack Creek should require a cultural resource review by a professional archaeologist in consultation with the Suquamish Tribe and the Washington State Department of Archaeology and Historic Preservation. **3** EA

Draft Environmental Impact Statement

-

General Comments:

-

- Actions under any of the alternatives (including “No Action”) need to be consistent with the City’s SMP (last updated in Feb. 2018) with respect to the marine shoreline and lower **4** EA

Blackjack Creek.

- All streams within the project area need to be discussed. In addition to Blackjack Creek there are several smaller streams that meet fish habitat criteria that are culverted beneath buildings and/or vacant lots. The City needs to be proactive in addressing future needs for replacement of these structures or daylighting the stream (preferred). **5** EA

- Improvements to storm water need to be in compliance with the most recent Western Washington Storm Water Manual. **6** EA

- Suquamish strongly encourages the City to explore opportunities for habitat improvements related to redevelopment plans along the marine shoreline, Blackjack Creek, and other streams within the subarea plan. Many of these opportunities may involve also enhancement of public access and open space. **7** City/ EA

- Consistent with the SMP, the recovery of Puget Sound ecosystem, and salmon recovery, explore options for relocating buildings, parking, and other impervious surfaces further away from shorelines (both marine and Blackjack Creek). Establish native vegetation in these areas, to the extent possible. **8** GGLO/ City

- In redevelopment of parking areas, use LID and innovative approaches where site conditions allow to reduce runoff and protect water quality, including consideration of underground parking areas (including under new or redeveloped buildings) where feasible to reduce impervious footprint. **9** GGLO/ City

- Consistent with goals/policies in the subarea plan, where road ends terminate at shorelines, and where plaza, overlook, or pocket parks may be considered at these locations, also consider shoreline habitat improvements and enhancements, including potential removal of hard armor and fill to establish “pocket beach” parks. If designed right, establishing these shorelines and beaches can support spawning by forage fish species that are vital to Puget Sound food webs. **10** GGLO /City

- Consistent with the City’s significant investments in protecting Blackjack Creek, a high priority salmon and steelhead watershed in the West Sound region, we encourage the City to work with the Tribe and other partners to consider options for removal of artificial fill to improve estuarine habitat at the mouth of Blackjack Creek. **11** City/ EA

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<u>Specific Comments:</u>

- Page 2-6: The Suquamish Tribe objects to the use of a planned action EIS that would eliminate the need for subsequent environmental review of site-specific development or redevelopment (See General Comment above regarding notification). Suquamish requests language that states the City will consult with and meaningfully address concerns the Suquamish Tribe may have with respect to plans, designs, and projects that may involve cultural resources or impact Tribal treaty natural resources. **12** EA

- Page 2-7: Existing plans reviewed need to also include the Total Maximum Daily Load (TMDL) requirement for Sinclair Inlet as well as local salmon recovery plans and watershed plans (Blackjack Creek Watershed Protection and Restoration Plan). 13 GGLO/EA

- Figure 3.1.1: The City continues to take a "broad brush" approach to shoreline characterization which does not support the no-net-loss requirement to protect existing habitat and functions. Examples include but are not limited to the following: 14 GGLO/City
  - Restoration of the "downtown" portion of Blackjack Creek should be a priority and thus the designation of urban conservancy should include more than the small area identified to prevent increases in building footprint and intensity.

- Page 3.1.23: Goal 9 should be expanded to not only maintain but include restoration. 15 EA/City

- Page 3.1-24: Open space and buffers are not necessarily compatible uses. With the limited riparian vegetation existing allowing these to include open space uses will just further degrade conditions. A better option would be to possibly include open space in the redevelopment of shoreline parcels so that additional area can be included to not only provide the open space but also additional buffer area to restore functions. 16 EA/GGLO

- 3.1-24: The Tribe requests that the City consult with the Tribe with respect to exploring options and designs for any marine shoreline and stream habitat improvements, enhancements, or restoration including but not limited to the Port Orchard Boat Launch Estuary Restoration, the Port Street Plaza and Viewpoint, the Orchard Street Plaza and Viewpoint, a Kayak Launch Dock, the Prospect Street Hill Climb, Waterfront Trail enhancements, Waterfront Shoreline enhancements, and Blackjack Creek Estuary Park and Etta Turner Park expansions/enhancements. 17 EA/City

Draft Downtown Subarea Plan

General Comments:

- The Tribe requests that we be notified on a project by project basis to allow for review and comment regarding potential impacts to cultural and Tribal treaty natural resources (See General Comment above regarding notification). 18 City/GGLO

Specific Comments:

- Section 2.1 History: There is no discussion of historic or current use of the Downtown Port Orchard area by the Suquamish Tribe (See General Comment above regarding Tribal use). 19 GGLO/EA

- Page 9: Initial Goals bullet 5 appears to have a typo. It needs correction and clarification. 20 EA/GGLO

- Section 2.4.3 Buildable Lands: This should be consistent with and updated with any changes that are made during the Countywide Buildable Lands and Land Capacity Analysis process. 21 GGLO/EA

- Section 2.8 Environment and Open Space: There is little to no mention of restoration planning. Since the urban areas typically have more degradation and impacts they have a 22 GGLO/EA greater responsibility to try and retain what is left and maintain function. Restoration of natural shoreline where feasible should be mentioned. **22 Cont.**

- Section 3: Goals and Vision should include policies and goals that focus on opportunities for restoration including but not limited to shoreline riparian areas, barrier culverts, storm water, etc. **23** GGLO/ EA

- Policy EOS – 05: Storm water facilities should be encouraged but should not be located in the minimal shoreline setbacks/buffers that exist. This further degrades and reduces the environmental functions of these areas due to maintenance, concentrations of pollutants, limited to no area for shoreline vegetation, etc. **24** GGLO/ EA

- Page 73: The City continues to take a "broad brush" approach to shoreline characterization which does not support the no-net-loss requirement to protect existing habitat and functions. Examples include but are not limited to the following: **25** GGLO/ EA
    - Restoration of the "downtown" portion of Blackjack Creek should be a priority and thus the designation of urban conservancy should include more than the small area identified to prevent increases in building footprint and intensity.

- Page 78: Environment and Open Space project list. Trail widening and other waterfront "enhancements" should not include removal of shoreline vegetation and/or additional overwater coverage or potentially preclude the removal of fill, of overwater coverage or revetment material in the future. **26** GGLO/ EA

- Page 78: The Tribe requests that the City consult with the Tribe with respect to exploring options and designs for any marine shoreline and stream habitat improvements, enhancements, or restoration including but not limited to the Port Orchard Boat Launch Estuary Restoration, the Port Street Plaza and Viewpoint, the Orchard Street Plaza and Viewpoint, a Kayak Launch Dock, the Prospect Street Hill Climb, Waterfront Trail enhancements, Waterfront Shoreline enhancements, and Blackjack Creek Estuary Park and Etta Turner Park expansions/enhancements. **27** EA/City

- Page 77 and 78: The Waterfront Plaza project appears to include a very large overwater structure that will result in a considerable amount of overwater coverage that has the potential to significantly impact the Suquamish Tribes treaty rights and resources as well as impact habitat. The Tribe is unsure at this point if impacts can be fully mitigated. **28** GGLO/ City

If you have any questions regarding the comments above please don't hesitate to contact me.

Alison O'Sullivan
Senior Biologist, Natural Resources Department

Suquamish Tribe Logo

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Response to Letter 1 - Suquamish Tribe

Response to Comment 1

The comment regarding the Suquamish Tribe preferring early and continuous participation is noted, and the City of Port Orchard agrees. The City of Port Orchard strives to be transparent in all decision making, and notification to the public, agencies and tribes is conducted consistent with City guidelines and requirements.

The Suquamish Tribe (Tribe) is an important member of the Port Orchard community, and the City is engaging with the Tribe to establish defined protocols for communication.

In response to the comment provided by the Tribe on the Draft EIS requesting that "*the City consult with and meaningfully address concerns the Suquamish Tribe may have with respect to plans, designs, and projects that may involve cultural resources or impact Tribal treaty natural resources*", the following measures have been identified for this Final EIS.

Cultural Resources Measures Applicable to Planned Action Area

Overall

- *Pertinent cultural resources regulations would be followed for all development projects proposed within the Subarea Plan area.*

- *The Suquamish Tribe will be notified, on a project-by-project basis, when development proposals are submitted to the City of Port Orchard for properties within the Planned Action area of the Downtown Port Orchard Subarea Plan.*

  Noticing and coordination with Suquamish Tribe would be conducted by the City of Port Orchard as the lead agency under the State Environmental Policy Act (SEPA) and/or Governor's Executive Order 05-05.

- *If a project is proposed in the Planned Action area of the Downtown Port Orchard Subarea Plan, a project specific desktop analysis accompanied by a project site visit by a Secretary of Interior Qualified archaeologist would be provided, and an inadvertent discovery plan prepared. The project site visit would be coordinated with the Tribe, and would be geared toward assessing and documenting obvious signs of landscape modification. An archaeological inventory may be needed if no obvious signs of landscape modification are observed. Information generated would be provided to the Suquamish Tribe and the Washington State Department of Archaeology and Historic Preservation prior to the issuance of land use permits for the subject property.*

Inadvertent Discovery of Archaeological Resources

- *In the event that archaeological deposits are inadvertently discovered during construction of at a potential development site, ground-disturbing activities should be halted immediately, and City of Port Orchard should be notified. The City would then contact DAHP and the Suquamish Tribe, as appropriate, and as described in the recommended inadvertent discovery plan.*

Discovery of Human Remains

- *Any human remains that are discovered during construction at a potential development site would be treated with dignity and respect.*
    - *If ground-disturbing activities encounter human skeletal remains during the course of construction, then all activity that may cause further disturbance to those remains must cease, and the area of the find must be secured and protected from further disturbance. In addition, the finding of human skeletal remains must be reported to the county coroner and local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed.*
    - *The county coroner will assume jurisdiction over the human skeletal remains, and make a determination of whether those remains are forensic or non-forensic. If the county coroner determines the remains are non-forensic, they will report that finding to the DAHP. DAHP will then take jurisdiction over those remains and report them to the appropriate cemeteries and affected tribes. The State Physical Anthropologist will make a determination of whether the remains are Indian or non-Indian, and report that finding to any appropriate cemeteries and the affected tribes. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.*

Response to Comment 2

The statement regarding the current and historic use of the area by the Suquamish Tribe is noted and has been added to Chapter 2 (Description of the Proposed Action and Alternatives) of this Final EIS to further acknowledge the importance of the Suquamish Tribe to the region. The text added to Chapter 2 of this Final EIS is also provided below.

The City of Port Orchard and Sinclair Inlet are within the Tribe's adjudicated Usual and Accustomed (U&A) fishing, hunting and gathering area. The Tribe has a strong historical and present connection in Sinclair Inlet that is significant and well documented. Ethnographic and *archaeological evidence demonstrates that the Suquamish Tribe inhabited the area in and around Port Orchard and Sinclair Inlet and has utilized its natural resources (including fish and shellfish) for thousands of years. Sinclair Inlet has been and continues to be an important cultural, historical, economical, and a place of well-being of the Suquamish Tribe. Significant tribal salmon fisheries exist in the inlet.*

Response to Comment 3

The comment regarding notification of the Tribe on a project-by-project basis is noted. Please refer to Response to Comment 1 of this letter.

Response to Comment 4

The comment related to all actions within the Subarea Plan area needing to be consistent with the City of Port Orchard Shoreline Master Program is noted.

As indicated on pages 3.1-26 through 3.1-28, "*the existing Shoreline Master Program (adopted March 2021) would guide development under the EIS Alternatives*".

As indicated on page 3.1-27 of the Draft EIS, "*the proposed Downtown Port Orchard Subarea Plan identifies several goals and policies to enhance the environment and public realm for city residents and guests, including increased pedestrian access and recreational opportunities along the waterfront and incorporating new open space within required shoreline buffers so they can serve dual purposes*".

Response to Comment 5

Existing streams within the Subarea Plan area are shown in Section 2 of the Subarea Plan. The figure on page 62 of the of the Subarea Plan has been revised to remove potential development from over existing streams, and highlights stream daylighting opportunities. The Subarea Plan also now includes a goal supporting the daylighting of existing piped streams, when feasible. This goal instructs that the next update to the Critical Areas Code should include provisions for buffering piped streams and providing restoration (daylighting) where feasible.

Response to Comment 6

The comment regarding compliance with the most recent version of the Western Washington Storm Water Manual is noted. As indicated on page 3.4-4 of the Draft EIS, *the City of Port Orchard has adopted the 2012 Western Washington Stormwater Manual to govern the design and construction of stormwater management systems in the City.*

As indicated on page 3.4-12 of the Draft EIS, "*to the extent that potential development under Alternatives 2 and 3 continues to comply with the 2012 Western Washington Stormwater Manual, it is not anticipated that any existing stormwater system condition deficiencies would not be exacerbated, and in some cases would see some relief as reduced stormwater runoff rates "spread out" the flow from developed surfaces over a longer period of time. Stormwater quality would also be expected to improve incrementally as new development comes online that employs the manual's BMP's for stormwater treatment*".

Response to Comment 7

The comment related to exploring opportunities for habitat improvement are noted. The following park/restoration projects are included in the proposed Subarea Plan:

1. Shoreline restoration between Port of Bremerton Boat Launch and Orchard Street.
2. Blackjack Creek Restoration and Park Project – Etta Turner Park Improvements.
3. Blackjack Creek Enhancement immediately south of Bay Street (KFC site)
4. Westbay Plaza shoreline softening and enhancement.
5. Johnson Creek Estuary enhancement (near PO Blvd and Bay Street)

The five projects above will also be included in the Park Plan.

Additionally, all redevelopment in the High Intensity (HI) shoreline environment, which covers most of the downtown area, will be required to comply with Appendix E of the SMP (Mitigation and Restoration for Redevelopment Activities in the HI Shoreline Environment Designation). Removal of any vegetation other than lawn, even non-native vegetation, within a shoreline buffer requires 2:1 or 4:1 replacement with native vegetation for an overall habitat improvement. All redevelopment within an uninterrupted shoreline buffer (setback) must include a shoreline restoration plan that provides a substantive, measurable improvement[1] to shoreline conditions within the site or in aquatic areas adjacent to the site. All portions of a buffer that will not be developed shall be maintained or replanted in native vegetation. Mitigation and restoration activities associated with redevelopment in the HI environment are subject to standard City performance and maintenance bonding, and enforcement requirements.

[1] *This claim may require professional peer review at the applicant's expense*.

Response to Comment 8

The comment related to increasing habitat value within the shoreline area is noted. Subarea Plan guidelines in the proposed Subarea Plan for the West Bay Center, and between the Port of Bremerton boat ramp and the Orchard Street plaza includes options for locating built features away from the shoreline and enhancing shoreline vegetation and habitat.

Additionally, in the 2021 changes to the SMP, parking as a principal use has been prohibited in the Urban Conservancy (UC) and Shoreline Residential (SR) environments. As indicated above, all redevelopment in the HI environment is required to provide restoration of native vegetation within shoreline buffers.

Response to Comment 9

The comment regarding using innovative approaches to reduce runoff and protect water quality is noted. Subarea Plan Policy CAP-02 has been modified to reflect this comment, including measures to reduce the amount of new impervious surfaces. See page 84 of the Subarea Plan for detail.

The 2021 SMP also includes the following new development regulation:

> *G-DR-37* The City shall require, where feasible, restoration of native shoreline and aquatic vegetation in mitigation and restoration plans and in stormwater management for redevelopment activities within the shoreline area.

Response to Comment 10

The comment encouraging shoreline habitat enhancements at street ends and increased shoreline parks/habitat is noted. In response to this comment, additional goals have been added to the Subarea Plan supporting shoreline habitat enhancements at Port Street and along the proposed Community Center (see Policies EOS – 03 and EOS – 05 on page 81 of the Subarea Plan). Please also refer to response to comment 26 of this letter.

A project for pocket beach improvements at the Blackjack Creek estuary is already in the SMP's Appendix B Restoration Plan (Project 25) and would be supported by the subarea plan and future development projects in this area.

Response to Comment 11

The City supports the request to remove artificial fill to improve habitat conditions at Blackjack Creek as part of an Etta Turner Park project. See Policy EOS – 06 on page 81 of the Subarea Plan for a policy related to Etta Turner Park.

SMP Appendix B includes Project 21 – Estuary Improvement for Blackjack Creek, including riprap removal. This improvement would be supported by the Subarea Plan and future development projects in this area.

Response to Comment 12

The comment related to the Planned Acton Ordinance and request that the City consult with and meaningfully address concerns the Suquamish Tribe may have with respect to plans, designs, and projects that may involve cultural resources or impact Tribal treaty natural resources are noted.

In response to this comment, the City has identified additional measures related to communication with the Suquamish Tribe, including a measure indicating that "*the Suquamish Tribe will be notified, on a project-by-project basis, when development proposals are submitted to the City of Port Orchard for properties within the Planned Action area and within the shoreline districts associated with Sinclair Inlet or Blackjack Creek".* Please refer to Response to Comment 1 of this letter for additional discussion.

Response to Comment 13

The comment related to the existing TMDL requirement for Sinclair Inlet is noted. Although the EIS scoping process conducted for this project did not identify fisheries as an element of the environment to be analyzed in the EIS, the City of Port Orchard has referenced the Blackjack Creek Watershed Protection and Restoration Plan in the Port Orchard SMP, as amended in 2021. In addition, the City proposes to adopt this plan in Appendix B of the Comprehensive Plan.

Additionally, a goal has been added to the Subarea Plan (Policies EOS – 07 and EOS – 08 on page 81 of the Subarea Plan) to support the restoration of Blackjack Creek.

Response to Comment 14

The comment regarding the "no-net-loss" requirement appears to be a comment on the shoreline environment designations in the City's SMP, not the Subarea Plan. This comment was considered with regard to the 2021 SMP update.

Response to Comment 15

Comprehensive Plan Housing Element Goal 9 currently reads "*Ensure that future residential development protects and maintains natural ecosystems and critical areas, including wetlands, streams, and wildlife habitat*". The comment indicating that Goal 9 of the Housing Element of the Port Orchard Comprehensive Plan should be expanded to include restoration is noted.

The City of Port Orchard will consider the requested Goal 9 revision to include restoration as part of overall updates to the Comprehensive Plan, and any update to the Comprehensive Plan will relate to the entire city.

Response to Comment 16

The comment indicating that open space in redevelopment of shoreline parcels to increase habitat is preferable to Goal 8 of the Parks Element of the Comprehensive Plan that calls for *provision of open space within residential and commercial developments and to preserve critical areas within open space* is noted. Goal 8 will likely be revised as part of Parks Plan adoption.

Please note that all redevelopment in the High Intensity (HI) shoreline environment, which covers most of the downtown area, will be required to comply with Appendix E of the SMP (Mitigation and Restoration for Redevelopment Activities in the HI Shoreline Environment Designation).

Response to Comment 17

As indicated in response to comment 1 of this letter, transparent communications with the Suquamish Tribe is a priority for the City of Port Orchard. A policy to the Subarea Plan indicating that the City will coordinate with the Tribe regarding options and designs for marine shoreline and stream habitat improvements, has been added to the proposed Subarea Plan (see Policy EOS – 09 on page 81 of the Subarea Plan).

Response to Comment 18

The comment indication that the Squamish Tribe requests project-by-project notification is noted.

Please refer to response to comment 1 of this letter for discussion on City of Port Orchard coordination with the Suquamish Tribe (see Policy EOS – 09 on page 81 of the Subarea Plan).

Response to Comment 19

The statement regarding the current and historic use of the area by the Suquamish Tribe is noted and has been added to Chapter 2 (Description of the Proposed Action and Alternatives) of this Final EIS to further acknowledge the importance of the Suquamish Tribe to the region.

Please refer to response to comment 2 of this letter.

Response to Comment 20

The comment regarding the typo in the Subarea Plan Goal 9 is noted, and the text for Goal 9 has been revised for clarification.

Response to Comment 21

As part of the buildable lands analysis and land capacity analysis being prepared in cooperation with Kitsap County, the City will advocate that new higher land capacity assumptions shown in the Subarea Plan are considered.

Response to Comment 22

The comment regarding lack of discussion in the Subarea Plan regarding shoreline restoration is noted.

Please note that all redevelopment in the High Density (HI) Shoreline environment, which covers most of the downtown area, will be required to comply with Appendix E of the SMP (Mitigation and Restoration for Redevelopment Activities in the HI Shoreline Environment Designation).

Response to Comment 23

The comment indicating that Goals and Vision should include policies and goals that focus on opportunities for restoration including but not limited to shoreline riparian areas, barrier culverts, and stormwater is noted.

A Goal to support restoration requirements including, but not limited to, requirements defined in Appendix E of the SMP has been added to the Subarea Plan (see pages 80 and 81 of the Subarea Plan).

Response to Comment 24

The comment indicating that stormwater facilities should be encouraged but should not be located in existing minimal shoreline setbacks/buffers is noted.

New development under the Subarea Plan will be required to comply with the Shoreline buffer requirements contained in the current SMP.

Response to Comment 25

The comment regarding the "no-net-loss" requirement appears to be a comment on the shoreline environment designations in the City's SMP, not the Subarea Plan. This comment will be considered with regard to the 2021 SMP update.

Response to Comment 26

All redevelopment and waterfront open space enhancements in the High Intensity (HI) shoreline environment, which covers most of the downtown area, will be required to comply with Appendix E of the SMP (Mitigation and Restoration for Redevelopment Activities in the HI Shoreline Environment Designation). Removal of any vegetation other than lawn, even non-native vegetation, within a shoreline buffer requires 2:1 or 4:1 replacement with native vegetation for an overall habitat improvement. All redevelopment within an uninterrupted shoreline buffer (setback) must include a shoreline restoration plan that provides a substantive, measurable improvement (this claim may require professional peer review at the applicant's expense) to shoreline conditions within the site or in aquatic areas adjacent to the site. All portions of a buffer that will not be developed shall be maintained or replanted in native vegetation. Mitigation and restoration activities associated with redevelopment in the HI environment are subject to standard City performance and maintenance bonding, and enforcement requirements.

Response to Comment 27

As indicated in response to comment 1 of this letter, transparent communications with the Suquamish Tribe is a priority for the City of Port Orchard. A policy to the Subarea Plan indicating that the City will coordinate with the Tribe regarding options and designs for marine shoreline and stream habitat improvements, has been added to the proposed Subarea Plan (see Policy EOS – 09 on page 81 of the Subarea Plan for detail)

Response to Comment 28

The Waterfront Plaza Project, located in the HI and Aquatic shoreline environments, will require shoreline and US Army Corps permitting. The Subarea Plan includes policies that require any overwater structure (including a dock), or any other portion of the development that have the potential to adversely impacts aquatic resources, to fully mitigate its impacts through the shoreline permitting process. The Suquamish Tribe will be notified on a project-by-project basis on all project proposals in the shoreline jurisdiction.

Refer to response to comment 1 of this letter for additional discussion on coordination with the Suquamish Tribe.

State of Washington
DEPARTMENT OF FISH AND WILDLIFE
Mailing Address: 600 Capitol Way N, Olympia, WA 98501-1091 • (360) 902-2200 • TDD (360) 902-2207
Main Office Location: Natural Resources Building, 1111 Washington Street SE, Olympia, WA

February 17, 2021

Nick Bond, Director
City of Port Orchard, Department of Community Development
216 Prospect Street
Port Orchard, Washington 98366

SUBJECT: Draft Environmental Impact Statement for the Proposed City of Port Orchard Draft Downtown and County Campus Subarea Plan

Dear Mr. Bond,

The Washington Department of Fish and Wildlife (WDFW) appreciates the opportunity to review the Draft Environmental Impact Statement (EIS) for the Proposed Downtown and County Campus Subarea Plan (plan).

We offer the following comments for your consideration at this time. For your convenience, the comments are provided in the following table:

Table 1. Washington Department of Fish and Wildlife Comments on Draft Environmental Impact Statement for the Proposed City of Port Orchard Downtown and County Campus Subarea Plan

Page #	Text	Comments	
2-5	The Subarea Plan was developed over an approximately eight-month process and represents integration of input from a broad range of stakeholders and interested parties as listed below.	Washington Department of Fish & Wildlife invites the City to include WDFW habitat program staff as technical reviewers and as stakeholders in plans related to the shoreline, waterfront, and critical areas. WDFW does not appear to have been included as a stakeholder in this plan.	**1** EA
2-7	Land Use/Relationship to Existing Plans and Policies • Population/Employment/Housing • Aesthetics/Visual Resources • Utilities • Transportation • Public Services	WDFW suggests that changes in land use along the waterfront could result in shoreline ecological impacts. These impacts should be addressed in the EIS. For example, stormwater and wastewater discharges to Sinclair Inlet could cause scour to important benthic habitats, could impact water quality, and could result in nutrient loading. The potential for these impacts should be assessed. Additionally, much of the shoreline downtown is armored with rip rap. The City should consider whether its land use decisions in this plan will perpetuate the impacts of that shoreline armor and seek opportunities to remove shoreline armor where possible.	**2** EA/ City
Chapter 2 general		There are several piped streams in the City that either flow beneath buildings or beneath vacant lots. Where possible, the City should aim to rezone those lots to open space to accommodate future daylighting of those streams. The pipes are likely nearing the end of their structural lifespans, and buildings on top of those pipes would be at risk of damage. Also, current state fish passage law requires many of those piped stream segments to be restored for fish passage. Encouraging development atop those pipes is creating a hazard for the property owners and potentially a future environmental liability. For example, there is a piped stream at the intersection of Port Orchard Blvd and Bay street and another one adjacent to Bethel Ave. WDFW recommends that the City inventory those piped streams and include them on the maps in this document. **All streams, piped or daylighted, within the subarea should be addressed as part of the EIS.**	**3** EA/ GGLO
3.1-3		Should Greenbelt be included in this list of zoning districts? It is a zone in the subarea…	**4** EA

3.1-6	Sinclair Inlet	While it is true that the Port Orchard waterfront is heavily altered, and the shoreline environment is highly degraded, this paragraph could acknowledge that the shoreline is not entirely devoid of any habitat function. Shorebirds, great blue herons, and bald eagles utilize the nearshore and mudflats for forage. Surf smelt and sand lance spawning is documented along much of the intertidal, and clams and other invertebrates utilize the area as well. Additionally, the nearshore is a migratory corridor for salmon. The opportunity to view wildlife foraging on the tideflats enhances the downtown recreational experience for residents and visitors, and the waterfront trail is frequented by birders and photographers. Kayakers and paddleboarders also enjoy these opportunities, and families and walkers enjoy access to the beach. Seasonally, recreational anglers also utilize Port Orchard beaches for salmon and cutthroat trout fishing.	**5** EA/ GGLO
3.1-8	Blackjack Creek	It would be worth adding that the Blackjack Creek riparian corridor has a major English ivy problem and that the Bay Street bridge is undersized and interrupts natural stream process and habitat connectivity. However, the habitat function of Blackjack Creek does not end at the Bay Street Bridge. As such, it would be appropriate for the urban conservancy zoning to continue north to include the Blackjack Creek estuary. The proposed residential zoning adjacent to the estuary is not compatible with the goals of the urban conservancy designation.	**6** EA/ GGLO
General	Sea Level Rise	The EIS does not appear to address the impact this subarea plan could have on the community's resilience to sea level rise. Because much of the downtown area is built on filled tidelands, these areas are especially vulnerable to sea level rise and flooding, as well as saltwater intrusion. WDFW recommends the City consider these impacts.	**7** EA/City

Thank you for considering these comments in your review. Please contact me at (360) 620-3601 to discuss any questions you might have.

Sincerely,

Brittany N. Gordon
WDFW Habitat Biologist
Brittany.Gordon@dfw.wa.gov

Response to Letter 2 – WDFW (Letter A)

Response to Comment 1

The comment requesting the WDFW Habitat Program staff be notified as a stakeholder for plans associated with projects in shoreline or critical areas is noted. The City will include WDFW as a stakeholder for planned projects associated with shoreline and critical areas.

Response to Comment 2

The comment regarding potential for new development under the Subarea Plan to increase the potential for stormwater and wastewater discharges to result in the potential for impacts to shorelines and Sinclair Inlet.

As indicated on page 3.4-12 of the Draft EIS, new development would be anticipated to primarily occur as redevelopment of currently developed properties, and any increase in impervious surfaces, and associated increase in stormwater runoff, would be limited. Stormwater quality would also be expected to improve incrementally as new development comes online that employ the Manual's BMPs for stormwater treatment.

As indicated on page 3.3-15 of the Draft EIS, the increase in sewage flow from increased Subarea Plan population would be approximately 0.03 percent of Peak Day flow, and with identified mitigation measures, significant sewage related impacts would not be anticipated.

Response to Comment 3

Existing streams within the Subarea Plan area are shown in Section 2 of the Subarea Plan. The figure on page 62 of the of the Subarea Plan has been revised to remove potential development from over existing streams, and highlights stream daylighting opportunities. The Subarea Plan also now includes a goal supporting the daylighting of existing piped streams, when feasible. This goal instructs that the next update to the Critical Areas Code should include provisions for buffering piped streams and providing restoration (daylighting) where feasible.

Response to Comment 4

The comment related to adding the Greenbelt zone to the list of zoning districts listed in Section 3.1 (Land Use).

As requested, the Greenbelt zone has been added to Section 3.1 of this Final EIS as provided below.

Greenbelt (GB) – The Greenbelt District is intended to protect sensitive natural resources and critical areas. Residential development up to one single-family residential unit per two acres is permitted. The maximum building height established for the GB zone is three stories/35 feet.

Response to Comment 5

The comment related to the Port Orchard waterfront is noted, and the below discussion has been added to Section 3.1 (Land Use) of the Final EIS.

> *Although the Port Orchard shoreline is heavily developed, the shoreline is not entirely devoid of any habitat function. Shorebirds, great blue herons, and bald eagles utilize the nearshore and mudflats for forage. Surf smelt and sand lance spawning is documented along much of the intertidal, and clams and other invertebrates utilize the area as well. Additionally, the nearshore is a migratory corridor for salmon. The opportunity to view wildlife foraging on the tideflats enhances the downtown recreational experience for residents and visitors, and the waterfront trail is frequented by birders and photographers. Kayakers and paddleboarders also enjoy these opportunities, and families and walkers enjoy access to the beach. Seasonally, recreational anglers also utilize Port Orchard beaches for salmon and cutthroat trout fishing.*

Response to Comment 6

The comment related to Blackjack Creek is noted. The discussion on Blackjack Creek provided on page 3.1-8 of the Draft EIS is based on discussion provided in the Port Orchard Shoreline Master Program (SMP). The updated discussion on Blackjack Creek is provided on page 3.1-8 and 3.1-29 of this Final EIS.

Response to Comment 7

The comment related to need for more discussion sea level rise is noted.

Please note that the City of Port Orchard has funded work to update its flood damage prevention code POMC 20.170 and will be adopting the latest FEMA flood elevation maps.

The City will also address frequently flooded areas in our next CAO update, potentially before 2024. The 2024 Comp Plan will also address climate change and sea level rise.

The 2021 SMP incorporates a number of new and/or revised goals and policies that are based on the findings and recommendations of the Sea Level Rise study:

SMP-GP-14 Discourage future non-water dependent development, including redevelopment and expansion of existing non-water dependent development in areas lying at or below the 100-year flood elevation, unless flood hazard is reduced by removing, moving, elevating, and/or building structures at new, higher elevations. Flood hazard reduction may also include adding freeboard to existing shoreline armor in areas that are frequently flooded (i.e. within a 100-year flood hazard area) landward of existing shoreline armor, in compliance with FEMA requirements for coastal flood protection structures.

SMP-GP-20 The City shall create and maintain for public reference and planning purposes a coastal flood risk map which shows the City's base 100 year coastal flood elevation areas at the time of map creation, and includes a future projection of any additional areas which have at least a 50% probability of being flooded within 20 years. This map shall be based on best available science provided by the State of Washington and shall be updated, at minimum, with each required periodic and comprehensive update of the City's shoreline master program.

SMP-GP-21 For each required periodic and comprehensive update to the City's shoreline master program, the City shall evaluate the program's coastal flood hazard reduction policies and development regulations, and coastal flood risk map, and shall revise them according to best available science provided by the State of Washington.

SMP-GP-22 The City should map all shoreline locations in which there are known contaminated sediments, and develop a long-term plan to evaluate and address those in need of attention due to risk of mobilization due to coastal flooding.

G-DR 13 As part of the City's shoreline permit application review process, all proposed development and redevelopment activities in the City's shoreline requiring a permit shall determine and disclose whether any sediment material on the development site, including fill, is contaminated and requires remediation to prevent spread of contamination through mobilization due to coastal flooding events. This requirement applies whether or not the contaminated area on the site will be disturbed as part of the development process. If contaminated sediment at risk of mobilization is determined to be present, the City shall require a remediation plan as a condition of shoreline permit approval. The City may require independent review at the applicant's expense of findings and recommendations regarding contamination and remediation, by a hydrologist, geologist, engineer or other qualified professional.

SMP-GP-38 The City should create specific development and building design standards for the downtown shoreline that address issues related to coastal hazards and impacts from future sea level rise, including but not limited to: coastal flooding, earthquake liquefaction and tsunami risk, saltwater intrusion, mobilization of contaminated sediments, and impacts to geologic hazard areas.

G-DR-39 During each periodic review of the City's shoreline master program, the City will evaluate its development and building design standards and revise them as needed for the downtown shoreline to protect against risks from sea level rise and coastal hazards *including but not limited to: coastal flooding, earthquake liquefaction and tsunami risk, saltwater intrusion, mobilization of contaminated sediments, and impacts to geologic hazard areas.*

Letter 3

State of Washington
DEPARTMENT OF FISH AND WILDLIFE
Mailing Address: 600 Capitol Way N, Olympia, WA 98501-1091 • (360) 902-2200 • TDD (360) 902-2207
Main Office Location: Natural Resources Building, 1111 Washington Street SE, Olympia, WA

February 17, 2021

Nick Bond, Director
City of Port Orchard, Department of Community Development
216 Prospect Street
Port Orchard, Washington 98366

SUBJECT: City of Port Orchard Draft Downtown and County Government Campus Subarea Plan

Dear Mr. Bond,

The Washington Department of Fish and Wildlife (WDFW) appreciates the opportunity to review the Draft Downtown and County Government Campus Subarea Plan (plan). We respect the challenge the City faces in crafting a document that is responsive to many competing and legitimate interests. Thank you for considering these comments for incorporation into the final plan.

While it is true that habitat conditions in the downtown Port Orchard area are heavily impacted by marinas, shoreline armoring, undersized water crossings, and development, it is also true that these impacted habitats still serve a variety of functions and support diverse populations of fish and wildlife species. Blackjack Creek provides habitat for Chinook, coho, and chum salmon and steelhead and cutthroat trout, as well as a variety of other fish and invertebrates. The Blackjack Creek estuary is an important transition zone for both adult and juvenile salmon, and the adjacent tidelands are a favorite foraging area for great blue herons and bald eagles. The intertidal beaches are spawning habitat for surf smelt and sand lance, and a variety of clams and other invertebrates provide forage for shorebirds. Marine mammals, including harbor seals and the occasional orca, can be spotted from the downtown waterfront as well. In short, the Port Orchard waterfront is far from a wasteland, and we want to celebrate and protect these natural resources together. 1 EA/ GGLO

These natural resources greatly enhance recreational opportunities in the downtown area as well. Seasonally, recreational salmon fishermen can be seen in waist-deep water trying to land a king 2 EA/ GGLO or coho. Children explore the beaches, flipping over rocks to find tiny crabs and other creatures. Paddleboarders and kayakers are visited by harbor seals, and photographers line the pedestrian trail to capture bald eagles and great blue herons as they forage at the mouth of Blackjack Creek.

2 Cont.

WDFW encourages the City to highlight these natural assets in the subarea plan, and we appreciate the proposed Environment and Open Space project list proposed in the draft plan. We would like to offer the following comments in a collaborative spirit for your consideration to further protect and perpetuate fish and wildlife habitat within the Port Orchard Downtown and County Government Campus subarea. For your convenience, these comments are provided in the table below.

Table 1. Washington Department of Fish and Wildlife Comments on the Draft Downtown and County Government Campus Subarea Plan (City of Port Orchard, October 28, 2020)

Page Number	Text	Comments	
9	Stakeholder Engagement	WDFW invites the City to include local habitat program staff as partners during development of future plans. Local habitat biologists have local knowledge and "on the ground" experience that could be an asset for protecting fish, wildlife, and habitat. WDFW was not included as a stakeholder during development of this plan.	3 EA
43	Map	There is another stream located adjacent to Bethel Ave, north of the roundabout at Mile Hill. Wild Fish Conservancy surveyed and mapped this stream and identified it as a Type F tributary to Blackjack Creek. This should be shown on the map.	4 GGLO
67	Map	WDFW encourages the City to consider full restoration of the Blackjack Creek to be a goal of the downtown subarea plan. Blackjack Creek is the highest quality stream system in the City of Port Orchard, with significant populations of salmon and trout. The Blackjack Creek estuary was historically ~465 feet wide. WDFW recommends that the City aim to restore the estuary to historic conditions over time. Creating a subarea plan that encourages residential housing in the footprint of the old estuary is not consistent with that goal. WDFW recommends the open space designation be expanded to include the full historical estuary area, as shown on the DNR historical shoreline maps (also referred to as T-sheets). The plan should accommodate full restoration of the Blackjack Creek estuary, including removal of all existing rip-rap.	5 GGLO/City
70	LUH-01	WDFW suggests that this policy would be best met by changing the shoreline designation around the Blackjack estuary to Urban Conservancy, as this area is ecologically connected to the rest of Blackjack Creek and provides crucial estuary functions, including serving as a transition zone for migrating salmon. Encouraging residential development adjacent to the estuary and confining the estuary to a width less than its historic ~465 feet is not consistent with the goal of environmental sustainability.	6 GGLO/City
76	Goal 5: Protect, enhance and maintain the values and functions of Port Orchard's natural areas, open spaces, and critical areas.	WDFW supports this goal and offers the following suggstions to help achieve this goal. To enhance shoreline ecological functions in the subarea, WDFW suggests that the City emphasize the importance of the following actions: planting riparian vegetation, especially trees, that naturally stabilize banks and shade the intertidal zone; removing hard armor where feasible; replacing hard armor with soft bank protection where feasible; reducing the footprint of hard armor (like revetments) and replacing with lower footprint alternatives (like vertical bulkheads pulled landward) where feasible; improving stormwater and wastewater treatment; daylighting piped stream channels; and restoring buffers for both marine and freshwater habitats. Another benefit to pulling armor landward is that it improves access to beaches at higher tides. Currently, most of the beaches in Port Orchard are only accessible at very low tides.	7 GGLO/City

78	Environment and Open Space Proposed Project List	WDFW commends the City on this list of proposed projects and would like to offer technical support in designing and implementing these projects. Additionally, WDFW recommends that the City include a goal to improve marine shoreline function along the waterfront over time by reducing the footprint of existing rock revetments, and by pulling revetments landward, removing, or replacing with softer alternatives where possible. Furthermore, WDFW recommends that Project number 8, Blackjack Estuary, be expanded to restore the estuary to its full historic footprint, or as close as possible, rather than continue to constrain the estuary.	**8**	GGLO/City
General	Sea Level Rise	WDFW recommends that this plan be evaluated for resiliency to sea level rise and associated challenges, including flooding and saltwater intrusion. The plan should be able to accommodate projected sea level rise within the planning timeframe and ideally, well beyond into the foreseeable future. Having a resilient plan will help protect both public and private investments, public safety, and the environment.	**9**	GGLO/City
General	Shoreline access	WDFW recommends that this plan include a goal to improve shoreline access for the public. Currently, most of the Port Orchard shoreline is only accessible at very low tides due to the rock revetments that have a huge footprint and occupy much of the "usable beach." The Port Orchard waterfront offers excellent recreational opportunities for fishing, beach walking, wildilfe viewing, kayaking and paddleboarding, and more. These opportunities would be greatly enhanced by reducing the footprint of existing armoring, pulling it landward, and removing or replacing with softer options where feasible. For example, a vertical seawall pulled landward has a much smaller footprint than a sloped revetment and could greatly increase the footprint of usable beach for people, as well as habitat for intertidal species.	**10**	GGLO/ City

Thank you for considering these comments in your review. Please contact me at (360) 620-3601 to discuss any questions you might have.

Sincerely,

Brittany N. Gordon
WDFW Habitat Biologist
Brittany.Gordon@dfw.wa.gov

Response to Letter 3 – WDFW (Letter B)

Response to Comment 1

The comment describing the wildlife habitat provided by Blackjack Creek and Blackjack Creek estuary is noted and concurred.

Response to Comment 2

The comment indicating the natural resources and recreational opportunities in the shoreline areas associated with downtown are noted and concurred.

Response to Comment 3

The comment requesting the WDFW Habitat Program staff be notified as a stakeholder for plans associated with projects in shoreline or critical areas is noted. The City will include WDFW as a stakeholder for planned projects associated with shoreline and critical areas.

Response to Comment 4

The comment regarding the stream located adjacent to Bethel Avenue is noted. The map on page 45 of the Subarea Plan has been updated to show the referenced stream.

Response to Comment 5

The City of Port Orchard has amended the recently adopted 2021 SMP to show the area along the mouth of Blackjack Creek at Etta Turner Park and Bay Ford to be Urban Conservancy. These areas had previously been designated as High Intensity. In addition, a restoration project at the mouth of Blackjack Creek is identified on page 81 of the Subarea Plan.

Response to Comment 6

The Subarea Plan envisions shoreline restoration and removal of existing paved areas within the existing shoreline buffer consistent with the requirements of the SMP. As indicated in Response to Comment 5 of this letter, area along the mouth of Blackjack Creek has been re-designated Urban Conservancy in the recently adopted 2021 SMP.

Response to Comment 7

In response to this comment, Goal 5 on page 70 of the Subarea Plan has been revised and expanded.

Response to Comment 8

The plan shown on page 82 of the Subarea Plan identifies a project to provide enhancement at this location. A new goal has been added to the Subarea Plan supporting efforts to acquire property for conservation and provide mitigation in and around Blackjack Creek estuary.

From: Dana Harmon <dana.harmon@msn.com>
Sent: Thursday, February 11, 2021 4:43 PM
To: CityClerk Mailbox <CityClerk@cityofportorchard.us>
Cc: Dana Harmon <dana.harmon@msn.com>; gerry harmon <harmon-phillips@att.net>
Subject: Went to Zoom meeting last night

And was told to contact city hall and give you my name and address and email so I will be contacted in the future when the city or planning commission or PSRC has meetings, surveys, studies or plans that impact or change the zoning of the downtown area which is my neighborhood.

My name is Dana Harmon, my husband's name is John Phillips. We live at 824 Kitsap Street and own our home. We have lived here since 1986 and owned our home seven years before we moved into it. My email is dana.harmon@msn.com.

1 EA

My husband and I strongly believe that this current EIS to determine new zoning boundaries and land use designation should be halted until ALL stake holders/ property owners have been properly contacted and notified by email, US Postal mailings or door to door hand outs describing what the City is about to do. At the ZOOM Meeting on 9/1/2020, when individuals reported that they, as long term residents and owners of properties in the downtown area had not received any notification…. The explanation that the County Property tax list of property owners was used as the master mailing list for persons to contact. That indicates there is something seriously wrong with your system of resident notification. Nor were we notified that the City was conducting a survey that would be used in determining the options for re-zoning and changing land use options. It is terribly disturbing that of 5 door to door neighbors that all own their own homes…three of us were not notified. Although the US Postal System is having their own management issues it seems strange that if notifications were sent to us we should have received them, as the City uses the US Postal system to distribute our water and sewer bill, which I do receive with no delays. I also receive my annual Property Tax Bill from the County via the US Postal Service, which indicates that I am correctly identified on their master list.

2 EA

Please let me know that you have received this email so I know I will be contacted in the future and please pass this recommendation on to whoever is in charge of the current re-zoning and land use project.

3 EA

Respectfully,
Dana Harmon
John Phillips
824 Kitsap Street
Port Orchard, WA 98366
dana.harmon@msn.com

Response to Letter 4 – Dana Harmon

Response to Comment 1

The comment regarding public noticing is noted.

Response to Comment 2

The comment regarding public noticing is noted. Based on comments related to previous public noticing and mailing, an additional mailing was provided. The additional mailing included graphics to more clearly indicate that the mailing was associated with official business of the City of Port Orchard.

Response to Comment 3

Comment noted.

Letter 5

John Lackey
PO Box 505
Port Orchard WA
98366

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FEB 18 2021

CITY OF PORT ORCHARD
COMMUNITY DEVELOPMENT

February 15, 2021

Nick Bond
Community Development Director
City of Port Orchard
216 Prospect Street
Port Orchard, WA 98366

Dear Mr. Bond,

This letter pertains to pages 2-15 to 2-23 of the draft Downtown and County Campus Subarea Plan and concerns the impacts to the City of Port Orchard by the proposed courthouse expansion.

Kitsap County has a history of substandard development in the City of Port Orchard. As anyone who has visited the courthouse knows, parking is a mess. There are <u>zero</u> off-street public parking spaces that meet city design requirements. Over 25 years ago there were plans, approved by the Port Orchard city Council and City of Port Orchard Planning Department, in place for structured parking to accommodate the needs of the courthouse. Those plans have long since been abandoned. **1** EA

When the current public parking lots were built, the city of Port Orchard Planning Department and City Council did not require the developer (Kitsap County) to meet minimum design standards that were on the books at the time. The loophole the city used was to grant Temporary Use Permits and then later convert those "temporary uses" to permanent use. The City and the County can do better, but let's face the facts- there is nothing that would prevent new TUPs. In fact, Kitsap County submitted a proposal in 2017 for a large project which would have used TUPs in lieu of design standards, the 2017 proposal was denied but it is likely more TUP requests or requests for Special Use Permits will be made in the future. **2** EA/ City

The Downtown and County Campus Subarea Plan should include the fact that, at this time, the proposed courthouse expansion can not be built as illustrated; Kitsap County simply does not own the property needed. Illustrations and descriptions of the proposal omit the fact that the developer does not own some key, large, privately owned and developed parcels; property ownership should be transparently presented to the public and included in all planning documents. **3** EA/ City

Over the last 20 years Kitsap County has presented unrealistic proposals to the City of Port Orchard with the goal of effecting land use and zoning decisions. The proposed courthouse expansion is yet another example of this practice; for planning purposes it is important to look beyond artistic renderings (especially those provided by the developer) and have an honest look the type of development that is most likely to occur. **4** EA

If the County Campus Subarea Plan is intended to "*be considered in making final decisions concerning the Subarea Plan, as well as new policies and regulations, and the site-specific Kitsap County Courthouse project proposed within the Subarea Plan area.*" Then a decision needs to be made: will Kitsap County will be held to the City of Port Orchard design standards? or will they continue to be allowed to ignore the important design standards the city has adopted.

John Lackey

Response to Letter 5 – John Lackey

Response to Comment 1

The comment regarding existing parking constraints at the Kitsap County Courthouse is noted.

Response to Comment 2

The comment regarding parking constraints and use of temporary permits are noted. Please note that the City of Port Orchard no longer offers temporary use permits, and does not offer special use permits.

As indicated on pages 2-16 and 2-20 of the Draft EIS, the proposed Kitsap County Courthouse Project includes a new 432 stall surface parking lot in Phase 0 and a three-level parking structure with 450 stalls in Phases 3 and 4.

Letter 6

February 17, 2021

Department of Community Development
216 Prospect Street
Port Orchard WA 98366

Attention: Members of the Planning Committee

Re: Public Comment – Draft EIS Subarea Plan

We are long-term homeowners in the orange dotted line portion of the Mitchell corridor.

- As part of our Tracy neighborhood earthquake preparedness, we've had speakers from KCDEM provide science-based predictions on damage to downtown Port Orchard in the event of a major earthquake. Their data predicts massive destruction to downtown. Will you be addressing earthquake and tsunami concerns in the subarea plan regarding life and property? **1** EA
- Bulb-out crosswalks are proposed on Sidney. Will they impair movement of emergency vehicles? **2** EA
- What is source of water for anticipated increase of new residents & commercial businesses, and will new stormwater systems empty into the bay? **3** EA
- Will there be adequate parking for the many uses of the downtown area? **4** Transp. Solutions & EA

We are not environmental experts but are concerned citizens and we bring these thoughts to your attention.

With appreciation for the opportunity to comment,

Marcia Stocking
209 Tracy Ave S
PO 98366

Fran Olin
219 Tracy Ave N #301
PO 98366

Nick & Elissa Whittleton
313 Tracy Ave N
PO 98366

Response to Letter 6 - Marcia Stocking/Fran Olin/Nick & Elissa Whittleton

Response to Comment 1

The comment regarding earthquake and tsunami conditions is noted.

Nearly all of the areas of fill located waterward of Bay Street are mapped as moderate seismic hazard areas and as such require geotechnical evaluation as part of any proposed development under POMC 20.162 Article V. In addition, these reports are also required and their recommendations must be followed under the City's building codes if construction is proposed on fill material. Furthermore, the City has worked with KCDEM on the development of the Kitsap County 2015 Comprehensive Emergency Management Plan, the Hazard Identification and Vulnerability Assessment, and the 2019 Multi-Hazard Mitigation Plan.

Response to Comment 2

The use of bulb-out crosswalks is primarily intended to increase pedestrian safety and slow vehicle speed. Bulb-out crosswalks are utilized throughout the region and would not impair emergency vehicle access.

Response to Comment 3

As indicated on page 3.4-5 of the Draft EIS, water service within the area is provided by the City of Port Orchard. The City's water system is managed by and maintained by the City of Port Orchard Public Works Department.

As indicated on page 3.4-4 of the Draft EIS, *the City of Port Orchard has adopted the 2012 Western Washington Stormwater Manual to govern the design and construction of stormwater management systems in the City.*

As indicated on page 3.4-12 of the Draft EIS, "*to the extent that potential development under Alternatives 2 and 3 continues to comply with the 2012 Western Washington Stormwater Manual, it is not anticipated that any existing stormwater system condition deficiencies would not be exacerbated, and in some cases would see some relief as reduced stormwater runoff rates "spread out" the flow from developed surfaces over a longer period of time. Stormwater quality would also be expected to improve incrementally as new development comes online that employs the manual's BMP's for stormwater treatment*"

Response to Comment 4

A major goal of the proposed Downtown Port Orchard Subarea Plan is to "Ensure that adequate parking is available to support the marina and allow for downtown businesses to thrive while promoting a walkable main-street character" (Goal CAP-02). The Subarea Plan also provides provisions for new structured parking opportunities for use by visitors and employees in the downtown area.

Summary of Comments Received at 2/2 Planning Commission Meeting -
Downtown Subarea Plan Draft EIS

Shahbaz Naftchi: I appreciate what is being done for the community in the subarea plan. Since I and my family moved to the area in 2005, there has been a lot of demographic change. A lot of people either have children or are planning to have children. These are good changes and we appreciate these efforts to make this area even better. **1** EA

Ann Wiggins: How will increased traffic from more development, and especially the County's courthouse project, affect her property on Melcher and her ability to drive to/through downtown? More traffic on Sidney could result in dangerous conditions for pedestrians at intersection crossings, and for people who park their cars on the street and then attempt to cross the street. Maybe temporary stop signs and other controls can be required for safe conditions during the courthouse project construction. **2** Transp. Solultions/ EA

Stanley Smith: Does the subarea plan address the shoreline pedestrian pathway? Will the City assist shoreline property owners whose properties are or will be affected by sea level rise? *(Note: these questions were answered in the meeting; the pathway will be constructed under an existing permit and is not part of the EIS scope, and the City is not proposing assistance for private property owners regarding sea level rise.)* **3** EA

Response to Transcript of Public Meeting

Response to Comment 1

The comment regarding the Subarea Plan is noted.

Response to Comment 2

The analysis prepared for the Draft EIS indicates that the Sidney Rd corridor will continue to meet Port Orchard Level of Service standards through 2045 under each development scenario. Pedestrian safety improvements, including Rapid Rectangular Flashing Beacons (RRFBs), may be considered at key crossing locations along Sidney Rd particularly near the Kitsap County Courthouse campus. Temporary traffic control during courthouse construction would be provided consistent with City of Port Orchard standards, including temporary stop signs and other control measures.

Response to Comment 3

As indicated verbally during the public meeting, the cited pathway is planned to be constructed under an existing permit and would occur with or without the proposed Subarea Plan.

Chapter 5

ACRONYMS & ABBREVIATIONS

CHAPTER 5
ACRONYMS & ABBREVIATIONS

Acronym/Abbreviation	Full Name
A	
AM	Ante Meridiem (Before Mid-day)
B	
BMP	Best Management Practice
BPMU	Business Professional Mixed-Use
C	
CAO	Critical Areas Ordinance
CC	Commercial Corridor
CH	Commercial Heavy
CI	Civic and Institutional
CMU	Commercial Mixed-Use
CY	Cubic Yards
D	
DEIS	Draft Environmental Impact Statement
DHOD	Downtown Height Overlay District
DOE	(Washington State) Department of Ecology
DOH	(Washington State) Department of Health
DS	Determination of Significance
DW	Downtown Mixed-Use
E	
EIS	Environmental Impact Statement
EMS	Emergency Medical Service
EMT	Emergency Medical Technician
F	
FEIS	Final Environmental Impact Statement
FAR	Floor Area Ratio
Ft.	Foot
G	
GPD	Gallons Per Day
GHG	Greenhouse Gas
GMA	Washington State Growth Management Act
GMU	Gateway Mixed-Use
GSP	General Sewer Plan
H	
HCM	Highway Capacity Manual
I	
IBC	International Building Code
In.	Inch
ITE	Institute of Transportation Engineers
L	
LOS	Level of Service
M	
MDD	Maximum Daily Demand

Acronym/Abbreviation	Full Name
MG	Million Gallons
MPS	Marina Pump Station
N	
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NW	Northwest
O	
OFM	(Washington State) Office of Financial Management
P	
PF	Public Facilities
PM	Post Meridiem (After Mid-day)
PR	Parks and Recreation
PSE	Puget Sound Energy
PSRC	Puget Sound Regional Council
R	
R2	Residential 2
RCW	Revised Code of Washington
S	
SEPA	State Environmental Policy Act
SKFR	South Kitsap Fire and Rescue
SKWRF	South Kitsap Water Reclamation Facility
SMP	Shoreline Master Program
SQ. FT.	Square Feet
STEP	Septic Tank Effluent Pump
T	
TWLT	Two-way Left-Turn Lane
U	
UGA	Urban Growth Area
V	
VPOD	View Protection Overlay District
W	
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation

Chapter 6
REFERENCES

CHAPTER 6
REFERENCES

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Chapter 7

DISTRIBUTION / NOTICE OF AVAILABILITY LIST

CHAPTER 7
DISTRIBUTION / NOTICE OF AVAILABILITY LIST

Federal Agencies

US Army Corp of Engineers

Naval Base Kitsap

State Agencies

WA State Department of Community, Trade & Economic Development

WA State Department of Natural Resources

WA State Department of Fish and Wildlife

WA State Department of Ecology

WA State Department of Ecology – SEPA NWRO

WA State Department of Archaeology and Historic Preservation

WA State Department of Transportation – Olympic Region

County Agencies/Departments

Kitsap County Department of Community Development – Steve Heacock

Kitsap Regional Council

Service Providers

South Kitsap Fire and Rescue

Kitsap Transit

Housing Kitsap

Puget Sound Energy

Kitsap Public Utility District

West Sound Utility District

Tribes

Suquamish Tribe

Cities

City of Bremerton Public Works and Utilities

City of Poulsbo Planning and Economic Development

City of Bainbridge Island

City of Bremerton

Other

Puget Sound Clean Air Agency

Adjacent Property Owners

Property owners within an 800-foot radius of the project area

Interested Parties

Interested parties that have signed up for the City's mailing list and/or provided comments on the project.

Appendix A

West Downtown Parking Demand Study

Prepared by Transportation Solutions, Inc.

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE

Technical Memorandum

TO: Mitch Ptacek, GGLO March 25, 2021

FROM: Andrew L. Bratlien, PE
Sam Garcia, EIT

SUBJECT: West Downtown Parking Analysis

This memo documents the results of the parking analysis associated with the Port Orchard Subarea Plan. The parking analysis is intended to forecast future parking demand in the West Downtown subarea to make informed adjustments to parking requirements.

STUDY AREA

The study area for this parking analysis consists of the West Downtown region of the Port Orchard Downtown subarea, which is bound by Bay St to the west, Kitsap St to the south, Sydney Ave to the east and the waterfront to the north. The study area is shown in **Figure 1**.

Figure 1: Parking Analysis Study Area

DEVELOPMENT FORECAST

Existing development in the West Downtown area consists of a mix of surface parking lots, low rise commercial buildings, and single-family homes. The existing commercial buildings include a mix of uses, including office, restaurant, retail, and banking.

GGLO staff provided a parcel-level development forecast based on the Downtown Subarea Plan preferred alternative. The forecast includes the redevelopment of several existing parcels to include mixed-use development, with a net increase of 25,482 square feet (sf) of commercial and institutional development and a net increase of 265 multi-family dwelling units. Existing and future development is summarized in **Table 1**.

Table 1. Downtown Subarea Development Summary

Land Use Category	Existing Development	Preferred Alternative
Retail/Restaurant	108,646 sf	90,555 sf
Office/Bank	63,088 sf	82,661 sf
Institutional	19,602 sf	43,602 sf
Non-Residential Total	*191,336 sf*	*216,818 sf*
Single-Family Residential	6 DU	6 DU
Multi-Family Residential	4 DU	269 DU
Residential Total	*10 DU*	*275 DU*

PARKING ANALYSIS

Peak Parking Demand

Peak parking demand in the study area was analyzed using the Institute of Transportation Engineers *Parking Generation Manual 5th Edition*. Peak parking demand was calculated for each development scenario based on the ITE 33rd percentile, average (50th percentile), and 85th percentile parking rates. This provides a reasonable range of possible peak parking demands for the study area.

Mixed-use developments were assumed to utilize shared parking facilities. Shared parking demand was calculated as the highest average parking demand based on a time-of-day analysis. Mixed-use developments with shared parking are summarized in **Table 2**.

Table 2. Mixed-Use Development Shared Parking Demand Summary

Development Name	Description	33rd %ile* Spaces	Average* Spaces	85th %ile* Spaces
Abadan Block	25,000 sf retail; 65 multifamily DU	100	128	154
Kitsap Bank Office	30,000 sf bank/office; 3,000 sf retail	86	105	143
SW PO Phase I LLC	200 multifamily DU; 4,000 sf retail; 4,000 sf restaurant	226	262	301

Parking demand, in spaces, based on ITE *Parking Generation Manual 5th Edition* data

Overall peak parking demand findings are shown in **Table 3**.

Table 3. West Downtown Total Parking Demand Summary

Development Scenario	33rd %ile* Spaces	Average* Spaces	85th %ile* Spaces
Existing Development	646	856	1,421
Preferred Alternative	828	1,069	1,514

Parking demand, in spaces, based on ITE *Parking Generation Manual 5th Edition* data

Port Orchard Parking Requirements

Off-street parking requirements for the study area were calculated based on Port Orchard Municipal Code (POMC) Chapter 20 and included the code revisions proposed in the Draft Downtown Subarea Plan. POMC parking requirements were applied to existing and future development, as identified by GGLO staff.

Most of the study area is located within the Downtown Mixed-Use zone (DMU). Parking requirements for the DMU are defined in POMC 20.124.130 and the draft Subarea Plan. DMU requirements include a reduced parking rate of 1 space per unit for all multifamily development and a parking exemption for all ground-floor uses.

The minimum off-street parking requirements are identified in **Table 4**.

Table 4. Port Orchard Municipal Code Parking Requirements

Development Scenario	Average ITE Demand[1]	POMC[2] Off-Street Requirement
Existing Development	856	395
Preferred Alternative	1,069	669

1. Average peak parking demand, per ITE *Parking Generation 5th Edition*
2. Port Orchard Municipal Code off-street parking requirement

Several factors may reduce the need for off-street parking supply relative to ITE average parking demand:

- Vehicles may utilize on-street parking which is available throughout the study area.
- Mixed-use developments often include uses which peak at different times of day, such as multifamily residential and commercial uses. The use of shared parking in these developments reduces parking requirements.
- Mixed-use development increases the likelihood of nonmotorized trips between uses, including walking, bike, or transit. For example, commercial uses may have reduced parking demand due to employees or customers living nearby and walking or biking.

FINDINGS

This analysis indicates that a total of 669 off-street parking spaces are required in the Preferred Alternative, based on POMC minimum parking requirements. This is significantly lower than the total anticipated parking demand of 1,069 spaces, based on ITE *Parking Generation* average peak parking rates.

The availability of on-street parking and the mixed-use nature of the West Downtown area reduce the need for off-street parking relative to total parking demand. Further analysis would be required to determine whether the proposed on- and off-street parking supply, including shared parking, is adequate to serve the future parking demand.

Appendix B

Kitsap County Courthouse Traffic Impact Analysis

Prepared by SCJ Alliance

Traffic Impact Analysis

Kitsap County Courthouse Expansion
Port Orchard, Washington

Prepared For:
Thomas Architecture Studios

Prepared By:
SCJ Alliance
Ryan Shea, PTP, Senior Transportation Planner
8730 Tallon Lane NE, Suite 200
Lacey, WA 98516
360.352.1465

April 2020

SCJ ALLIANCE
CONSULTING SERVICES

Traffic Impact Analysis

Project Information

Project:	Kitsap County Courthouse Expansion
Prepared for:	Amos Callender Thomas Architecture Studios 525 Columbia Street SW Olympia, WA 98501

Reviewing Agency

Jurisdiction:	City of Port Orchard

Project Representative

Prepared by:	SCJ Alliance 8730 Tallon Lane NE, Suite 200 Lacey, WA 98516 360.352.1465 scjalliance.com
Contact:	Eric Johnston, PE, Principal Ryan Shea, Senior Transportation Planner
Project Reference:	SCJ #1835.19
	Path: N:\Projects\1835 Thomas Architecture Studio, Inc\1835.19 Kitsap County Courthouse Master Plan & Permitting\Phase 01 - Civil Master Planning & Schematic Design\Traffic\Report\2020-0402 Kitsap County Courthouse TIA.docx

Signature

The technical material and data contained in this document were prepared under the supervision and direction of the undersigned, whose seal, as a professional engineer licensed to practice as such, is affixed below.

04/03/2020

Prepared by Ryan Shea, PTP, Senior Transportation Planner

Approved by Eric Johnston, PE, Principal

Table of Contents

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List of Figures

List of Appendices

1 Executive Summary

Kitsap County plans to expand their existing courthouse campus located at 614 Division Street in Port Orchard. The expansion will include increased courthouse space, parking modifications, and access revisions and will occur in four construction phases. The initial phase, Phase 0, will involve the construction of a new parking lot south of Taylor Street and conversion of Taylor Street from one-way to two-way. Phase 1 will add approximately 82,000 square feet of courthouse building space. Phase 2 will add approximately 57,000-sqft of additional courthouse building space. The full build is planned for the long-term and will include demolition of the existing 11,120-sqft Bullard building and reconstruction of the existing courthouse building, which is expected to reduce the overall square footage of the campus.

After completion of phase 2 the project is estimated to generate approximately 205 trip ends during the AM peak hour and 161 trip ends during the PM peak hour. This report has been prepared to provide the traffic analysis and project information for The City of Port Orchard to use in the environmental review of the project.

Over the course of the *Kitsap County Courthouse Expansion* project, the existing access will be revised as follows:

Phase 0 Access Revisions: As part of the construction of the new parking area, Taylor Street will be converted from a one-way westbound roadway to a two-way roadway. Austin Avenue between Taylor Street and Smith Street will be vacated and the only access to this new parking lot will be from Taylor Street.

Phase 1 Access Revisions: As part of Phase 1 the existing driveways on Cline Avenue will be closed and much of the existing parking lot located near Cline Avenue will be removed. Additionally, access to the existing parking lot near Sidney Avenue between Ada Street and Division Street will be consolidated and relocated to a single driveway, at Ada Street.

Phase 2 Access Revisions: No access revisions are planned for Phase 2. Access will be the same as described in Phase 0 and Phase 1.

Full Build Access Revisions: With completion of Phases 3 and 4, Division Street between Cline Avenue and Austin Avenue will be vacated and converted into a plaza area. At the intersection of Division Street and Austin Avenue, a traffic circle will be installed that provides a location for curbside pick-up drop-off and maintains connectivity, between Sidney Avenue and Cline Avenue, via Austin Avenue and Dwight Street.

Based on the analysis described in this report, all the study area intersections, roadway segments and pedestrian facilities are projected to operate at or better than the established intersection level of service standards for the 2023 and 2029 horizons with completion of Phases 1 and 2 of the *Kitsap County Courthouse Expansion* project.

2 Introduction

2.1 Project Overview

Kitsap County plans to expand their existing courthouse campus located at 614 Division Street in Port Orchard. The expansion will include increased courthouse space, parking modifications, and access revisions and will occur in four construction phases. The initial phase, Phase 0, will involve the construction of a new parking lot south of Taylor Street and conversion of Taylor Street from one-way to two-way. Phase 1 will add approximately 82,000 square feet of courthouse building space. Phase 2 will add approximately 57,000-sqft of additional courthouse building space. The full build is planned for the long-term and will include demolition of the existing 11,120-sqft Bullard building and reconstruction of the existing courthouse building, which is expected to reduce the overall square footage of the campus.

Figure 1 illustrates the site vicinity and the transportation network serving the project area.

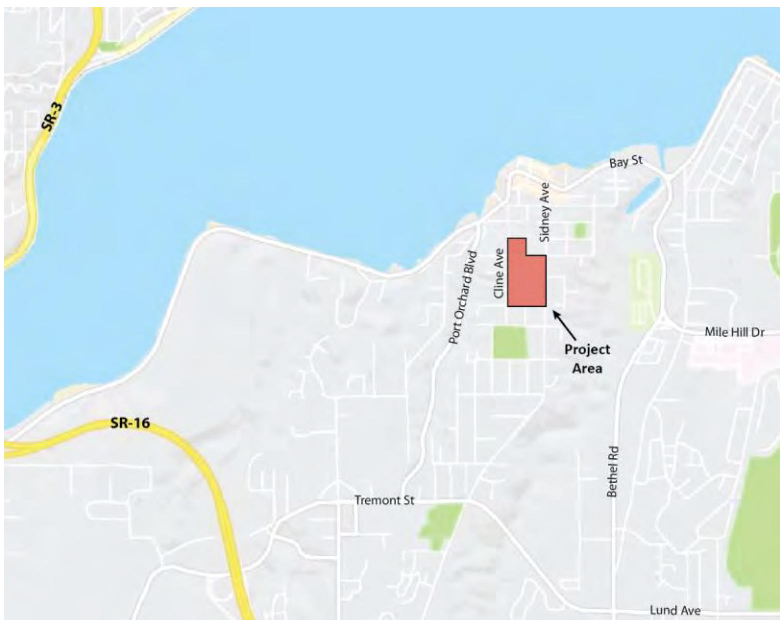

Figure 1. Site Vicinity Map

2.2 Study Context

This report has been prepared to provide the traffic analysis and project information for the City of Port Orchard in reviewing the development proposal. The report describes the existing and forecasted operation of the following study area intersections:

- Bay St at Kitsap St
- Kitsap St at Cline Ave
- Bay St at Sidney Ave
- Kitsap St at Sidney Abe
- Dwight St at Cline Ave
- Division St at Cline Ave
- Division St at Sidney Ave

- Ada St /Sweany St at Sidney Ave
- Taylor St at Cline Ave
- Taylor St at Sidney Ave
- Tremont St at Sidney Ave

Operational analysis has been prepared for existing 2019 AM and PM peak hour conditions and forecasted 2023 and 2029 AM and PM peak hour conditions with and without completion of the development.

2.3 Traffic Scoping Analysis

A traffic scoping letter was submitted to the City of Port Orchard on February 7, 2020 which documented the proposed expansion characteristics. The City reviewed this letter and responded with elements to be included in this traffic impact analysis report. The City's scoping letter response e-mail is included in **Appendix A**.

3 Project Description

3.1 Development Proposal

The existing Kitsap Courthouse campus is located in Port Orchard, south of SW Bay Street and between Port Orchard Boulevard and Bethel Road SE. The main campus consists of several buildings totaling approximately 340,000 square feet. The campus primarily consists of the following buildings:

- Administration building
- Public Works building
- Courthouse building
- Jail building
- Bullard building
- Family Support Services (located off-site)

There are several existing parking areas serving the campus with driveways primarily located on Cline Avenue, Sidney Avenue, Division Street, and Taylor Street. In addition, 2-hour on-street parking is available on most adjacent streets. Taylor Street currently operates as a one-way westbound road.

The proposed *Kitsap County Courthouse Expansion* project is planned to occur as follows:

Phase 0 Construction: Phase 0 is planned for completion at the end of 2021 and will include construction of a new parking area south of Taylor Street between Cline Avenue and Sidney Avenue.

Phase 1 Construction: Phase 1 is planned for completion in 2023 and will include approximately 82,000 square feet of additional courthouse space and adaptive reuse of the existing courthouse building. The courthouse expansion will remove existing parking located along Cline Avenue. However, in addition to the parking added in Phase 0, additional parking will be constructed at the corner of Division Street and Sidney Avenue.

Phase 2 Construction: Phase 2 is planned for completion in 2029 and will include approximately 57,000 square feet of additional courthouse space.

Full Build Construction: Phases 3 and 4 are anticipated to be long-range improvements. For this report both of these long-range stages are being considered the Full Build scenario, with an assumed completed year of 2040. The Full Build includes reconstruction of the existing courthouse and is expected to result is less total square footage. It will also involve demolishing the existing Bullard building with the uses being moved to the main Courthouse building. The preliminary site plan of the full build construction is provided on **Figure 2.**

Over the course of the *Kitsap County Courthouse Expansion* project, the existing access will be revised as follows:

Phase 0 Access Revisions: As part of the construction of the new parking area, Taylor Street will be converted from a one-way westbound roadway to a two-way roadway. Austin Avenue between Taylor Street and Smith Street will be vacated and the only access to this new parking lot will be from Taylor Street.

Phase 1 Access Revisions: As part of Phase 1 the existing driveways on Cline Avenue will be closed and much of the existing parking lot located near Cline Avenue will be removed. Additionally, access to the existing parking lot near Sidney Avenue between Ada Street and Division Street will be consolidated and relocated to a single driveway, at Ada Street.

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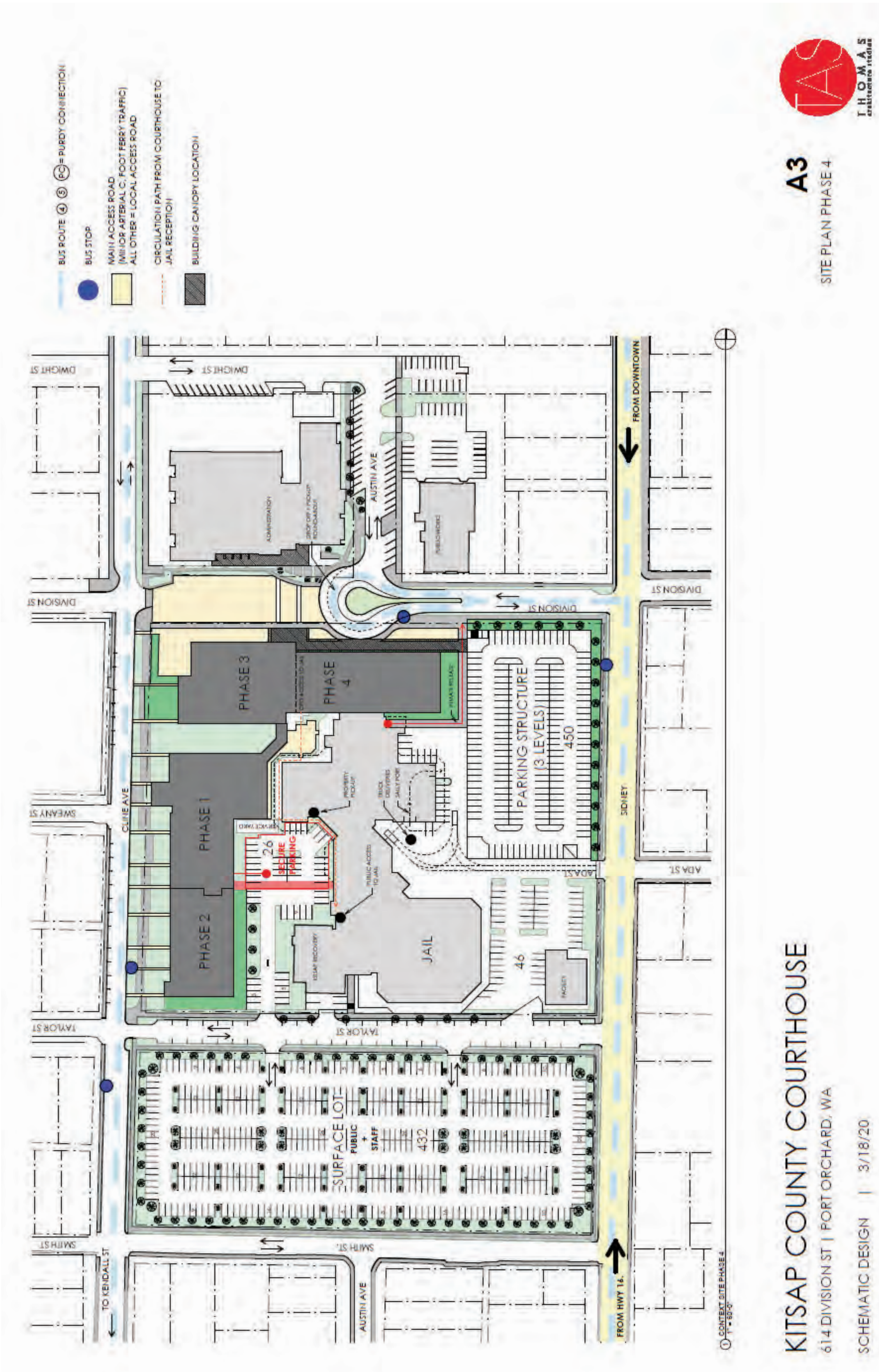

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Kitsap County Courthouse Expansion
Traffic Impact Analysis

Figure 2
Preliminary Site Plan

4 Existing Conditions

4.1 Area Land Uses

The *Kitsap County Courthouse Expansion* project is located in Port Orchard, south of Bay Street and between Port Orchard Boulevard and Bethel Road. Adjacent land uses are primarily residential properties. Commercial and office properties are located north of the site along Bay Street.

4.2 Roadway Inventory

4.2.1 Bay Street/SR 166

Bay Street, in the study area, is a three-lane roadway that travels east-west, providing one lane in each direction with a two-way-center-left-turn-lane. The roadway is classified a principal arterial by City of Port Orchard and has paved shoulders, curb, gutter and sidewalks along both travel lanes. In the study area, Bay Street has a posted speed limit of 25 mph.

4.2.2 Cline Avenue

Cline Avenue is a two-lane roadway that runs north-south in the study area. The roadway has on-street parking, curb, gutter, and sidewalks along both travel lanes and has a posted speed limit of 25 mph.

4.2.3 Sidney Avenue

Sidney Avenue is a two-lane roadway that runs north-south in the study area. The roadway is classified a minor arterial by City of Port Orchard. In the study area, Sidney Avenue has on-street parking, curb, gutter, and sidewalks along both travel lanes and has a posted speed limit of 25 mph.

4.2.4 Kitsap Street

Kitsap Street is a two-lane roadway that runs east-west in the study area. The roadway has on-street parking, curb, gutter, and sidewalks along both travel lanes and has a posted speed limit of 25 mph.

4.2.5 Division Street

Division Street is a two-lane roadway that runs east-west along the project frontage. The roadway has on-street parking, curb, gutter, sidewalks and midblock crosswalks.

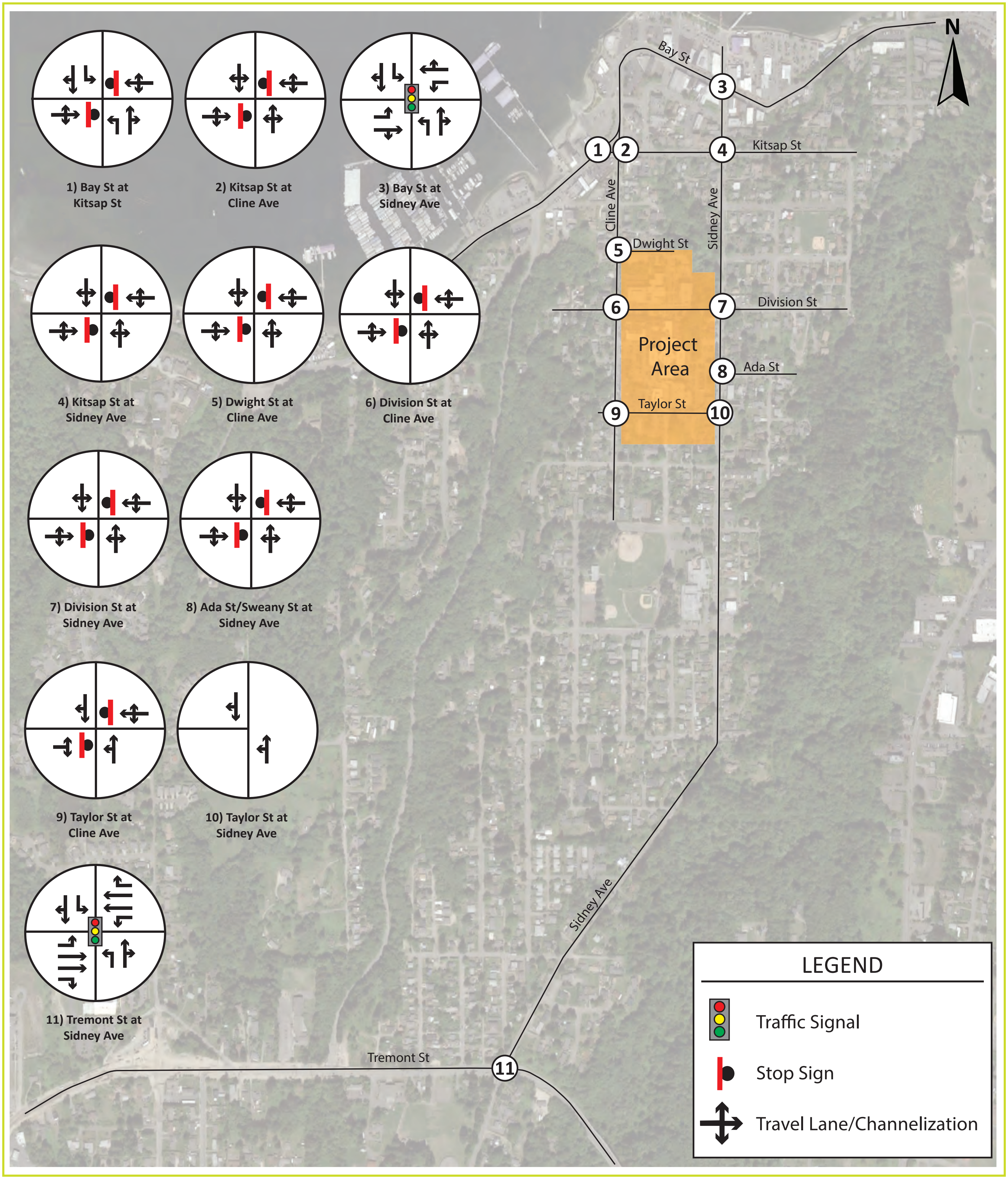
4.2.6 Taylor Street

Taylor Street is a one-way, one-lane roadway that runs east to west along the project frontage. The roadway provides on-street parking, curb, gutter, and sidewalks along both sides of the road.

4.2.7 Tremont Street

Tremont Street is a four-lane roadway that runs east-west in the study area providing two travel lanes in each direction. The roadway is classified a minor arterial by City of Port Orchard. In the study area, Tremont Street has curb and gutter along both sides of the road and sidewalks along the eastbound travel lane. The roadway has a posted speed limit of 35 mph. West of the study area, Tremont Street provides connections to and from SR 16.

A summary of the intersection channelization and control type for each of the study intersections is provided in **Figure 3**.



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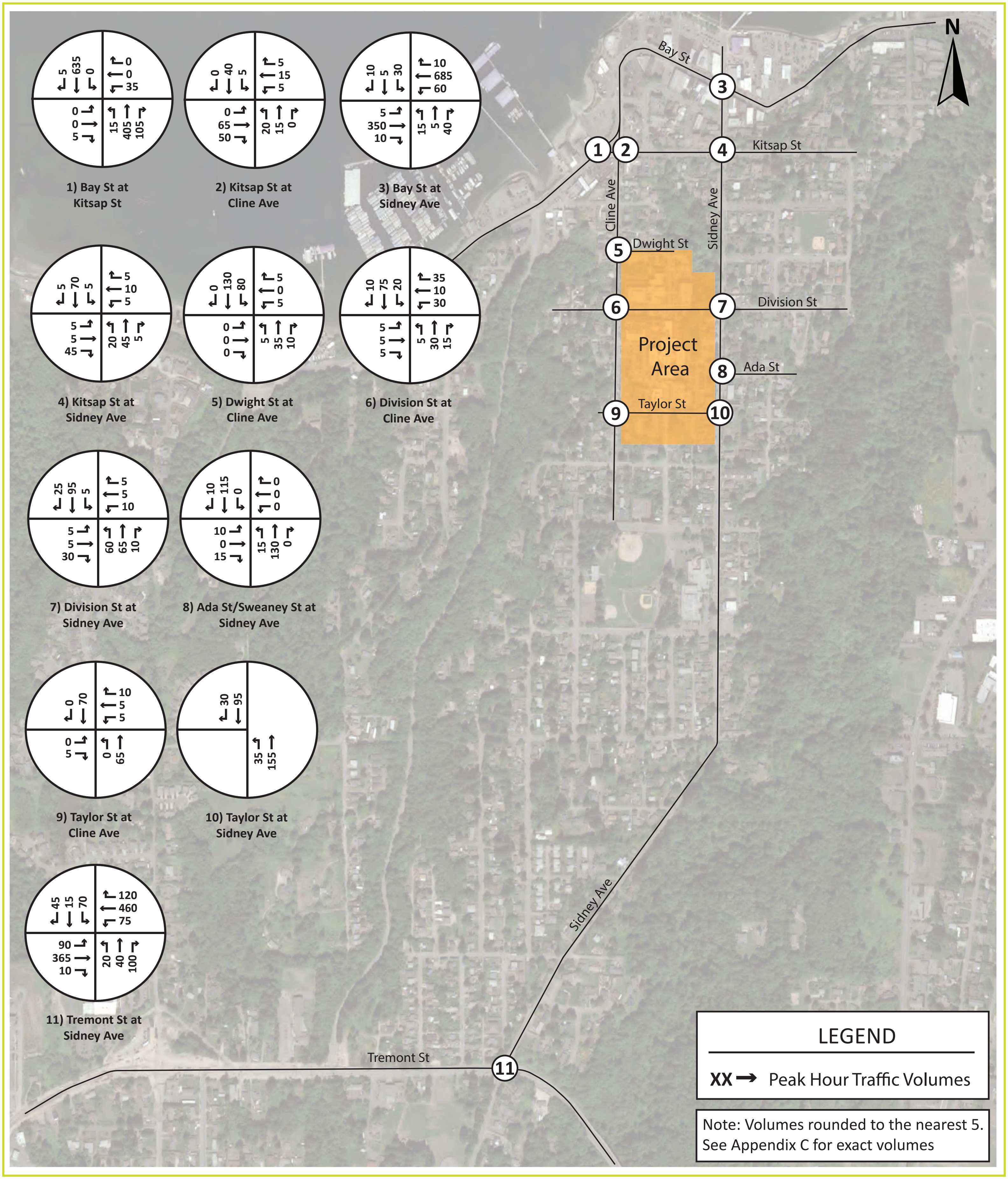
Kitsap County Courthouse Expansion
Traffic Impact Analysis

Figure 3
Existing Channelization

4.3 Traffic Volume Data

Traffic Count Consultants (TC2), a transportation data collection service, provided AM and PM peak period turning movement counts at all of the study intersections. The counts were conducted on October 01, 2019 and March 08, 2020 between 7:00 am and 9:00 am for the morning peak period and between 4:00 pm and 6:00 pm for the evening peak period.

The existing 2019 AM peak hour traffic volumes are provided on **Figure 4**. The PM peak hour volumes are provided on **Figure 5**. The turning movement count diagrams are provided in **Appendix B**.



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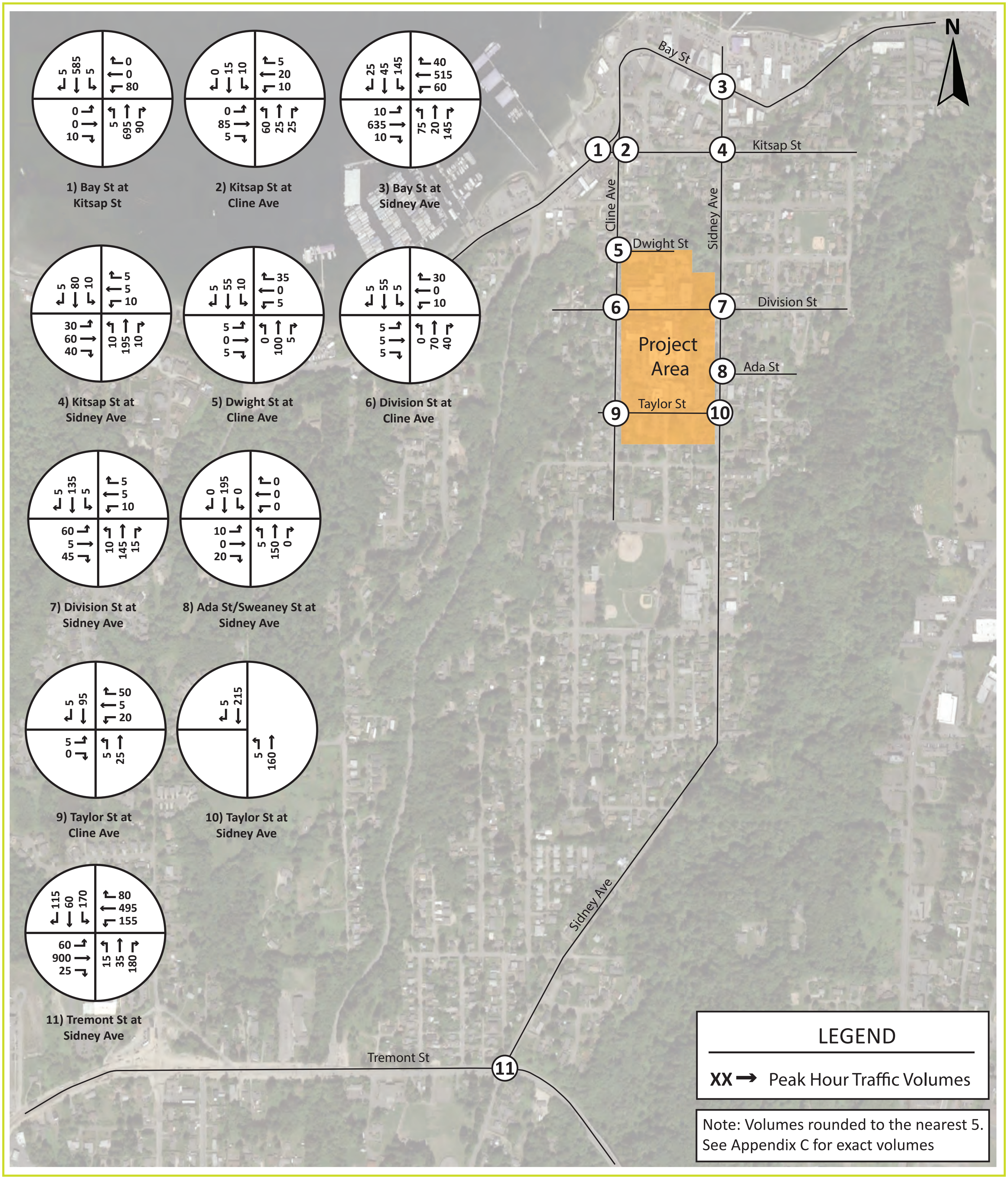
Kitsap County Courthouse Expansion
Traffic Impact Analysis

Figure 4
Existing 2019 AM Peak Hour Traffic Volumes



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Kitsap County Courthouse Expansion
Traffic Impact Analysis

Figure 5
Existing 2019 PM Peak Hour Traffic Volumes

4.4 Crash History

The Washington Department of Transportation provides crash data for study area roadways. The data was collected over the five-year span between January 1, 2014 and December 31, 2018 and reviewed for the study area intersections. The total crashes were assessed by severity and type and crash rates were calculated for each intersection.

4.4.1 Crash Severity

Of the 37 reported crashes that have occurred at all of the study intersections approximately 80% were property damage only, with 6 crashes identified as possible injury and 2 as minor injury. There were no reported crashes with an injury severity worse than minor injury.

The crashes by severity are provided in **Table 1**.

Table 1. Existing Crashes By Severity For Study Intersections

Intersection	Fatal	Serious Injury	Minor Injury	Possible Injury	Property Damage Only	Unknown	Total
Bay St/Kitsap St	0	0	1	0	2	0	3
Kitsap St/Cline Ave	0	0	0	1	2	0	3
Bay St/Sidney Ave	0	0	0	1	6	0	7
Kitsap St/Sidney Abe	0	0	0	0	3	0	3
Dwight St/Cline Ave	0	0	0	0	0	0	0
Division St/Cline Ave	0	0	1	0	1	0	2
Division St/Sidney Ave	0	0	0	0	1	0	1
Ada/Sweany/Sidney Ave	0	0	0	0	0	0	0
Taylor St/Cline Ave	0	0	0	0	1	0	1
Taylor St/ Sidney Ave	0	0	0	0	1	0	1
Tremont St/Sidney Ave	0	0	0	4	12	0	16
Total Crashes	**0**	**0**	**2**	**6**	**29**	**0**	**37**

4.4.2 Crash Type

The most common crash types at the study intersection were entering at angle and rear-end crashes. Most of the rear-end crashes occurred at one of the two traffic signals within the study area. Three of the reported crashes involved a pedestrian/bicyclist. These were each at different locations and, based on the results in Table 1, did not result in anything worse than a minor injury.

The total crashes by crash type are provided in **Table 2**.

Table 2. Existing Crashes By Collision Type For Study Intersections

Intersection	Struck Ped/Bicyclist	Struck Object	Entering at Angle	Rear-end	Sideswipe	Other	Total
Bay St/Kitsap St	1	0	1	1	0	0	3
Kitsap St/Cline Ave	0	0	3	0	0	0	3
Bay St/Sidney Ave	1	2	1	3	0	0	7
Kitsap St/Sidney Abe	0	0	2	0	0	1	3
Dwight St/Cline Ave	0	0	0	0	0	0	0
Division St/Cline Ave	1	0	0	0	0	1	2
Division St/Sidney Ave	0	0	1	0	0	0	1
Ada/Sweany/Sidney Ave	0	0	0	0	0	0	0
Taylor St/Cline Ave	0	0	1	0	0	0	1
Taylor Sr/ Sidney Ave	0	0	0	1	0	0	1
Tremont St/Sidney Ave	0	2	3	6	3	2	16
Total Crashes	3	3	12	11	3	3	**37**

4.4.3 Intersection Crash Rates

None of the existing crash rates exceeded 0.47. The intersection crash rates are provided in **Table 3**.

Table 3. Study Intersection Crash Rates

Intersection	5-year Crash Total	ADT	5-year Crash Rate
Bay St/Kitsap St	3	14,640	0.11
Kitsap St/Cline Ave	3	2,580	0.21
Bay St/Sidney Ave	7	17,170	0.22
Kitsap St/Sidney Abe	3	4,640	0.35
Dwight St/Cline Ave	0	2,620	0.00
Division St/Cline Ave	2	2,340	0.47
Division St/Sidney Ave	1	3,160	0.17
Ada/Sweany/Sidney Ave	0	2,930	0.00
Taylor St/Cline Ave	1	1,510	0.36
Taylor Sr/ Sidney Ave	1	3,190	0.17
Tremont St/Sidney Ave	16	22,900	0.38

4.4.4 Crash Data Summary

Overall, approximately 80% of all the reported crashes were classified as property damage only (no apparent injury). There were no serious injuries or fatalities reported. The remaining 20% of crashes resulted in suspected minor injury or possible injury. Approximately 60% of the reported crashes were classified by the collision type as entering at angle or rear-end.

There were three crashes reported that were associated with a pedestrian or bicyclist, with suspected minor injury as the highest severity. The crashes occurred at three different intersections and are described below:

- Bay St at Kitsap St – The crash report indicates the bicyclist failed to grant right-of-way to the vehicle who struck the bicyclist while making a left turn. A suspected minor injury was reported.
- Bay St at Sidney Ave – The crash report states the vehicle failed to yield to the pedestrian and struck the pedestrian while making a right turn. No apparent injury was reported.
- Division St at Cline Ave - The crash report states the vehicle failed to yield to the pedestrian and struck the pedestrian while making a left turn. A suspected minor injury was reported.

The reported crash data and the intersection crash rates do not indicate geometric deficiencies.

4.5 Transit

Kitsap Transit serves four transit stops located along the project frontage, served by routes 4 and 5. Route 4 serves three stops at the project site, two stops located on the northern property frontage along Division St and one stop located along Cline Avenue near the employee parking lot. Route 5 serves one stop on the northern property frontage along Division, one stop located along Sidney Avenue near a Courthouse Campus parking lot and one stop located along Cline Avenue near the employee parking lot.

Route 4 provides connections to and from Port Orchard ferry dock, Kitsap county Courthouse, Givens community Center, work release/youth service center and the Harrison Medical Center with service from approximately 5:30 am to 7:00 pm on weekdays and 10:00 am to 6:00 pm on Saturdays. Route 5 provides connections to and from Port Orchard ferry dock, Kitsap County Courthouse, givens Community Center, Cedar Heights Junior High and Sedgwick Landing with service from approximately 7:00 am to 7:00 pm on weekdays and from 10:00 am to 5:30 pm on Saturdays.

4.6 Non-motorized Transportation

The current City of Port Orchard comprehensive plan identifies major segments that will comprise non-motorized network. Bay Street, Sidney Avenue and Tremont Street are the study area roadways identified, each as bike lane/sidewalk routes. Of these three roadways only Sidney Avenue provides direct access to the existing Kitsap Courthouse campus. As described above, Sidney Avenue currently provides continuous sidewalks within the study area on both sides of the road. The campus is served by multiple low volume roadways in addition to Sidney Avenue, including Cline Avenue, Division Street and Taylor Street. Each of these additional roadways also provides continuous sidewalk on both sides of the road. There are several striped crosswalks intersections and multiple mid-block crosswalks. None of these adjacent roadways currently provide bicycle lanes.

5 Project Traffic Characteristics

The project-related characteristics having the most effect on area traffic conditions are peak hour trip generation and the directional distribution of traffic volumes on the surrounding roadway network.

5.1 Site-Generated Traffic Volumes

Vehicle trip generation is typically estimated using the trip generation rates contained in the current edition of the Trip Generation Manual by the *Institute of Transportation Engineers (ITE)*. However, the current (10th) edition of the Trip Generation Manual does not contain any land use categories that fit the existing courthouse campus. To prepare an estimate of the traffic for the proposed expansion, AM and PM peak period counts were collected at each of the campus access points to determine the existing trip generation characteristics of the site. The data was collected for two days, Monday September 30th and Tuesday October 1st. The total entering and exiting volumes during the AM and PM peak hours are provided in **Table 4.**

Table 4. Existing Kitsap Courthouse Site Traffic

Count Day	AM Peak Hour			PM Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total
Monday *(9/30/2019)*	485	245	730	75	302	377
Tuesday *(10/1/2019)*	377	127	504	68	342	410
Average	**431**	**186**	**617**	**72**	**322**	**394**

During the PM peak hour both count days contained similar volumes. To create an existing PM peak hour trip generation rate for the site, the average traffic totals were used.

During the AM peak hour, the Monday site traffic was significantly higher than Tuesday. Due to the weekly jury duty reporting schedule, Mondays often experience higher levels of traffic on the courthouse campus. Many people reporting for jury duty are dismissed after Monday, which creates lower, more normalized traffic levels the rest of the week. As a result, the Monday count was not used for creating an existing AM peak hour trip generation and only the Tuesday totals were used.

Using the traffic volume counts collected at the site access points and the total existing square footage of the courthouse campus, existing trip generation rates for the AM and PM peak hours were calculated. These rates, as well as the existing inbound and outbound percentages, are provided in **Table 5**.

Table 5. Existing Trip Generation Characteristics for the Kitsap Courthouse Campus

Peak Period	Unit	Existing Size	Trip Rate	Enter %	Exit %
AM peak hour of Adjacent Street	1,000 sqft	343.163	1.148	18%	82%
PM peak hour of Adjacent Street	1,000 sqft	343.163	1.469	75%	25%

The total trip generation expected from the project is calculated by applying the unit measure for each phase of the expansion to the appropriate existing trip generation rate. The trip generation for the proposed *Kitsap County Courthouse Expansion* is shown in **Table 6** and **Table 7** below. Phases 3 and 4, or Full Build, is excluded because it is planned to result in less total square footage than Phase 2. Therefore, Phase 2 presents the highest potential impact in terms of traffic.

Table 6. AM Peak Hour Project Trip Generation

Project Phase	Size	Total Trips	Enter	Exit
Phase 1	82.66	121	91	30
Phase 2	57.24	84	63	21
Total	139.90	205	154	51

Table 7. PM Peak Hour Project Trip Generation

Project Phase	Size	Total Trips	Enter	Exit
Phase 1	82.66	95	17	78
Phase 2	57.24	66	12	54
Total	139.90	161	29	132

5.2 Site Traffic Distribution and Assignment

The directional distribution of traffic to and from the proposed project was calculated using the traffic volume counts collected at the site access points.

As part of Phase 0, a significant portion of the courthouse campus parking, which is accessible from Cline Avenue, will be relocated to the south end of the campus. This parking field will be equally accessible from Cline Avenue and Sidney Avenue. To account for this parking relocation the assignment of traffic to/from the north has been adjusted, with a higher portion of site traffic expected to use Sidney Avenue. The assignment of traffic associated with the courthouse expansion was also adjusted to reflect the anticipated change to Taylor Street from a one-way road (westbound) to a two-way road.

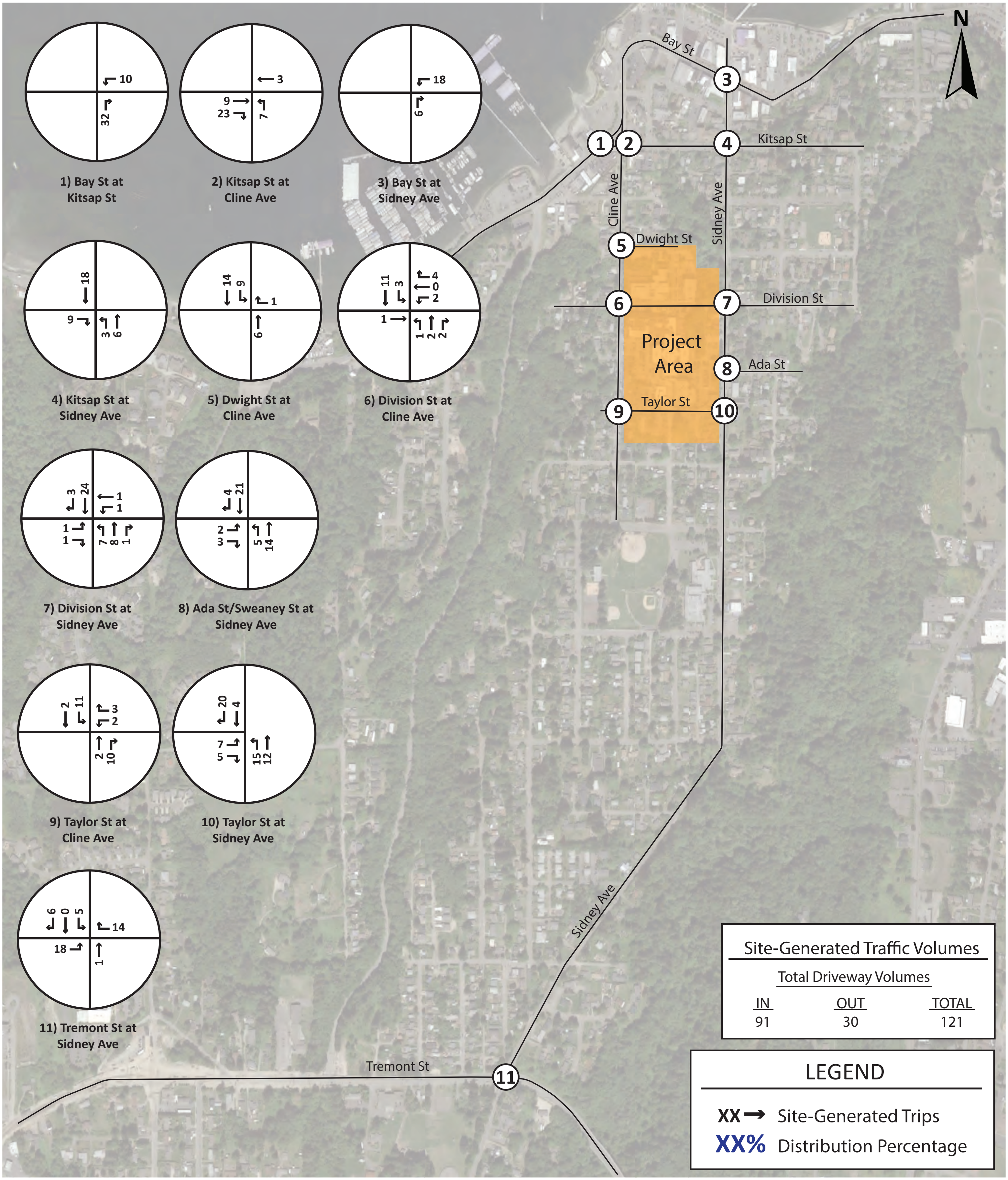
Figure 6 and **Figure 7** show the site generated traffic volumes for Phase 1 while **Figure 8** and **Figure 9** show the site generated traffic volumes for Phase 1 and Phase 2 combined.

5.3 Pedestrian Access

The area surrounding the project site provides well developed pedestrian facilities in the form of sidewalks and transit stops. It is anticipated that pedestrians accessing the project site will largely be from people utilizing the public transportation system and by employees and visitors traveling between courthouse campus office buildings.

Kitsap Transit serves four transit stops located along the project frontage, served by routes 4 and 5. Service route 4 serves three stops at the project site, two stops located on the northern property frontage along Division St and one stop located along Cline Avenue near the employee parking lot. Route 5 serves one stop on the northern property frontage along Division, one stop located along Sidney Avenue near a Courthouse Campus parking lot and one stop located along Cline Avenue near the employee parking lot.

As part of the redevelopment of the courthouse campus on-site sidewalk connections will be provided between the different campus buildings and the surrounding street frontages. These non-motorized paths are shown on the site plan depicted in Figure 2.



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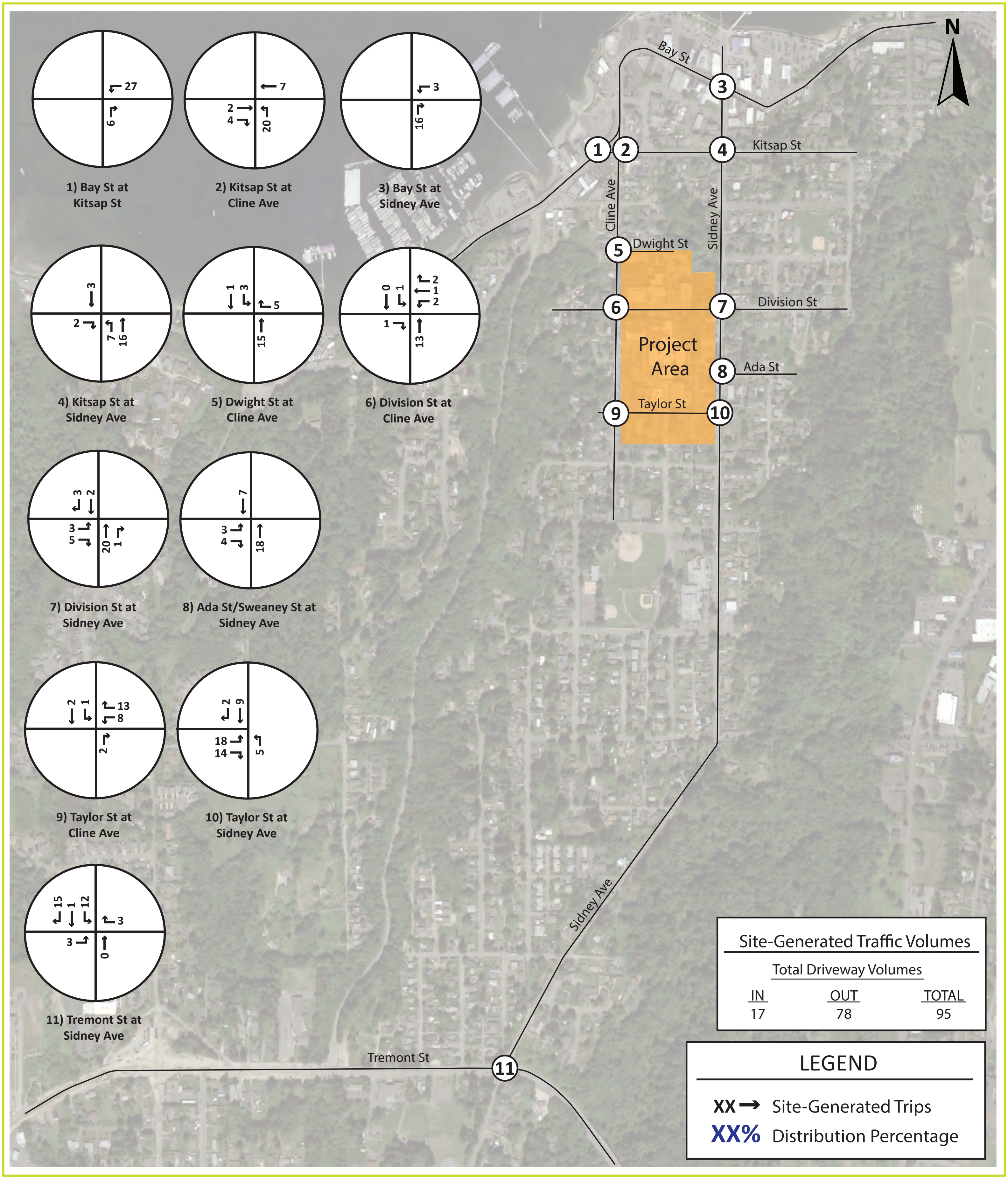
Kitsap County Courthouse Expansion
Traffic Impact Analysis

Figure 6
AM Peak Hour Site Generated Traffic Volumes - Phase I



Kitsap County Courthouse Expansion
Traffic Impact Analysis

Figure 7
PM Peak Hour Site Generated Traffic Volumes - Phase 1

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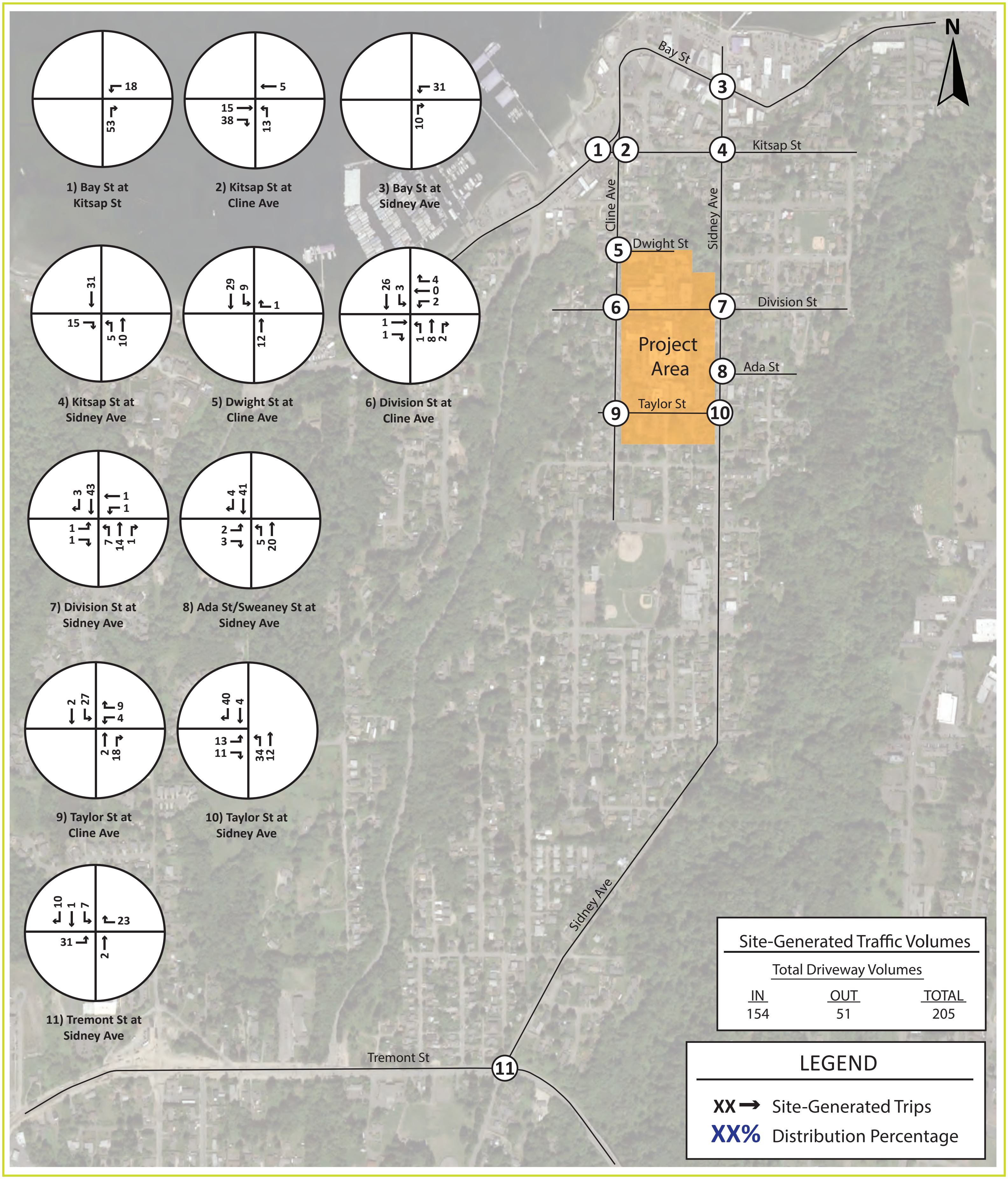

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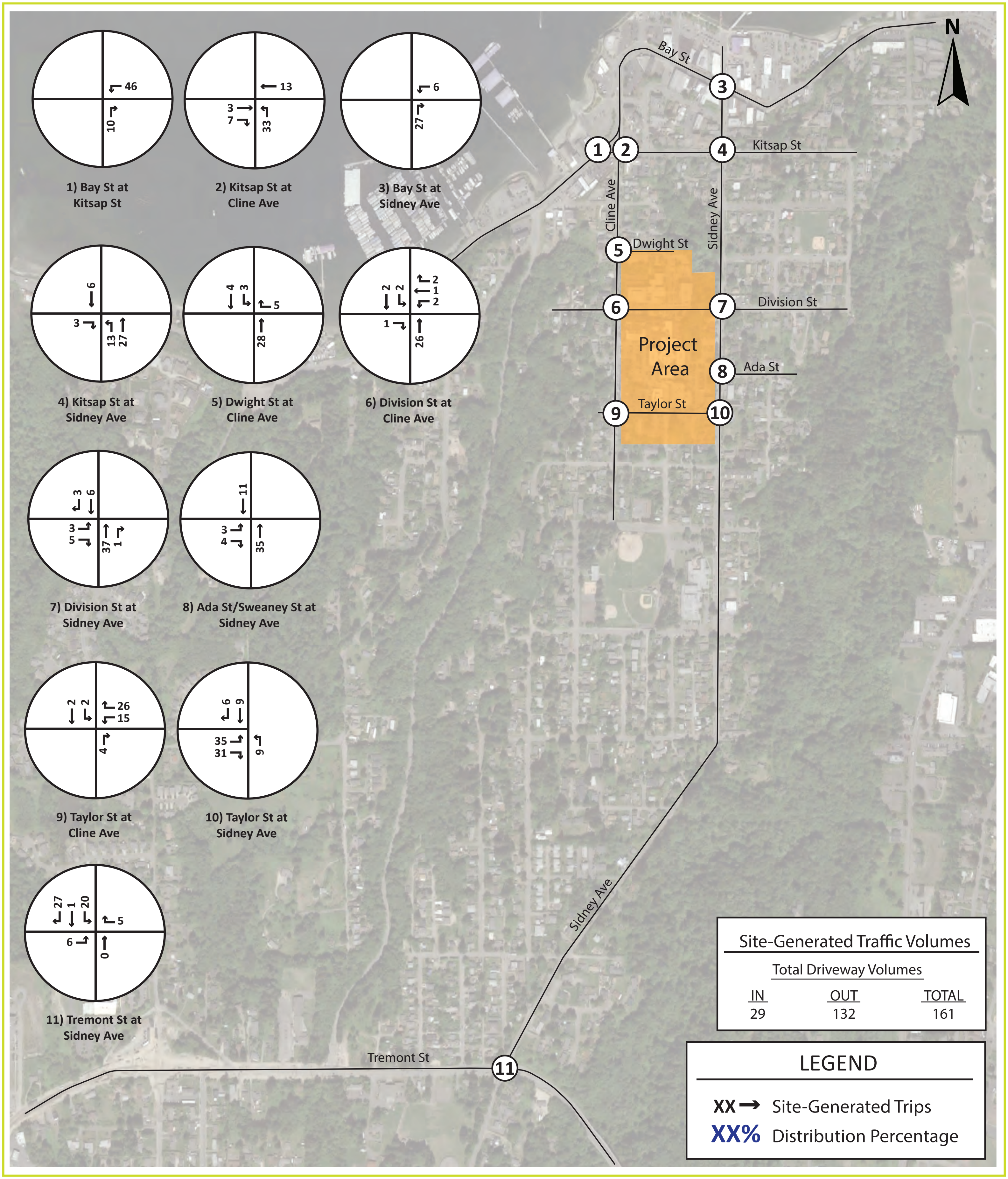
Kitsap County Courthouse Expansion
Traffic Impact Analysis

Figure 8
AM Peak Hour Site Generated Traffic Volumes - Phase I & II



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Kitsap County Courthouse Expansion
Traffic Impact Analysis

Figure 9
PM Peak Hour Site Generated Traffic Volumes - Phase I & II

6 Future Traffic Conditions

6.1 Roadway Network Improvements

The City's comprehensive plan identifies the following improvements within the study area:

- Cline Avenue – the City's 6-year TIP (2016-2021) includes a project to rehabilitate the roadway pavement and replace the sidewalk on the west side of the street, in the segment from Kitsap Street to Dwight Street.
- Tremont/Sidney Signal Improvements – signal improvements including protected/permitted LT phasing

The roadway rehabilitation project was not considered in the operational analysis. The improvements at the Tremont/Sidney intersection were planned to address a long-range deficiency. The City has indicated that the current operational analysis of the intersection no longer projects a deficiency. Given this current projection the traffic signal improvement was not included in the intersection analysis.

6.2 Future Traffic Volumes

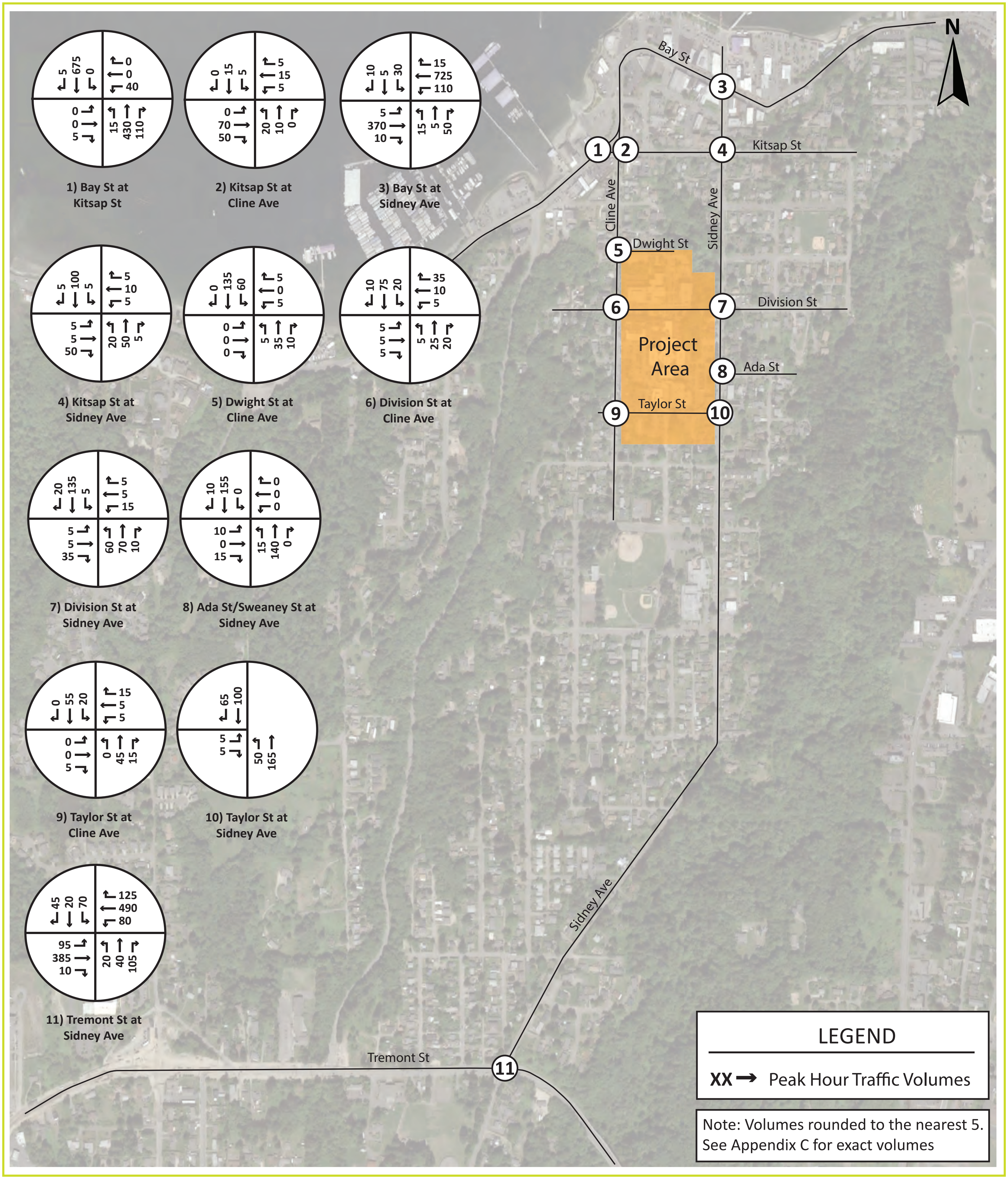
The City of Port Orchard provided, through their traffic consultant, three synchro files that contained their existing 2019, projected 2025 and projected 2040 PM peak hour traffic volumes. These volumes were provided for the Sidney Avenue corridor. The projected 2025 traffic volume forecasts included all pipeline projects in the City and the projected 2040 volumes reflect the current comprehensive plan forecasts.

Using the existing 2019 and projected 2025 volumes received from the City the growth rate for the Sidney Avenue corridor was calculated. This growth rate was used to grow the recently collected 2019 and 2020 PM peak hour turning movement volumes up to the 2023 volume horizon. To determine a growth rate for the remaining study intersection the overall growth between the 2019 and 2025 volumes sets was calculated. Including the pipeline volumes, the Sidney Avenue corridor is projected to grow at approximate 2% per year. Subtracting the pipeline volumes, the annual growth is approximately 1%. For the PM peak hour this 1% annual growth rate was used for the remaining study intersections to prepare the 2023 baseline volumes. For the AM peak hour the growth rate of 2%, which includes the pipeline project volumes, was used to prepare the 2023 baseline volumes.

To determine a long-range growth rate for the 2029 horizon the 2040 forecast volumes were used. An annual growth rate of 1% was calculated between the 2025 and 2040 forecast volumes. This growth rate was used for all the study intersections in both peak hours to prepare the 2029 baseline volumes.

The projected 2023 traffic volumes without the proposed *Kitsap County Courthouse Expansion* are shown on **Figure 10 and 11**. These volumes do not include any courthouse expansion traffic but do include the access revisions planned in Phase 0. The projected 2023 traffic volumes with Phase 1 of the project are shown on **Figure 12 and Figure 13**. The projected 2029 traffic volumes without Phase 2 of the *Kitsap County Courthouse Expansion* are shown on **Figure 14** and **Figure 15**. The projected 2029 traffic volumes with Phase 1 and Phase 2 are shown on **Figure 16** and **Figure 17**.

The traffic volume calculations for the study intersections are included in **Appendix C**.



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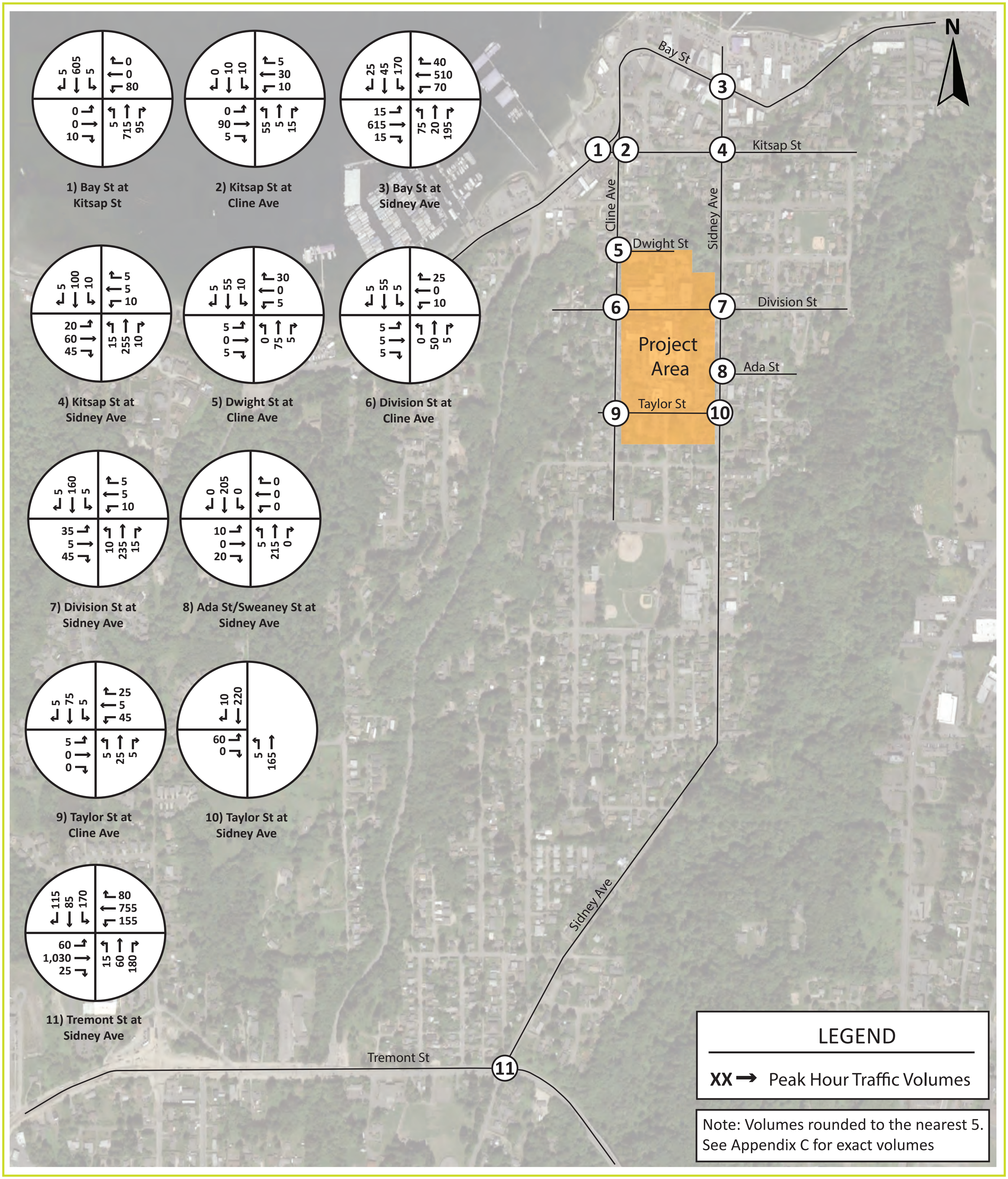
Traffic Impact Analysis

Figure 10
Projected 2023 AM Peak Hour Traffic Volumes Without Project



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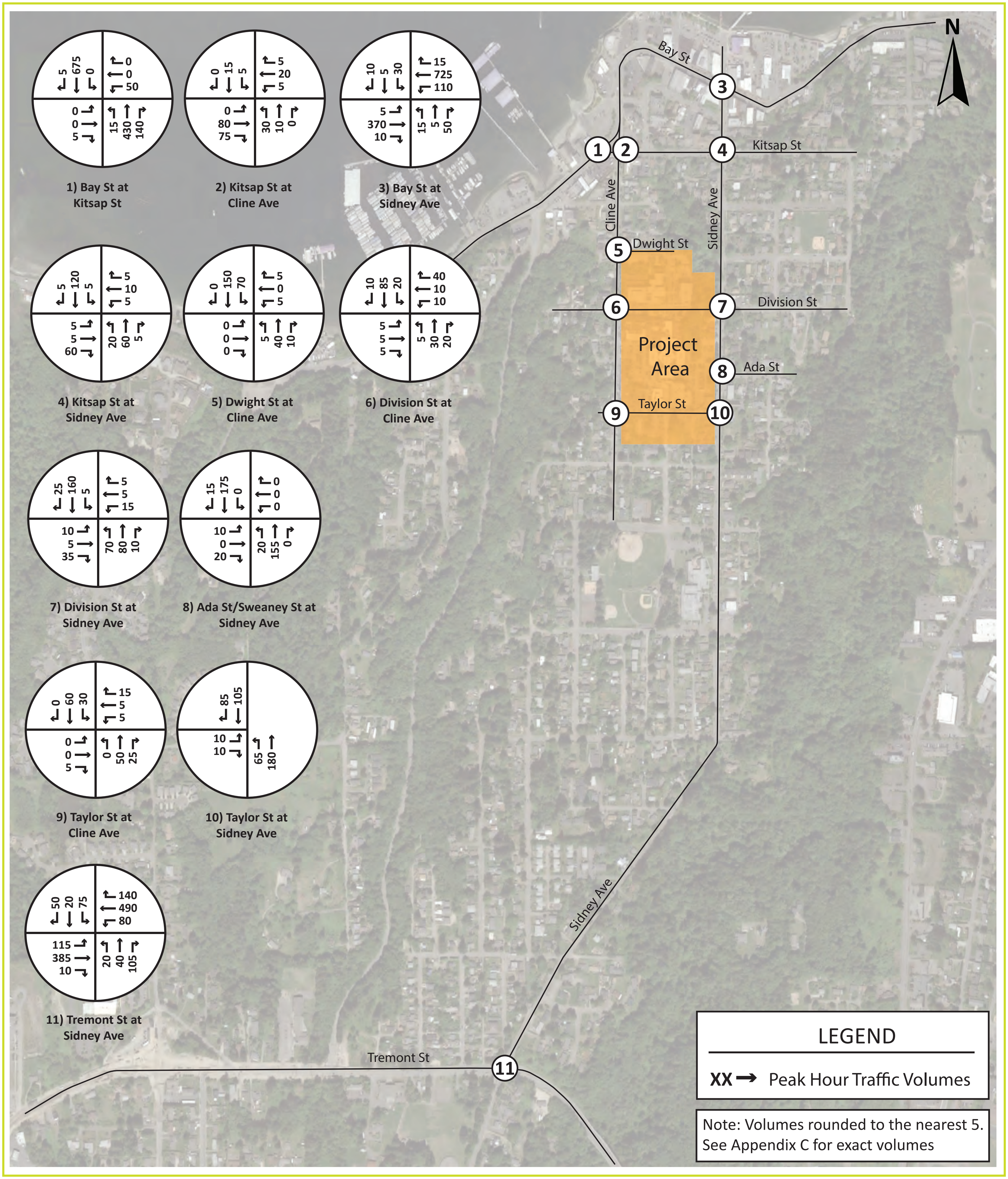
Traffic Impact Analysis

Figure 11
Projected 2023 PM Peak Hour
Traffic Volumes Without Project



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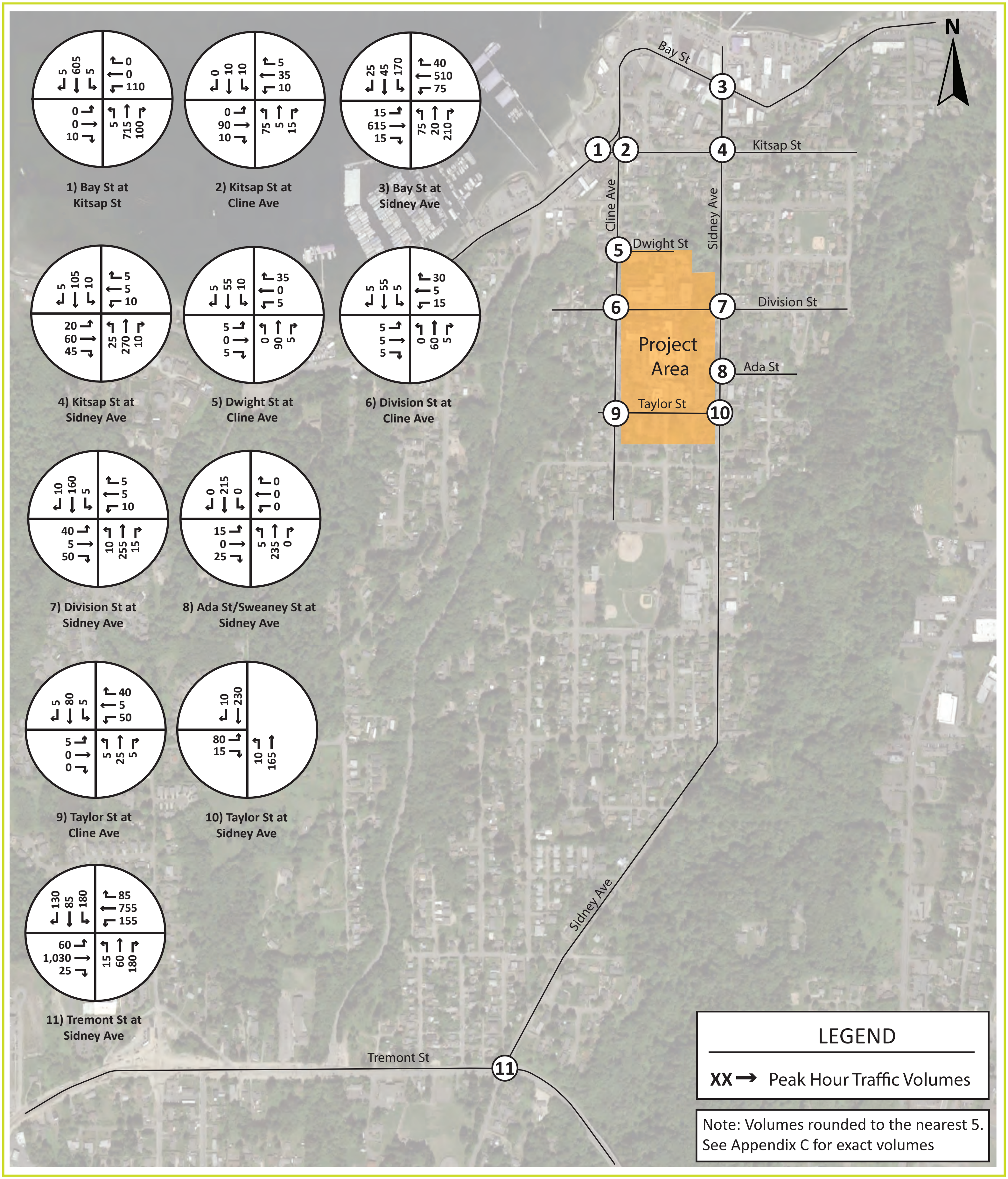
Kitsap County Courthouse Expansion
Traffic Impact Analysis

Figure 12
Projected 2023 AM Peak Hour Traffic Volumes With Phase I



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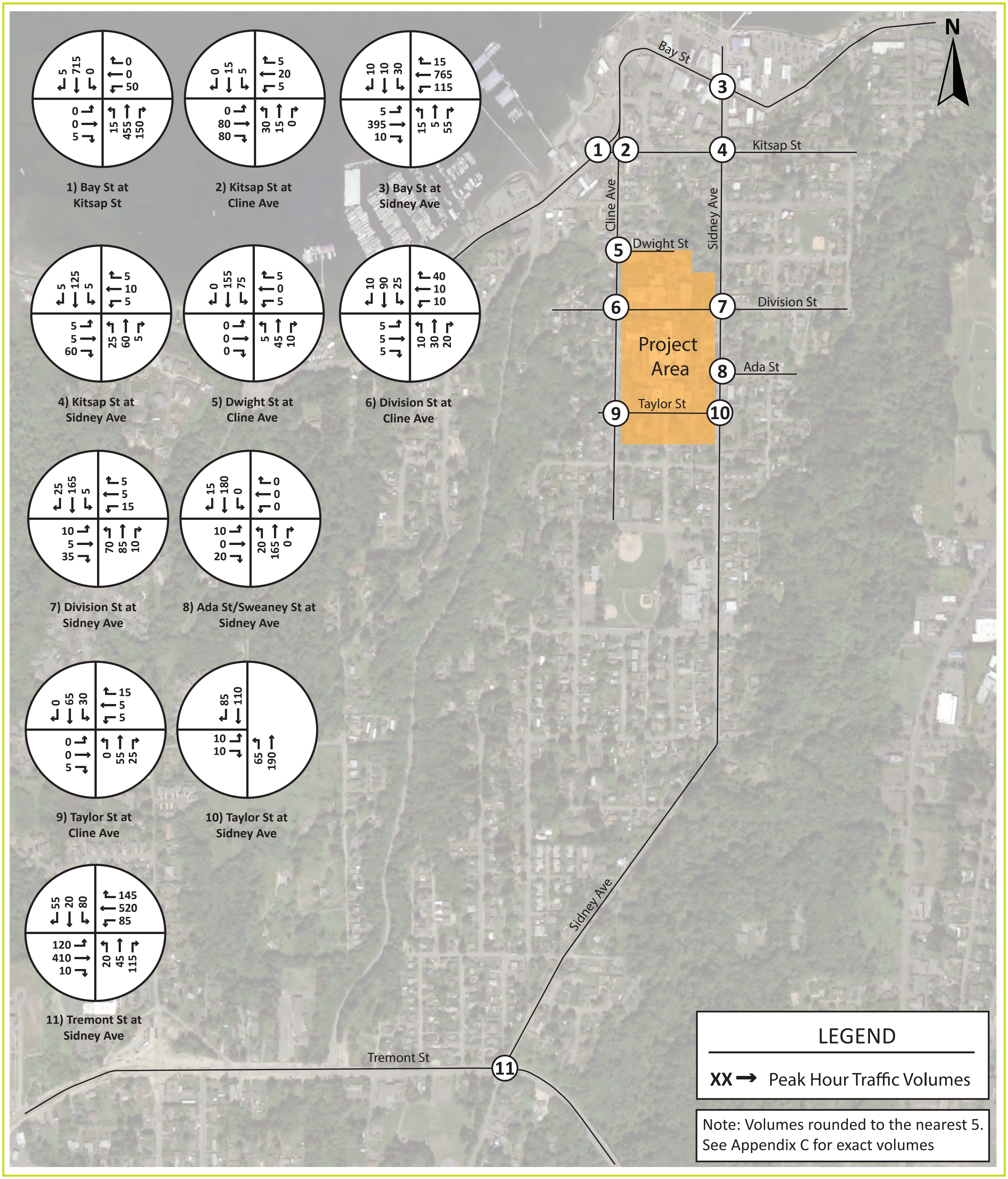
Kitsap County Courthouse Expansion
Traffic Impact Analysis

Figure 13
Projected 2023 PM Peak Hour Traffic Volumes With Phase I



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Kitsap County Courthouse Expansion
Traffic Impact Analysis

Figure 14
Projected 2029 AM Peak Hour Traffic Volumes Without Phase II

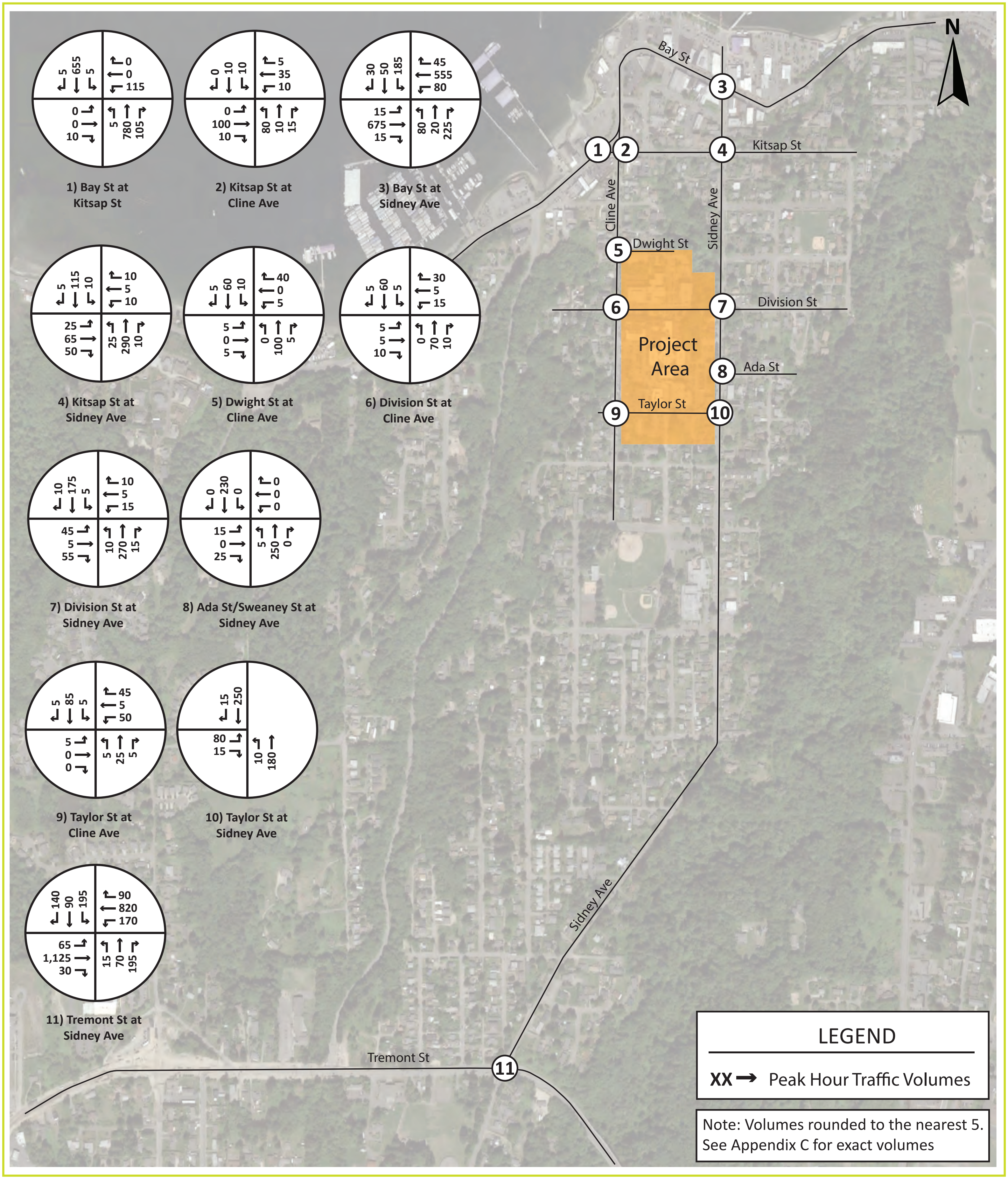

Figure 15
Projected 2029 PM Peak Hour Traffic Volumes Without Phase II

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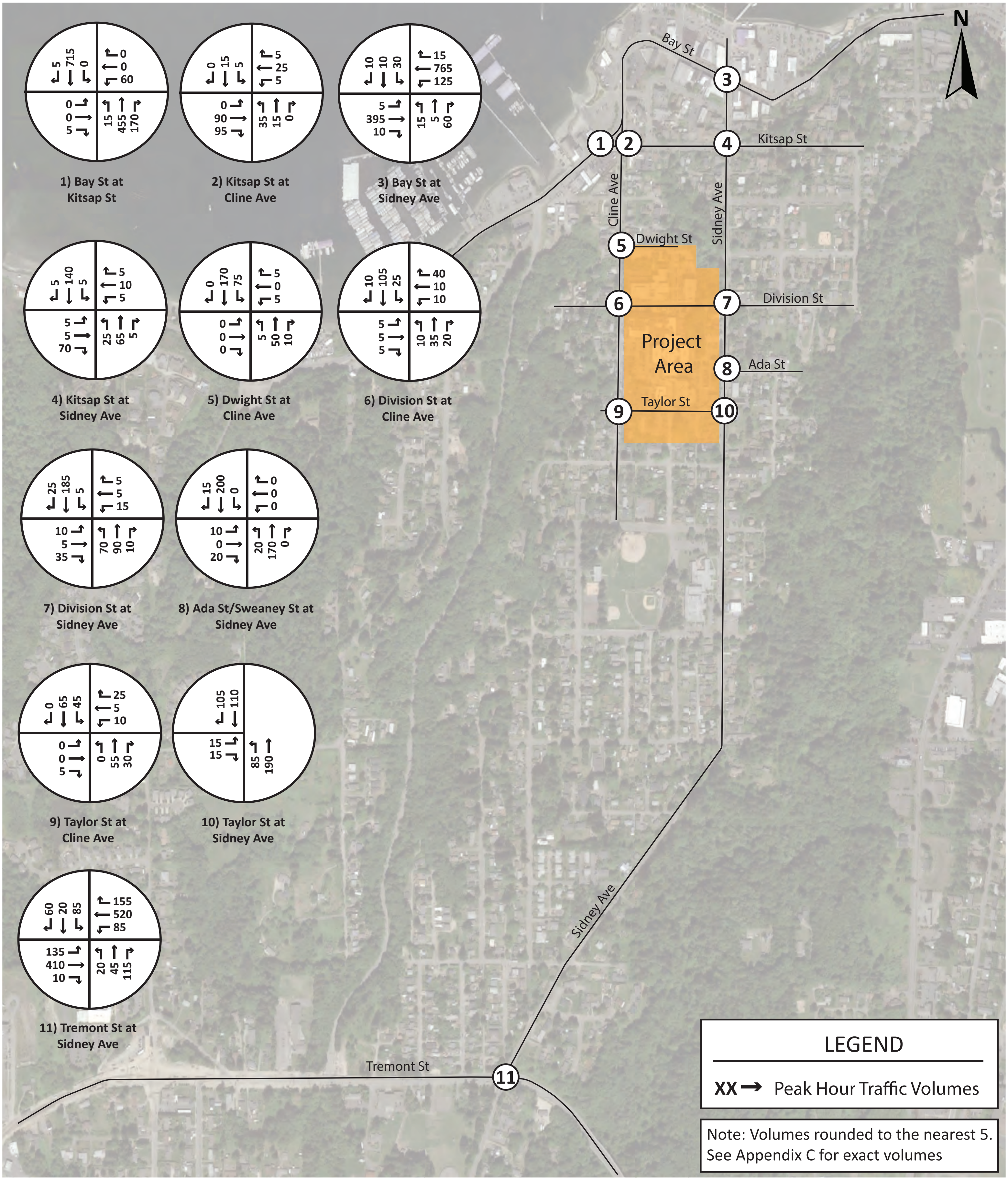

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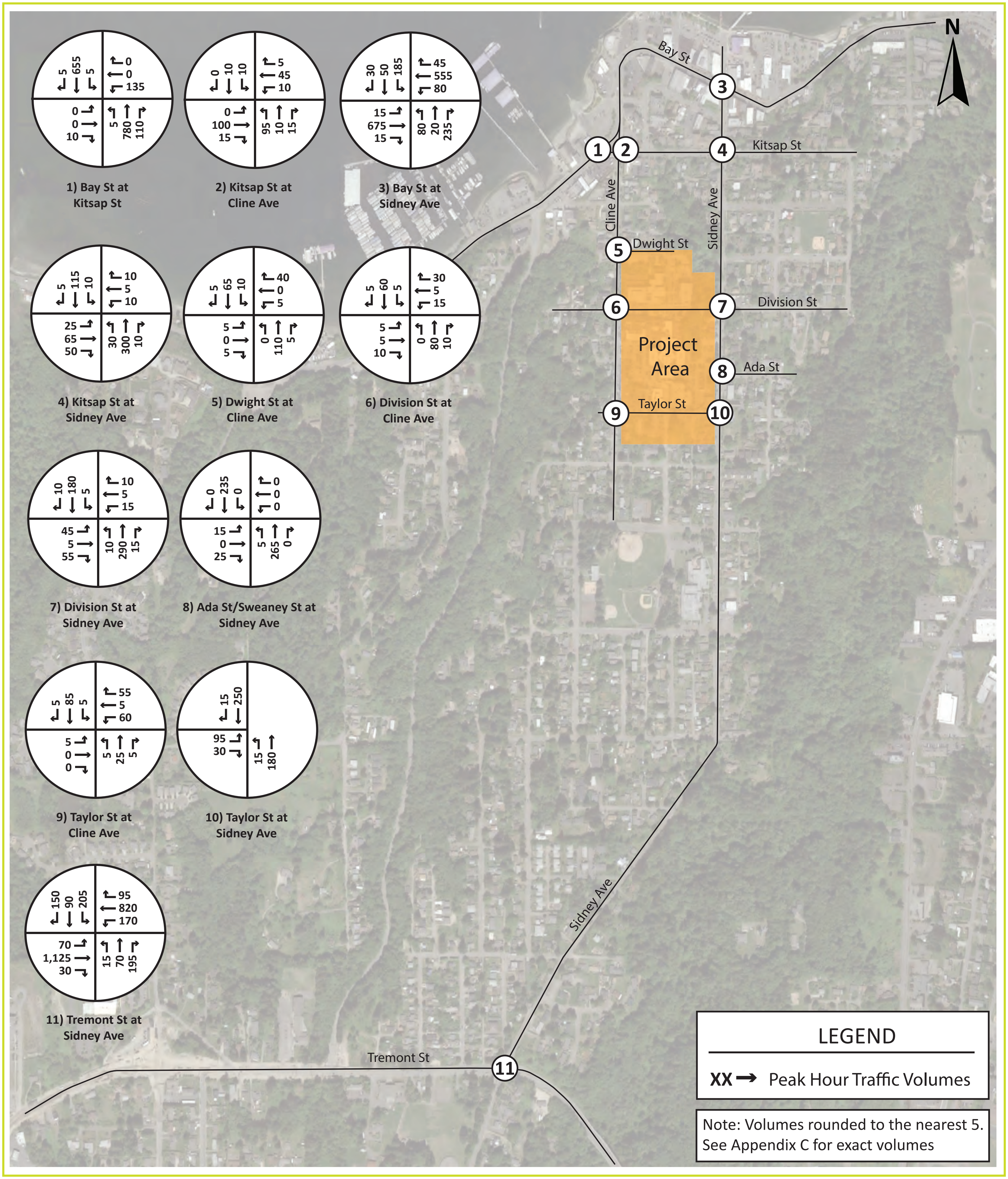
Kitsap County Courthouse Expansion
Traffic Impact Analysis

Figure 16
Projected 2029 AM Peak Hour Traffic Volumes With Phase I & II



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Kitsap County Courthouse Expansion
Traffic Impact Analysis

Figure 17
Projected 2029 PM Peak Hour
Traffic Volumes With Phase I & II

7 Traffic Operations Analysis

Traffic analyses were conducted to identify any deficiencies within the study area for the AM and PM peak hours in the 2019 base year and the 2023 and 2029 project opening years.

7.1 Level of Service

The acknowledged source for determining overall capacity for arterial segments and independent intersections is the current edition of the *Highway Capacity Manual* (HCM) published by the Transportation Research Board (TRB).

Intersection analysis was performed using the Synchro software package. This software implements the methods of the 6th Edition HCM. Capacity analysis results are described in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a street or highway during a specific time interval. LOS ranges from A (very little delay) to F (long delays and congestion).

The City of Port Orchard 2018 Comprehensive plan identifies a LOS D standard for principal arterials and minor arterials and a LOS C standard for collector arterials. Several of the roadways and intersections analyzed in this report are local roadways and were held to the LOS C threshold.

7.2 Intersection Operations

For intersections under minor street stop-control, the LOS of the most difficult movement (typically the minor street left-turn) represents the intersection Level of Service for purposes of assessing potential impacts. For traffic signals, the intersection average delay is used to assess potential impacts. The following table shows the Level of Service criteria for stop-controlled intersections and signalized intersections.

Table 8. Level of Service Criteria for Intersections

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

7.3 Intersection Analysis

The analysis was conducted for the following scenarios:

- Existing 2019 traffic volumes
- Projected 2023 traffic volumes without and with the *Kitsap County Courthouse Expansion Phase I* project
- Projected 2029 traffic Volumes without and with the *Kitsap County Courthouse Expansion Phase II* project

7.3.1 Bay St at Kitsap St

This intersection operates under two-way stop control for the eastbound and westbound approaches which each provide one travel lane. The southbound and northbound approaches provide one travel lane with a two-way-center-left-turn lane.

During the AM peak hour, the intersection currently operates at LOS C. It is projected to remain at LOS C for the 2023 and 2029 horizons with and without the project.

In the PM peak hour this intersection currently operates at LOS C. It is projected to remain at LOS C for the 2023 horizon with and without the project and fall to LOS D in the 2029 horizon with and without the project.

7.3.2 Kitsap St at Cline Ave

This intersection operates under two-way stop control for the eastbound and westbound approaches with each approach providing one travel lane.

During the AM peak hour, the intersection currently operates at LOS A. It is projected to remain at LOS A for the 2023 horizon with the Phase 0 access revisions and fall to LOS B for the 2023 with project horizon and 2029 horizon with and without the project.

In the PM peak hour this intersection currently operates at LOS B and is projected to remain at LOS B for the 2023 and 2029 horizons with and without the project.

7.3.3 Bay St at Sidney Ave

This intersection operates under traffic signal-control with each approach providing one shared through-right-turn lane and one left-turn lane.

In the AM peak hour this intersection currently operates at LOS B and is projected to remain at LOS B for the 2023 and 2029 horizons with and without the project.

In the PM peak hour this intersection currently operates at LOS C and is projected to remain at LOS C for the 2023 and 2029 horizons with and without the project.

7.3.4 Kitsap St at Sidney Ave

This intersection operates under two-way stop control for the eastbound and westbound approaches with each approach providing one travel lane.

In the AM peak hour this intersection currently operates at LOS B and is projected to remain at LOS B for the 2023 and 2029 horizons with and without the project.

In the PM peak hour this intersection currently operates at LOS B. It is projected to remain at LOS B for the 2023 horizon without the project and fall to LOS C with the project. It is projected to remain at LOS C for the 2029 horizon with and without the project.

7.3.5 Dwight St at Cline Ave

This intersection operates under two-way stop control for the eastbound and westbound approaches with each approach providing one travel lane.

During the AM peak hour and PM peak hour, the intersection currently operates at LOS B. It is projected to remain at LOS B or better for the 2023 and 2029 horizons with and without the project.

7.3.6 Division St at Cline Ave

This intersection operates under two-way stop control for the eastbound and westbound approaches with each approach providing one travel lane.

In the AM peak hour this intersection currently operates at LOS B and is projected to remain at LOS B for the 2023 and 2029 horizons with and without the project.

In the PM peak hour this intersection currently operates at LOS B. It is projected to improve to LOS A for the 2023 horizon with the Phase 0 access revisions and remain LOS A with the project. It is projected to remain at LOS A for the 2029 horizon without the project and operate at LOS B with the project.

7.3.7 Division St at Sidney Ave

This intersection operates under two-way stop control for the eastbound and westbound approaches with each approach providing one travel lane.

In the AM peak hour this intersection currently operates at LOS B and is projected to remain at LOS B for the 2023 and 2029 horizons with and without the project.

In the PM peak hour this intersection currently operates at LOS B. It is projected to remain at LOS B for the 2023 horizon without the project and fall to LOS C with the project. It is projected to remain at LOS C for the 2029 horizon with and without the project.

7.3.8 Ada St/Sweany St at Sidney Ave

This intersection currently operates as a tee-intersection with stop sign-control for the westbound approach on Ada Street. Sweany Street is located approximately 40ft north of Ada Street and operates under stop sign-control for the eastbound approach. Each approach provides one travel lane. Due to the close spacing of these cross streets, the operations analysis evaluated this intersection as a four-leg intersection with two-way stop control for the eastbound and westbound approaches. With completion of the proposed project, Sweany Street will be realigned to connect to the Ada St/Sidney Ave intersection.

During the AM peak hour and PM peak hour, the intersection currently operates at LOS B. It is projected to remain at LOS B for the 2023 and 2029 horizons with and without the project.

7.3.9 Taylor St at Cline Ave

This intersection operates under two-way stop control for the eastbound and westbound approaches with each approach providing one travel lane.

During the AM peak hour and PM peak hour, the intersection currently operates at LOS A. It is projected to remain at LOS A for the 2023 horizon with and without the project and for the 2029 horizon without the project. In the 2029 horizon with project, it is projected to fall to LOS B.

7.3.10 Taylor St at Sidney Ave

This intersection currently provides no stop control and operates as free flow for the northbound and southbound movements. Taylor Street is a one-way, one-lane roadway that runs east to west along the project frontage. With completion of this project Taylor street will be converted to a two-lane roadway with stop control for the eastbound approach.

In the AM peak hour this intersection is projected to operate at LOS B for the 2023 and 2029 horizons with and without the project.

In the PM peak hour this intersection is projected to operate at LOS B for the 2023 horizon with the Phase 0 access revisions. The intersection is projected to operate at LOS C in 2023 with the project and remain at LOS C for the 2029 horizon with and without the project.

7.3.11 Tremont St at Sidney Ave

This intersection operates under traffic signal-control. The eastbound and westbound approaches each provide four travel lanes, one left turn lane, two through lanes and one right turn lane. The northbound and southbound approaches each provide one left turn lane and one shared through-right-turn lane.

During the AM peak hour, the intersection currently operates at LOS B. It is projected to remain at LOS B for the 2023 horizon and the 2029 horizon without Phase 2. With completion of Phase 2 the intersection is projected to operate at LOS C.

In the PM peak hour this intersection currently operates at LOS C. It is projected to operate at LOS D for the 2023 and 2029 horizons with and without the project.

7.3.12 LOS Analysis Summary

The operational analysis results of the study intersections for the AM peak hour is provided in **Table 9** and the PM peak hour is provided in **Table 10**. The LOS analysis worksheets are included in **Appendix D**.

Table 9. AM Peak Hour Intersection Level of Service

				Existing 2019	Projected 2023		Projected 2029	
					Without Project	With Project (Phase 1)	Without Project (Phase 2)	With Project (Phase 1 & 2)
	Intersection	Control Type	LOS Standard	LOS (delay)	LOS (delay)	LOS (delay)	LOS (delay)	LOS (delay)
1	Bay St/Kitsap St	TWSC[1]	D	C (19.6)	C (21.1)	C (21.5)	C (23.3)	C (23.7)
2	Kitsap St/Cline Ave	TWSC[1]	C	A (9.9)	A (9.8)	B (10.0)	B (10.1)	B (10.3)
3	Bay St/Sidney Ave	Signal	D	B (12.7)	B (13.6)	B (14.1)	B (14.3)	B (14.6)
4	Kitsap St/Sidney Ave	TWSC[1]	D	B (10.0)	B (10.3)	B (10.6)	B (10.8)	B (11.0)
5	Dwight St/Cline Ave	TWSC[1]	C	B (11.2)	B (10.8)	B (10.9)	B (11.1)	B (11.3)
6	Division St/Cline Ave	TWSC[1]	C	B (10.1)	B (10.1)	B (10.4)	B (10.6)	B (10.7)
7	Division St/Sidney Ave	TWSC[1]	D	B (10.9)	B (11.4)	B (12.1)	B (12.3)	B (12.7)
8	Ada St/Sweany St/ Sidney Ave	TWSC[1]	D	B (10.0)	B (10.4)	B (10.9)	B (11.0)	B (11.2)
9	Taylor St/Cline Ave	TWSC[1]	C	A (9.2)	A (9.2)	A (9.8)	A (9.9)	B (10.2)
10	Taylor St/Sidney Ave	TWSC[1]	D	-	B (10.1)	B (11.2)	B (11.4)	B (12.0)
11	Tremont St/Sidney Ave	Signal	D	B (17.9)	B (18.5)	B (19.2)	B (20.0)	C (20.4)

1. Two-Way Stop-Control

Table 10. PM Peak Hour Intersection Level of Service

	Intersection	Control Type	LOS Standard	Existing 2019 LOS (delay)	Projected 2023 Without Project LOS (delay)	Projected 2023 With Project (Phase 1) LOS (delay)	Projected 2029 Without Project (Phase 2) LOS (delay)	Projected 2029 With Project (Phase 1 & 2) LOS (delay)
1	Bay St/Kitsap St	TWSC[1]	D	C (20.6)	C (21.5)	C (23.8)	D (27.9)	D (31.1)
2	Kitsap St/Cline Ave	TWSC[1]	C	B (11.7)	B (11.3)	B (11.8)	B (12.2)	B (12.7)
3	Bay St/Sidney Ave	Signal	D	C (22.8)	C (27.9)	C (29.1)	C (32.7)	C (34.3)
4	Kitsap St/Sidney Ave	TWSC[1]	D	B (13.3)	B (14.6)	C (15.3)	C (16.8)	C (17.6)
5	Dwight St/Cline Ave	TWSC[1]	C	B (10.1)	A (9.8)	B (10.1)	B (10.2)	B (10.4)
6	Division St/Cline Ave	TWSC[1]	C	B (10.0)	A (9.7)	A (9.7)	A (9.9)	B (10.0)
7	Division St/Sidney Ave	TWSC[1]	D	B (13.3)	B (14.5)	C (15.3)	C (16.1)	C (16.7)
8	Ada St/ Sweany St/Sidney Ave	TWSC[1]	D	B (11.6)	B (12.4)	B (12.9)	B (13.5)	B (13.8)
9	Taylor St/Cline Ave	TWSC[1]	C	A (9.6)	A (9.6)	A (9.7)	A (9.9)	B (10.0)
10	Taylor St/Sidney Ave	TWSC[1]	D	-	B (14.2)	C (15.4)	C (16.4)	C (18.1)
11	Tremont St/Sidney Ave	Signal	D	C (32.7)	D (36.0)	D (37.0)	D (43.4)	D (44.3)

1. Two-Way Stop-Control

7.4 Roadway Segment Analysis

The City's comprehensive plan provides guidance for performing roadway segment level of service analysis. The project study area includes intersections on Bay Street and Tremont Avenue, but only as the endpoints of Kitsap Street, Cline Avenue and Sidney Avenue. For the roadway segment analysis just these three roads were analyzed.

Tables 8-3 and 8-4 in the transportation chapter of the 2018 Port Orchard Comprehensive Plan provide the roadway capacity values and LOS thresholds for the roadway segment analysis. These tables are provided in **Appendix E**.

Sidney Avenue is classified as a minor arterial. Based on Table 8-3 the capacity of Sidney Avenue is 710 veh/hr/lane (This is a base capacity of 750 with a 40-vehicle reduction for the presence of on-street parking). Kitsap Street and Cline Avenue are not designated roadways on the City's functional classification map. For this analysis the lowest designation of collector was used. Based on Table 8-3 the capacity of both roadways is 590 vh/hr/lane (This is a base capacity of 620 with a 30-vehicle reduction for the presence of on-street parking.

An initial analysis was performed for the highest volume section of each roadway in the projected 2029 with Phase 2 volume horizon, to determine if any portion of the roadways are projected to operate at or below the City's LOS D threshold. Based on the analysis results all of the study roadways are projected to operate at LOS A for the 2029 with project horizon. The roadway segment results are provided below in **Table 11**.

Table 11. Projected 2029 Roadway Segment Analysis

		AM Peak Hour		PM Peak Hour	
Roadway	Capacity	Volume per lane	V/C ratio	Volume per lane	V/C ratio
Kitsap Street	590	120	0.20	125	0.21
Cline Avenue	590	149	0.25	114	0.19
Sidney Avenue	710	248	0.35	310	0.44

7.5 Pedestrian Level of Service Analysis

The City's comprehensive plan provides guidance for performing pedestrian level of service analysis. Similar to the roadway segment analysis, the Bay Street and Tremont Street roadways were omitted from the pedestrian analysis. The Cline Avenue, Sidney Avenue, Division Street and Taylor Street roadways were included in the analysis.

Based on the comprehensive plan guidance, the ultimate pedestrian LOS is achieved with a sidewalk, curb and gutter section of other approved non-motorized vehicle facility. Each of the study roadways include sidewalk, curb and gutter. Additionally, the City has identified in their TIP (2016 – 2021) the roadway and sidewalk rehabilitation on Cline Avenue between Dwight Street and Kitsap Street.

8 Summary and Conclusion

Kitsap County plans to expand their existing courthouse campus located at 614 Division Street in Port Orchard. The expansion will include increased courthouse space, parking modifications, and access revisions and will occur in four construction phases. The initial phase, Phase 0, will involve the construction of a new parking lot south of Taylor Street and conversion of Taylor Street from one-way to two-way. Phase 1 will add approximately 82,000 square feet of courthouse building space. Phase 2 will add approximately 57,000-sqft of additional courthouse building space. The full build is planned for the long-term and will include demolition of the existing 11,120-sqft Bullard building and reconstruction of the existing courthouse building, which is expected to reduce the overall square footage of the campus.

After completion of phase 2 the project is estimated to generate approximately 205 trip ends during the AM peak hour and 161 trip ends during the PM peak hour. This report has been prepared to provide the traffic analysis and project information for The City of Port Orchard to use in the environmental review of the project.

Over the course of the *Kitsap County Courthouse Expansion* project, the existing access will be revised as follows:

Phase 0 Access Revisions: As part of the construction of the new parking area, Taylor Street will be converted from a one-way westbound roadway to a two-way roadway. Austin Avenue between Taylor Street and Smith Street will be vacated and the only access to this new parking lot will be from Taylor Street.

Phase 1 Access Revisions: As part of Phase 1 the existing driveways on Cline Avenue will be closed and much of the existing parking lot located near Cline Avenue will be removed. Additionally, access to the existing parking lot near Sidney Avenue between Ada Street and Division Street will be consolidated and relocated to a single driveway, at Ada Street.

Phase 2 Access Revisions: No access revisions are planned for Phase 2. Access will be the same as described in Phase 1.

Full Build Access Revisions: With completion of Phases 3 and 4, Division Street between Cline Avenue and Austin Avenue will be vacated and converted into a plaza area. At the intersection of Division Street and Austin Avenue, a traffic circle will be installed that provides a location for curbside pick-up drop-off and maintains connectivity, between Sidney Avenue and Cline Avenue, via Austin Avenue and Dwight Street.

Based on the analysis described in this report, all the study area intersections, roadway segments and pedestrian facilities are projected to operate at or better than the established intersection level of service standards for the 2023 and 2029 horizons with completion of Phases 1 and 2 of the *Kitsap County Courthouse Expansion* project.

Appendix A

Traffic Scoping Analysis City Response

Ryan Shea

From: Chris Hammer <kchammer@cityofportorchard.us> on behalf of Chris Hammer
Sent: Wednesday, February 26, 2020 4:30 PM
To: ryan.shea@scjalliance.com
Cc: Mark Dorsey; Nick Bond
Subject: RE: Kitsap County Courthouse Traffic Scoping Letter

Follow Up Flag: Follow up
Flag Status: Flagged

Mr. Ryan Shea,
Thank you for the opportunity to comment on the traffic study scope for the proposed Kitsap County Courthouse improvements.
It appears that over 75 new peak hour trips will be generated. In accordance with the Comprehensive Plan, requirement D of the Concurrency section applies. Refer to pages 8-26 through 8-28. Comments by numbered subsection as follows:

1) Street Frontage: Street frontages (half of streets adjacent to improved parcels) are required to be retrofitted or reconstructed to meet current standards.

2) Adjacent Street System: The other side of streets may need to be improved curb to curb and, if necessary, to accommodate other required motorized LOS.

3) Capacity LOS: The street grid surrounding the development as identified in Figure 2 of the February 7th memo and impacted collector and arterial streets (Sidney at Tremont, Sidney and Cline as SR166) at locations 1,2, & 3 shown in Figure 6 of the February 7th memo, need to be evaluated for level of service impacts and potential mitigation. Note that the City's plan indicates that a level of service failure is anticipated by year 2036 at the Sidney and Tremont intersection, so the proposed development may result in a failed LOS at this location. The study needs to evaluate all effected segment and intersections.

4) Non-motorized Transportation LOS: Sidewalks and crosswalks may need to be upgraded at locations not immediately adjacent to redeveloped parcels as necessary to achieve continuity with non-motorized systems identified in the Comprehensive Plan. The scope of the study must include an evaluation of connectivity to County buildings within the campus, parks, bus stops, etc.

https://www.cityofportorchard.us/documents/chapter-8-transportation-2/

Feel free to reach out to me if you have questions.

Many thanks,
K. Chris Hammer, PE, PMP
Assistant City Engineer
City of Port Orchard
360-535-2497

From: Nick Bond <nbond@cityofportorchard.us>
Sent: Wednesday, February 12, 2020 8:02 PM
To: Chris Hammer <kchammer@cityofportorchard.us>
Cc: Mark Dorsey <mdorsey@cityofportorchard.us>
Subject: Fwd: Kitsap County Courthouse Traffic Scoping Letter

Chris, we received this scoping memo for the county courthouse project. Please take a look and discuss with mark.

Thanks,
Nick

From: "Ryan Shea" <ryan.shea@scjalliance.com>
Subject: Kitsap County Courthouse Traffic Scoping Letter
Date: 13 February 2020 10:33
To: "Planning Mailbox" <Planning@cityofportorchard.us>
Cc: "Amos Callender" <amos@tasolympia.com>, "Amy Head" <amy.head@scjalliance.com>, "Jared VerHey" <jared.verhey@scjalliance.com>

Good evening Nick. I know you're off enjoying foreign soil but attached is the traffic scoping letter for the Kitsap Courthouse Expansion project.

I'm not sure if you'll review this or, in your absence, it will be someone else but when able it would be helpful to know generally when we should expect a response.

Thanks!
Ryan

Ryan Shea, PTP
SCJ Alliance
Senior Transportation Planner
o. 360.352.1465, ext. 124
m. 360.701.9269
www.scjalliance.com

Appendix B

Traffic Volume Counts

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

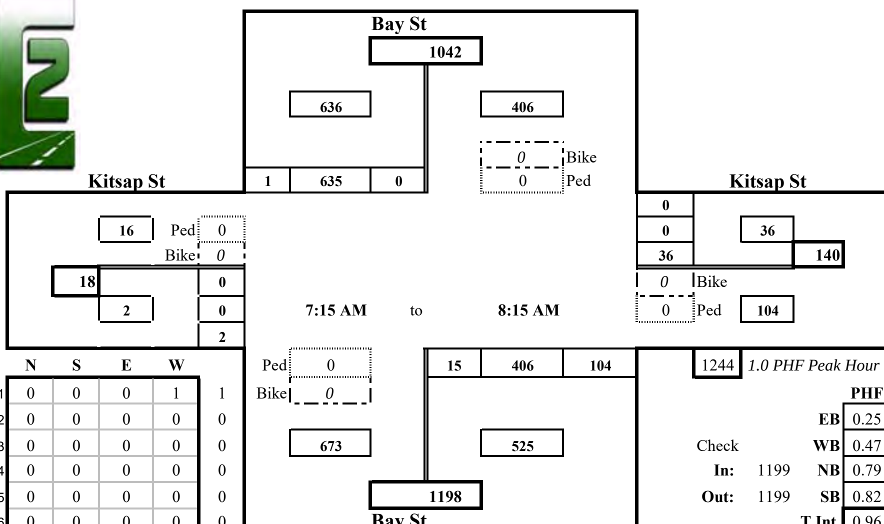
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Bay St & Kitsap St
Location: Port Orchard, WA

Date of Count: Thur 03/05/2020
Checked By: Cameron

Time Interval	From North on (SB) Bay St				From South on (NB) Bay St				From East on (WB) Kitsap St				From West on (EB) Kitsap St				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	4	0	176	0	2	0	79	10	0	5	0	0	0	0	0	0	270
7:30 A	1	0	193	0	2	0	76	21	1	19	0	0	0	0	0	0	309
7:45 A	1	0	158	0	2	2	121	21	0	3	0	0	0	0	0	0	305
8:00 A	5	0	137	1	2	8	124	34	0	5	0	0	0	0	0	2	311
8:15 A	4	0	147	0	6	5	85	28	0	9	0	0	0	0	0	0	274
8:30 A	1	0	120	0	4	1	102	26	0	20	0	0	0	0	0	3	272
8:45 A	4	0	150	1	3	1	83	19	0	6	0	0	0	0	0	1	261
9:00 A	2	0	136	0	4	2	119	16	0	11	0	0	0	0	0	0	284
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	22	0	1217	2	25	19	789	175	1	78	0	0	0	0	0	6	2286
	Peak Hour: 7:15 AM to 8:15 AM																
Total	11	0	635	1	12	15	406	104	1	36	0	0	0	0	0	2	1199
Approach	636				525				36				2				1199
%HV	1.7%				2.3%				2.8%				n/a				2.0%
PHF	0.82				0.79				0.47				0.25				0.96



1244 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	0.25	n/a
WB	0.47	2.8%
NB	0.79	2.3%
SB	0.82	1.7%
T Int.	0.96	2.0%

Check
In: 1199
Out: 1199

Conditions:

PEDs Across:	N	S	E	W	
INT 01	0	0	0	1	1
INT 02	0	0	0	0	0
INT 03	0	0	0	0	0
INT 04	0	0	0	0	0
INT 05	0	0	0	0	0
INT 06	0	0	0	0	0
INT 07	0	0	0	0	0
INT 08	0	0	0	0	0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	1	1

Bicycles From:	N	S	E	W	
INT 01	0	0	0	0	0
INT 02	0	0	0	0	0
INT 03	0	0	0	0	0
INT 04	0	0	0	0	0
INT 05	0	0	0	0	0
INT 06	0	0	0	0	0
INT 07	0	0	0	0	0
INT 08	0	0	0	0	0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	0	0

Special Notes

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

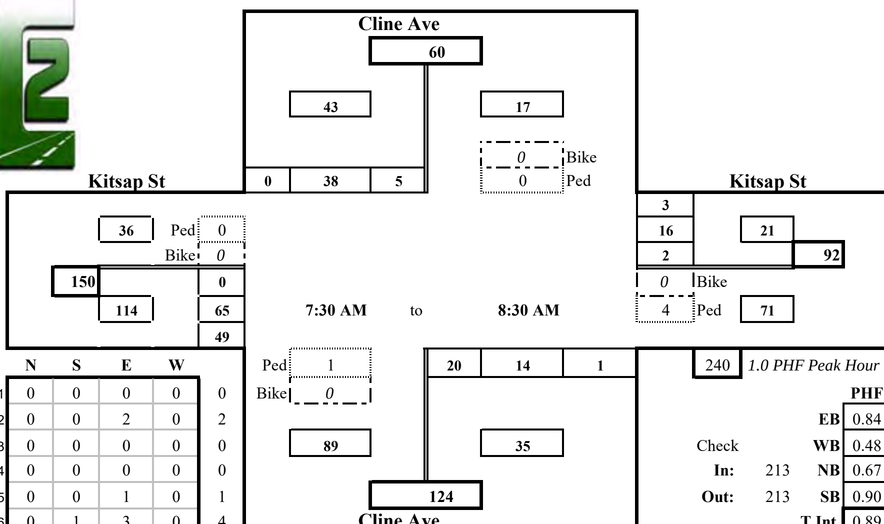
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Cline Ave & Kitsap St **Date of Count:** Thur 03/05/2020

Location: Port Orchard, WA **Checked By:** Cameron

Time Interval Ending at	From North on (SB) Cline Ave				From South on (NB) Cline Ave				From East on (WB) Kitsap St				From West on (EB) Kitsap St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	0	0	3	0	0	2	1	0	0	0	3	0	0	0	0	3	12
7:30 A	0	0	2	0	0	8	3	0	1	0	11	0	0	0	13	6	43
7:45 A	0	1	11	0	0	0	2	0	0	0	3	1	0	0	14	9	41
8:00 A	1	2	10	0	0	6	3	0	0	1	0	0	0	0	22	12	56
8:15 A	0	0	11	0	0	4	6	1	0	0	4	1	0	0	18	11	56
8:30 A	0	2	6	0	0	10	3	0	0	1	9	1	0	0	11	17	60
8:45 A	0	0	5	0	0	5	4	1	0	1	2	0	0	0	6	17	41
9:00 A	0	0	4	0	0	8	7	1	0	2	3	2	0	0	10	6	43
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	1	5	52	0	0	43	29	3	1	5	35	5	0	0	94	81	352
Peak Hour: 7:30 AM to 8:30 AM																	
Total	1	5	38	0	0	20	14	1	0	2	16	3	0	0	65	49	213
Approach	43				35				21				114				213
%HV	2.3%				n/a				n/a				n/a				0.5%
PHF	0.90				0.67				0.48				0.84				0.89



240 1.0 PHF Peak Hour Volume

PEDs Across:	N	S	E	W	
INT 01	0	0	0	0	0
INT 02	0	0	2	0	2
INT 03	0	0	0	0	0
INT 04	0	0	0	0	0
INT 05	0	0	1	0	1
INT 06	0	1	3	0	4
INT 07	0	0	1	0	1
INT 08	0	2	1	0	3
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	3	8	0	**11**

Bicycles From:	N	S	E	W	
INT 01	0	0	0	0	0
INT 02	0	0	0	0	0
INT 03	0	0	0	0	0
INT 04	0	0	0	0	0
INT 05	0	0	0	0	0
INT 06	0	0	0	0	0
INT 07	0	0	0	0	0
INT 08	0	0	0	0	0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	0	0

	PHF	%HV
EB	0.84	n/a
WB	0.48	n/a
NB	0.67	n/a
SB	0.90	2.3%
T Int.	0.89	0.5%

Check
In: 213
Out: 213

Conditions:

Special Notes

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

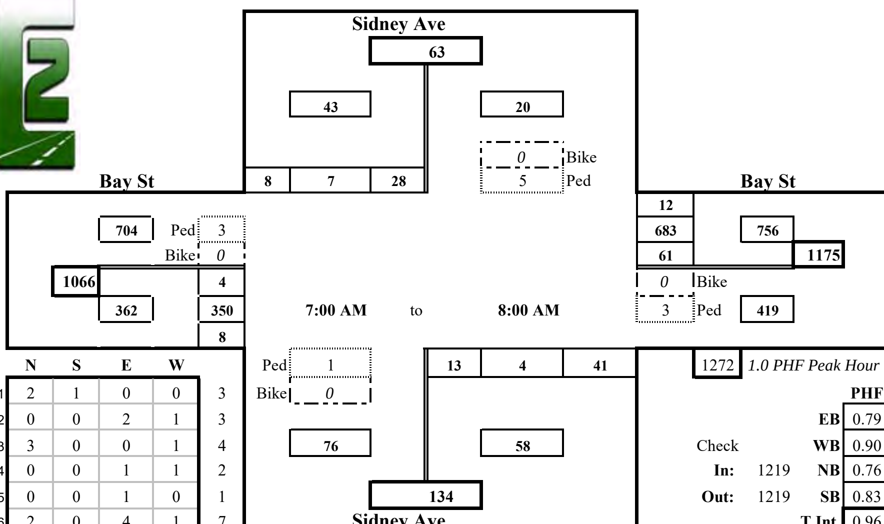
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Sidney Ave & Bay St | **Date of Count:** Thur 03/05/2020

Location: Port Orchard, WA | **Checked By:** Cameron

Time Interval Ending at	From North on (SB) Sidney Ave				From South on (NB) Sidney Ave				From East on (WB) Bay St				From West on (EB) Bay St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	2	5	0	4	0	3	2	14	4	9	179	2	2	0	74	3	295
7:30 A	3	9	1	2	1	6	1	11	1	15	188	7	2	0	77	1	318
7:45 A	3	10	2	1	0	3	0	9	1	21	171	1	0	2	88	2	310
8:00 A	2	4	4	1	1	1	1	7	5	16	145	2	1	2	111	2	296
8:15 A	1	3	2	1	0	8	0	6	3	15	144	0	6	0	83	0	262
8:30 A	3	8	2	0	0	3	7	2	1	12	128	3	4	1	89	2	257
8:45 A	0	3	0	1	0	5	0	5	5	20	145	0	3	4	77	3	263
9:00 A	2	9	3	6	1	5	1	8	2	15	123	6	4	4	110	2	292
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	16	51	14	16	3	34	12	62	22	123	1223	21	22	13	709	15	2293
	Peak Hour: 7:00 AM to 8:00 AM																
Total	10	28	7	8	2	13	4	41	11	61	683	12	5	4	350	8	1219
Approach	43				58				756				362				1219
%HV	23.3%				3.4%				1.5%				1.4%				2.3%
PHF	0.83				0.76				0.90				0.79				0.96



1272 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	0.79	1.4%
WB	0.90	1.5%
NB	0.76	3.4%
SB	0.83	23.3%
T Int.	0.96	2.3%

Check
In: 1219
Out: 1219

Conditions:

PEDs Across:

	N	S	E	W	
INT 01	2	1	0	0	3
INT 02	0	0	2	1	3
INT 03	3	0	0	1	4
INT 04	0	0	1	1	2
INT 05	0	0	1	0	1
INT 06	2	0	4	1	7
INT 07	0	0	3	2	5
INT 08	0	0	1	0	1
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	7	1	12	6	26

Bicycles From:

	N	S	E	W	
INT 01	0	0	0	0	0
INT 02	0	0	0	0	0
INT 03	0	0	0	0	0
INT 04	0	0	0	0	0
INT 05	1	1	0	0	2
INT 06	0	0	0	0	0
INT 07	0	0	0	0	0
INT 08	0	0	0	0	0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	1	0	0	2

Special Notes

SCJ20032M_02A

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Sidney Ave & Kitsap St
Location: Port Orchard, WA
Date of Count: Thur 03/05/2020
Checked By: Cameron

Time Interval	From North on (SB) Sidney Ave				From South on (NB) Sidney Ave				From East on (WB) Kitsap St				From West on (EB) Kitsap St				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	0	0	10	0	0	4	19	1	0	2	0	1	0	0	1	6	44
7:30 A	1	0	16	0	2	5	16	0	0	2	4	0	0	1	0	9	53
7:45 A	0	1	23	2	1	4	8	1	0	0	1	2	0	0	0	11	53
8:00 A	1	1	15	1	1	5	10	0	0	0	1	0	1	0	4	13	50
8:15 A	0	0	17	0	0	4	12	0	0	0	2	0	0	0	0	14	49
8:30 A	1	0	16	1	2	4	10	1	0	0	5	0	0	0	0	10	47
8:45 A	0	0	24	0	0	5	11	1	0	2	0	1	0	1	0	5	50
9:00 A	1	0	20	1	1	6	14	0	0	0	1	1	0	2	3	4	52
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	4	2	141	5	7	37	100	4	0	6	14	5	1	4	8	72	398
	Peak Hour: 7:15 AM to 8:15 AM																
Total	2	2	71	3	4	18	46	1	0	2	8	2	1	1	4	47	205
Approach	76				65				12				52				205
%HV	2.6%				6.2%				n/a				1.9%				3.4%
PHF	0.73				0.77				0.50				0.76				0.97

Sidney Ave
125
76 49
1 Bike
0 Ped
3 71 2
Kitsap St
29 Ped 2
Bike 0
81 1
52 4
47
7:15 AM to **8:15 AM**
Kitsap St
2
8 12
2 19
0 Bike
4 Ped 7
Ped 0
Bike 1
18 46 1
120 65
185
Sidney Ave

212 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	0.76	1.9%
WB	0.50	n/a
NB	0.77	6.2%
SB	0.73	2.6%
T Int.	0.97	3.4%

Check
In: 205
Out: 205

Conditions:

PEDs Across:	N	S	E	W	
INT 01	0	0	0	1	1
INT 02	0	0	2	1	3
INT 03	0	0	0	0	0
INT 04	0	0	1	1	2
INT 05	0	0	1	0	1
INT 06	0	0	2	2	4
INT 07	0	0	1	1	2
INT 08	1	2	2	1	6
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	2	9	7	**19**

Bicycles From:	N	S	E	W	
INT 01	0	0	0	0	0
INT 02	0	0	0	0	0
INT 03	0	0	0	0	0
INT 04	0	0	0	0	0
INT 05	1	1	0	0	2
INT 06	0	1	0	0	1
INT 07	0	0	0	0	0
INT 08	0	0	0	0	0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	2	0	0	3

Special Notes

SCJ20032M_03A

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

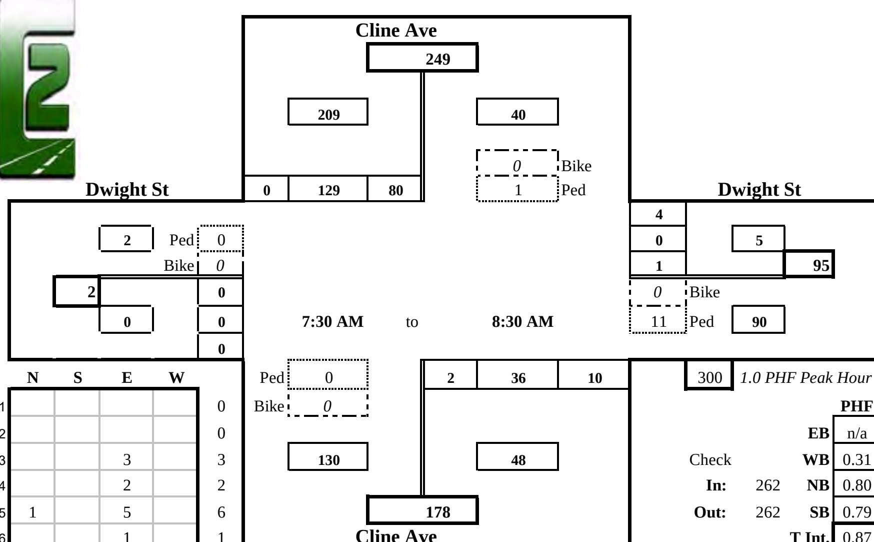
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Cline Ave & Dwight St **Date of Count:** Tues 10/01/2019

Location: Port Orchard, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) Cline Ave T	L	S	R	From South on (NB) Cline Ave T	L	S	R	From East on (WB) Dwight St T	L	S	R	From West on (EB) Dwight St T	L	S	R	Interval Total
7:15 A	0	2	8	0	0	0	5	0	0	1	0	0	0	0	0	0	16
7:30 A	0	5	11	0	0	0	11	0	0	0	0	0	0	1	0	0	28
7:45 A	0	16	28	0	0	0	11	3	0	0	0	0	0	0	0	0	58
8:00 A	0	23	43	0	0	1	8	0	0	0	0	0	0	0	0	0	75
8:15 A	0	21	22	0	0	0	9	1	0	0	0	4	0	0	0	0	57
8:30 A	0	20	36	0	0	1	8	6	0	1	0	0	0	0	0	0	72
8:45 A	0	15	11	0	0	0	10	6	0	2	0	1	0	0	0	0	45
9:00 A	0	16	24	0	0	0	16	10	0	3	1	4	0	0	0	1	75
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	118	183	0	0	2	78	26	0	7	1	9	0	1	0	1	426
	Peak Hour: 7:30 AM to 8:30 AM																
Total	0	80	129	0	0	2	36	10	0	1	0	4	0	0	0	0	262
Approach	209				48				5				0				262
%HV	n/a				n/a				n/a				n/a				0.0%
PHF	0.79				0.80				0.31				n/a				0.87



300 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	n/a	n/a
WB	0.31	n/a
NB	0.80	n/a
SB	0.79	n/a
T Int.	0.87	0.0%

Check

In: 262

Out: 262

PEDs Across:

	N	S	E	W	
INT 01					0
INT 02					0
INT 03			3		3
INT 04			2		2
INT 05	1		5		6
INT 06			1		1
INT 07			1		1
INT 08			3		3
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	0	15	0	16

Special Notes

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06		NO BIKES			0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	0	0

SCJ19109MS_01a

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Cline Ave & Division St **Date of Count:** Tues 10/01/2019

Location: Port Orchard, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) Cline Ave				From South on (NB) Cline Ave				From East on (WB) Division St				From West on (EB) Division St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	0	0	5	2	0	0	5	2	0	0	0	0	0	0	1	0	15
7:30 A	0	0	10	0	0	1	10	1	0	1	0	1	0	0	0	1	25
7:45 A	0	2	26	0	0	2	11	1	0	3	1	4	0	0	0	0	50
8:00 A	0	5	34	1	0	1	9	4	0	1	0	0	0	0	0	0	55
8:15 A	0	3	17	2	0	1	8	3	0	2	0	3	0	0	1	0	40
8:30 A	0	6	28	2	0	2	6	6	0	8	1	6	0	0	0	2	67
8:45 A	0	3	9	1	0	1	5	2	0	11	3	10	0	1	1	1	48
9:00 A	0	6	19	3	0	2	9	6	0	9	4	14	0	3	3	1	79
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	25	148	11	0	10	63	25	0	35	9	38	0	4	6	5	379
	Peak Hour: 8:00 AM to 9:00 AM																
Total	0	18	73	8	0	6	28	17	0	30	8	33	0	4	5	4	234
Approach	99				51				71				13				234
%HV	n/a				n/a				n/a				n/a				0.0%
PHF	0.69				0.75				0.66				0.46				0.74

Cline Ave 164

99 65

0 Bike
5 Ped

8 73 18

Division St **Division St**

22 Ped 3
Bike 0
35 4
13 5
4

33
8 71
30 111
0 Bike
17 Ped 40

8:00 AM to 9:00 AM

Ped 8
Bike 0

6 28 17

107 51

158
Cline Ave

316 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	0.46	n/a
WB	0.66	n/a
NB	0.75	n/a
SB	0.69	n/a
T Int.	0.74	0.0%

Check
In: 234
Out: 234

PEDs Across:	N	S	E	W	
INT 01	2		4		6
INT 02			2		2
INT 03	4	4	13		21
INT 04	1		28		29
INT 05	1		4		5
INT 06	3		6		9
INT 07	1	4	2	3	10
INT 08		4	5		9
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	12	12	64	3	91

Special Notes

Bicycles From:	N	S	E	W		N U's	S U's	E U's	W U's
INT 01					0			0	
INT 02					0			0	
INT 03					0			0	
INT 04					0			0	
INT 05					0			0	
INT 06		NO BIKES			0			1	
INT 07					0			0	
INT 08					0			0	
INT 09					0				
INT 10					0				
INT 11					0				
INT 12					0				
	0	0	0	0	0	0	0	1	0

SCJ19109MS_02a

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

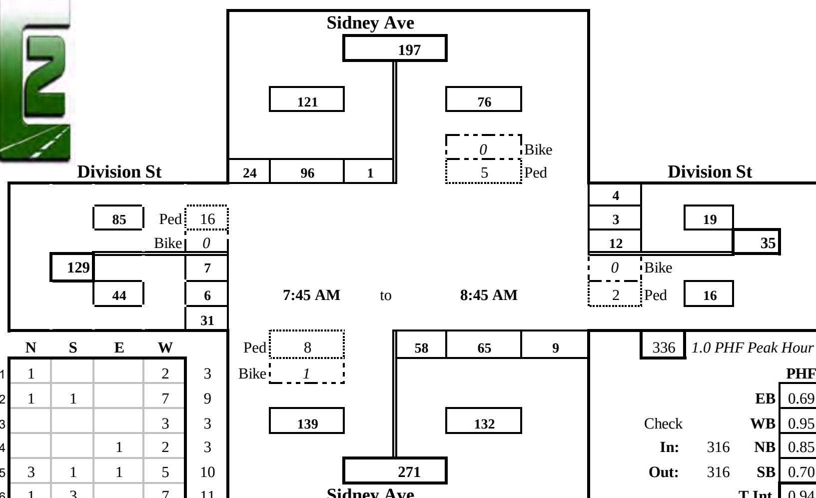
Intersection: Sidney Ave & Division St

Location: Port Orchard, Washington

Date of Count: Tues 10/01/2019

Checked By: Jess

Time Interval	From North on (SB) Sidney Ave				From South on (NB) Sidney Ave				From East on (WB) Division St				From West on (EB) Division St				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	0	2	16	3	0	4	22	2	0	2	0	0	0	1	0	3	55
7:30 A	0	1	23	1	1	7	17	2	0	1	0	1	0	1	0	2	56
7:45 A	0	2	16	8	0	11	14	2	0	1	0	0	0	0	0	9	63
8:00 A	0	0	34	9	0	12	16	1	0	4	1	0	0	2	1	4	84
8:15 A	0	1	17	7	0	14	23	2	0	5	0	0	0	1	0	10	80
8:30 A	0	0	23	2	0	15	12	3	0	1	1	3	0	3	3	4	70
8:45 A	0	0	22	6	0	17	14	3	0	2	1	1	0	1	2	13	82
9:00 A	0	0	14	10	0	8	26	3	0	3	1	0	0	5	2	10	82
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	6	165	46	1	88	144	18	0	19	4	5	0	14	8	55	572
	Peak Hour: 7:45 AM to 8:45 AM																
Total	0	1	96	24	0	58	65	9	0	12	3	4	0	7	6	31	316
Approach	121				132				19				44				316
%HV	n/a				n/a				n/a				n/a				0.0%
PHF	0.70				0.85				0.95				0.69				0.94



336 *1.0 PHF Peak Hour Volume*

PEDs Across:	N	S	E	W	
INT 01	1			2	3
INT 02	1	1		7	9
INT 03				3	3
INT 04			1	2	3
INT 05	3	1	1	5	10
INT 06	1	3		7	11
INT 07	1	4		2	7
INT 08	2	5		2	9
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	9	14	2	30	55

Special Notes

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05		1			1
INT 06					0
INT 07					0
INT 08		1			1
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	2	0	0	2

		PHF	%HV
	EB	0.69	n/a
Check	WB	0.95	n/a
In: 316	NB	0.85	n/a
Out: 316	SB	0.70	n/a
	T Int.	0.94	0.0%

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

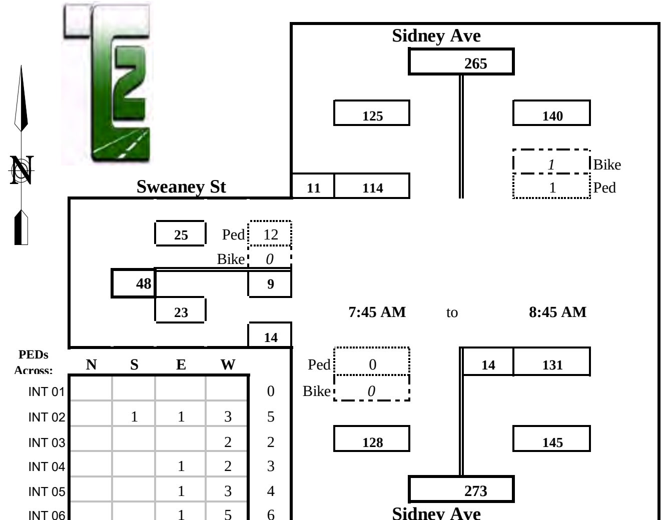
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Sidney Ave & Sweaney St **Date of Count:** Tues 10/01/2019

Location: Port Orchard, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) Sidney Ave T	L	S	R	From South on (NB) Sidney Ave T	L	S	R	From East on (WB) 0 T	L	S	R	From West on (EB) Sweaney St T	L	S	R	Interval Total
7:15 A	0	0	17	3	0	3	27	0	0	0	0	0	0	4	0	4	58
7:30 A	0	0	20	5	0	3	27	0	0	0	0	0	0	1	0	4	60
7:45 A	0	0	9	10	0	8	27	0	0	0	0	0	0	0	0	10	64
8:00 A	0	0	37	3	0	7	33	0	0	0	0	0	0	0	0	6	86
8:15 A	0	0	26	2	0	4	39	0	0	0	0	0	0	1	0	4	76
8:30 A	0	0	23	1	0	2	31	0	0	0	0	0	0	2	0	3	62
8:45 A	0	0	28	5	0	1	28	0	0	0	0	0	0	6	0	1	69
9:00 A	0	0	21	4	0	0	34	0	0	0	0	0	0	5	0	1	65
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	181	33	0	28	246	0	0	0	0	0	0	19	0	33	540
	Peak Hour: 7:45 AM to 8:45 AM																
Total	0	0	114	11	0	14	131	0	0	0	0	0	0	9	0	14	293
Approach	125				145				0				23				293
%HV	n/a				n/a				n/a				n/a				0.0%
PHF	0.78				0.84				n/a				0.82				0.85



PEDs Across:

	N	S	E	W	
INT 01					0
INT 02		1	1	3	5
INT 03				2	2
INT 04			1	2	3
INT 05			1	3	4
INT 06			1	5	6
INT 07	1		1	2	4
INT 08	2	3		3	8
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	3	4	5	20	32

Special Notes

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05	1				1
INT 06					0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	0	0	0	1

344 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.82	n/a
Check	WB	n/a	n/a
In: 293	NB	0.84	n/a
Out: 293	SB	0.78	n/a
	T Int.	0.85	0.0%

Conditions:

SCJ19109MS_10a

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

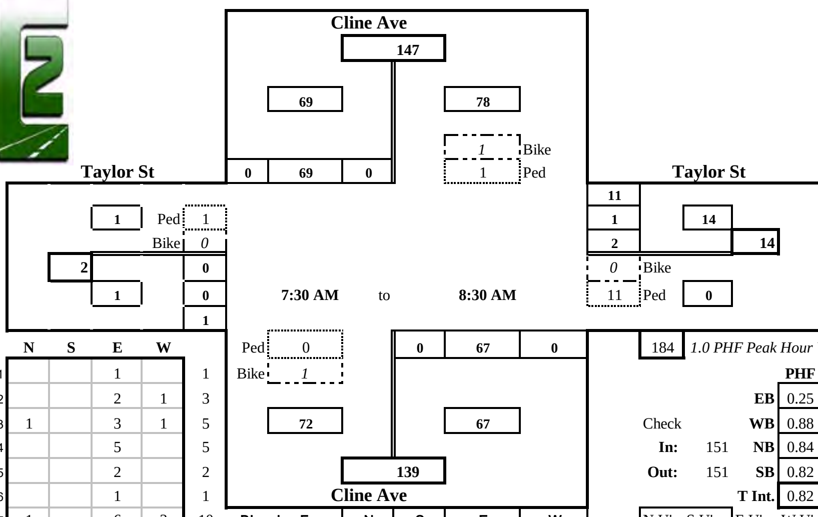
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Cline Ave & Taylor St **Date of Count:** Tues 10/01/2019

Location: Port Orchard, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) Cline Ave				From South on (NB) Cline Ave				From East on (WB) Taylor St				From West on (EB) Taylor St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	0	0	5	0	0	0	7	0	0	2	0	4	0	0	0	0	18
7:30 A	0	0	8	0	0	0	12	0	0	1	0	3	0	0	0	0	24
7:45 A	0	0	21	0	0	0	19	0	0	0	1	2	0	0	0	0	43
8:00 A	0	0	21	0	0	0	20	0	0	1	0	3	0	0	0	1	46
8:15 A	0	0	10	0	0	0	13	0	0	0	0	3	0	0	0	0	26
8:30 A	0	0	17	0	0	0	15	0	0	1	0	3	0	0	0	0	36
8:45 A	0	0	18	0	0	0	6	0	0	1	0	2	0	0	0	0	27
9:00 A	0	0	20	0	0	0	10	0	0	0	0	1	0	0	0	0	31
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	120	0	0	0	102	0	0	6	1	21	0	0	0	1	251
Peak Hour: 7:30 AM to 8:30 AM																	
Total	0	0	69	0	0	0	67	0	0	2	1	11	0	0	0	1	151
Approach	69				67				14				1				151
%HV	n/a				n/a				n/a				n/a				0.0%
PHF	0.82				0.84				0.88				0.25				0.82



184 *1.0 PHF Peak Hour Volume*

PEDs Across:	N	S	E	W	
INT 01			1		1
INT 02			2	1	3
INT 03	1		3	1	5
INT 04			5		5
INT 05			2		2
INT 06			1		1
INT 07	1		6	3	10
INT 08			3		3
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	2	0	23	5	30

Special Notes

	PHF	%HV
EB	0.25	n/a
WB	0.88	n/a
NB	0.84	n/a
SB	0.82	n/a
T Int.	0.82	0.0%

Check **In:** 151 **Out:** 151

Bicycles From:	N	S	E	W		N U's	S U's	E U's	W U's
INT 01					0	0			
INT 02					0	0			
INT 03					0	0			
INT 04					0	0			
INT 05	1	1			2	0			
INT 06					0	3			
INT 07					0	2			
INT 08					0	2			
INT 09					0				
INT 10					0				
INT 11					0				
INT 12					0				
	1	1	0	0	2	7	0	0	0

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

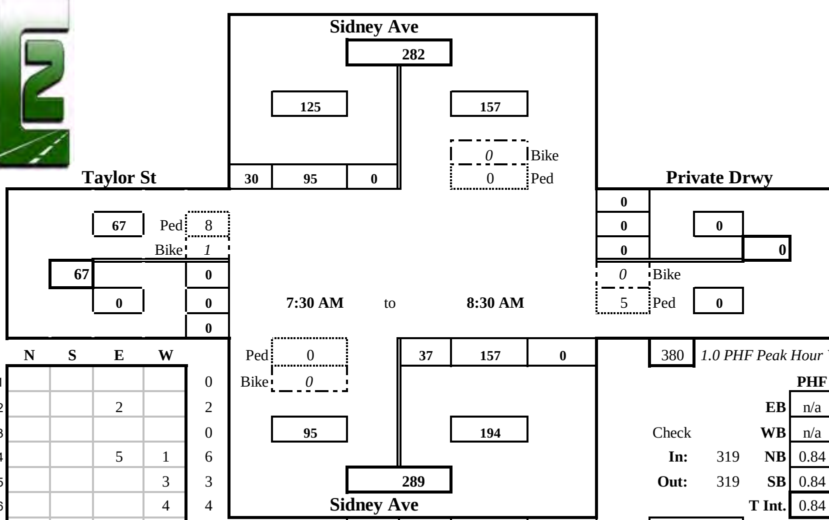
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Sidney Ave & Taylor St **Date of Count:** Tues 10/01/2019

Location: Port Orchard, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) Sidney Ave T	L	S	R	From South on (NB) Sidney Ave T	L	S	R	From East on (WB) Private Drwy T	L	S	R	From West on (EB) Taylor St T	L	S	R	Interval Total
7:15 A	0	0	17	6	0	10	31	0	0	0	0	0	0	0	0	0	64
7:30 A	0	0	17	7	1	11	29	0	0	0	0	0	0	0	0	0	64
7:45 A	0	0	20	8	0	9	36	0	0	0	0	0	0	0	0	0	73
8:00 A	0	0	27	10	0	13	45	0	0	0	0	0	0	0	0	0	95
8:15 A	1	0	29	7	0	8	37	0	0	0	0	0	0	0	0	0	81
8:30 A	0	0	19	5	0	7	39	0	0	0	0	0	0	0	0	0	70
8:45 A	0	0	24	3	0	2	33	0	0	0	0	0	0	0	0	0	62
9:00 A	0	0	21	1	0	1	35	0	0	0	0	0	0	0	0	0	58
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	1	0	174	47	1	61	285	0	0	0	0	0	0	0	0	0	567
Peak Hour: 7:30 AM to 8:30 AM																	
Total	1	0	95	30	0	37	157	0	0	0	0	0	0	0	0	0	319
Approach	125				194				0				0				319
%HV	0.8%				n/a				n/a				n/a				0.3%
PHF	0.84				0.84				n/a				n/a				0.84



380 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	n/a	n/a
WB	n/a	n/a
NB	0.84	n/a
SB	0.84	0.8%
T Int.	0.84	0.3%

Check In: 319 Out: 319

Conditions:

PEDs Across:	N	S	E	W	
INT 01					0
INT 02			2		2
INT 03					0
INT 04			5	1	6
INT 05				3	3
INT 06				4	4
INT 07			1	1	2
INT 08			1	2	3
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	9	11	20

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05				1	1
INT 06					0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	1	1

Special Notes

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

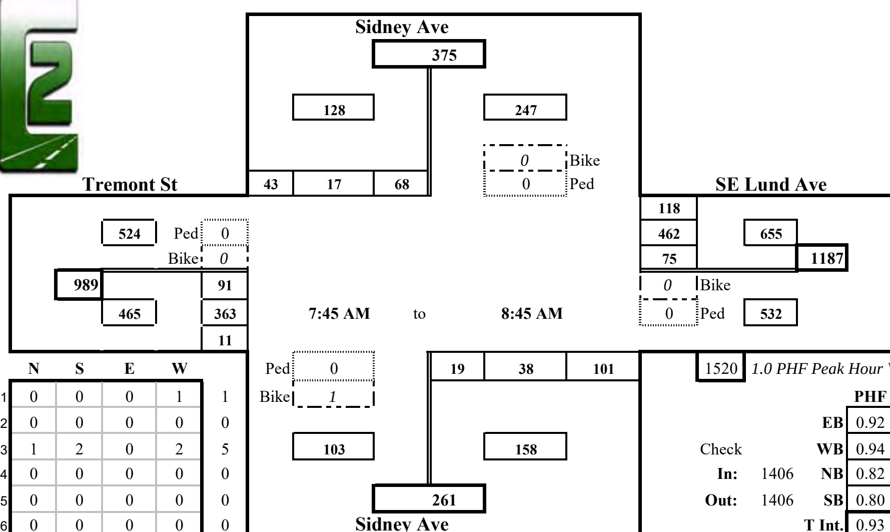
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Sidney Ave & SE Lund Ave/Tremont St **Date of Count:** Thur 03/05/2020

Location: Port Orchard, WA **Checked By:** Cameron

Time Interval Ending at	From North on (SB) Sidney Ave				From South on (NB) Sidney Ave				From East on (WB) SE Lund Ave				From West on (EB) Tremont St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	2	14	2	14	0	9	7	31	5	14	93	17	1	15	54	1	271
7:30 A	3	13	4	9	2	5	13	20	5	16	131	30	1	14	66	2	323
7:45 A	2	12	7	12	1	4	11	28	0	19	100	27	7	24	90	2	336
8:00 A	0	15	4	12	0	3	16	29	2	16	115	43	3	39	88	0	380
8:15 A	2	12	6	12	2	5	6	28	2	20	114	20	5	13	84	5	325
8:30 A	0	28	2	10	1	7	9	20	4	24	114	27	3	15	100	1	357
8:45 A	2	13	5	9	1	4	7	24	5	15	119	28	4	24	91	5	344
9:00 A	1	19	5	9	2	4	12	30	5	25	93	26	4	21	125	2	371
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	12	126	35	87	9	41	81	210	28	149	879	218	28	165	698	18	2707
	Peak Hour: 7:45 AM to 8:45 AM																
Total	4	68	17	43	4	19	38	101	13	75	462	118	15	91	363	11	1406
Approach	128				158				655				465				1406
%HV	3.1%				2.5%				2.0%				3.2%				2.6%
PHF	0.80				0.82				0.94				0.92				0.93



1520 *1.0 PHF Peak Hour Volume*

PEDs Across:	N	S	E	W	
INT 01	0	0	0	1	1
INT 02	0	0	0	0	0
INT 03	1	2	0	2	5
INT 04	0	0	0	0	0
INT 05	0	0	0	0	0
INT 06	0	0	0	0	0
INT 07	0	0	0	0	0
INT 08	0	0	0	0	0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	2	0	3	6

	PHF	%HV
EB	0.92	3.2%
WB	0.94	2.0%
NB	0.82	2.5%
SB	0.80	3.1%
T Int.	0.93	2.6%

Check
In: 1406
Out: 1406

Conditions:

Bicycles From:	N	S	E	W	
INT 01	0	0	0	0	0
INT 02	0	0	0	0	0
INT 03	3	0	0	0	3
INT 04	0	0	0	0	0
INT 05	0	0	0	0	0
INT 06	0	1	0	0	1
INT 07	0	0	0	0	0
INT 08	0	0	0	0	0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	3	1	0	0	4

Special Notes

Prepared for: **SCJ Alliance**

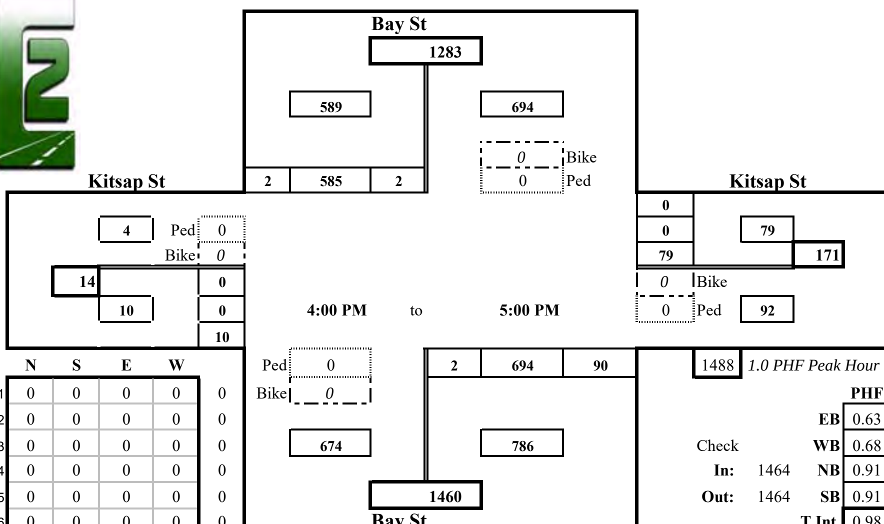
Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Bay St & Kitsap St
Location: Port Orchard, WA
Date of Count: Thur 03/05/2020
Checked By: Cameron

Time Interval	From North on (SB) Bay St				From South on (NB) Bay St				From East on (WB) Kitsap St				From West on (EB) Kitsap St				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	4	1	137	0	0	1	183	21	0	25	0	0	0	0	0	4	372
4:30 P	0	0	150	1	2	0	178	21	0	12	0	0	0	0	0	4	366
4:45 P	0	1	161	0	3	1	148	17	0	29	0	0	0	0	0	1	358
5:00 P	0	0	137	1	0	0	185	31	0	13	0	0	0	0	0	1	368
5:15 P	0	0	160	0	1	0	156	28	0	15	0	0	0	0	0	1	360
5:30 P	1	0	116	1	1	0	159	23	0	2	0	1	0	0	0	1	303
5:45 P	1	0	130	2	0	0	165	29	0	5	0	0	0	0	0	1	332
6:00 P	1	0	111	0	2	1	137	17	0	8	0	0	0	0	0	4	278
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	7	2	1102	5	9	3	1311	187	0	109	0	1	0	0	0	17	2737
	Peak Hour: 4:00 PM to 5:00 PM																
Total	4	2	585	2	5	2	694	90	0	79	0	0	0	0	0	10	1464
Approach	589				786				79				10				1464
%HV	0.7%				0.6%				n/a				n/a				0.6%
PHF	0.91				0.91				0.68				0.63				0.98



1488 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	0.63	n/a
WB	0.68	n/a
NB	0.91	0.6%
SB	0.91	0.7%
T Int.	0.98	0.6%

Check
In: 1464
Out: 1464

Conditions:

PEDs Across:

	N	S	E	W	
INT 01	0	0	0	0	0
INT 02	0	0	0	0	0
INT 03	0	0	0	0	0
INT 04	0	0	0	0	0
INT 05	0	0	0	0	0
INT 06	0	0	0	0	0
INT 07	0	0	0	0	0
INT 08	0	0	0	0	0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	0	**0**

Bicycles From:

	N	S	E	W	
INT 01	0	0	0	0	0
INT 02	0	0	0	0	0
INT 03	0	0	0	0	0
INT 04	0	0	0	0	0
INT 05	0	0	0	0	0
INT 06	0	0	0	0	0
INT 07	0	0	0	0	0
INT 08	0	0	0	0	0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	0	0

Special Notes

SCJ20032M_01P

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Cline Ave & Kitsap St **Date of Count:** Thur 03/05/2020

Location: Port Orchard, WA **Checked By:** Cameron

Time Interval Ending at	From North on (SB) Cline Ave				From South on (NB) Cline Ave				From East on (WB) Kitsap St				From West on (EB) Kitsap St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	2	6	0	0	17	11	4	0	2	6	0	0	0	20	0	68
4:30 P	0	7	3	0	1	8	2	5	0	1	5	1	0	0	21	2	55
4:45 P	0	2	1	0	0	22	5	12	1	2	9	2	0	0	20	1	76
5:00 P	0	0	3	0	0	12	7	3	0	5	2	0	0	0	25	2	59
5:15 P	0	2	1	0	0	10	7	9	0	0	5	0	0	0	28	1	63
5:30 P	0	0	2	0	0	1	2	6	0	1	2	0	0	0	21	3	38
5:45 P	0	0	4	0	0	3	5	2	0	2	3	0	0	0	25	2	46
6:00 P	0	1	2	0	0	4	3	1	0	0	3	0	0	1	13	3	31
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	14	22	0	1	77	42	42	1	13	35	3	0	1	173	14	436
	Peak Hour: 4:00 PM to 5:00 PM																
Total	0	11	13	0	1	59	25	24	1	10	22	3	0	0	86	5	258
Approach	24				108				35				91				258
%HV	n/a				0.9%				2.9%				n/a				0.8%
PHF	0.60				0.69				0.67				0.84				0.85

Cline Ave
52
24 28
0 Bike
0 Ped
0 13 11

Kitsap St
81 Ped 0
Bike 0
172 0
91 86
5

Kitsap St
3
22 35
10 156
0 Bike
7 Ped 121

4:00 PM to 5:00 PM

Ped 1
Bike 0
59 25 24
28 108
136
Cline Ave

304 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	0.84	n/a
WB	0.67	2.9%
NB	0.69	0.9%
SB	0.60	n/a
T Int.	0.85	0.8%

Check **In:** 258 **Out:** 258

Conditions:

PEDs Across:	N	S	E	W	
INT 01	0	1	4	0	5
INT 02	0	0	3	0	3
INT 03	0	0	0	0	0
INT 04	0	0	0	0	0
INT 05	0	0	1	0	1
INT 06	0	1	0	0	1
INT 07	0	0	1	0	1
INT 08	2	1	0	2	5
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	2	3	9	2	16

Bicycles From:	N	S	E	W	
INT 01	0	0	0	0	0
INT 02	0	0	0	0	0
INT 03	0	0	0	0	0
INT 04	0	0	0	0	0
INT 05	0	0	0	0	0
INT 06	0	0	0	0	0
INT 07	0	0	0	0	0
INT 08	0	0	0	0	0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	0	0

Special Notes

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Sidney Ave & Bay St **Date of Count:** Thur 03/05/2020

Location: Port Orchard, WA **Checked By:** Cameron

Time Interval Ending at	From North on (SB) Sidney Ave				From South on (NB) Sidney Ave				From East on (WB) Bay St				From West on (EB) Bay St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	2	32	13	4	0	4	5	27	3	20	130	12	0	5	168	2	422
4:30 P	1	46	9	5	1	12	2	33	0	13	134	12	2	2	160	4	432
4:45 P	6	40	11	9	0	34	5	54	0	14	114	7	3	2	144	1	435
5:00 P	2	29	10	9	1	24	6	30	1	11	135	9	0	1	163	1	428
5:15 P	3	27	7	8	0	17	6	31	0	15	126	6	1	5	156	1	405
5:30 P	2	19	8	3	1	4	3	25	1	18	108	5	1	2	151	4	350
5:45 P	4	29	7	5	1	4	5	29	0	5	118	7	0	1	163	4	377
6:00 P	0	21	12	6	2	8	3	16	0	13	96	4	2	0	155	2	336
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	20	243	77	49	6	107	35	245	5	109	961	62	9	18	1260	19	3185
	Peak Hour: 4:00 PM to 5:00 PM																
Total	11	147	43	27	2	74	18	144	4	58	513	40	5	10	635	8	1717
Approach	217				236				611				653				1717
%HV	5.1%				0.8%				0.7%				0.8%				1.3%
PHF	0.90				0.63				0.94				0.93				0.99

Sidney Ave

285

217 68

0 Bike

9 Ped

Bay St

27 43 147

Bay St

40

513

58

611

1537

614 Ped 19

Bike 0

1267

10

653

635

8

4:00 PM to 5:00 PM

0 Bike

31 Ped

926

Ped 8

Bike 0

74 18 144

109 236

345

Sidney Ave

1740 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.93	0.8%
Check	WB	0.94	0.7%
In: 1717	NB	0.63	0.8%
Out: 1717	SB	0.90	5.1%
	T Int.	0.99	1.3%

Conditions:

PEDs Across:	N	S	E	W	
INT 01	5	5	13	8	31
INT 02	2	0	6	1	9
INT 03	2	3	9	7	21
INT 04	0	0	3	3	6
INT 05	0	3	5	3	11
INT 06	3	1	7	3	14
INT 07	3	4	5	5	17
INT 08	1	3	5	0	9
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	16	19	53	30	**118**

Special Notes

Bicycles From:	N	S	E	W	
INT 01	0	0	0	0	0
INT 02	0	0	0	0	0
INT 03	0	0	0	0	0
INT 04	0	0	0	0	0
INT 05	0	0	0	0	0
INT 06	1	0	0	0	1
INT 07	0	0	0	0	0
INT 08	0	0	0	0	0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	0	0	0	1

SCJ20032M_02P

Prepared for: **SCJ Alliance**

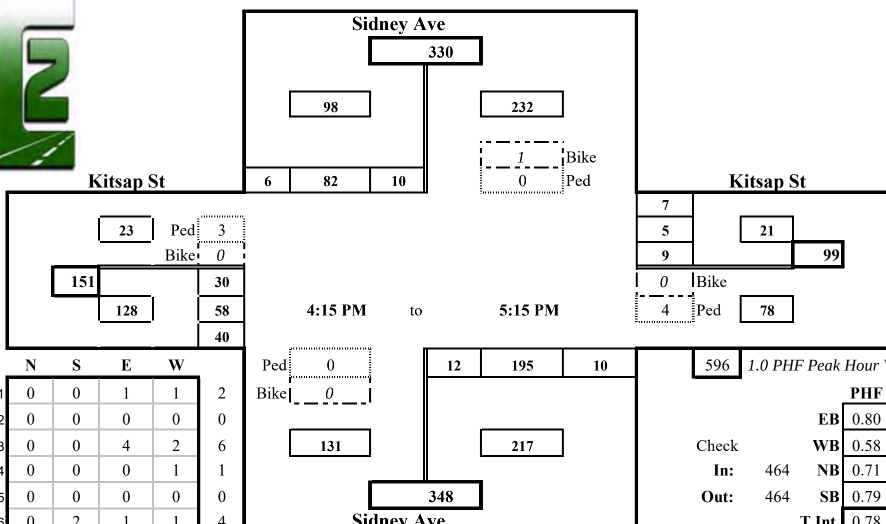
Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Sidney Ave & Kitsap St | **Date of Count:** Thur 03/05/2020
Location: Port Orchard, WA | **Checked By:** Cameron

Time Interval	From North on (SB) Sidney Ave				From South on (NB) Sidney Ave				From East on (WB) Kitsap St				From West on (EB) Kitsap St				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	1	2	31	2	0	4	20	1	0	0	3	1	0	8	11	9	92
4:30 P	1	4	16	2	1	2	37	1	0	2	2	1	0	5	14	11	97
4:45 P	1	4	25	2	0	3	72	1	0	0	1	1	0	11	18	11	149
5:00 P	0	1	19	0	1	3	44	5	0	3	0	2	0	9	10	5	101
5:15 P	2	1	22	2	0	4	42	3	0	4	2	3	0	5	16	13	117
5:30 P	0	1	26	1	2	3	19	1	0	3	0	1	0	9	11	4	79
5:45 P	1	0	17	1	0	2	23	2	0	1	0	0	0	12	8	4	70
6:00 P	0	0	24	0	1	0	30	6	0	1	2	1	0	1	5	8	78
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	6	13	180	10	5	21	287	20	0	14	10	10	0	60	93	65	783
	Peak Hour: 4:15 PM to 5:15 PM																
Total	4	10	82	6	2	12	195	10	0	9	5	7	0	30	58	40	464
Approach	98				217				21				128				464
%HV	4.1%				0.9%				n/a				n/a				1.3%
PHF	0.79				0.71				0.58				0.80				0.78



596 *1.0 PHF Peak Hour Volume*

PEDs Across:	N	S	E	W	
INT 01	0	0	1	1	2
INT 02	0	0	0	0	0
INT 03	0	0	4	2	6
INT 04	0	0	0	1	1
INT 05	0	0	0	0	0
INT 06	0	2	1	1	4
INT 07	0	0	0	0	0
INT 08	0	1	0	0	1
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	3	6	5	14

Special Notes

Bicycles From:	N	S	E	W	
INT 01	0	0	0	0	0
INT 02	0	0	0	0	0
INT 03	1	0	0	0	1
INT 04	0	0	0	0	0
INT 05	0	0	0	0	0
INT 06	0	0	0	0	0
INT 07	0	0	0	0	0
INT 08	0	0	0	0	0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	0	0	0	1

		PHF	%HV
	EB	0.80	n/a
Check	WB	0.58	n/a
In: 464	NB	0.71	0.9%
Out: 464	SB	0.79	4.1%
	T Int.	0.78	1.3%

Conditions:

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

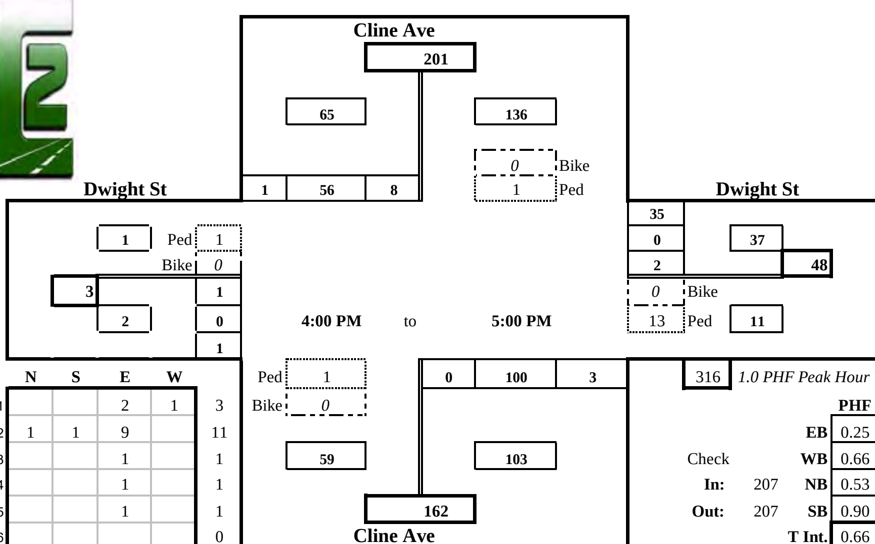
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Cline Ave & Dwight St | **Date of Count:** Tues 10/01/2019

Location: Port Orchard, Washington | **Checked By:** Jess

Time Interval Ending at	From North on (SB) Cline Ave				From South on (NB) Cline Ave				From East on (WB) Dwight St				From West on (EB) Dwight St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	2	16	0	0	0	19	3	0	0	0	11	0	0	0	0	51
4:30 P	0	2	14	0	1	0	17	0	0	0	0	9	0	0	0	0	42
4:45 P	0	4	10	0	0	0	49	0	0	2	0	12	0	1	0	1	79
5:00 P	0	0	16	1	0	0	15	0	0	0	0	3	0	0	0	0	35
5:15 P	0	1	14	0	0	0	10	2	0	2	0	3	0	0	0	0	32
5:30 P	0	2	19	1	0	0	6	1	0	0	0	3	0	0	0	0	32
5:45 P	0	1	15	0	0	0	8	0	0	0	0	0	0	0	0	0	24
6:00 P	0	2	13	0	0	0	13	1	0	0	0	0	0	0	0	0	29
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	14	117	2	1	0	137	7	0	4	0	41	0	1	0	1	324
Peak Hour: 4:00 PM to 5:00 PM																	
Total	0	8	56	1	1	0	100	3	0	2	0	35	0	1	0	1	207
Approach	65				103				37				2				207
%HV	n/a				1.0%				n/a				n/a				0.5%
PHF	0.90				0.53				0.66				0.25				0.66



316 1.0 PHF Peak Hour Volume

PEDs Across:	N	S	E	W	
INT 01			2	1	3
INT 02	1	1	9		11
INT 03			1		1
INT 04			1		1
INT 05			1		1
INT 06					0
INT 07					0
INT 08	1	1	2		4
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	2	2	16	1	21

		PHF	%HV
Check	EB	0.25	n/a
	WB	0.66	n/a
In: 207	NB	0.53	1.0%
Out: 207	SB	0.90	n/a
	T Int.	0.66	0.5%

Bicycles From:	N	S	E	W		N U's	S U's	E U's	W U's
INT 01					0	1			
INT 02					0	0			
INT 03					0	0			
INT 04					0	0			
INT 05					0	0			
INT 06					0	0			
INT 07					0	0			
INT 08		1			1	0			
INT 09					0				
INT 10					0				
INT 11					0				
INT 12					0				
	0	1	0	0	1	1	0	0	0

Special Notes

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

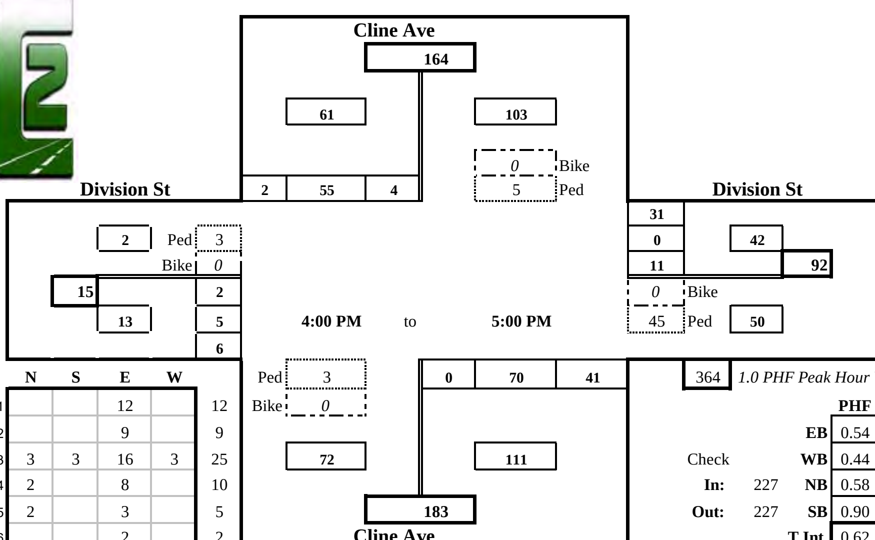
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Cline Ave & Division St | **Date of Count:** Tues 10/01/2019

Location: Port Orchard, Washington | **Checked By:** Jess

Time Interval Ending at	From North on (SB) Cline Ave				From South on (NB) Cline Ave				From East on (WB) Division St				From West on (EB) Division St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	2	14	0	0	0	16	4	0	3	0	6	1	0	0	1	46
4:30 P	0	0	14	1	1	0	12	8	0	2	0	4	0	1	1	0	43
4:45 P	0	2	11	0	0	0	28	20	0	5	0	19	0	1	3	2	91
5:00 P	0	0	16	1	0	0	14	9	0	1	0	2	0	0	1	3	47
5:15 P	0	2	17	0	0	0	9	7	0	1	0	2	0	0	0	1	39
5:30 P	0	0	19	0	0	0	7	2	0	0	1	1	0	0	0	0	30
5:45 P	0	0	15	0	0	0	6	1	0	1	0	0	0	1	0	0	24
6:00 P	0	0	12	0	0	0	11	2	0	1	0	2	0	2	0	0	30
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	6	118	2	1	0	103	53	0	14	1	36	1	5	5	7	350
Peak Hour: 4:00 PM to 5:00 PM																	
Total	0	4	55	2	1	0	70	41	0	11	0	31	1	2	5	6	227
Approach	61				111				42				13				227
%HV	n/a				0.9%				n/a				7.7%				0.9%
PHF	0.90				0.58				0.44				0.54				0.62



364 *1.0 PHF Peak Hour Volume*

PEDs Across:	N	S	E	W	
INT 01			12		12
INT 02			9		9
INT 03	3	3	16	3	25
INT 04	2		8		10
INT 05	2		3		5
INT 06			2		2
INT 07	1	1	3		5
INT 08	1	1	5	1	8
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	9	5	58	4	76

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06					0
INT 07					0
INT 08			4		4
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	4	0	4

		PHF	%HV
	EB	0.54	7.7%
Check	WB	0.44	n/a
In: 227	NB	0.58	0.9%
Out: 227	SB	0.90	n/a
	T Int.	0.62	0.9%

Conditions:

Special Notes

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

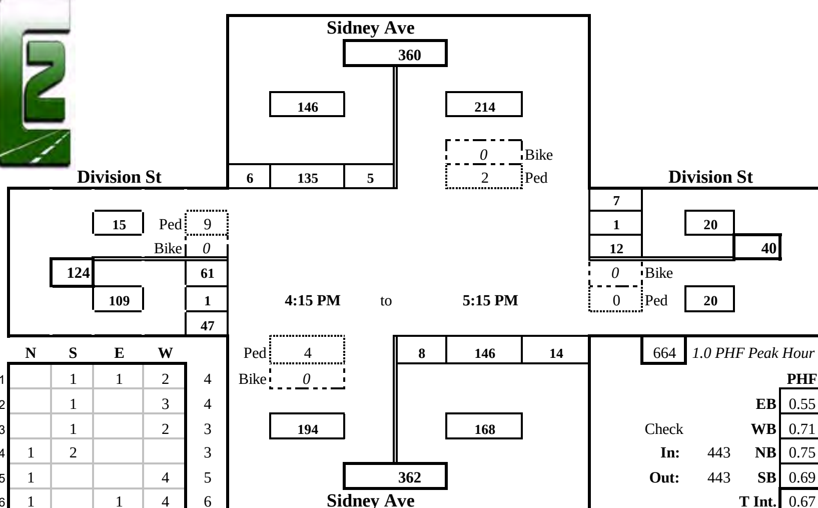
WBE/DBE

Intersection: Sidney Ave & Division St
Location: Port Orchard, Washington
Date of Count: Tues 10/01/2019
Checked By: Jess

Time Interval	From North on (SB) Sidney Ave				From South on (NB) Sidney Ave				From East on (WB) Division St				From West on (EB) Division St				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	1	32	1	0	8	23	4	0	3	0	1	0	3	1	11	88
4:30 P	0	2	35	1	0	2	33	5	0	1	1	1	0	11	0	8	100
4:45 P	0	1	48	4	0	4	49	3	0	5	0	2	0	29	1	20	166
5:00 P	0	1	20	1	0	1	38	3	0	2	0	3	0	13	0	5	87
5:15 P	0	1	32	0	0	1	26	3	0	4	0	1	0	8	0	14	90
5:30 P	0	3	35	0	0	3	26	5	0	6	0	3	0	4	0	6	91
5:45 P	0	1	44	1	0	0	37	0	0	6	0	0	0	1	0	1	91
6:00 P	0	1	34	2	0	0	31	2	0	2	1	2	0	1	1	2	79
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	11	280	10	0	19	263	25	0	29	2	13	0	70	3	67	792

Peak Hour: 4:15 PM to 5:15 PM

	SB T	SB L	SB S	SB R	NB T	NB L	NB S	NB R	WB T	WB L	WB S	WB R	EB T	EB L	EB S	EB R	Interval Total
Total	0	5	135	6	0	8	146	14	0	12	1	7	0	61	1	47	443
Approach	146				168				20				109				443
%HV	n/a				n/a				n/a				n/a				0.0%
PHF	0.69				0.75				0.71				0.55				0.67



664 *1.0 PHF Peak Hour Volume*

PEDs Across:	N	S	E	W	
INT 01		1	1	2	4
INT 02		1		3	4
INT 03		1		2	3
INT 04	1	2			3
INT 05	1			4	5
INT 06	1		1	4	6
INT 07	2		1		3
INT 08				2	2
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	5	5	3	17	30

Special Notes

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06					0
INT 07	1		2	1	4
INT 08			2	2	4
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	0	4	3	8

Check
In: 443
Out: 443

	PHF	%HV
EB	0.55	n/a
WB	0.71	n/a
NB	0.75	n/a
SB	0.69	n/a
T Int.	0.67	0.0%

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

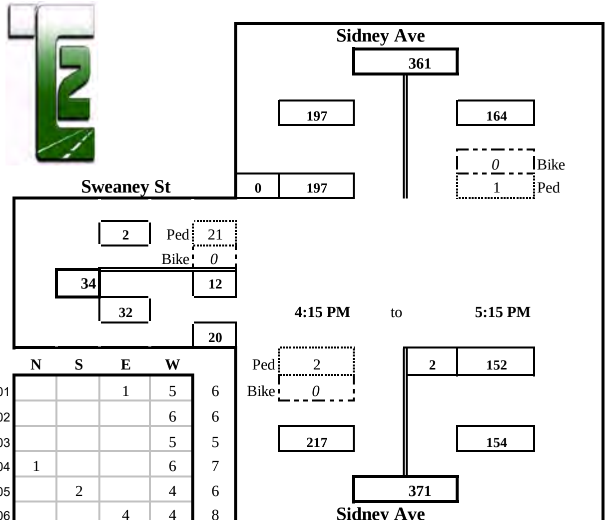
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Sidney Ave & Sweaney St
Location: Port Orchard, Washington

Date of Count: Tues 10/01/2019
Checked By: Jess

Time Interval Ending at	From North on (SB) Sidney Ave T	L	S	R	From South on (NB) Sidney Ave T	L	S	R	From East on (WB) 0 T	L	S	R	From West on (EB) Sweaney St T	L	S	R	Interval Total
4:15 P	0	0	44	1	0	1	30	0	0	0	0	0	1	4	0	4	84
4:30 P	0	0	45	0	0	0	36	0	0	0	0	0	0	3	0	1	85
4:45 P	0	0	76	0	0	0	48	0	0	0	0	0	0	6	0	9	139
5:00 P	0	0	27	0	0	1	40	0	0	0	0	0	0	1	0	3	72
5:15 P	0	0	49	0	0	1	28	0	0	0	0	0	0	2	0	7	87
5:30 P	0	0	46	1	0	0	34	0	0	0	0	0	0	0	0	1	82
5:45 P	0	0	51	0	0	1	33	0	0	0	0	0	0	4	0	2	91
6:00 P	0	0	38	0	0	0	31	0	0	0	0	0	0	2	0	1	72
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	376	2	0	4	280	0	0	0	0	0	1	22	0	28	712
	Peak Hour: 4:15 PM to 5:15 PM																
Total	0	0	197	0	0	2	152	0	0	0	0	0	0	12	0	20	383
Approach	197				154				0				32				383
%HV	n/a				n/a				n/a				n/a				0.0%
PHF	0.65				0.80				n/a				0.53				0.69



PEDs Across:

	N	S	E	W	
INT 01			1	5	6
INT 02				6	6
INT 03				5	5
INT 04	1			6	7
INT 05		2		4	6
INT 06			4	4	8
INT 07				1	1
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	2	5	31	39

Special Notes

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06					0
INT 07	1				1
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	0	0	0	1

556 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	0.53	n/a
WB	n/a	n/a
NB	0.80	n/a
SB	0.65	n/a
T Int.	0.69	0.0%

Check
In: 383
Out: 383

Conditions:

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Cline Ave & Taylor St **Date of Count:** Tues 10/01/2019

Location: Port Orchard, Washington **Checked By:** Jess

Time Interval	From North on (SB) Cline Ave				From South on (NB) Cline Ave				From East on (WB) Taylor St				From West on (EB) Taylor St				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	1	0	20	1	0	0	3	0	0	6	0	11	0	0	0	0	41
4:30 P	0	0	23	0	1	0	9	0	0	2	0	6	0	0	0	0	40
4:45 P	0	0	25	0	0	0	6	0	0	9	1	28	0	0	0	0	69
5:00 P	0	0	26	0	0	1	6	0	0	5	0	6	0	0	0	0	44
5:15 P	0	1	21	1	0	0	6	0	0	4	1	8	0	1	0	0	43
5:30 P	0	0	20	0	0	0	6	0	0	2	0	4	0	0	0	0	32
5:45 P	0	0	16	0	0	0	5	0	0	2	1	1	0	0	0	1	26
6:00 P	0	0	14	0	0	0	8	0	0	0	0	1	0	1	0	0	24
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	1	1	165	2	1	1	49	0	0	30	3	65	0	2	0	1	319
	Peak Hour: 4:15 PM to 5:15 PM																
Total	0	1	95	1	1	1	27	0	0	20	2	48	0	1	0	0	196
Approach	97				28				70				1				196
%HV	n/a				3.6%				n/a				n/a				0.5%
PHF	0.93				0.78				0.46				0.25				0.71

Cline Ave

173

97 76

0 Bike

0 Ped

1 95 1

Taylor St (west)

4 Ped 3

Bike 0

5

1 1

0

0

4:15 PM to **5:15 PM**

Taylor St (east)

48

2 70

20 71

0 Bike

10 Ped 1

Ped 0

Bike 1

1 27 0

115 28

143

Cline Ave

276 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	0.25	n/a
WB	0.46	n/a
NB	0.78	3.6%
SB	0.93	n/a
T Int.	0.71	0.5%

Check

In: 196

Out: 196

PEDs Across:	N	S	E	W	
INT 01			11		11
INT 02			2		2
INT 03			3	1	4
INT 04			3	2	5
INT 05			2		2
INT 06				1	1
INT 07		1	2	1	4
INT 08			3		3
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	1	26	5	32

Special Notes

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04		1			1
INT 05					0
INT 06					0
INT 07		1			1
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	2	0	0	2

Prepared for: **SCJ Alliance**

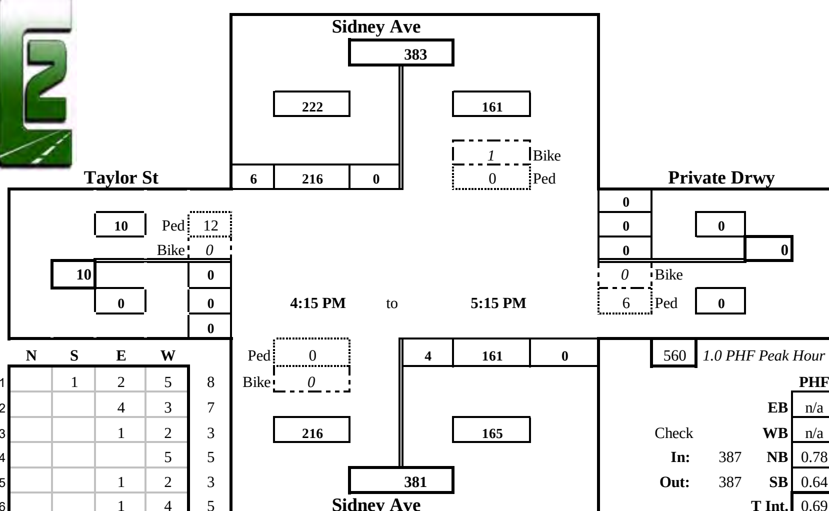
Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Sidney Ave & Taylor St
Location: Port Orchard, Washington
Date of Count: Tues 10/01/2019
Checked By: Jess

Time Interval Ending at	From North on (SB) Sidney Ave T	L	S	R	From South on (NB) Sidney Ave T	L	S	R	From East on (WB) Private Drwy T	L	S	R	From West on (EB) Taylor St T	L	S	R	Interval Total
4:15 P	1	0	42	5	0	1	33	0	0	0	0	0	0	0	0	0	81
4:30 P	0	0	48	1	0	0	37	0	0	0	0	0	0	0	0	0	86
4:45 P	0	0	86	1	0	1	52	0	0	0	0	0	0	0	0	0	140
5:00 P	0	0	32	0	0	1	42	0	0	0	0	0	0	0	0	0	75
5:15 P	0	0	50	4	0	2	30	0	0	0	0	0	0	0	0	0	86
5:30 P	0	0	36	0	0	1	32	0	0	0	0	0	0	0	0	0	69
5:45 P	0	0	52	0	0	3	23	0	0	0	0	0	0	0	0	0	78
6:00 P	0	0	40	0	0	0	30	0	0	0	0	0	0	0	0	0	70
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	1	0	386	11	0	9	279	0	0	0	0	0	0	0	0	0	685
	Peak Hour: 4:15 PM to 5:15 PM																
Total	0	0	216	6	0	4	161	0	0	0	0	0	0	0	0	0	387
Approach	222				165				0				0				387
%HV	n/a				n/a				n/a				n/a				0.0%
PHF	0.64				0.78				n/a				n/a				0.69



560 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	n/a	n/a
Check	WB	n/a	n/a
In: 387	NB	0.78	n/a
Out: 387	SB	0.64	n/a
	T Int.	0.69	0.0%

Conditions:

PEDs Across:	N	S	E	W	
INT 01		1	2	5	8
INT 02			4	3	7
INT 03			1	2	3
INT 04				5	5
INT 05			1	2	3
INT 06			1	4	5
INT 07				1	1
INT 08				1	1
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	1	9	23	33

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04	1				1
INT 05					0
INT 06					0
INT 07	2	1			3
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	3	1	0	0	4

Special Notes

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Sidney Ave & SE Lund Ave/Tremont St **Date of Count:** Thur 03/05/2020

Location: Port Orchard, WA **Checked By:** Cameron

Time Interval	From North on (SB) Sidney Ave				From South on (NB) Sidney Ave				From East on (WB) SE Lund Ave				From West on (EB) Tremont St				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	1	46	12	32	1	2	7	57	4	42	133	19	3	17	238	3	608
4:30 P	0	39	12	21	2	6	10	49	3	32	111	20	6	6	210	7	523
4:45 P	1	49	24	34	1	3	9	36	2	22	148	23	7	13	226	10	597
5:00 P	4	36	13	27	0	2	10	36	1	60	105	19	3	23	225	6	562
5:15 P	2	33	13	30	1	2	10	58	1	52	128	23	2	15	233	6	603
5:30 P	0	22	13	12	1	5	7	43	0	35	123	29	1	14	200	6	509
5:45 P	1	45	14	18	0	2	11	35	1	46	107	32	1	13	152	5	480
6:00 P	0	19	12	14	0	1	4	37	0	39	97	25	1	15	193	9	465
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	9	289	113	188	6	23	68	351	12	328	952	190	24	116	1677	52	4347
	Peak Hour: 4:00 PM to 5:00 PM																
Total	6	170	61	114	4	13	36	178	10	156	497	81	19	59	899	26	2290
Approach	345				227				734				984				2290
%HV	1.7%				1.8%				1.4%				1.9%				1.7%
PHF	0.81				0.86				0.95				0.95				0.94

Sidney Ave

521

345 176

0 Bike
2 Ped

114 61 170

Tremont St

624 Ped 0
Bike 0
1608 59
984 899
26

4:00 PM to 5:00 PM

SE Lund Ave

81
497 734
156 1981
0 Bike
0 Ped 1247

Ped 0
Bike 0

13 36 178

243 227

470

Sidney Ave

2432 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.95	1.9%
Check	WB	0.95	1.4%
In: 2290	NB	0.86	1.8%
Out: 2290	SB	0.81	1.7%
	T Int.	0.94	1.7%

Conditions:

PEDs Across:	N	S	E	W	
INT 01	0	0	0	0	0
INT 02	2	0	0	0	2
INT 03	0	0	0	0	0
INT 04	0	0	0	0	0
INT 05	0	0	0	0	0
INT 06	0	0	0	0	0
INT 07	0	0	0	0	0
INT 08	0	0	0	1	1
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	2	0	0	1	3

Bicycles From:	N	S	E	W	
INT 01	0	0	0	0	0
INT 02	0	0	0	0	0
INT 03	0	0	0	0	0
INT 04	0	0	0	0	0
INT 05	0	0	0	0	0
INT 06	0	0	0	0	0
INT 07	0	0	0	0	0
INT 08	0	0	0	0	0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	0	0

Special Notes

Appendix C

Traffic Volume Calculation Worksheets

Kitsap County Courthouse Expansion

AM Peak Hour Volumes

2023 Growth Rate: **2.00%**

2029 Growth Rate: **1.00%**

Intersection	Movement		Existing 2020 Volumes	Background 2023 Growth	Access Revision Adjstment	**Baseline 2023 Volumes**	Phase 1 Generated Volumes	**Projected 2023 Volumes**	Background 2029 Growth	**Baseline 2029 Volumes**	Phase 2 Generated Volumes	Phase 1 + 2 Generated Volumes	**Projected 2029 Volumes**
		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
	EB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		R	2	0		**2**	0	**2**	0	**2**	0	0	**2**
1		L	36	2		**38**	10	**48**	2	**50**	8	18	**58**
Bay Street	WB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
Kitsap Street		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		L	15	1		**16**	0	**16**	1	**17**	0	0	**17**
TMC Date: 03/05/2020	NB	T	406	24		**430**	0	**430**	26	**456**	0	0	**456**
		R	104	6		**110**	32	**142**	7	**149**	21	53	**170**
7:15 - 8:15 AM		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
PHF: 0.96	SB	T	635	38		**673**	0	**673**	40	**713**	0	0	**713**
		R	1	0		**1**	0	**1**	0	**1**	0	0	**1**
			1,199			**1,271**		**1,313**		**1,389**			**1,418**
		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
	EB	T	65	4		**69**	9	**78**	4	**82**	6	15	**88**
		R	49	3		**52**	23	**75**	3	**78**	15	38	**93**
2		L	2	0		**2**	0	**2**	0	**2**	0	0	**2**
Kitsap Street	WB	T	16	1		**17**	3	**20**	1	**21**	2	5	**23**
Cline Avenue		R	3	0		**3**	0	**3**	0	**3**	0	0	**3**
		L	20	1		**21**	7	**28**	1	**29**	6	13	**35**
TMC Date: 03/05/2020	NB	T	14	1	-3	**12**	0	**12**	1	**13**	0	0	**13**
		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
7:30 - 8:30 AM		L	5	0		**5**	0	**5**	0	**6**	0	0	**6**
PHF: 0.89	SB	T	38	2	-27	**13**	0	**13**	1	**14**	0	0	**14**
		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
			212			**195**		**237**					
		L	4	0		**4**	0	**4**	0	**4**	0	0	**4**
	EB	T	350	21		**371**	0	**371**	22	**393**	0	0	**393**
		R	8	0		**8**	0	**8**	1	**9**	0	0	**9**
3		L	61	4	27	**92**	18	**110**	5	**115**	13	31	**128**
Bay Street	WB	T	683	41		**724**	0	**724**	43	**767**	0	0	**767**
Sidney Avenue		R	12	1		**13**	0	**13**	1	**13**	0	0	**13**
		L	13	1		**14**	0	**14**	1	**15**	0	0	**15**
TMC Date: 03/05/2020	NB	T	4	0		**4**	0	**4**	0	**4**	0	0	**4**
		R	41	2	3	**46**	6	**52**	3	**55**	4	10	**59**
7:00 - 8:00 AM		L	28	2		**30**	0	**30**	2	**31**	0	0	**31**
PHF: 0.96	SB	T	7	0		**7**	0	**7**	0	**8**	0	0	**8**
		R	8	0		**8**	0	**8**	1	**9**	0	0	**9**
			1,219			**1,322**		**1,346**		**1,425**			**1,442**

SCJ ALLIANCE
CONSULTING SERVICES

Kitsap County Courthouse Expansion

AM Peak Hour Volumes

2023 Growth Rate: **2.00%** 2029 Growth Rate: **1.00%**

Intersection	Movement		Existing 2020 Volumes	Background 2023 Growth	Access Revision Adjstment	**Baseline 2023 Volumes**	Phase 1 Generated Volumes	**Projected 2023 Volumes**	Background 2029 Growth	**Baseline 2029 Volumes**	Phase 2 Generated Volumes	Phase 1 + 2 Generated Volumes	**Projected 2029 Volumes**
		L	1	0		**1**	0	**1**	0	**1**	0	0	**1**
	EB	T	1	0		**1**	0	**1**	0	**1**	0	0	**1**
		R	47	3		**50**	9	**59**	3	**62**	6	15	**68**
4		L	2	0		**2**	0	**2**	0	**2**	0	0	**2**
Kitsap Street	WB	T	8	0		**8**	0	**8**	1	**9**	0	0	**9**
Sidney Avenue		R	2	0		**2**	0	**2**	0	**2**	0	0	**2**
		L	18	1		**19**	3	**22**	1	**23**	2	5	**25**
TMC Date: 03/05/2020	NB	T	46	3	3	**52**	6	**58**	3	**61**	4	10	**65**
		R	1	0		**1**	0	**1**	0	**1**	0	0	**1**
7:15 - 8:15 AM		L	2	0		**2**	0	**2**	0	**2**	0	0	**2**
PHF: 0.82	SB	T	71	4	27	**102**	18	**120**	6	**126**	13	31	**139**
		R	3	0		**3**	0	**3**	0	**3**	0	0	**3**
			202			**244**	36	**280**		**295**			**320**
		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
	EB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
5		L	4	0		**4**	0	**4**	0	**4**	0	0	**4**
Dwight Street	WB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
Cline Avenue		R	1	0		**1**	1	**2**	0	**2**	0	1	**2**
		L	2	0		**2**	0	**2**	0	**2**	0	0	**2**
TMC Date: 10/01/2019	NB	T	36	2	-3	**35**	6	**41**	2	**43**	6	12	**49**
		R	10	1		**11**	0	**11**	1	**11**	0	0	**11**
7:30 - 8:30 AM		L	80	5	-25	**60**	9	**69**	4	**72**	0	9	**72**
PHF: 0.87	SB	T	129	8	-2	**135**	14	**149**	8	**157**	15	29	**172**
		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
			262				30	**278**		**293**			**314**
		L	4	0		**4**	0	**4**	0	**4**	0	0	**4**
	EB	T	5	0		**5**	1	**6**	0	**7**	0	1	**7**
		R	4	0		**4**	0	**4**	0	**4**	1	1	**5**
6		L	30	2	-25	**7**	2	**9**	0	**9**	0	2	**9**
Division Street	WB	T	8	0		**8**	0	**8**	1	**9**	0	0	**9**
Cline Avenue		R	33	2		**35**	4	**39**	2	**41**	0	4	**41**
		L	6	0		**6**	1	**7**	0	**8**	0	1	**8**
TMC Date: 10/01/2019	NB	T	28	2	-3	**27**	2	**29**	2	**30**	6	8	**36**
		R	17	1		**18**	2	**20**	1	**21**	0	2	**21**
8:00 - 9:00 AM		L	18	1		**19**	3	**22**	1	**23**	0	3	**23**
PHF: 0.74	SB	T	73	4	-2	**75**	11	**86**	5	**91**	15	26	**106**
		R	8	0		**8**	0	**8**	1	**9**	0	0	**9**
			234				26	**244**		**257**			**279**

Kitsap County Courthouse Expansion

AM Peak Hour Volumes

2023 Growth Rate: **2.00%** 2029 Growth Rate: **1.00%**

Intersection	Movement		Existing 2020 Volumes	Background 2023 Growth	Access Revision Adjstment	**Baseline 2023 Volumes**	Phase 1 Generated Volumes	**Projected 2023 Volumes**	Background 2029 Growth	**Baseline 2029 Volumes**	Phase 2 Generated Volumes	Phase 1 + 2 Generated Volumes	**Projected 2029 Volumes**
		L	7	0		**7**	1	**8**	0	**9**	0	1	**9**
	EB	T	6	0		**6**	0	**6**	0	**7**	0	0	**7**
		R	31	2		**33**	1	**34**	2	**36**	0	1	**36**
7		L	12	1		**13**	1	**14**	1	**14**	0	1	**14**
Division Street	WB	T	3	0		**3**	1	**4**	0	**4**	0	1	**4**
Sidney Avenue		R	4	0		**4**	0	**4**	0	**4**	0	0	**4**
		L	58	3		**61**	7	**68**	4	**72**	0	7	**72**
TMC Date: 10/01/2019	NB	T	65	4	3	**72**	8	**80**	4	**84**	6	14	**90**
		R	9	1		**10**	1	**11**	1	**11**	0	1	**11**
7:45 - 8:45 AM		L	1	0		**1**	0	**1**	0	**1**	0	0	**1**
PHF: 0.94	SB	T	96	6	32	**134**	24	**158**	8	**166**	19	43	**185**
		R	24	1	-5	**20**	3	**23**	1	**25**	0	3	**25**
			316			**365**	47	**412**		**434**			**459**
		L	9	1		**10**	2	**12**	1	**12**	0	2	**12**
	EB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		R	14	1		**15**	3	**18**	1	**19**	0	3	**19**
8		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
Ada Street/Sweaney Street	WB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
Sidney Avenue		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		L	14	1		**15**	5	**20**	1	**21**	0	5	**21**
TMC Date: 10/01/2019	NB	T	131	8	3	**142**	14	**156**	9	**164**	6	20	**170**
		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
7:45 - 8:45 AM		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
PHF: 0.85	SB	T	114	7	32	**153**	21	**174**	9	**183**	20	41	**203**
		R	11	1		**12**	4	**16**	1	**16**	0	4	**16**
			293			**346**	49	**395**		**415**			**441**
		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
	EB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		R	1	0		**1**	0	**1**	0	**1**	0	0	**1**
9		L	2	0	2	**4**	2	**6**	0	**6**	2	4	**8**
Taylor Street	WB	T	1	0		**1**	0	**1**	0	**1**	0	0	**1**
Cline Avenue		R	11	1	2	**14**	3	**17**	1	**17**	6	9	**23**
		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
TMC Date: 10/01/2019	NB	T	67	4	-24	**47**	2	**49**	3	**52**	0	2	**52**
		R	0	0	14	**14**	10	**24**	1	**25**	8	18	**33**
7:30 - 8:30 AM		L	0	0	20	**20**	11	**31**	1	**32**	16	27	**48**
PHF: 0.82	SB	T	69	4	-16	**57**	2	**59**	3	**63**	0	2	**63**
		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
			151			**158**	30	**188**		**198**			**230**

SCJ ALLIANCE
CONSULTING SERVICES

Kitsap County Courthouse Expansion

AM Peak Hour Volumes

2023 Growth Rate: **2.00%**   2029 Growth Rate: **1.00%**

Intersection	Movement		Existing 2020 Volumes	Background 2023 Growth	Access Revision Adjstment	**Baseline 2023 Volumes**	Phase 1 Generated Volumes	**Projected 2023 Volumes**	Background 2029 Growth	**Baseline 2029 Volumes**	Phase 2 Generated Volumes	Phase 1 + 2 Generated Volumes	**Projected 2029 Volumes**
		L	0	0	3	**3**	7	**10**	0	**10**	6	13	**16**
	EB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		R	0	0	4	**4**	5	**9**	0	**9**	6	11	**15**
10		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
Taylor Street	WB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
Sidney Avenue		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		L	37	2	10	**49**	15	**64**	3	**67**	19	34	**86**
TMC Date: 10/01/2019	NB	T	157	9		**166**	12	**178**	10	**188**	0	12	**188**
		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
7:30 - 8:30 AM		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
PHF: 0.84	SB	T	95	6		**101**	4	**105**	6	**111**	0	4	**111**
		R	30	2	32	**64**	20	**84**	4	**88**	20	40	**108**
			319			**387**	63	**450**		**473**			**524**
		L	91	5		**96**	18	**114**	6	**120**	13	31	**133**
	EB	T	363	22		**385**	0	**385**	23	**408**	0	0	**408**
		R	11	1		**12**	0	**12**	1	**12**	0	0	**12**
11		L	75	5		**80**	0	**80**	5	**84**	0	0	**84**
Tremont Street	WB	T	462	28		**490**	0	**490**	29	**519**	0	0	**519**
Sidney Avenue		R	118	7		**125**	14	**139**	8	**147**	9	23	**156**
		L	19	1		**20**	0	**20**	1	**21**	0	0	**21**
TMC Date: 03/05/2020	NB	T	38	2		**40**	1	**41**	2	**44**	1	2	**45**
		R	101	6		**107**	0	**107**	6	**113**	0	0	**113**
7:45 - 8:45 AM		L	68	4		**72**	5	**77**	4	**81**	2	7	**83**
PHF: 0.93	SB	T	17	1		**18**	0	**18**	1	**19**	1	1	**20**
		R	43	3		**46**	6	**52**	3	**54**	4	10	**58**
			1,406			**1,490**	44	**1,534**		**1,624**			**1,654**

SCJ ALLIANCE CONSULTING SERVICES

Kitsap County Courthouse Expansion

PM Peak Hour Volumes

Growth Rate: **1.00%**

Intersection	Movement		Existing 2020 Volumes	City 2025 Growth	Access Revision Adjstment	**Baseline 2023 Volumes**	Phase 1 Generated Volumes	**Projected 2023 Volumes**	Background 2029 Growth	**Baseline 2029 Volumes**	Phase 2 Generated Volumes	Phase 1 + 2 Generated Volumes	**Projected 2029 Volumes**
		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
	EB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		R	10	0		**10**	0	**10**	1	**11**	0	0	**11**
1		L	79	2		**81**	27	**108**	7	**116**	19	46	**135**
Bay Street	WB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
Kitsap Street		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		L	2	0		**2**	0	**2**	0	**2**	0	0	**2**
TMC Date: 03/05/2020	NB	T	694	21		**715**	0	**715**	64	**779**	0	0	**779**
		R	90	3		**93**	6	**99**	8	**107**	4	10	**111**
4:00 - 5:00 PM		L	2	0		**2**	0	**2**	0	**2**	0	0	**2**
PHF: 0.98	SB	T	585	18		**603**	0	**603**	54	**657**	0	0	**657**
		R	2	0		**2**	0	**2**	0	**2**	0	0	**2**
			1,464			**1,508**		**1,541**		**1,677**			**1,700**
		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
	EB	T	86	3		**89**	2	**91**	8	**99**	1	3	**100**
		R	5	0		**5**	4	**9**	0	**10**	3	7	**13**
2		L	10	0		**10**	0	**10**	1	**11**	0	0	**11**
Kitsap Street	WB	T	22	1	5	**28**	7	**35**	2	**37**	6	13	**43**
Cline Avenue		R	3	0		**3**	0	**3**	0	**3**	0	0	**3**
		L	59	2	-5	**56**	20	**76**	5	**81**	13	33	**94**
TMC Date: 03/05/2020	NB	T	25	1	-19	**7**	0	**7**	1	**7**	0	0	**7**
		R	24	1	-10	**15**	0	**15**	1	**16**	0	0	**16**
4:00 - 5:00 PM		L	11	0		**11**	0	**11**	1	**12**	0	0	**12**
PHF: 0.85	SB	T	13	0	-4	**9**	0	**9**	1	**10**	0	0	**10**
		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
			258										
		L	10	3		**13**	0	**13**	1	**14**	0	0	**14**
	EB	T	635	0	-19	**616**	0	**616**	55	**671**	0	0	**671**
		R	8	6		**14**	0	**14**	1	**15**	0	0	**15**
3		L	58	8	4	**70**	3	**73**	6	**79**	3	6	**82**
Bay Street	WB	T	513	0	-4	**509**	0	**509**	46	**555**	0	0	**555**
Sidney Avenue		R	40	0		**40**	0	**40**	4	**44**	0	0	**44**
		L	74	0		**74**	0	**74**	7	**81**	0	0	**81**
TMC Date: 03/05/2020	NB	T	18	0		**18**	0	**18**	2	**20**	0	0	**20**
		R	144	30	19	**193**	16	**209**	17	**226**	11	27	**237**
4:00 - 5:00 PM		L	147	24		**171**	0	**171**	15	**186**	0	0	**186**
PHF: 0.99	SB	T	43	3		**46**	0	**46**	4	**50**	0	0	**50**
		R	27	0		**27**	0	**27**	2	**29**	0	0	**29**
			1,717			**1,791**		**1,810**		**1,971**			**1,985**

SCJ ALLIANCE
CONSULTING SERVICES

Kitsap County Courthouse Expansion

PM Peak Hour Volumes

Growth Rate: **1.00%**

Intersection	Movement		Existing 2020 Volumes	City 2025 Growth	Access Revision Adjstment	**Baseline 2023 Volumes**	Phase 1 Generated Volumes	**Projected 2023 Volumes**	Background 2029 Growth	**Baseline 2029 Volumes**	Phase 2 Generated Volumes	Phase 1 + 2 Generated Volumes	**Projected 2029 Volumes**
		L	30	0	-10	**20**	0	**20**	2	**22**	0	0	**22**
	EB	T	58	3		**61**	0	**61**	5	**66**	0	0	**66**
		R	40	5		**45**	2	**47**	4	**51**	1	3	**52**
4		L	9	0		**9**	0	**9**	1	**10**	0	0	**10**
Kitsap Street	WB	T	5	0		**5**	0	**5**	0	**5**	0	0	**5**
Sidney Avenue		R	7	0		**7**	0	**7**	1	**8**	0	0	**8**
		L	12	0	5	**17**	7	**24**	2	**26**	6	13	**32**
TMC Date: 03/05/2020	NB	T	195	30	29	**254**	16	**270**	23	**293**	11	27	**304**
		R	10	0		**10**	0	**10**	1	**11**	0	0	**11**
4:15 - 5:15 PM		L	10	0		**10**	0	**10**	1	**11**	0	0	**11**
PHF: 0.78	SB	T	82	16	4	**102**	3	**105**	9	**114**	3	6	**117**
		R	6	0		**6**	0	**6**	1	**7**	0	0	**7**
			464			**546**	28	**574**		**623**			**644**
		L	1	0		**1**	0	**1**	0	**1**	0	0	**1**
	EB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		R	1	0		**1**	0	**1**	0	**1**	0	0	**1**
5		L	2	0		**2**	0	**2**	0	**2**	0	0	**2**
Dwight Street	WB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
Cline Avenue		R	35	1	-5	**31**	5	**36**	3	**39**	0	5	**39**
		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
TMC Date: 10/01/2019	NB	T	100	3	-29	**74**	15	**89**	7	**96**	13	28	**109**
		R	3	0		**3**	0	**3**	0	**3**	0	0	**3**
4:00 - 5:00 PM		L	8	0		**8**	3	**11**	1	**12**	0	3	**12**
PHF: 0.66	SB	T	56	2	-4	**54**	1	**55**	5	**60**	3	4	**63**
		R	1	0		**1**	0	**1**	0	**1**	0	0	**1**
			207				24	**199**		**215**			**231**
		L	2	0		**2**	0	**2**	0	**2**	0	0	**2**
	EB	T	5	0		**5**	0	**5**	0	**6**	0	0	**6**
		R	6	0		**6**	1	**7**	1	**8**	0	1	**8**
6		L	11	0		**11**	2	**13**	1	**14**	0	2	**14**
Division Street	WB	T	0	0		**0**	1	**1**	0	**1**	0	1	**1**
Cline Avenue		R	31	1	-5	**27**	2	**29**	2	**31**	0	2	**31**
		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
TMC Date: 10/01/2019	NB	T	70	2	-24	**48**	13	**61**	4	**65**	13	26	**78**
		R	41	1	-36	**6**	0	**6**	1	**7**	0	0	**7**
4:00 - 5:00 PM		L	4	0		**4**	1	**5**	0	**5**	1	2	**6**
PHF: 0.62	SB	T	55	2	-4	**53**	0	**53**	5	**57**	2	2	**59**
		R	2	0		**2**	0	**2**	0	**2**	0	0	**2**
			227				20	**185**		**200**			**216**

Kitsap County Courthouse Expansion

PM Peak Hour Volumes

Growth Rate: **1.00%**

Intersection	Movement		Existing 2020 Volumes	City 2025 Growth	Access Revision Adjstment	**Baseline 2023 Volumes**	Phase 1 Generated Volumes	**Projected 2023 Volumes**	Background 2029 Growth	**Baseline 2029 Volumes**	Phase 2 Generated Volumes	Phase 1 + 2 Generated Volumes	**Projected 2029 Volumes**
		L	61	0	-26	**35**	3	**38**	3	**41**	0	3	**41**
	EB	T	1	0		**1**	0	**1**	0	**1**	0	0	**1**
		R	47	0		**47**	5	**52**	4	**56**	0	5	**56**
7		L	12	0		**12**	0	**12**	1	**13**	0	0	**13**
Division Street	WB	T	1	0		**1**	0	**1**	0	**1**	0	0	**1**
Sidney Avenue		R	7	0		**7**	0	**7**	1	**8**	0	0	**8**
		L	8	0		**8**	0	**8**	1	**9**	0	0	**9**
TMC Date: 10/01/2019	NB	T	146	30	60	**236**	20	**256**	21	**277**	17	37	**294**
		R	14	0		**14**	1	**15**	1	**16**	0	1	**16**
4:15 - 5:15 PM		L	5	0		**5**	0	**5**	0	**5**	0	0	**5**
PHF: 0.67	SB	T	135	21	4	**160**	2	**162**	14	**176**	4	6	**180**
		R	6	0		**6**	3	**9**	1	**10**	0	3	**10**
			443			**532**	34	**566**		**614**			**635**
		L	12	0		**12**	3	**15**	1	**16**	0	3	**16**
	EB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		R	20	1		**21**	4	**25**	2	**26**	0	4	**26**
8		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
Ada Street/Sweaney Street	WB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
Sidney Avenue		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		L	2	0		**2**	0	**2**	0	**2**	0	0	**2**
TMC Date: 10/01/2019	NB	T	152	5	60	**217**	18	**235**	19	**254**	17	35	**271**
		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
4:15 - 5:15 PM		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
PHF: 0.69	SB	T	197	6	4	**207**	7	**214**	19	**233**	4	11	**237**
		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
			383			**458**	32	**490**		**532**			**553**
		L	1	0		**1**	0	**1**	0	**1**	0	0	**1**
	EB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
9		L	20	1	22	**43**	8	**51**	4	**54**	7	15	**61**
Taylor Street	WB	T	2	0		**2**	0	**2**	0	**2**	0	0	**2**
Cline Avenue		R	48	1	-23	**26**	13	**39**	2	**42**	13	26	**55**
		L	1	0		**1**	0	**1**	0	**1**	0	0	**1**
TMC Date: 10/01/2019	NB	T	27	1	-3	**25**	0	**25**	2	**27**	0	0	**27**
		R	0	0	3	**3**	2	**5**	0	**5**	2	4	**7**
4:15 - 5:15 PM		L	1	0		**1**	1	**2**	0	**2**	1	2	**3**
PHF: 0.71	SB	T	95	3	-22	**76**	2	**78**	7	**85**	0	2	**85**
		R	1	0		**1**	0	**1**	0	**1**	0	0	**1**
			196			**179**	26	**205**		**221**			**244**

SCJ ALLIANCE
CONSULTING SERVICES

Kitsap County Courthouse Expansion

PM Peak Hour Volumes

Growth Rate: **1.00%**

Intersection	Movement		Existing 2020 Volumes	City 2025 Growth	Access Revision Adjstment	**Baseline 2023 Volumes**	Phase 1 Generated Volumes	**Projected 2023 Volumes**	Background 2029 Growth	**Baseline 2029 Volumes**	Phase 2 Generated Volumes	Phase 1 + 2 Generated Volumes	**Projected 2029 Volumes**
		L	0	0	60	**60**	18	**78**	5	**83**	17	35	**100**
	EB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		R	0	0		**0**	14	**14**	0	**14**	17	31	**31**
10		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
Taylor Street	WB	T	0	0		**0**	0	**0**	0	**0**	0	0	**0**
Sidney Avenue		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
		L	4	0		**4**	5	**9**	0	**9**	4	9	**13**
TMC Date: 10/01/2019	NB	T	161	5		**166**	0	**166**	15	**181**	0	0	**181**
		R	0	0		**0**	0	**0**	0	**0**	0	0	**0**
4:15 - 5:15 PM		L	0	0		**0**	0	**0**	0	**0**	0	0	**0**
PHF: 0.69	SB	T	216	6		**222**	9	**231**	20	**252**	0	9	**252**
		R	6	0	4	**10**	2	**12**	1	**13**	4	6	**17**
			387			**463**	48	**511**		**552**			**594**
		L	59	0		**59**	3	**62**	5	**67**	3	6	**70**
	EB	T	899	132		**1,031**	0	**1,031**	93	**1,124**	0	0	**1,124**
		R	26	0		**26**	0	**26**	2	**28**	0	0	**28**
11		L	156	0		**156**	0	**156**	14	**170**	0	0	**170**
Tremont Street	WB	T	497	256		**753**	0	**753**	68	**821**	0	0	**821**
Sidney Avenue		R	81	0		**81**	3	**84**	7	**91**	2	5	**93**
		L	13	3		**16**	0	**16**	1	**17**	0	0	**17**
TMC Date: 03/05/2020	NB	T	36	26		**62**	0	**62**	6	**68**	0	0	**68**
		R	178	1		**179**	0	**179**	16	**195**	0	0	**195**
4:00 - 5:00 PM		L	170	0		**170**	12	**182**	15	**197**	8	20	**205**
PHF: 0.94	SB	T	61	22		**83**	1	**84**	7	**91**	0	1	**91**
		R	114	0		**114**	15	**129**	10	**139**	12	27	**151**
			2,290			**2,730**	34	**2,764**		**3,010**			**3,035**

Appendix D
Capacity Analysis Worksheets

Intersection												
Int Delay, s/veh	0.7											
Movement	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NEL**	**NET**	**NER**	**SWL**	**SWT**	**SWR**
Lane Configurations												
Traffic Vol, veh/h	1	1	2	36	1	1	15	406	104	1	635	1
Future Vol, veh/h	1	1	2	36	1	1	15	406	104	1	635	1
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	3	3	3	2	2	2	2	2	2
Mvmt Flow	1	1	2	38	1	1	16	423	108	1	661	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1174	1227	662	1174	1173	477	662	0	0	531	0	0
Stage 1	664	664	-	509	509	-	-	-	-	-	-	-
Stage 2	510	563	-	665	664	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	170	180	465	168	191	586	927	-	-	1036	-	-
Stage 1	453	461	-	545	536	-	-	-	-	-	-	-
Stage 2	550	512	-	448	457	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	167	177	465	164	188	586	927	-	-	1036	-	-
Mov Cap-2 Maneuver	167	177	-	350	360	-	-	-	-	-	-	-
Stage 1	445	461	-	536	527	-	-	-	-	-	-	-
Stage 2	538	503	-	445	457	-	-	-	-	-	-	-

Approach	EB	WB	NE	SW
HCM Control Delay, s	19.6	16.4	0.3	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1	WBLn1	SWL	SWT	SWR
Capacity (veh/h)	927	-	-	251	354	1036	-	-
HCM Lane V/C Ratio	0.017	-	-	0.017	0.112	0.001	-	-
HCM Control Delay (s)	8.9	-	-	19.6	16.4	8.5	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.4	0	-	-

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	65	49	2	16	3	20	14	1	5	38	1
Future Vol, veh/h	1	65	49	2	16	3	20	14	1	5	38	1
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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	2	2	2
Mvmt Flow	1	73	55	2	18	3	22	16	1	6	43	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	127	117	44	181	117	17	44	0	0	17	0	0
Stage 1	56	56	-	61	61	-	-	-	-	-	-	-
Stage 2	71	61	-	120	56	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	851	777	1032	785	777	1068	1577	-	-	1600	-	-
Stage 1	961	852	-	955	848	-	-	-	-	-	-	-
Stage 2	944	848	-	889	852	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	822	763	1032	679	763	1068	1577	-	-	1600	-	-
Mov Cap-2 Maneuver	822	763	-	679	763	-	-	-	-	-	-	-
Stage 1	948	849	-	942	836	-	-	-	-	-	-	-
Stage 2	908	836	-	766	849	-	-	-	-	-	-	-

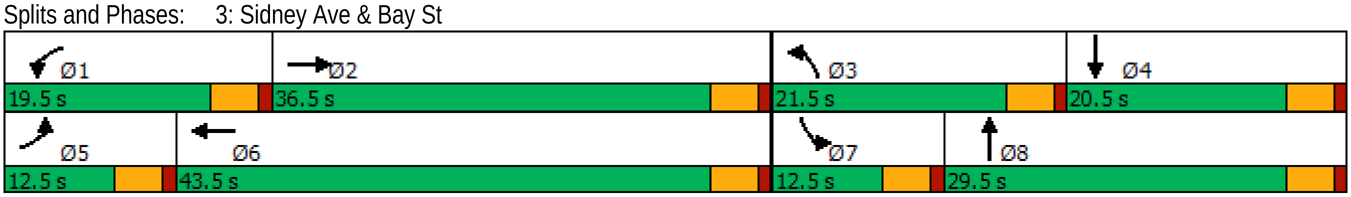
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	9.7	4.2	0.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1577	-	-	859	786	1600	-	-
HCM Lane V/C Ratio	0.014	-	-	0.15	0.03	0.004	-	-
HCM Control Delay (s)	7.3	0	-	9.9	9.7	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	350	8	61	683	12	13	4	41	28	7	8
Future Volume (vph)	4	350	8	61	683	12	13	4	41	28	7	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	150		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		490			480			417			320	
Travel Time (s)		13.4			13.1			11.4			8.7	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5		10.5	22.5		10.5	20.5		10.5	20.5	
Total Split (s)	12.5	36.5		19.5	43.5		21.5	29.5		12.5	20.5	
Total Split (%)	12.8%	37.2%		19.9%	44.4%		21.9%	30.1%		12.8%	20.9%	
Maximum Green (s)	8.0	32.0		15.0	39.0		17.0	25.0		8.0	16.0	
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		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			9.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 98	
Actuated Cycle Length: 53.6	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: Sidney Ave & Bay St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	350	8	61	683	12	13	4	41	28	7	8
Future Volume (veh/h)	4	350	8	61	683	12	13	4	41	28	7	8
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	1885	1885	1885	1870	1870	1870	1856	1856	1856	1559	1559	1559
Adj Flow Rate, veh/h	4	365	8	64	711	12	14	4	43	29	7	8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	2	2	2	3	3	3	23	23	23
Cap, veh/h	12	754	17	130	874	15	38	11	119	60	67	76
Arrive On Green	0.01	0.41	0.41	0.07	0.48	0.48	0.02	0.08	0.08	0.04	0.10	0.10
Sat Flow, veh/h	1795	1838	40	1781	1834	31	1767	136	1458	1485	664	759
Grp Volume(v), veh/h	4	0	373	64	0	723	14	0	47	29	0	15
Grp Sat Flow(s),veh/h/ln	1795	0	1878	1781	0	1865	1767	0	1593	1485	0	1423
Q Serve(g_s), s	0.1	0.0	6.7	1.6	0.0	15.1	0.4	0.0	1.3	0.9	0.0	0.4
Cycle Q Clear(g_c), s	0.1	0.0	6.7	1.6	0.0	15.1	0.4	0.0	1.3	0.9	0.0	0.4
Prop In Lane	1.00		0.02	1.00		0.02	1.00		0.91	1.00		0.53
Lane Grp Cap(c), veh/h	12	0	770	130	0	889	38	0	130	60	0	143
V/C Ratio(X)	0.34	0.00	0.48	0.49	0.00	0.81	0.37	0.00	0.36	0.48	0.00	0.11
Avail Cap(c_a), veh/h	315	0	1318	586	0	1596	659	0	874	261	0	499
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.5	0.0	9.9	20.3	0.0	10.2	22.0	0.0	19.8	21.4	0.0	18.6
Incr Delay (d2), s/veh	12.4	0.0	0.4	2.1	0.0	1.4	4.4	0.0	1.3	4.4	0.0	0.2
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	0.1	0.0	2.3	0.7	0.0	5.0	0.2	0.0	0.5	0.4	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	0.0	10.2	22.4	0.0	11.6	26.4	0.0	21.1	25.8	0.0	18.9
LnGrp LOS	C	A	B	C	A	B	C	A	C	C	A	B
Approach Vol, veh/h		377			787			61			44	
Approach Delay, s/veh		10.5			12.5			22.3			23.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	23.2	5.5	9.1	4.8	26.2	6.3	8.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.0	32.0	17.0	16.0	8.0	39.0	8.0	25.0
Max Q Clear Time (g_c+I1), s	3.6	8.7	2.4	2.4	2.1	17.1	2.9	3.3
Green Ext Time (p_c), s	0.1	2.0	0.0	0.0	0.0	4.6	0.0	0.2

Intersection Summary			
HCM 6th Ctrl Delay			12.7
HCM 6th LOS			B

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	47	2	8	2	18	46	1	2	71	3
Future Vol, veh/h	1	1	47	2	8	2	18	46	1	2	71	3
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	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	0	0	0	6	6	6	3	3	3
Mvmt Flow	1	1	57	2	10	2	22	56	1	2	87	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	200	194	89	223	196	57	91	0	0	57	0	0
Stage 1	93	93	-	101	101	-	-	-	-	-	-	-
Stage 2	107	101	-	122	95	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.16	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.254	-	-	2.227	-	-
Pot Cap-1 Maneuver	759	701	969	737	703	1015	1479	-	-	1541	-	-
Stage 1	914	818	-	910	815	-	-	-	-	-	-	-
Stage 2	898	811	-	887	820	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	740	690	969	684	692	1015	1479	-	-	1541	-	-
Mov Cap-2 Maneuver	740	690	-	684	692	-	-	-	-	-	-	-
Stage 1	900	817	-	896	803	-	-	-	-	-	-	-
Stage 2	872	799	-	832	819	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	10	2.1	0.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1479	-	-	955	729	1541	-	-
HCM Lane V/C Ratio	0.015	-	-	0.063	0.02	0.002	-	-
HCM Control Delay (s)	7.5	0	-	9	10	7.3	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	4	1	1	2	36	10	80	129	1
Future Vol, veh/h	1	1	1	4	1	1	2	36	10	80	129	1
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	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	1	1	5	1	1	2	41	11	92	148	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	385	389	149	385	384	47	149	0	0	52	0	0
Stage 1	333	333	-	51	51	-	-	-	-	-	-	-
Stage 2	52	56	-	334	333	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	577	549	903	577	553	1028	1445	-	-	1567	-	-
Stage 1	685	647	-	967	856	-	-	-	-	-	-	-
Stage 2	966	852	-	684	647	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	547	513	903	547	517	1028	1445	-	-	1567	-	-
Mov Cap-2 Maneuver	547	513	-	547	517	-	-	-	-	-	-	-
Stage 1	684	606	-	966	855	-	-	-	-	-	-	-
Stage 2	963	851	-	638	606	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	11.2	0.3	2.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1445	-	-	614	587	1567	-	-
HCM Lane V/C Ratio	0.002	-	-	0.006	0.012	0.059	-	-
HCM Control Delay (s)	7.5	0	-	10.9	11.2	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.2	-	-

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	4	5	4	30	8	33	6	28	17	18	73	8
Future Vol, veh/h	4	5	4	30	8	33	6	28	17	18	73	8
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	74	74	74	74	74	74	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	7	5	41	11	45	8	38	23	24	99	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	247	230	105	225	224	50	110	0	0	61	0	0
Stage 1	153	153	-	66	66	-	-	-	-	-	-	-
Stage 2	94	77	-	159	158	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	711	673	955	735	678	1024	1493	-	-	1555	-	-
Stage 1	854	775	-	950	844	-	-	-	-	-	-	-
Stage 2	918	835	-	848	771	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	661	658	955	713	663	1024	1493	-	-	1555	-	-
Mov Cap-2 Maneuver	661	658	-	713	663	-	-	-	-	-	-	-
Stage 1	849	763	-	944	839	-	-	-	-	-	-	-
Stage 2	862	830	-	822	759	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	10	0.9	1.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1493	-	-	729	822	1555	-	-
HCM Lane V/C Ratio	0.005	-	-	0.024	0.117	0.016	-	-
HCM Control Delay (s)	7.4	0	-	10.1	10	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	7	6	31	12	3	4	58	65	9	1	96	24
Future Vol, veh/h	7	6	31	12	3	4	58	65	9	1	96	24
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	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	6	33	13	3	4	62	69	10	1	102	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	319	320	115	335	328	74	128	0	0	79	0	0
Stage 1	117	117	-	198	198	-	-	-	-	-	-	-
Stage 2	202	203	-	137	130	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	638	600	943	622	594	993	1470	-	-	1532	-	-
Stage 1	892	803	-	808	741	-	-	-	-	-	-	-
Stage 2	805	737	-	871	792	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	611	573	943	575	567	993	1470	-	-	1532	-	-
Mov Cap-2 Maneuver	611	573	-	575	567	-	-	-	-	-	-	-
Stage 1	853	802	-	772	708	-	-	-	-	-	-	-
Stage 2	763	705	-	833	791	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	10.9	3.3	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1470	-	-	803	629	1532	-	-
HCM Lane V/C Ratio	0.042	-	-	0.058	0.032	0.001	-	-
HCM Control Delay (s)	7.6	0	-	9.8	10.9	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	1	14	5	1	10	14	131	1	1	114	11
Future Vol, veh/h	9	1	14	5	1	10	14	131	1	1	114	11
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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	1	16	6	1	12	16	154	1	1	134	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	336	330	141	338	336	155	147	0	0	155	0	0
Stage 1	143	143	-	187	187	-	-	-	-	-	-	-
Stage 2	193	187	-	151	149	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	622	592	912	620	588	896	1447	-	-	1438	-	-
Stage 1	865	782	-	819	749	-	-	-	-	-	-	-
Stage 2	813	749	-	856	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	607	584	912	602	580	896	1447	-	-	1438	-	-
Mov Cap-2 Maneuver	607	584	-	602	580	-	-	-	-	-	-	-
Stage 1	855	781	-	809	740	-	-	-	-	-	-	-
Stage 2	791	740	-	838	777	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	9.9	0.7	0.1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1447	-	-	753	755	1438	-	-
HCM Lane V/C Ratio	0.011	-	-	0.037	0.025	0.001	-	-
HCM Control Delay (s)	7.5	0	-	10	9.9	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	1	2	1	11	1	67	0	0	69	1
Future Vol, veh/h	1	0	1	2	1	11	1	67	0	0	69	1
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	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	0	1	2	1	13	1	82	0	0	84	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	176	169	85	169	169	82	85	0	-	-	-	0
Stage 1	85	85	-	84	84	-	-	-	-	-	-	-
Stage 2	91	84	-	85	85	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	-	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	791	728	980	799	728	983	1524	-	0	0	-	-
Stage 1	928	828	-	929	829	-	-	-	0	0	-	-
Stage 2	921	829	-	928	828	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	778	727	980	797	727	983	1524	-	-	-	-	-
Mov Cap-2 Maneuver	778	727	-	797	727	-	-	-	-	-	-	-
Stage 1	927	828	-	928	828	-	-	-	-	-	-	-
Stage 2	906	828	-	927	828	-	-	-	-	-	-	-

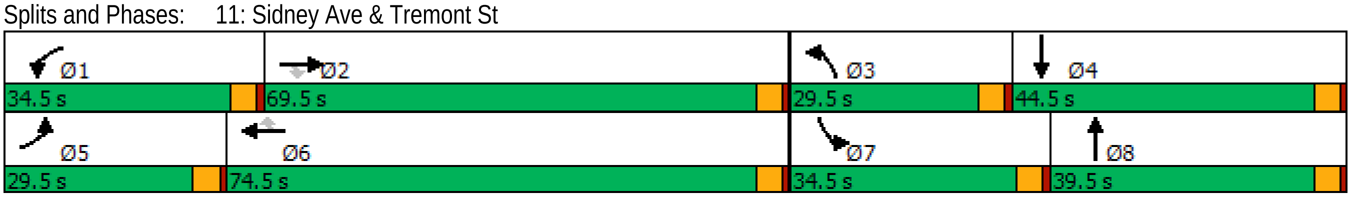
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.2	8.9	0.1	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1524	-	867	929	-	-
HCM Lane V/C Ratio	0.001	-	0.003	0.018	-	-
HCM Control Delay (s)	7.4	0	9.2	8.9	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	363	11	75	462	118	19	38	101	68	17	43
Future Volume (vph)	91	363	11	75	462	118	19	38	101	68	17	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		100	200		100	100		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		814			797			449			619	
Travel Time (s)		15.9			15.5			12.2			16.9	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	22.5	22.5	10.5	22.5		10.5	22.5	
Total Split (s)	29.5	69.5	69.5	34.5	74.5	74.5	29.5	39.5		34.5	44.5	
Total Split (%)	16.6%	39.0%	39.0%	19.4%	41.9%	41.9%	16.6%	22.2%		19.4%	25.0%	
Maximum Green (s)	25.0	65.0	65.0	30.0	70.0	70.0	25.0	35.0		30.0	40.0	
Yellow Time (s)	3.5	3.5	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		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.5	6.0	6.0	3.5	6.0	6.0	3.5	5.0		3.5	5.0	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	
Walk Time (s)		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	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 178	
Actuated Cycle Length: 70.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 11: Sidney Ave & Tremont St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	363	11	75	462	118	19	38	101	68	17	43
Future Volume (veh/h)	91	363	11	75	462	118	19	38	101	68	17	43
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	1856	1856	1856	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	98	390	0	81	497	0	20	41	109	73	18	46
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	2	2	2	3	3	3	3	3	3
Cap, veh/h	155	1215		142	1197		51	68	181	133	92	234
Arrive On Green	0.09	0.34	0.00	0.08	0.34	0.00	0.03	0.15	0.15	0.08	0.20	0.20
Sat Flow, veh/h	1767	3526	1572	1781	3554	1585	1767	449	1192	1767	462	1181
Grp Volume(v), veh/h	98	390	0	81	497	0	20	0	150	73	0	64
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1781	1777	1585	1767	0	1641	1767	0	1643
Q Serve(g_s), s	2.8	4.2	0.0	2.3	5.6	0.0	0.6	0.0	4.4	2.1	0.0	1.7
Cycle Q Clear(g_c), s	2.8	4.2	0.0	2.3	5.6	0.0	0.6	0.0	4.4	2.1	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.73	1.00		0.72
Lane Grp Cap(c), veh/h	155	1215		142	1197		51	0	250	133	0	326
V/C Ratio(X)	0.63	0.32		0.57	0.42		0.39	0.00	0.60	0.55	0.00	0.20
Avail Cap(c_a), veh/h	854	4431		1033	4810		854	0	1111	1025	0	1271
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.8	12.5	0.0	22.9	13.2	0.0	24.7	0.0	20.5	23.1	0.0	17.3
Incr Delay (d2), s/veh	5.1	0.5	0.0	4.3	0.8	0.0	5.8	0.0	4.9	4.2	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	1.3	1.5	0.0	1.0	2.0	0.0	0.3	0.0	1.9	1.0	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	13.0	0.0	27.2	14.1	0.0	30.4	0.0	25.3	27.2	0.0	17.9
LnGrp LOS	C	B		C	B		C	A	C	C	A	B
Approach Vol, veh/h		488	A		578	A		170			137	
Approach Delay, s/veh		16.0			15.9			25.9			22.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	22.3	6.0	14.8	9.0	21.9	8.4	12.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	65.0	25.0	40.0	25.0	70.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	4.3	6.2	2.6	3.7	4.8	7.6	4.1	6.4
Green Ext Time (p_c), s	0.2	7.3	0.0	0.7	0.3	9.8	0.2	1.7

Intersection Summary	
HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	1	2	38	1	1	16	430	110	1	673	1
Future Vol, veh/h	1	1	2	38	1	1	16	430	110	1	673	1
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	3	3	3	2	2	2	2	2	2
Mvmt Flow	1	1	2	40	1	1	17	448	115	1	701	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1245	1301	702	1245	1244	506	702	0	0	563	0	0
Stage 1	704	704	-	540	540	-	-	-	-	-	-	-
Stage 2	541	597	-	705	704	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	152	162	442	150	173	564	895	-	-	1008	-	-
Stage 1	431	443	-	524	520	-	-	-	-	-	-	-
Stage 2	529	495	-	426	438	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	149	159	442	146	170	564	895	-	-	1008	-	-
Mov Cap-2 Maneuver	149	159	-	329	343	-	-	-	-	-	-	-
Stage 1	423	443	-	514	510	-	-	-	-	-	-	-
Stage 2	517	486	-	423	438	-	-	-	-	-	-	-

Approach	EB	WB	NE	SW
HCM Control Delay, s	21.1	17.4	0.3	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1	WBLn1	SWL	SWT	SWR
Capacity (veh/h)	895	-	-	228	333	1008	-	-
HCM Lane V/C Ratio	0.019	-	-	0.018	0.125	0.001	-	-
HCM Control Delay (s)	9.1	-	-	21.1	17.4	8.6	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.4	0	-	-

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	69	52	2	17	3	21	12	1	5	13	1
Future Vol, veh/h	1	69	52	2	17	3	21	12	1	5	13	1
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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	2	2	2
Mvmt Flow	1	78	58	2	19	3	24	13	1	6	15	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	101	90	16	158	90	14	16	0	0	14	0	0
Stage 1	28	28	-	62	62	-	-	-	-	-	-	-
Stage 2	73	62	-	96	28	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	885	804	1069	813	804	1072	1615	-	-	1604	-	-
Stage 1	994	876	-	954	847	-	-	-	-	-	-	-
Stage 2	942	847	-	916	876	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	853	789	1069	701	789	1072	1615	-	-	1604	-	-
Mov Cap-2 Maneuver	853	789	-	701	789	-	-	-	-	-	-	-
Stage 1	979	872	-	940	834	-	-	-	-	-	-	-
Stage 2	904	834	-	786	872	-	-	-	-	-	-	-

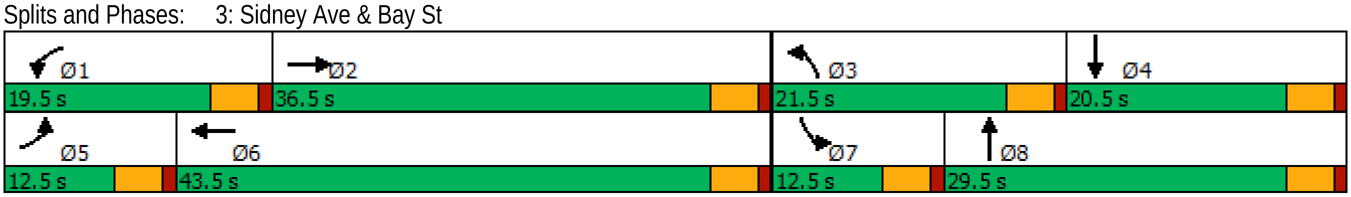
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	9.6	4.5	1.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1615	-	-	889	809	1604	-	-
HCM Lane V/C Ratio	0.015	-	-	0.154	0.031	0.004	-	-
HCM Control Delay (s)	7.3	0	-	9.8	9.6	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	371	8	92	724	13	14	4	46	30	7	8
Future Volume (vph)	4	371	8	92	724	13	14	4	46	30	7	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	150		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		490			480			417			320	
Travel Time (s)		13.4			13.1			11.4			8.7	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5		10.5	22.5		10.5	20.5		10.5	20.5	
Total Split (s)	12.5	36.5		19.5	43.5		21.5	29.5		12.5	20.5	
Total Split (%)	12.8%	37.2%		19.9%	44.4%		21.9%	30.1%		12.8%	20.9%	
Maximum Green (s)	8.0	32.0		15.0	39.0		17.0	25.0		8.0	16.0	
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		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			9.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 98	
Actuated Cycle Length: 57.5	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: Sidney Ave & Bay St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	371	8	92	724	13	14	4	46	30	7	8
Future Volume (veh/h)	4	371	8	92	724	13	14	4	46	30	7	8
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	1885	1885	1885	1870	1870	1870	1856	1856	1856	1559	1559	1559
Adj Flow Rate, veh/h	4	386	8	96	754	14	15	4	48	31	7	8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	2	2	2	3	3	3	23	23	23
Cap, veh/h	12	759	16	160	908	17	40	10	122	63	68	78
Arrive On Green	0.01	0.41	0.41	0.09	0.50	0.50	0.02	0.08	0.08	0.04	0.10	0.10
Sat Flow, veh/h	1795	1840	38	1781	1830	34	1767	122	1469	1485	664	759
Grp Volume(v), veh/h	4	0	394	96	0	768	15	0	52	31	0	15
Grp Sat Flow(s),veh/h/ln	1795	0	1878	1781	0	1864	1767	0	1591	1485	0	1423
Q Serve(g_s), s	0.1	0.0	7.5	2.5	0.0	17.1	0.4	0.0	1.5	1.0	0.0	0.5
Cycle Q Clear(g_c), s	0.1	0.0	7.5	2.5	0.0	17.1	0.4	0.0	1.5	1.0	0.0	0.5
Prop In Lane	1.00		0.02	1.00		0.02	1.00		0.92	1.00		0.53
Lane Grp Cap(c), veh/h	12	0	775	160	0	925	40	0	132	63	0	146
V/C Ratio(X)	0.34	0.00	0.51	0.60	0.00	0.83	0.37	0.00	0.39	0.49	0.00	0.10
Avail Cap(c_a), veh/h	297	0	1244	553	0	1504	622	0	823	246	0	471
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	10.6	21.2	0.0	10.4	23.3	0.0	21.0	22.6	0.0	19.7
Incr Delay (d2), s/veh	12.4	0.0	0.4	2.7	0.0	1.7	4.3	0.0	1.4	4.4	0.0	0.2
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	0.1	0.0	2.7	1.1	0.0	5.8	0.2	0.0	0.6	0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	0.0	10.9	23.8	0.0	12.1	27.5	0.0	22.4	27.0	0.0	19.9
LnGrp LOS	D	A	B	C	A	B	C	A	C	C	A	B
Approach Vol, veh/h		398			864			67			46	
Approach Delay, s/veh		11.2			13.4			23.6			24.7	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	24.4	5.6	9.5	4.8	28.5	6.5	8.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.0	32.0	17.0	16.0	8.0	39.0	8.0	25.0
Max Q Clear Time (g_c+I1), s	4.5	9.5	2.4	2.5	2.1	19.1	3.0	3.5
Green Ext Time (p_c), s	0.1	2.1	0.0	0.0	0.0	4.9	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	13.6
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	50	2	8	2	19	52	1	2	102	3
Future Vol, veh/h	1	1	50	2	8	2	19	52	1	2	102	3
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	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	0	0	0	6	6	6	3	3	3
Mvmt Flow	1	1	61	2	10	2	23	63	1	2	124	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	246	240	126	271	242	64	128	0	0	64	0	0
Stage 1	130	130	-	110	110	-	-	-	-	-	-	-
Stage 2	116	110	-	161	132	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.16	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.254	-	-	2.227	-	-
Pot Cap-1 Maneuver	708	661	924	686	663	1006	1434	-	-	1532	-	-
Stage 1	874	789	-	900	808	-	-	-	-	-	-	-
Stage 2	889	804	-	846	791	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	689	649	924	631	651	1006	1434	-	-	1532	-	-
Mov Cap-2 Maneuver	689	649	-	631	651	-	-	-	-	-	-	-
Stage 1	859	788	-	885	794	-	-	-	-	-	-	-
Stage 2	861	790	-	788	790	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.2	10.3	2	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1434	-	-	911	688	1532	-	-
HCM Lane V/C Ratio	0.016	-	-	0.07	0.021	0.002	-	-
HCM Control Delay (s)	7.6	0	-	9.2	10.3	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	4	1	1	2	35	11	60	135	1
Future Vol, veh/h	1	1	1	4	1	1	2	35	11	60	135	1
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	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	1	1	5	1	1	2	40	13	69	155	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	346	351	156	346	345	47	156	0	0	53	0	0
Stage 1	294	294	-	51	51	-	-	-	-	-	-	-
Stage 2	52	57	-	295	294	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	612	577	895	612	581	1028	1436	-	-	1566	-	-
Stage 1	719	673	-	967	856	-	-	-	-	-	-	-
Stage 2	966	851	-	718	673	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	588	549	895	588	553	1028	1436	-	-	1566	-	-
Mov Cap-2 Maneuver	588	549	-	588	553	-	-	-	-	-	-	-
Stage 1	718	641	-	966	855	-	-	-	-	-	-	-
Stage 2	963	850	-	681	641	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	10.8	0.3	2.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1436	-	-	647	626	1566	-	-
HCM Lane V/C Ratio	0.002	-	-	0.005	0.011	0.044	-	-
HCM Control Delay (s)	7.5	0	-	10.6	10.8	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.1	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	5	4	7	8	35	6	27	18	19	75	8
Future Vol, veh/h	4	5	4	7	8	35	6	27	18	19	75	8
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	74	74	74	74	74	74	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	7	5	9	11	47	8	36	24	26	101	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	252	235	107	229	228	48	112	0	0	60	0	0
Stage 1	159	159	-	64	64	-	-	-	-	-	-	-
Stage 2	93	76	-	165	164	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	706	669	953	730	675	1027	1490	-	-	1556	-	-
Stage 1	848	770	-	952	846	-	-	-	-	-	-	-
Stage 2	919	836	-	842	766	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	653	653	953	707	659	1027	1490	-	-	1556	-	-
Mov Cap-2 Maneuver	653	653	-	707	659	-	-	-	-	-	-	-
Stage 1	843	756	-	946	841	-	-	-	-	-	-	-
Stage 2	860	831	-	815	752	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	9.4	0.9	1.4
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1490	-	-	723	891	1556	-	-
HCM Lane V/C Ratio	0.005	-	-	0.024	0.076	0.017	-	-
HCM Control Delay (s)	7.4	0	-	10.1	9.4	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	6	33	13	3	4	61	72	10	1	134	20
Future Vol, veh/h	7	6	33	13	3	4	61	72	10	1	134	20
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	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	6	35	14	3	4	65	77	11	1	143	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	372	374	154	389	379	83	164	0	0	88	0	0
Stage 1	156	156	-	213	213	-	-	-	-	-	-	-
Stage 2	216	218	-	176	166	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	589	560	897	574	556	982	1427	-	-	1520	-	-
Stage 1	851	772	-	794	730	-	-	-	-	-	-	-
Stage 2	791	726	-	831	765	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	562	533	897	526	529	982	1427	-	-	1520	-	-
Mov Cap-2 Maneuver	562	533	-	526	529	-	-	-	-	-	-	-
Stage 1	810	771	-	756	695	-	-	-	-	-	-	-
Stage 2	746	691	-	791	764	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	11.4	3.3	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1427	-	-	760	580	1520	-	-
HCM Lane V/C Ratio	0.045	-	-	0.064	0.037	0.001	-	-
HCM Control Delay (s)	7.6	0	-	10.1	11.4	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	0	-	-

Intersection												
Int Delay, s/veh	1.5											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	15	5	1	10	15	142	1	1	153	12
Future Vol, veh/h	10	1	15	5	1	10	15	142	1	1	153	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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	12	1	18	6	1	12	18	167	1	1	180	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	399	393	187	403	400	168	194	0	0	168	0	0
Stage 1	189	189	-	204	204	-	-	-	-	-	-	-
Stage 2	210	204	-	199	196	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	565	546	860	562	541	881	1391	-	-	1422	-	-
Stage 1	817	748	-	803	737	-	-	-	-	-	-	-
Stage 2	797	737	-	807	742	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	550	538	860	543	533	881	1391	-	-	1422	-	-
Mov Cap-2 Maneuver	550	538	-	543	533	-	-	-	-	-	-	-
Stage 1	806	747	-	792	727	-	-	-	-	-	-	-
Stage 2	774	727	-	788	741	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	10.2	0.7	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1391	-	-	694	713	1422	-	-
HCM Lane V/C Ratio	0.013	-	-	0.044	0.026	0.001	-	-
HCM Control Delay (s)	7.6	0	-	10.4	10.2	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	1	4	1	14	1	47	14	20	57	1
Future Vol, veh/h	1	0	1	4	1	14	1	47	14	20	57	1
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	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	0	1	5	1	17	1	57	17	24	70	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	196	195	71	187	187	66	71	0	0	74	0	0
Stage 1	119	119	-	68	68	-	-	-	-	-	-	-
Stage 2	77	76	-	119	119	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	767	704	997	778	711	1003	1542	-	-	1538	-	-
Stage 1	890	801	-	947	842	-	-	-	-	-	-	-
Stage 2	937	836	-	890	801	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	743	692	997	767	699	1003	1542	-	-	1538	-	-
Mov Cap-2 Maneuver	743	692	-	767	699	-	-	-	-	-	-	-
Stage 1	889	788	-	946	841	-	-	-	-	-	-	-
Stage 2	919	835	-	875	788	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.2	9	0.1	1.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1542	-	-	851	922	1538	-	-
HCM Lane V/C Ratio	0.001	-	-	0.003	0.025	0.016	-	-
HCM Control Delay (s)	7.3	0	-	9.2	9	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	5	49	166	101	64
Future Vol, veh/h	3	5	49	166	101	64
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	4	6	58	198	120	76

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	472	158	196	0	-	0
Stage 1	158	-	-	-	-	-
Stage 2	314	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	554	893	1389	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	745	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	528	893	1389	-	-	-
Mov Cap-2 Maneuver	528	-	-	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	745	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1389	-	709	-	-
HCM Lane V/C Ratio	0.042	-	0.013	-	-
HCM Control Delay (s)	7.7	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
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)	96	385	12	80	490	125	20	40	107	72	18	46
Future Volume (vph)	96	385	12	80	490	125	20	40	107	72	18	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		100	200		100	100		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		814			797			449			619	
Travel Time (s)		15.9			15.5			12.2			16.9	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	22.5	22.5	10.5	22.5		10.5	22.5	
Total Split (s)	29.5	69.5	69.5	34.5	74.5	74.5	29.5	39.5		34.5	44.5	
Total Split (%)	16.6%	39.0%	39.0%	19.4%	41.9%	41.9%	16.6%	22.2%		19.4%	25.0%	
Maximum Green (s)	25.0	65.0	65.0	30.0	70.0	70.0	25.0	35.0		30.0	40.0	
Yellow Time (s)	3.5	3.5	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		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.5	6.0	6.0	3.5	6.0	6.0	3.5	5.0		3.5	5.0	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	
Walk Time (s)		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	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	

Intersection Summary

Area Type: Other

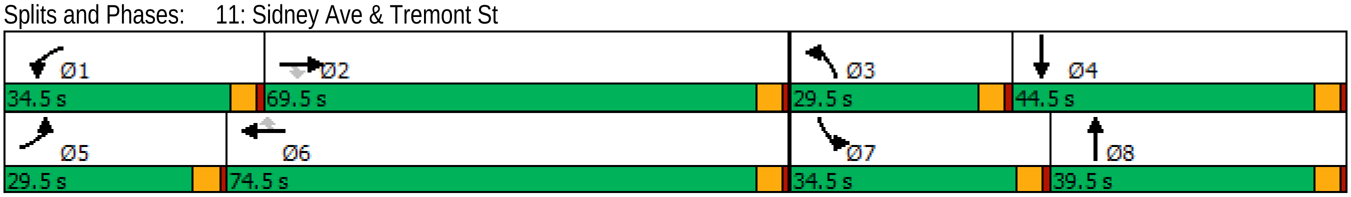
Cycle Length: 178

Actuated Cycle Length: 76.1

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Sidney Ave & Tremont St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	385	12	80	490	125	20	40	107	72	18	46
Future Volume (veh/h)	96	385	12	80	490	125	20	40	107	72	18	46
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	1856	1856	1856	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	103	414	0	86	527	0	22	43	115	77	19	49
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	2	2	2	3	3	3	3	3	3
Cap, veh/h	154	1246		143	1231		55	70	188	134	93	239
Arrive On Green	0.09	0.35	0.00	0.08	0.35	0.00	0.03	0.16	0.16	0.08	0.20	0.20
Sat Flow, veh/h	1767	3526	1572	1781	3554	1585	1767	446	1194	1767	459	1184
Grp Volume(v), veh/h	103	414	0	86	527	0	22	0	158	77	0	68
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1781	1777	1585	1767	0	1641	1767	0	1642
Q Serve(g_s), s	3.1	4.7	0.0	2.5	6.1	0.0	0.7	0.0	4.9	2.3	0.0	1.9
Cycle Q Clear(g_c), s	3.1	4.7	0.0	2.5	6.1	0.0	0.7	0.0	4.9	2.3	0.0	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.73	1.00		0.72
Lane Grp Cap(c), veh/h	154	1246		143	1231		55	0	258	134	0	332
V/C Ratio(X)	0.67	0.33		0.60	0.43		0.40	0.00	0.61	0.57	0.00	0.21
Avail Cap(c_a), veh/h	817	4240		989	4603		817	0	1062	981	0	1216
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.9	12.8	0.0	24.0	13.6	0.0	25.7	0.0	21.2	24.1	0.0	18.0
Incr Delay (d2), s/veh	5.9	0.6	0.0	4.8	0.9	0.0	5.5	0.0	5.0	4.6	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	1.4	1.6	0.0	1.2	2.2	0.0	0.3	0.0	2.1	1.1	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	13.4	0.0	28.8	14.4	0.0	31.2	0.0	26.2	28.7	0.0	18.6
LnGrp LOS	C	B		C	B		C	A	C	C	A	B
Approach Vol, veh/h		517	A		613	A		180			145	
Approach Delay, s/veh		16.6			16.4			26.8			24.0	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	23.6	6.2	15.4	9.2	23.2	8.6	13.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	65.0	25.0	40.0	25.0	70.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	4.5	6.7	2.7	3.9	5.1	8.1	4.3	6.9
Green Ext Time (p_c), s	0.3	7.8	0.0	0.7	0.3	10.6	0.2	1.8

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

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	1	2	48	1	1	16	430	142	1	673	1
Future Vol, veh/h	1	1	2	48	1	1	16	430	142	1	673	1
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	3	3	3	2	2	2	2	2	2
Mvmt Flow	1	1	2	50	1	1	17	448	148	1	701	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1261	1334	702	1261	1260	522	702	0	0	596	0	0
Stage 1	704	704	-	556	556	-	-	-	-	-	-	-
Stage 2	557	630	-	705	704	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	148	155	442	146	170	553	895	-	-	980	-	-
Stage 1	431	443	-	514	511	-	-	-	-	-	-	-
Stage 2	518	478	-	426	438	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	145	152	442	142	167	553	895	-	-	980	-	-
Mov Cap-2 Maneuver	145	152	-	326	340	-	-	-	-	-	-	-
Stage 1	423	443	-	504	501	-	-	-	-	-	-	-
Stage 2	506	469	-	423	438	-	-	-	-	-	-	-

Approach	EB	WB	NE	SW
HCM Control Delay, s	21.5	18	0.2	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1	WBLn1	SWL	SWT	SWR
Capacity (veh/h)	895	-	-	222	329	980	-	-
HCM Lane V/C Ratio	0.019	-	-	0.019	0.158	0.001	-	-
HCM Control Delay (s)	9.1	-	-	21.5	18	8.7	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.6	0	-	-

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	78	75	2	20	3	28	12	1	5	13	1
Future Vol, veh/h	1	78	75	2	20	3	28	12	1	5	13	1
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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	2	2	2
Mvmt Flow	1	88	84	2	22	3	31	13	1	6	15	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	116	104	16	190	104	14	16	0	0	14	0	0
Stage 1	28	28	-	76	76	-	-	-	-	-	-	-
Stage 2	88	76	-	114	28	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	865	790	1069	774	790	1072	1615	-	-	1604	-	-
Stage 1	994	876	-	938	836	-	-	-	-	-	-	-
Stage 2	925	836	-	896	876	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	829	772	1069	640	772	1072	1615	-	-	1604	-	-
Mov Cap-2 Maneuver	829	772	-	640	772	-	-	-	-	-	-	-
Stage 1	975	872	-	920	820	-	-	-	-	-	-	-
Stage 2	880	820	-	739	872	-	-	-	-	-	-	-

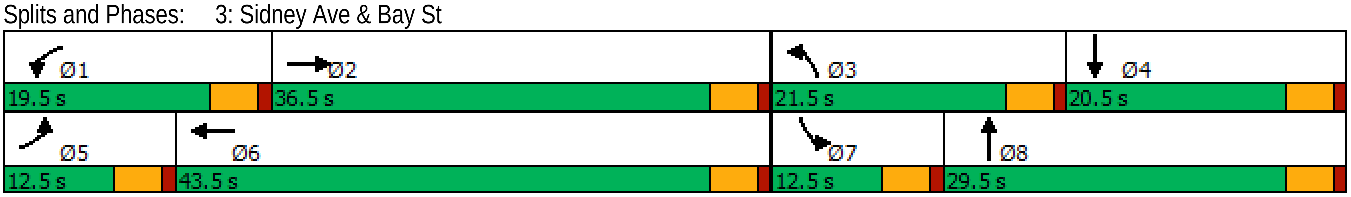
Approach	EB	WB	NB	SB
HCM Control Delay, s	10	9.8	5	1.9
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1615	-	-	893	785	1604	-	-
HCM Lane V/C Ratio	0.019	-	-	0.194	0.036	0.004	-	-
HCM Control Delay (s)	7.3	0	-	10	9.8	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	371	8	110	724	13	14	4	52	30	7	8
Future Volume (vph)	4	371	8	110	724	13	14	4	52	30	7	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	150		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		490			480			417			320	
Travel Time (s)		13.4			13.1			11.4			8.7	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5		10.5	22.5		10.5	20.5		10.5	20.5	
Total Split (s)	12.5	36.5		19.5	43.5		21.5	29.5		12.5	20.5	
Total Split (%)	12.8%	37.2%		19.9%	44.4%		21.9%	30.1%		12.8%	20.9%	
Maximum Green (s)	8.0	32.0		15.0	39.0		17.0	25.0		8.0	16.0	
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		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			9.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 98	
Actuated Cycle Length: 58	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: Sidney Ave & Bay St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	371	8	110	724	13	14	4	52	30	7	8
Future Volume (veh/h)	4	371	8	110	724	13	14	4	52	30	7	8
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	1885	1885	1885	1870	1870	1870	1856	1856	1856	1559	1559	1559
Adj Flow Rate, veh/h	4	386	8	115	754	14	15	4	54	31	7	8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	2	2	2	3	3	3	23	23	23
Cap, veh/h	12	744	15	173	907	17	40	9	127	63	70	80
Arrive On Green	0.01	0.40	0.40	0.10	0.50	0.50	0.02	0.09	0.09	0.04	0.11	0.11
Sat Flow, veh/h	1795	1840	38	1781	1830	34	1767	110	1480	1485	664	759
Grp Volume(v), veh/h	4	0	394	115	0	768	15	0	58	31	0	15
Grp Sat Flow(s),veh/h/ln	1795	0	1878	1781	0	1864	1767	0	1589	1485	0	1423
Q Serve(g_s), s	0.1	0.0	7.7	3.0	0.0	17.2	0.4	0.0	1.7	1.0	0.0	0.5
Cycle Q Clear(g_c), s	0.1	0.0	7.7	3.0	0.0	17.2	0.4	0.0	1.7	1.0	0.0	0.5
Prop In Lane	1.00		0.02	1.00		0.02	1.00		0.93	1.00		0.53
Lane Grp Cap(c), veh/h	12	0	760	173	0	923	40	0	136	63	0	150
V/C Ratio(X)	0.34	0.00	0.52	0.66	0.00	0.83	0.38	0.00	0.43	0.49	0.00	0.10
Avail Cap(c_a), veh/h	295	0	1236	550	0	1495	618	0	817	244	0	468
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.1	0.0	10.9	21.2	0.0	10.5	23.4	0.0	21.1	22.8	0.0	19.7
Incr Delay (d2), s/veh	12.4	0.0	0.4	3.2	0.0	1.7	4.3	0.0	1.6	4.4	0.0	0.2
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	0.1	0.0	2.8	1.3	0.0	5.9	0.2	0.0	0.6	0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	0.0	11.3	24.4	0.0	12.3	27.7	0.0	22.6	27.2	0.0	19.9
LnGrp LOS	D	A	B	C	A	B	C	A	C	C	A	B
Approach Vol, veh/h		398			883			73			46	
Approach Delay, s/veh		11.6			13.8			23.7			24.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	24.2	5.6	9.6	4.8	28.6	6.6	8.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.0	32.0	17.0	16.0	8.0	39.0	8.0	25.0
Max Q Clear Time (g_c+I1), s	5.0	9.7	2.4	2.5	2.1	19.2	3.0	3.7
Green Ext Time (p_c), s	0.1	2.1	0.0	0.0	0.0	4.9	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

Intersection												
Int Delay, s/veh	3.2											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	59	2	8	2	22	58	1	2	120	3
Future Vol, veh/h	1	1	59	2	8	2	22	58	1	2	120	3
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	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	0	0	0	6	6	6	3	3	3
Mvmt Flow	1	1	72	2	10	2	27	71	1	2	146	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	284	278	148	315	280	72	150	0	0	72	0	0
Stage 1	152	152	-	126	126	-	-	-	-	-	-	-
Stage 2	132	126	-	189	154	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.16	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.254	-	-	2.227	-	-
Pot Cap-1 Maneuver	668	630	899	642	632	996	1407	-	-	1522	-	-
Stage 1	850	772	-	883	796	-	-	-	-	-	-	-
Stage 2	871	792	-	817	774	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	648	617	899	580	619	996	1407	-	-	1522	-	-
Mov Cap-2 Maneuver	648	617	-	580	619	-	-	-	-	-	-	-
Stage 1	833	771	-	865	780	-	-	-	-	-	-	-
Stage 2	841	776	-	750	773	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	10.6	2.1	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1407	-	-	887	653	1522	-	-
HCM Lane V/C Ratio	0.019	-	-	0.084	0.022	0.002	-	-
HCM Control Delay (s)	7.6	0	-	9.4	10.6	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	4	1	2	2	41	11	69	149	1
Future Vol, veh/h	1	1	1	4	1	2	2	41	11	69	149	1
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	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	1	1	5	1	2	2	47	13	79	171	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	389	394	172	389	388	54	172	0	0	60	0	0
Stage 1	330	330	-	58	58	-	-	-	-	-	-	-
Stage 2	59	64	-	331	330	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	574	546	877	574	550	1019	1417	-	-	1556	-	-
Stage 1	687	649	-	959	851	-	-	-	-	-	-	-
Stage 2	958	846	-	687	649	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	547	515	877	548	519	1019	1417	-	-	1556	-	-
Mov Cap-2 Maneuver	547	515	-	548	519	-	-	-	-	-	-	-
Stage 1	686	613	-	958	850	-	-	-	-	-	-	-
Stage 2	954	845	-	646	613	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	10.8	0.3	2.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1417	-	-	611	626	1556	-	-
HCM Lane V/C Ratio	0.002	-	-	0.006	0.013	0.051	-	-
HCM Control Delay (s)	7.5	0	-	10.9	10.8	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.2	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	6	4	9	8	39	7	29	20	22	86	8
Future Vol, veh/h	4	6	4	9	8	39	7	29	20	22	86	8
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	74	74	74	74	74	74	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	8	5	12	11	53	9	39	27	30	116	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	285	266	122	259	258	53	127	0	0	66	0	0
Stage 1	182	182	-	71	71	-	-	-	-	-	-	-
Stage 2	103	84	-	188	187	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	671	643	935	698	650	1020	1472	-	-	1549	-	-
Stage 1	824	753	-	944	840	-	-	-	-	-	-	-
Stage 2	908	829	-	818	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	615	626	935	673	632	1020	1472	-	-	1549	-	-
Mov Cap-2 Maneuver	615	626	-	673	632	-	-	-	-	-	-	-
Stage 1	819	737	-	938	835	-	-	-	-	-	-	-
Stage 2	845	824	-	787	733	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	9.5	0.9	1.4
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1472	-	-	687	871	1549	-	-
HCM Lane V/C Ratio	0.006	-	-	0.028	0.087	0.019	-	-
HCM Control Delay (s)	7.5	0	-	10.4	9.5	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	6	34	14	4	4	68	80	11	1	158	23
Future Vol, veh/h	8	6	34	14	4	4	68	80	11	1	158	23
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	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	9	6	36	15	4	4	72	85	12	1	168	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	421	423	180	438	429	91	192	0	0	97	0	0
Stage 1	182	182	-	235	235	-	-	-	-	-	-	-
Stage 2	239	241	-	203	194	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	546	526	868	532	521	972	1394	-	-	1509	-	-
Stage 1	824	753	-	773	714	-	-	-	-	-	-	-
Stage 2	769	710	-	804	744	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	517	497	868	483	492	972	1394	-	-	1509	-	-
Mov Cap-2 Maneuver	517	497	-	483	492	-	-	-	-	-	-	-
Stage 1	779	752	-	730	675	-	-	-	-	-	-	-
Stage 2	719	671	-	763	743	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	12.1	3.3	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1394	-	-	719	534	1509	-	-
HCM Lane V/C Ratio	0.052	-	-	0.071	0.044	0.001	-	-
HCM Control Delay (s)	7.7	0	-	10.4	12.1	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	1	18	5	1	10	20	156	1	1	174	16
Future Vol, veh/h	12	1	18	5	1	10	20	156	1	1	174	16
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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	14	1	21	6	1	12	24	184	1	1	205	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	456	450	215	461	459	185	224	0	0	185	0	0
Stage 1	217	217	-	233	233	-	-	-	-	-	-	-
Stage 2	239	233	-	228	226	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	518	508	830	514	502	862	1357	-	-	1402	-	-
Stage 1	790	727	-	775	716	-	-	-	-	-	-	-
Stage 2	769	716	-	779	721	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	502	497	830	492	491	862	1357	-	-	1402	-	-
Mov Cap-2 Maneuver	502	497	-	492	491	-	-	-	-	-	-	-
Stage 1	774	726	-	760	702	-	-	-	-	-	-	-
Stage 2	742	702	-	757	720	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	10.5	0.9	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1357	-	-	651	672	1402	-	-
HCM Lane V/C Ratio	0.017	-	-	0.056	0.028	0.001	-	-
HCM Control Delay (s)	7.7	0	-	10.9	10.5	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	6	1	17	1	49	24	31	59	1
Future Vol, veh/h	1	1	1	6	1	17	1	49	24	31	59	1
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	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	1	1	7	1	21	1	60	29	38	72	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	237	240	73	227	226	75	73	0	0	89	0	0
Stage 1	149	149	-	77	77	-	-	-	-	-	-	-
Stage 2	88	91	-	150	149	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	722	665	995	733	677	992	1540	-	-	1519	-	-
Stage 1	858	778	-	937	835	-	-	-	-	-	-	-
Stage 2	925	823	-	857	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	692	647	995	716	659	992	1540	-	-	1519	-	-
Mov Cap-2 Maneuver	692	647	-	716	659	-	-	-	-	-	-	-
Stage 1	857	758	-	936	834	-	-	-	-	-	-	-
Stage 2	903	822	-	832	758	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	9.2	0.1	2.5
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1540	-	-	751	888	1519	-	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.033	0.025	-	-
HCM Control Delay (s)	7.3	0	-	9.8	9.2	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-

Intersection						
Int Delay, s/veh	1.6					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	9	64	178	105	84
Future Vol, veh/h	10	9	64	178	105	84
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	12	11	76	212	125	100

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	539	175	225	0	-	0
Stage 1	175	-	-	-	-	-
Stage 2	364	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	507	874	1356	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	475	874	1356	-	-	-
Mov Cap-2 Maneuver	475	-	-	-	-	-
Stage 1	805	-	-	-	-	-
Stage 2	707	-	-	-	-	-

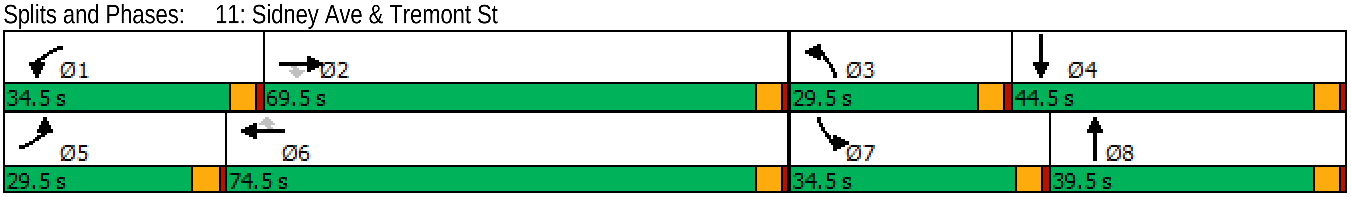
Approach	EB	NB	SB
HCM Control Delay, s	11.2	2.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1356	-	606	-	-
HCM Lane V/C Ratio	0.056	-	0.037	-	-
HCM Control Delay (s)	7.8	0	11.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	385	12	80	490	139	20	41	107	77	18	52
Future Volume (vph)	114	385	12	80	490	139	20	41	107	77	18	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		100	200		100	100		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		814			797			449			619	
Travel Time (s)		15.9			15.5			12.2			16.9	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	22.5	22.5	10.5	22.5		10.5	22.5	
Total Split (s)	29.5	69.5	69.5	34.5	74.5	74.5	29.5	39.5		34.5	44.5	
Total Split (%)	16.6%	39.0%	39.0%	19.4%	41.9%	41.9%	16.6%	22.2%		19.4%	25.0%	
Maximum Green (s)	25.0	65.0	65.0	30.0	70.0	70.0	25.0	35.0		30.0	40.0	
Yellow Time (s)	3.5	3.5	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		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.5	6.0	6.0	3.5	6.0	6.0	3.5	5.0		3.5	5.0	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	
Walk Time (s)		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	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 178	
Actuated Cycle Length: 78.7	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 11: Sidney Ave & Tremont St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	385	12	80	490	139	20	41	107	77	18	52
Future Volume (veh/h)	114	385	12	80	490	139	20	41	107	77	18	52
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	1856	1856	1856	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	123	414	0	86	527	0	22	44	115	83	19	56
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	2	2	2	3	3	3	3	3	3
Cap, veh/h	166	1259		142	1219		55	71	187	139	85	250
Arrive On Green	0.09	0.36	0.00	0.08	0.34	0.00	0.03	0.16	0.16	0.08	0.20	0.20
Sat Flow, veh/h	1767	3526	1572	1781	3554	1585	1767	454	1187	1767	414	1221
Grp Volume(v), veh/h	123	414	0	86	527	0	22	0	159	83	0	75
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1781	1777	1585	1767	0	1642	1767	0	1636
Q Serve(g_s), s	3.7	4.7	0.0	2.6	6.3	0.0	0.7	0.0	5.0	2.5	0.0	2.1
Cycle Q Clear(g_c), s	3.7	4.7	0.0	2.6	6.3	0.0	0.7	0.0	5.0	2.5	0.0	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		0.75
Lane Grp Cap(c), veh/h	166	1259		142	1219		55	0	258	139	0	335
V/C Ratio(X)	0.74	0.33		0.61	0.43		0.40	0.00	0.62	0.60	0.00	0.22
Avail Cap(c_a), veh/h	804	4169		972	4526		804	0	1045	964	0	1190
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.3	12.9	0.0	24.5	13.9	0.0	26.1	0.0	21.6	24.5	0.0	18.2
Incr Delay (d2), s/veh	7.6	0.6	0.0	4.9	0.9	0.0	5.6	0.0	5.0	4.9	0.0	0.7
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	1.8	1.7	0.0	1.2	2.3	0.0	0.4	0.0	2.2	1.2	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	13.4	0.0	29.4	14.8	0.0	31.7	0.0	26.6	29.4	0.0	18.9
LnGrp LOS	C	B		C	B		C	A	C	C	A	B
Approach Vol, veh/h		537	A		613	A		181			158	
Approach Delay, s/veh		17.7			16.9			27.3			24.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	24.1	6.2	15.7	9.7	23.4	8.8	13.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	65.0	25.0	40.0	25.0	70.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	4.6	6.7	2.7	4.1	5.7	8.3	4.5	7.0
Green Ext Time (p_c), s	0.3	7.8	0.0	0.8	0.4	10.6	0.3	1.9

Intersection Summary			
HCM 6th Ctrl Delay			19.2
HCM 6th LOS			B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	1	2	50	1	1	17	456	149	1	713	1
Future Vol, veh/h	1	1	2	50	1	1	17	456	149	1	713	1
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	3	3	3	2	2	2	2	2	2
Mvmt Flow	1	1	2	52	1	1	18	475	155	1	743	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1336	1412	744	1336	1335	553	744	0	0	630	0	0
Stage 1	746	746	-	589	589	-	-	-	-	-	-	-
Stage 2	590	666	-	747	746	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	132	139	418	130	153	531	864	-	-	952	-	-
Stage 1	409	424	-	493	494	-	-	-	-	-	-	-
Stage 2	497	460	-	403	419	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	129	136	418	126	150	531	864	-	-	952	-	-
Mov Cap-2 Maneuver	129	136	-	307	323	-	-	-	-	-	-	-
Stage 1	400	424	-	483	484	-	-	-	-	-	-	-
Stage 2	485	450	-	400	419	-	-	-	-	-	-	-

Approach	EB	WB	NE	SW
HCM Control Delay, s	23.3	19.1	0.3	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1	WBLn1	SWL	SWT	SWR
Capacity (veh/h)	864	-	-	201	310	952	-	-
HCM Lane V/C Ratio	0.02	-	-	0.021	0.175	0.001	-	-
HCM Control Delay (s)	9.3	-	-	23.3	19.1	8.8	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.6	0	-	-

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	1	82	78	2	21	3	29	13	1	6	16	1
Future Vol, veh/h	1	82	78	2	21	3	29	13	1	6	16	1
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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	2	2	2
Mvmt Flow	1	92	88	2	24	3	33	15	1	7	18	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	128	115	19	205	115	16	19	0	0	16	0	0
Stage 1	33	33	-	82	82	-	-	-	-	-	-	-
Stage 2	95	82	-	123	33	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	850	779	1065	757	779	1069	1611	-	-	1602	-	-
Stage 1	988	872	-	931	831	-	-	-	-	-	-	-
Stage 2	917	831	-	886	872	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	812	760	1065	618	760	1069	1611	-	-	1602	-	-
Mov Cap-2 Maneuver	812	760	-	618	760	-	-	-	-	-	-	-
Stage 1	967	869	-	911	814	-	-	-	-	-	-	-
Stage 2	869	814	-	724	869	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	9.8	4.9	1.9
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1611	-	-	883	772	1602	-	-
HCM Lane V/C Ratio	0.02	-	-	0.205	0.038	0.004	-	-
HCM Control Delay (s)	7.3	0	-	10.1	9.8	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	393	9	114	767	13	15	4	55	31	8	9
Future Volume (vph)	4	393	9	114	767	13	15	4	55	31	8	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	150		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		490			480			417			320	
Travel Time (s)		13.4			13.1			11.4			8.7	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5		10.5	22.5		10.5	20.5		10.5	20.5	
Total Split (s)	10.6	48.7		17.9	56.0		10.6	20.6		10.8	20.8	
Total Split (%)	10.8%	49.7%		18.3%	57.1%		10.8%	21.0%		11.0%	21.2%	
Maximum Green (s)	6.1	44.2		13.4	51.5		6.1	16.1		6.3	16.3	
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		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			9.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 98	
Actuated Cycle Length: 52	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: Sidney Ave & Bay St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	393	9	114	767	13	15	4	55	31	8	9
Future Volume (veh/h)	4	393	9	114	767	13	15	4	55	31	8	9
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	1885	1885	1885	1870	1870	1870	1856	1856	1856	1559	1559	1559
Adj Flow Rate, veh/h	4	409	9	119	799	14	16	4	57	32	8	9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	2	2	2	3	3	3	23	23	23
Cap, veh/h	12	798	18	168	957	17	42	9	127	63	70	79
Arrive On Green	0.01	0.43	0.43	0.09	0.52	0.52	0.02	0.09	0.09	0.04	0.10	0.10
Sat Flow, veh/h	1795	1837	40	1781	1832	32	1767	104	1484	1485	670	754
Grp Volume(v), veh/h	4	0	418	119	0	813	16	0	61	32	0	17
Grp Sat Flow(s),veh/h/ln	1795	0	1878	1781	0	1865	1767	0	1588	1485	0	1423
Q Serve(g_s), s	0.1	0.0	8.5	3.4	0.0	19.4	0.5	0.0	1.9	1.1	0.0	0.6
Cycle Q Clear(g_c), s	0.1	0.0	8.5	3.4	0.0	19.4	0.5	0.0	1.9	1.1	0.0	0.6
Prop In Lane	1.00		0.02	1.00		0.02	1.00		0.93	1.00		0.53
Lane Grp Cap(c), veh/h	12	0	816	168	0	974	42	0	136	63	0	148
V/C Ratio(X)	0.34	0.00	0.51	0.71	0.00	0.83	0.38	0.00	0.45	0.51	0.00	0.11
Avail Cap(c_a), veh/h	209	0	1583	455	0	1832	206	0	488	178	0	443
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	10.8	23.0	0.0	10.6	25.2	0.0	22.8	24.6	0.0	21.3
Incr Delay (d2), s/veh	12.5	0.0	0.4	4.1	0.0	1.5	4.2	0.0	1.7	4.6	0.0	0.3
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	0.1	0.0	3.1	1.5	0.0	6.6	0.2	0.0	0.7	0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.4	0.0	11.2	27.1	0.0	12.1	29.4	0.0	24.5	29.1	0.0	21.5
LnGrp LOS	D	A	B	C	A	B	C	A	C	C	A	C
Approach Vol, veh/h		422			932			77			49	
Approach Delay, s/veh		11.4			14.0			25.5			26.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	27.3	5.7	10.0	4.8	31.9	6.7	9.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.4	44.2	6.1	16.3	6.1	51.5	6.3	16.1
Max Q Clear Time (g_c+I1), s	5.4	10.5	2.5	2.6	2.1	21.4	3.1	3.9
Green Ext Time (p_c), s	0.1	2.4	0.0	0.0	0.0	6.0	0.0	0.2

Intersection Summary		
HCM 6th Ctrl Delay		14.3
HCM 6th LOS		B

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	62	2	9	2	23	61	1	2	125	3
Future Vol, veh/h	1	1	62	2	9	2	23	61	1	2	125	3
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	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	0	0	0	6	6	6	3	3	3
Mvmt Flow	1	1	76	2	11	2	28	74	1	2	152	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	295	289	154	328	291	75	156	0	0	75	0	0
Stage 1	158	158	-	131	131	-	-	-	-	-	-	-
Stage 2	137	131	-	197	160	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.16	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.254	-	-	2.227	-	-
Pot Cap-1 Maneuver	657	621	892	629	623	992	1400	-	-	1518	-	-
Stage 1	844	767	-	877	792	-	-	-	-	-	-	-
Stage 2	866	788	-	809	769	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	635	607	892	565	609	992	1400	-	-	1518	-	-
Mov Cap-2 Maneuver	635	607	-	565	609	-	-	-	-	-	-	-
Stage 1	826	766	-	859	775	-	-	-	-	-	-	-
Stage 2	834	771	-	739	768	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	10.8	2.1	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1400	-	-	880	639	1518	-	-
HCM Lane V/C Ratio	0.02	-	-	0.089	0.025	0.002	-	-
HCM Control Delay (s)	7.6	0	-	9.5	10.8	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	4	1	2	2	43	11	74	157	1
Future Vol, veh/h	1	1	1	4	1	2	2	43	11	74	157	1
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	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	1	1	5	1	2	2	49	13	85	180	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	412	417	181	412	411	56	181	0	0	62	0	0
Stage 1	351	351	-	60	60	-	-	-	-	-	-	-
Stage 2	61	66	-	352	351	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	554	530	867	554	534	1016	1407	-	-	1554	-	-
Stage 1	670	636	-	957	849	-	-	-	-	-	-	-
Stage 2	955	844	-	669	636	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	526	497	867	526	501	1016	1407	-	-	1554	-	-
Mov Cap-2 Maneuver	526	497	-	526	501	-	-	-	-	-	-	-
Stage 1	669	597	-	956	848	-	-	-	-	-	-	-
Stage 2	951	843	-	626	597	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	11	0.3	2.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1407	-	-	592	605	1554	-	-
HCM Lane V/C Ratio	0.002	-	-	0.006	0.013	0.055	-	-
HCM Control Delay (s)	7.6	0	-	11.1	11	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.2	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	7	4	11	9	41	8	30	21	23	91	9
Future Vol, veh/h	4	7	4	11	9	41	8	30	21	23	91	9
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	74	74	74	74	74	74	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	9	5	15	12	55	11	41	28	31	123	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	302	282	129	275	274	55	135	0	0	69	0	0
Stage 1	191	191	-	77	77	-	-	-	-	-	-	-
Stage 2	111	91	-	198	197	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	654	630	926	681	637	1018	1462	-	-	1545	-	-
Stage 1	815	746	-	937	835	-	-	-	-	-	-	-
Stage 2	899	823	-	808	742	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	595	611	926	654	618	1018	1462	-	-	1545	-	-
Mov Cap-2 Maneuver	595	611	-	654	618	-	-	-	-	-	-	-
Stage 1	808	730	-	930	828	-	-	-	-	-	-	-
Stage 2	831	816	-	775	726	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	9.7	1	1.4
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1462	-	-	667	851	1545	-	-
HCM Lane V/C Ratio	0.007	-	-	0.03	0.097	0.02	-	-
HCM Control Delay (s)	7.5	0	-	10.6	9.7	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	7	36	14	4	4	72	84	11	1	164	25
Future Vol, veh/h	9	7	36	14	4	4	72	84	11	1	164	25
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	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	7	38	15	4	4	77	89	12	1	174	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	443	445	188	461	452	95	201	0	0	101	0	0
Stage 1	190	190	-	249	249	-	-	-	-	-	-	-
Stage 2	253	255	-	212	203	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	528	511	859	514	506	967	1383	-	-	1504	-	-
Stage 1	816	747	-	759	704	-	-	-	-	-	-	-
Stage 2	756	700	-	795	737	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	498	480	859	463	476	967	1383	-	-	1504	-	-
Mov Cap-2 Maneuver	498	480	-	463	476	-	-	-	-	-	-	-
Stage 1	768	746	-	714	662	-	-	-	-	-	-	-
Stage 2	704	659	-	751	736	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	12.3	3.3	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1383	-	-	697	514	1504	-	-
HCM Lane V/C Ratio	0.055	-	-	0.079	0.046	0.001	-	-
HCM Control Delay (s)	7.8	0	-	10.6	12.3	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	1	19	5	1	10	21	164	1	1	181	16
Future Vol, veh/h	12	1	19	5	1	10	21	164	1	1	181	16
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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	14	1	22	6	1	12	25	193	1	1	213	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	475	469	223	480	478	194	232	0	0	194	0	0
Stage 1	225	225	-	244	244	-	-	-	-	-	-	-
Stage 2	250	244	-	236	234	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	503	495	822	499	489	853	1348	-	-	1391	-	-
Stage 1	782	721	-	764	708	-	-	-	-	-	-	-
Stage 2	759	708	-	772	715	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	487	484	822	477	478	853	1348	-	-	1391	-	-
Mov Cap-2 Maneuver	487	484	-	477	478	-	-	-	-	-	-	-
Stage 1	766	720	-	748	693	-	-	-	-	-	-	-
Stage 2	732	693	-	749	714	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	10.6	0.9	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1348	-	-	642	659	1391	-	-
HCM Lane V/C Ratio	0.018	-	-	0.059	0.029	0.001	-	-
HCM Control Delay (s)	7.7	0	-	11	10.6	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	6	1	17	1	53	24	31	64	1
Future Vol, veh/h	1	1	1	6	1	17	1	53	24	31	64	1
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	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	1	1	7	1	21	1	65	29	38	78	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	248	251	79	238	237	80	79	0	0	94	0	0
Stage 1	155	155	-	82	82	-	-	-	-	-	-	-
Stage 2	93	96	-	156	155	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	710	656	987	721	667	986	1532	-	-	1513	-	-
Stage 1	852	773	-	931	831	-	-	-	-	-	-	-
Stage 2	919	819	-	851	773	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	679	638	987	704	649	986	1532	-	-	1513	-	-
Mov Cap-2 Maneuver	679	638	-	704	649	-	-	-	-	-	-	-
Stage 1	851	753	-	930	830	-	-	-	-	-	-	-
Stage 2	897	818	-	827	753	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	9.2	0.1	2.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1532	-	-	740	879	1513	-	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.033	0.025	-	-
HCM Control Delay (s)	7.4	0	-	9.9	9.2	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-

Intersection						
Int Delay, s/veh	1.6					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	9	67	188	111	86
Future Vol, veh/h	10	9	67	188	111	86
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	12	11	80	224	132	102

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	567	183	234	0	-	0
Stage 1	183	-	-	-	-	-
Stage 2	384	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	488	865	1345	-	-	-
Stage 1	853	-	-	-	-	-
Stage 2	693	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	455	865	1345	-	-	-
Mov Cap-2 Maneuver	455	-	-	-	-	-
Stage 1	795	-	-	-	-	-
Stage 2	693	-	-	-	-	-

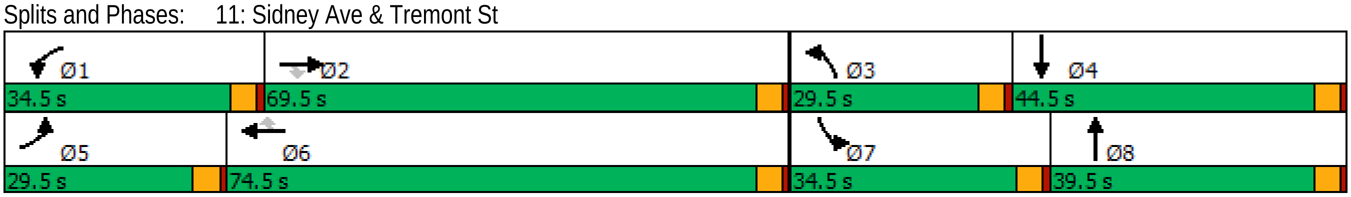
Approach	EB	NB	SB
HCM Control Delay, s	11.4	2.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1345	-	587	-	-
HCM Lane V/C Ratio	0.059	-	0.039	-	-
HCM Control Delay (s)	7.8	0	11.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	408	12	84	519	147	21	44	113	81	19	54
Future Volume (vph)	120	408	12	84	519	147	21	44	113	81	19	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		100	200		100	100		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		814			797			449			619	
Travel Time (s)		15.9			15.5			12.2			16.9	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	22.5	22.5	10.5	22.5		10.5	22.5	
Total Split (s)	29.5	69.5	69.5	34.5	74.5	74.5	29.5	39.5		34.5	44.5	
Total Split (%)	16.6%	39.0%	39.0%	19.4%	41.9%	41.9%	16.6%	22.2%		19.4%	25.0%	
Maximum Green (s)	25.0	65.0	65.0	30.0	70.0	70.0	25.0	35.0		30.0	40.0	
Yellow Time (s)	3.5	3.5	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		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.5	6.0	6.0	3.5	6.0	6.0	3.5	5.0		3.5	5.0	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	
Walk Time (s)		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	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 178	
Actuated Cycle Length: 82.8	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 11: Sidney Ave & Tremont St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	408	12	84	519	147	21	44	113	81	19	54
Future Volume (veh/h)	120	408	12	84	519	147	21	44	113	81	19	54
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	1856	1856	1856	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	129	439	0	90	558	0	23	47	122	87	20	58
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	2	2	2	3	3	3	3	3	3
Cap, veh/h	173	1304		141	1248		57	74	193	138	87	254
Arrive On Green	0.10	0.37	0.00	0.08	0.35	0.00	0.03	0.16	0.16	0.08	0.21	0.21
Sat Flow, veh/h	1767	3526	1572	1781	3554	1585	1767	457	1185	1767	420	1217
Grp Volume(v), veh/h	129	439	0	90	558	0	23	0	169	87	0	78
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1781	1777	1585	1767	0	1642	1767	0	1637
Q Serve(g_s), s	4.1	5.2	0.0	2.8	7.0	0.0	0.7	0.0	5.6	2.8	0.0	2.3
Cycle Q Clear(g_c), s	4.1	5.2	0.0	2.8	7.0	0.0	0.7	0.0	5.6	2.8	0.0	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		0.74
Lane Grp Cap(c), veh/h	173	1304		141	1248		57	0	267	138	0	341
V/C Ratio(X)	0.74	0.34		0.64	0.45		0.41	0.00	0.63	0.63	0.00	0.23
Avail Cap(c_a), veh/h	762	3952		922	4290		762	0	991	914	0	1129
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.4	13.1	0.0	25.9	14.5	0.0	27.5	0.0	22.7	25.9	0.0	19.1
Incr Delay (d2), s/veh	7.4	0.5	0.0	5.7	0.9	0.0	5.6	0.0	5.2	5.6	0.0	0.7
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	1.9	1.9	0.0	1.3	2.6	0.0	0.4	0.0	2.4	1.3	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	13.7	0.0	31.6	15.4	0.0	33.1	0.0	27.9	31.6	0.0	19.8
LnGrp LOS	C	B		C	B		C	A	C	C	A	B
Approach Vol, veh/h		568	A		648	A		192			165	
Approach Delay, s/veh		18.1			17.6			28.5			26.0	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	25.9	6.4	16.6	10.2	24.9	9.0	13.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	65.0	25.0	40.0	25.0	70.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	4.8	7.2	2.7	4.3	6.1	9.0	4.8	7.6
Green Ext Time (p_c), s	0.3	8.4	0.0	0.9	0.4	11.3	0.3	2.0

Intersection Summary	
HCM 6th Ctrl Delay	20.0
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	1	2	58	1	1	17	456	170	1	713	1
Future Vol, veh/h	1	1	2	58	1	1	17	456	170	1	713	1
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	3	3	3	2	2	2	2	2	2
Mvmt Flow	1	1	2	60	1	1	18	475	177	1	743	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1347	1434	744	1347	1346	564	744	0	0	652	0	0
Stage 1	746	746	-	600	600	-	-	-	-	-	-	-
Stage 2	601	688	-	747	746	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	129	135	418	128	151	523	864	-	-	935	-	-
Stage 1	409	424	-	486	488	-	-	-	-	-	-	-
Stage 2	491	450	-	403	419	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	126	132	418	125	148	523	864	-	-	935	-	-
Mov Cap-2 Maneuver	126	132	-	305	321	-	-	-	-	-	-	-
Stage 1	400	424	-	476	478	-	-	-	-	-	-	-
Stage 2	479	441	-	400	419	-	-	-	-	-	-	-

Approach	EB	WB	NE	SW
HCM Control Delay, s	23.7	19.7	0.2	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1	WBLn1	SWL	SWT	SWR
Capacity (veh/h)	864	-	-	197	307	935	-	-
HCM Lane V/C Ratio	0.02	-	-	0.021	0.204	0.001	-	-
HCM Control Delay (s)	9.3	-	-	23.7	19.7	8.9	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.7	0	-	-

Intersection	
Int Delay, s/veh	8.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	88	93	2	23	3	35	13	1	6	16	1
Future Vol, veh/h	1	88	93	2	23	3	35	13	1	6	16	1
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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	2	2	2
Mvmt Flow	1	99	104	2	26	3	39	15	1	7	18	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	141	127	19	228	127	16	19	0	0	16	0	0
Stage 1	33	33	-	94	94	-	-	-	-	-	-	-
Stage 2	108	94	-	134	33	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	833	767	1065	731	767	1069	1611	-	-	1602	-	-
Stage 1	988	872	-	918	821	-	-	-	-	-	-	-
Stage 2	902	821	-	874	872	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	791	746	1065	580	746	1069	1611	-	-	1602	-	-
Mov Cap-2 Maneuver	791	746	-	580	746	-	-	-	-	-	-	-
Stage 1	964	869	-	896	801	-	-	-	-	-	-	-
Stage 2	849	801	-	696	869	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	10	5.2	1.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1611	-	-	881	755	1602	-	-
HCM Lane V/C Ratio	0.024	-	-	0.232	0.042	0.004	-	-
HCM Control Delay (s)	7.3	0	-	10.3	10	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	393	9	127	767	13	15	4	59	31	8	9
Future Volume (vph)	4	393	9	127	767	13	15	4	59	31	8	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	150		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		490			480			417			320	
Travel Time (s)		13.4			13.1			11.4			8.7	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5		10.5	22.5		10.5	20.5		10.5	20.5	
Total Split (s)	10.6	48.7		17.9	56.0		10.6	20.6		10.8	20.8	
Total Split (%)	10.8%	49.7%		18.3%	57.1%		10.8%	21.0%		11.0%	21.2%	
Maximum Green (s)	6.1	44.2		13.4	51.5		6.1	16.1		6.3	16.3	
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		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			9.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 98	
Actuated Cycle Length: 52.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: Sidney Ave & Bay St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	393	9	127	767	13	15	4	59	31	8	9
Future Volume (veh/h)	4	393	9	127	767	13	15	4	59	31	8	9
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	1885	1885	1885	1870	1870	1870	1856	1856	1856	1559	1559	1559
Adj Flow Rate, veh/h	4	409	9	132	799	14	16	4	61	32	8	9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	2	2	2	3	3	3	23	23	23
Cap, veh/h	12	792	17	174	956	17	42	8	129	63	71	80
Arrive On Green	0.01	0.43	0.43	0.10	0.52	0.52	0.02	0.09	0.09	0.04	0.11	0.11
Sat Flow, veh/h	1795	1837	40	1781	1832	32	1767	98	1490	1485	670	754
Grp Volume(v), veh/h	4	0	418	132	0	813	16	0	65	32	0	17
Grp Sat Flow(s),veh/h/ln	1795	0	1878	1781	0	1865	1767	0	1587	1485	0	1423
Q Serve(g_s), s	0.1	0.0	8.6	3.8	0.0	19.4	0.5	0.0	2.1	1.1	0.0	0.6
Cycle Q Clear(g_c), s	0.1	0.0	8.6	3.8	0.0	19.4	0.5	0.0	2.1	1.1	0.0	0.6
Prop In Lane	1.00		0.02	1.00		0.02	1.00		0.94	1.00		0.53
Lane Grp Cap(c), veh/h	12	0	809	174	0	973	42	0	138	63	0	150
V/C Ratio(X)	0.34	0.00	0.52	0.76	0.00	0.84	0.38	0.00	0.47	0.51	0.00	0.11
Avail Cap(c_a), veh/h	208	0	1578	454	0	1826	205	0	486	178	0	441
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.0	0.0	11.0	23.1	0.0	10.7	25.3	0.0	22.9	24.6	0.0	21.3
Incr Delay (d2), s/veh	12.5	0.0	0.4	5.0	0.0	1.5	4.2	0.0	1.9	4.6	0.0	0.2
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	0.1	0.0	3.1	1.7	0.0	6.6	0.2	0.0	0.8	0.5	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.5	0.0	11.3	28.2	0.0	12.1	29.5	0.0	24.7	29.2	0.0	21.5
LnGrp LOS	D	A	B	C	A	B	C	A	C	C	A	C
Approach Vol, veh/h		422			945			81			49	
Approach Delay, s/veh		11.6			14.4			25.7			26.6	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	27.2	5.8	10.1	4.8	32.0	6.7	9.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.4	44.2	6.1	16.3	6.1	51.5	6.3	16.1
Max Q Clear Time (g_c+I1), s	5.8	10.6	2.5	2.6	2.1	21.4	3.1	4.1
Green Ext Time (p_c), s	0.1	2.4	0.0	0.0	0.0	6.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	14.6
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	68	2	9	2	25	65	1	2	138	3
Future Vol, veh/h	1	1	68	2	9	2	25	65	1	2	138	3
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	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	0	0	0	6	6	6	3	3	3
Mvmt Flow	1	1	83	2	11	2	30	79	1	2	168	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	320	314	170	356	316	80	172	0	0	80	0	0
Stage 1	174	174	-	140	140	-	-	-	-	-	-	-
Stage 2	146	140	-	216	176	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.16	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.254	-	-	2.227	-	-
Pot Cap-1 Maneuver	633	601	874	603	603	986	1381	-	-	1512	-	-
Stage 1	828	755	-	868	785	-	-	-	-	-	-	-
Stage 2	857	781	-	791	757	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	611	587	874	535	589	986	1381	-	-	1512	-	-
Mov Cap-2 Maneuver	611	587	-	535	589	-	-	-	-	-	-	-
Stage 1	809	754	-	848	767	-	-	-	-	-	-	-
Stage 2	823	763	-	714	756	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	11	2.1	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1381	-	-	863	618	1512	-	-
HCM Lane V/C Ratio	0.022	-	-	0.099	0.026	0.002	-	-
HCM Control Delay (s)	7.7	0	-	9.6	11	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	4	1	2	2	49	11	74	172	1
Future Vol, veh/h	1	1	1	4	1	2	2	49	11	74	172	1
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	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	1	1	5	1	2	2	56	13	85	198	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	437	442	199	437	436	63	199	0	0	69	0	0
Stage 1	369	369	-	67	67	-	-	-	-	-	-	-
Stage 2	68	73	-	370	369	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	533	513	847	533	517	1007	1385	-	-	1545	-	-
Stage 1	655	624	-	948	843	-	-	-	-	-	-	-
Stage 2	947	838	-	654	624	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	505	480	847	505	484	1007	1385	-	-	1545	-	-
Mov Cap-2 Maneuver	505	480	-	505	484	-	-	-	-	-	-	-
Stage 1	654	585	-	946	841	-	-	-	-	-	-	-
Stage 2	942	836	-	611	585	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	11.2	0.2	2.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1385	-	-	572	585	1545	-	-
HCM Lane V/C Ratio	0.002	-	-	0.006	0.014	0.055	-	-
HCM Control Delay (s)	7.6	0	-	11.3	11.2	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.2	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	7	5	11	9	41	8	36	21	23	106	9
Future Vol, veh/h	4	7	5	11	9	41	8	36	21	23	106	9
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	74	74	74	74	74	74	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	9	7	15	12	55	11	49	28	31	143	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	330	310	149	304	302	63	155	0	0	77	0	0
Stage 1	211	211	-	85	85	-	-	-	-	-	-	-
Stage 2	119	99	-	219	217	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	627	608	903	652	614	1007	1438	-	-	1535	-	-
Stage 1	796	731	-	928	828	-	-	-	-	-	-	-
Stage 2	890	817	-	788	727	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	570	590	903	625	596	1007	1438	-	-	1535	-	-
Mov Cap-2 Maneuver	570	590	-	625	596	-	-	-	-	-	-	-
Stage 1	790	715	-	921	821	-	-	-	-	-	-	-
Stage 2	822	810	-	755	711	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.7	9.8	0.9	1.2
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1438	-	-	655	831	1535	-	-
HCM Lane V/C Ratio	0.008	-	-	0.033	0.099	0.02	-	-
HCM Control Delay (s)	7.5	0	-	10.7	9.8	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	7	36	14	4	4	72	90	11	1	183	25
Future Vol, veh/h	9	7	36	14	4	4	72	90	11	1	183	25
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	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	7	38	15	4	4	77	96	12	1	195	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	471	473	209	489	480	102	222	0	0	108	0	0
Stage 1	211	211	-	256	256	-	-	-	-	-	-	-
Stage 2	260	262	-	233	224	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	506	493	836	493	488	959	1359	-	-	1495	-	-
Stage 1	796	731	-	753	699	-	-	-	-	-	-	-
Stage 2	749	695	-	775	722	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	477	463	836	443	458	959	1359	-	-	1495	-	-
Mov Cap-2 Maneuver	477	463	-	443	458	-	-	-	-	-	-	-
Stage 1	748	730	-	708	657	-	-	-	-	-	-	-
Stage 2	696	653	-	731	721	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	12.7	3.2	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1359	-	-	675	494	1495	-	-
HCM Lane V/C Ratio	0.056	-	-	0.082	0.047	0.001	-	-
HCM Control Delay (s)	7.8	0	-	10.8	12.7	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	1	19	5	1	10	21	170	1	1	201	16
Future Vol, veh/h	12	1	19	5	1	10	21	170	1	1	201	16
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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	14	1	22	6	1	12	25	200	1	1	236	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	505	499	246	510	508	201	255	0	0	201	0	0
Stage 1	248	248	-	251	251	-	-	-	-	-	-	-
Stage 2	257	251	-	259	257	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	481	476	798	477	471	845	1322	-	-	1383	-	-
Stage 1	760	705	-	758	703	-	-	-	-	-	-	-
Stage 2	752	703	-	750	699	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	466	466	798	455	461	845	1322	-	-	1383	-	-
Mov Cap-2 Maneuver	466	466	-	455	461	-	-	-	-	-	-	-
Stage 1	744	704	-	742	688	-	-	-	-	-	-	-
Stage 2	725	688	-	727	698	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.2	10.8	0.9	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1322	-	-	619	640	1383	-	-
HCM Lane V/C Ratio	0.019	-	-	0.061	0.029	0.001	-	-
HCM Control Delay (s)	7.8	0	-	11.2	10.8	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	8	1	23	1	53	32	47	64	1
Future Vol, veh/h	1	1	1	8	1	23	1	53	32	47	64	1
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	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	1	1	10	1	28	1	65	39	57	78	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	294	299	79	281	280	85	79	0	0	104	0	0
Stage 1	193	193	-	87	87	-	-	-	-	-	-	-
Stage 2	101	106	-	194	193	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	662	616	987	675	632	980	1532	-	-	1500	-	-
Stage 1	813	745	-	926	827	-	-	-	-	-	-	-
Stage 2	910	811	-	812	745	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	622	591	987	652	606	980	1532	-	-	1500	-	-
Mov Cap-2 Maneuver	622	591	-	652	606	-	-	-	-	-	-	-
Stage 1	812	715	-	925	826	-	-	-	-	-	-	-
Stage 2	882	810	-	777	715	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	9.4	0.1	3.1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1532	-	-	696	856	1500	-	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.046	0.038	-	-
HCM Control Delay (s)	7.4	0	-	10.2	9.4	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-

Intersection						
Int Delay, s/veh	2					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	15	86	188	111	106
Future Vol, veh/h	16	15	86	188	111	106
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	19	18	102	224	132	126

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	623	195	258	0	-	0
Stage 1	195	-	-	-	-	-
Stage 2	428	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	453	851	1318	-	-	-
Stage 1	843	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	413	851	1318	-	-	-
Mov Cap-2 Maneuver	413	-	-	-	-	-
Stage 1	769	-	-	-	-	-
Stage 2	662	-	-	-	-	-

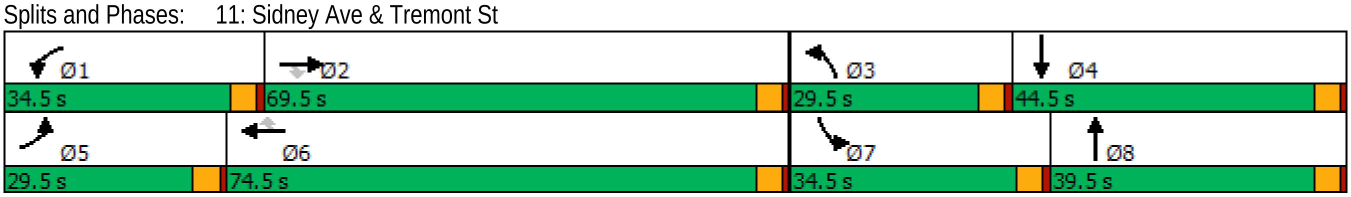
Approach	EB	NB	SB
HCM Control Delay, s	12	2.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1318	-	550	-	-
HCM Lane V/C Ratio	0.078	-	0.067	-	-
HCM Control Delay (s)	8	0	12	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.2	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	408	12	84	519	156	21	45	113	83	20	58
Future Volume (vph)	133	408	12	84	519	156	21	45	113	83	20	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		100	200		100	100		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		814			797			449			619	
Travel Time (s)		15.9			15.5			12.2			16.9	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	22.5	22.5	10.5	22.5		10.5	22.5	
Total Split (s)	29.5	69.5	69.5	34.5	74.5	74.5	29.5	39.5		34.5	44.5	
Total Split (%)	16.6%	39.0%	39.0%	19.4%	41.9%	41.9%	16.6%	22.2%		19.4%	25.0%	
Maximum Green (s)	25.0	65.0	65.0	30.0	70.0	70.0	25.0	35.0		30.0	40.0	
Yellow Time (s)	3.5	3.5	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		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.5	6.0	6.0	3.5	6.0	6.0	3.5	5.0		3.5	5.0	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	
Walk Time (s)		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	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 178	
Actuated Cycle Length: 84.6	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 11: Sidney Ave & Tremont St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	408	12	84	519	156	21	45	113	83	20	58
Future Volume (veh/h)	133	408	12	84	519	156	21	45	113	83	20	58
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	1856	1856	1856	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	143	439	0	90	558	0	23	48	122	89	22	62
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	2	2	2	3	3	3	3	3	3
Cap, veh/h	191	1329		140	1234		56	75	191	138	89	252
Arrive On Green	0.11	0.38	0.00	0.08	0.35	0.00	0.03	0.16	0.16	0.08	0.21	0.21
Sat Flow, veh/h	1767	3526	1572	1781	3554	1585	1767	464	1179	1767	429	1209
Grp Volume(v), veh/h	143	439	0	90	558	0	23	0	170	89	0	84
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1781	1777	1585	1767	0	1643	1767	0	1638
Q Serve(g_s), s	4.6	5.2	0.0	2.9	7.2	0.0	0.8	0.0	5.7	2.9	0.0	2.5
Cycle Q Clear(g_c), s	4.6	5.2	0.0	2.9	7.2	0.0	0.8	0.0	5.7	2.9	0.0	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		0.74
Lane Grp Cap(c), veh/h	191	1329		140	1234		56	0	267	138	0	341
V/C Ratio(X)	0.75	0.33		0.65	0.45		0.41	0.00	0.64	0.65	0.00	0.25
Avail Cap(c_a), veh/h	747	3875		904	4206		747	0	973	896	0	1108
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.6	13.1	0.0	26.5	14.9	0.0	28.1	0.0	23.1	26.5	0.0	19.5
Incr Delay (d2), s/veh	6.9	0.5	0.0	5.9	0.9	0.0	5.6	0.0	5.3	6.0	0.0	0.8
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	1.9	0.0	1.4	2.7	0.0	0.4	0.0	2.5	1.4	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.5	13.6	0.0	32.4	15.9	0.0	33.7	0.0	28.5	32.5	0.0	20.3
LnGrp LOS	C	B		C	B		C	A	C	C	A	C
Approach Vol, veh/h		582	A		648	A		193			173	
Approach Delay, s/veh		18.3			18.2			29.1			26.6	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	26.8	6.4	16.8	10.9	25.0	9.1	14.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	65.0	25.0	40.0	25.0	70.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	4.9	7.2	2.8	4.5	6.6	9.2	4.9	7.7
Green Ext Time (p_c), s	0.3	8.4	0.0	0.9	0.4	11.3	0.3	2.0

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	1	10	79	1	1	2	694	90	2	585	2
Future Vol, veh/h	1	1	10	79	1	1	2	694	90	2	585	2
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	1	1	1
Mvmt Flow	1	1	10	81	1	1	2	708	92	2	597	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1361	1406	598	1366	1361	754	599	0	0	800	0	0
Stage 1	602	602	-	758	758	-	-	-	-	-	-	-
Stage 2	759	804	-	608	603	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	127	140	506	126	150	412	983	-	-	827	-	-
Stage 1	490	492	-	402	418	-	-	-	-	-	-	-
Stage 2	402	398	-	486	492	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	126	139	506	122	149	412	983	-	-	827	-	-
Mov Cap-2 Maneuver	126	139	-	311	330	-	-	-	-	-	-	-
Stage 1	489	491	-	401	417	-	-	-	-	-	-	-
Stage 2	399	397	-	474	491	-	-	-	-	-	-	-

Approach	EB	WB	NE	SW
HCM Control Delay, s	15.9	20.6	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1	WBLn1	SWL	SWT	SWR
Capacity (veh/h)	983	-	-	344	312	827	-	-
HCM Lane V/C Ratio	0.002	-	-	0.036	0.265	0.002	-	-
HCM Control Delay (s)	8.7	-	-	15.9	20.6	9.4	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1	0	-	-

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	86	5	10	22	3	59	25	24	11	13	1
Future Vol, veh/h	1	86	5	10	22	3	59	25	24	11	13	1
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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	0	0	0
Mvmt Flow	1	101	6	12	26	4	69	29	28	13	15	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	238	237	16	276	223	43	16	0	0	57	0	0
Stage 1	42	42	-	181	181	-	-	-	-	-	-	-
Stage 2	196	195	-	95	42	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	721	667	1069	674	674	1025	1608	-	-	1560	-	-
Stage 1	978	864	-	818	748	-	-	-	-	-	-	-
Stage 2	810	743	-	909	858	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	669	632	1069	565	639	1025	1608	-	-	1560	-	-
Mov Cap-2 Maneuver	669	632	-	565	639	-	-	-	-	-	-	-
Stage 1	935	857	-	782	715	-	-	-	-	-	-	-
Stage 2	744	710	-	791	851	-	-	-	-	-	-	-

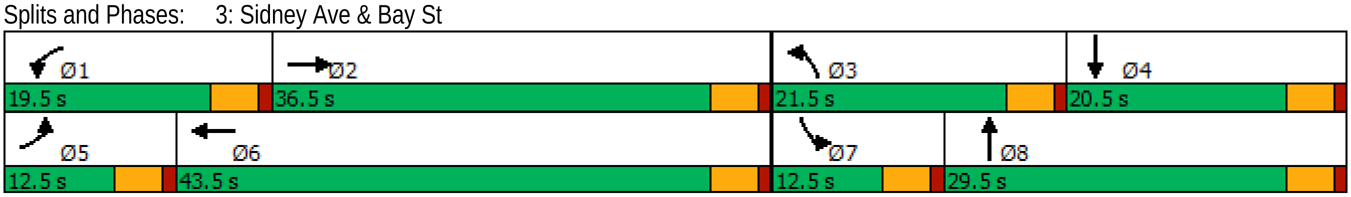
Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	11.1	4	3.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1608	-	-	647	636	1560	-	-
HCM Lane V/C Ratio	0.043	-	-	0.167	0.065	0.008	-	-
HCM Control Delay (s)	7.3	0	-	11.7	11.1	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.2	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	635	8	58	513	40	74	18	144	147	43	27
Future Volume (vph)	10	635	8	58	513	40	74	18	144	147	43	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	150		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		490			480			417			320	
Travel Time (s)		13.4			13.1			11.4			8.7	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5		10.5	22.5		10.5	20.5		10.5	20.5	
Total Split (s)	12.5	36.5		19.5	43.5		21.5	29.5		12.5	20.5	
Total Split (%)	12.8%	37.2%		19.9%	44.4%		21.9%	30.1%		12.8%	20.9%	
Maximum Green (s)	8.0	32.0		15.0	39.0		17.0	25.0		8.0	16.0	
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		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			9.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 98	
Actuated Cycle Length: 70.5	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: Sidney Ave & Bay St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	635	8	58	513	40	74	18	144	147	43	27
Future Volume (veh/h)	10	635	8	58	513	40	74	18	144	147	43	27
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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1826	1826	1826
Adj Flow Rate, veh/h	10	641	8	59	518	40	75	18	145	148	43	27
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	5	5	5
Cap, veh/h	28	738	9	111	767	59	127	25	202	186	184	116
Arrive On Green	0.02	0.40	0.40	0.06	0.44	0.44	0.07	0.14	0.14	0.11	0.18	0.18
Sat Flow, veh/h	1795	1858	23	1795	1728	133	1795	179	1446	1739	1049	659
Grp Volume(v), veh/h	10	0	649	59	0	558	75	0	163	148	0	70
Grp Sat Flow(s),veh/h/ln	1795	0	1881	1795	0	1861	1795	0	1625	1739	0	1707
Q Serve(g_s), s	0.3	0.0	19.4	2.0	0.0	14.6	2.5	0.0	5.9	5.1	0.0	2.2
Cycle Q Clear(g_c), s	0.3	0.0	19.4	2.0	0.0	14.6	2.5	0.0	5.9	5.1	0.0	2.2
Prop In Lane	1.00		0.01	1.00		0.07	1.00		0.89	1.00		0.39
Lane Grp Cap(c), veh/h	28	0	748	111	0	827	127	0	227	186	0	300
V/C Ratio(X)	0.36	0.00	0.87	0.53	0.00	0.68	0.59	0.00	0.72	0.80	0.00	0.23
Avail Cap(c_a), veh/h	235	0	983	440	0	1186	499	0	664	227	0	446
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.8	0.0	17.0	27.8	0.0	13.5	27.6	0.0	25.2	26.7	0.0	21.7
Incr Delay (d2), s/veh	5.9	0.0	6.2	2.9	0.0	0.7	3.2	0.0	3.2	13.7	0.0	0.3
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	0.0	8.8	0.9	0.0	5.6	1.1	0.0	2.4	2.7	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	0.0	23.1	30.7	0.0	14.2	30.8	0.0	28.3	40.4	0.0	22.0
LnGrp LOS	D	A	C	C	A	B	C	A	C	D	A	C
Approach Vol, veh/h		659			617			238			218	
Approach Delay, s/veh		23.3			15.8			29.1			34.5	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	28.8	8.8	15.3	5.4	31.7	11.0	13.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.0	32.0	17.0	16.0	8.0	39.0	8.0	25.0
Max Q Clear Time (g_c+I1), s	4.0	21.4	4.5	4.2	2.3	16.6	7.1	7.9
Green Ext Time (p_c), s	0.1	2.9	0.1	0.2	0.0	3.3	0.0	0.7

Intersection Summary		
HCM 6th Ctrl Delay		22.8
HCM 6th LOS		C

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	58	40	9	5	7	12	195	10	10	82	6
Future Vol, veh/h	30	58	40	9	5	7	12	195	10	10	82	6
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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	4	4	4
Mvmt Flow	38	74	51	12	6	9	15	250	13	13	105	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	429	428	109	485	426	257	113	0	0	263	0	0
Stage 1	135	135	-	287	287	-	-	-	-	-	-	-
Stage 2	294	293	-	198	139	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.236	-	-
Pot Cap-1 Maneuver	540	522	950	496	524	787	1483	-	-	1290	-	-
Stage 1	873	789	-	725	678	-	-	-	-	-	-	-
Stage 2	719	674	-	808	785	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	519	510	950	410	512	787	1483	-	-	1290	-	-
Mov Cap-2 Maneuver	519	510	-	410	512	-	-	-	-	-	-	-
Stage 1	863	780	-	716	670	-	-	-	-	-	-	-
Stage 2	696	666	-	684	776	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	12.3	0.4	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1483	-	-	599	517	1290	-	-
HCM Lane V/C Ratio	0.01	-	-	0.274	0.052	0.01	-	-
HCM Control Delay (s)	7.5	0	-	13.3	12.3	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	2	1	35	1	100	3	8	56	1
Future Vol, veh/h	1	1	1	2	1	35	1	100	3	8	56	1
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	66	66	66	66	66	66	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	0	0	0
Mvmt Flow	2	2	2	3	2	53	2	152	5	12	85	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	296	271	86	271	270	155	87	0	0	157	0	0
Stage 1	110	110	-	159	159	-	-	-	-	-	-	-
Stage 2	186	161	-	112	111	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	660	639	978	686	640	896	1515	-	-	1435	-	-
Stage 1	900	808	-	848	770	-	-	-	-	-	-	-
Stage 2	820	769	-	898	807	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	615	633	978	678	634	896	1515	-	-	1435	-	-
Mov Cap-2 Maneuver	615	633	-	678	634	-	-	-	-	-	-	-
Stage 1	899	801	-	847	769	-	-	-	-	-	-	-
Stage 2	769	768	-	887	800	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	9.4	0.1	0.9
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1515	-	-	710	872	1435	-	-
HCM Lane V/C Ratio	0.001	-	-	0.006	0.066	0.008	-	-
HCM Control Delay (s)	7.4	0	-	10.1	9.4	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	2	5	6	11	1	31	1	70	41	4	55	2
Future Vol, veh/h	2	5	6	11	1	31	1	70	41	4	55	2
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	62	62	62	62	62	62	62	62	62	62	62	62
Heavy Vehicles, %	8	8	8	0	0	0	1	1	1	0	0	0
Mvmt Flow	3	8	10	18	2	50	2	113	66	6	89	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	279	286	91	262	254	146	92	0	0	179	0	0
Stage 1	103	103	-	150	150	-	-	-	-	-	-	-
Stage 2	176	183	-	112	104	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	661	614	950	695	653	906	1509	-	-	1409	-	-
Stage 1	888	798	-	857	777	-	-	-	-	-	-	-
Stage 2	812	737	-	898	813	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	621	611	950	678	650	906	1509	-	-	1409	-	-
Mov Cap-2 Maneuver	621	611	-	678	650	-	-	-	-	-	-	-
Stage 1	887	795	-	856	776	-	-	-	-	-	-	-
Stage 2	765	736	-	876	810	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	9.8	0.1	0.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1509	-	-	734	827	1409	-	-
HCM Lane V/C Ratio	0.001	-	-	0.029	0.084	0.005	-	-
HCM Control Delay (s)	7.4	0	-	10	9.8	7.6	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

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	61	1	47	12	1	7	8	146	14	5	135	6
Future Vol, veh/h	61	1	47	12	1	7	8	146	14	5	135	6
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	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	91	1	70	18	1	10	12	218	21	7	201	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	478	483	206	508	477	229	210	0	0	239	0	0
Stage 1	220	220	-	253	253	-	-	-	-	-	-	-
Stage 2	258	263	-	255	224	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	501	486	840	479	490	815	1373	-	-	1340	-	-
Stage 1	787	725	-	756	701	-	-	-	-	-	-	-
Stage 2	751	694	-	754	722	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	487	478	840	433	482	815	1373	-	-	1340	-	-
Mov Cap-2 Maneuver	487	478	-	433	482	-	-	-	-	-	-	-
Stage 1	779	721	-	748	694	-	-	-	-	-	-	-
Stage 2	732	687	-	685	718	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	12.3	0.4	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1373	-	-	595	521	1340	-	-
HCM Lane V/C Ratio	0.009	-	-	0.273	0.057	0.006	-	-
HCM Control Delay (s)	7.6	0	-	13.3	12.3	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	0.2	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	1	20	1	1	5	2	152	5	10	197	1
Future Vol, veh/h	12	1	20	1	1	5	2	152	5	10	197	1
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	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	17	1	29	1	1	7	3	220	7	14	286	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	549	548	287	560	545	224	287	0	0	227	0	0
Stage 1	315	315	-	230	230	-	-	-	-	-	-	-
Stage 2	234	233	-	330	315	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	450	447	757	442	449	820	1287	-	-	1353	-	-
Stage 1	700	659	-	777	718	-	-	-	-	-	-	-
Stage 2	774	716	-	687	659	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	440	440	757	419	442	820	1287	-	-	1353	-	-
Mov Cap-2 Maneuver	440	440	-	419	442	-	-	-	-	-	-	-
Stage 1	698	651	-	775	716	-	-	-	-	-	-	-
Stage 2	763	714	-	651	651	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	10.6	0.1	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1287	-	-	590	651	1353	-	-
HCM Lane V/C Ratio	0.002	-	-	0.081	0.016	0.011	-	-
HCM Control Delay (s)	7.8	0	-	11.6	10.6	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0	0	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	1	20	2	48	1	27	0	0	95	1
Future Vol, veh/h	1	0	1	20	2	48	1	27	0	0	95	1
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	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	0	0	0
Mvmt Flow	1	0	1	28	3	68	1	38	0	0	134	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	211	175	135	175	175	38	135	0	-	-	-	0
Stage 1	135	135	-	40	40	-	-	-	-	-	-	-
Stage 2	76	40	-	135	135	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	-	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	-	-	-
Pot Cap-1 Maneuver	750	722	919	792	722	1040	1437	-	0	0	-	-
Stage 1	873	789	-	980	866	-	-	-	0	0	-	-
Stage 2	938	866	-	873	789	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	698	721	919	790	721	1040	1437	-	-	-	-	-
Mov Cap-2 Maneuver	698	721	-	790	721	-	-	-	-	-	-	-
Stage 1	872	789	-	979	865	-	-	-	-	-	-	-
Stage 2	873	865	-	872	789	-	-	-	-	-	-	-

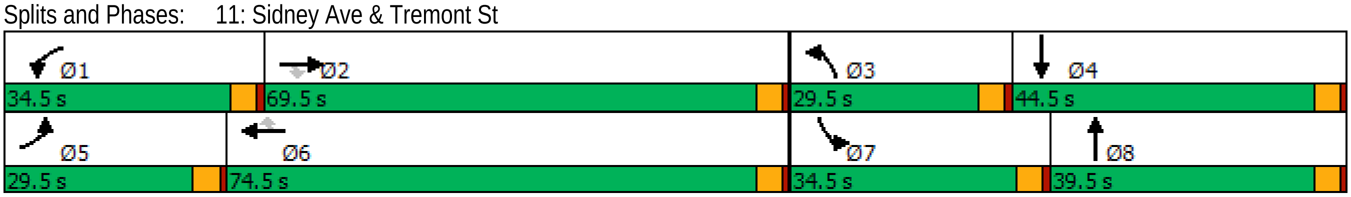
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	9.3	0.3	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1437	-	793	943	-	-
HCM Lane V/C Ratio	0.001	-	0.004	0.105	-	-
HCM Control Delay (s)	7.5	0	9.6	9.3	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0.3	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	899	26	156	497	81	13	36	178	170	61	114
Future Volume (vph)	59	899	26	156	497	81	13	36	178	170	61	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		100	200		100	100		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		814			797			449			619	
Travel Time (s)		15.9			15.5			12.2			16.9	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	22.5	22.5	10.5	22.5		10.5	22.5	
Total Split (s)	29.5	69.5	69.5	34.5	74.5	74.5	29.5	39.5		34.5	44.5	
Total Split (%)	16.6%	39.0%	39.0%	19.4%	41.9%	41.9%	16.6%	22.2%		19.4%	25.0%	
Maximum Green (s)	25.0	65.0	65.0	30.0	70.0	70.0	25.0	35.0		30.0	40.0	
Yellow Time (s)	3.5	3.5	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		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.5	6.0	6.0	3.5	6.0	6.0	3.5	5.0		3.5	5.0	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	
Walk Time (s)		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	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 178	
Actuated Cycle Length: 125.4	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 11: Sidney Ave & Tremont St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	899	26	156	497	81	13	36	178	170	61	114
Future Volume (veh/h)	59	899	26	156	497	81	13	36	178	170	61	114
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	1885	1885	1885	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	956	0	166	529	0	14	38	189	181	65	121
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	2	2	2
Cap, veh/h	85	1491		203	1737		34	48	237	219	163	304
Arrive On Green	0.05	0.42	0.00	0.11	0.49	0.00	0.02	0.18	0.18	0.12	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1795	3582	1598	1781	272	1354	1781	585	1089
Grp Volume(v), veh/h	63	956	0	166	529	0	14	0	227	181	0	186
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1795	1791	1598	1781	0	1627	1781	0	1674
Q Serve(g_s), s	3.7	22.7	0.0	9.6	9.5	0.0	0.8	0.0	14.2	10.5	0.0	9.6
Cycle Q Clear(g_c), s	3.7	22.7	0.0	9.6	9.5	0.0	0.8	0.0	14.2	10.5	0.0	9.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.83	1.00		0.65
Lane Grp Cap(c), veh/h	85	1491		203	1737		34	0	285	219	0	467
V/C Ratio(X)	0.74	0.64		0.82	0.30		0.41	0.00	0.80	0.83	0.00	0.40
Avail Cap(c_a), veh/h	419	2173		507	2359		419	0	536	503	0	630
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.0	24.5	0.0	46.1	16.5	0.0	51.5	0.0	42.0	45.5	0.0	31.1
Incr Delay (d2), s/veh	14.2	1.7	0.0	9.3	0.4	0.0	9.3	0.0	10.3	9.1	0.0	1.2
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	2.0	9.5	0.0	4.7	3.8	0.0	0.5	0.0	6.5	5.2	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.2	26.2	0.0	55.3	16.9	0.0	60.9	0.0	52.4	54.7	0.0	32.3
LnGrp LOS	E	C		E	B		E	A	D	D	A	C
Approach Vol, veh/h		1019	A		695	A		241			367	
Approach Delay, s/veh		28.5			26.1			52.9			43.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	49.1	6.5	34.1	9.6	56.1	17.6	23.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	65.0	25.0	40.0	25.0	70.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	11.6	24.7	2.8	11.6	5.7	11.5	12.5	16.2
Green Ext Time (p_c), s	0.5	19.9	0.0	2.2	0.1	10.5	0.6	2.4

Intersection Summary	
HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	1	10	81	1	1	2	715	93	2	603	2
Future Vol, veh/h	1	1	10	81	1	1	2	715	93	2	603	2
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	1	1	1
Mvmt Flow	1	1	10	83	1	1	2	730	95	2	615	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1403	1449	616	1408	1403	778	617	0	0	825	0	0
Stage 1	620	620	-	782	782	-	-	-	-	-	-	-
Stage 2	783	829	-	626	621	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	118	132	494	118	141	400	968	-	-	810	-	-
Stage 1	479	483	-	390	408	-	-	-	-	-	-	-
Stage 2	390	388	-	475	482	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	117	131	494	114	140	400	968	-	-	810	-	-
Mov Cap-2 Maneuver	117	131	-	301	321	-	-	-	-	-	-	-
Stage 1	478	482	-	389	407	-	-	-	-	-	-	-
Stage 2	387	387	-	463	481	-	-	-	-	-	-	-

Approach	EB	WB	NE	SW
HCM Control Delay, s	16.4	21.5	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1	WBLn1	SWL	SWT	SWR
Capacity (veh/h)	968	-	-	329	302	810	-	-
HCM Lane V/C Ratio	0.002	-	-	0.037	0.28	0.003	-	-
HCM Control Delay (s)	8.7	-	-	16.4	21.5	9.5	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.1	0	-	-

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	89	5	10	28	3	56	7	15	11	9	1
Future Vol, veh/h	1	89	5	10	28	3	56	7	15	11	9	1
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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	0	0	0
Mvmt Flow	1	105	6	12	33	4	66	8	18	13	11	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	206	196	12	242	187	17	12	0	0	26	0	0
Stage 1	38	38	-	149	149	-	-	-	-	-	-	-
Stage 2	168	158	-	93	38	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	756	703	1074	710	706	1059	1613	-	-	1601	-	-
Stage 1	982	867	-	851	772	-	-	-	-	-	-	-
Stage 2	839	771	-	912	861	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	698	668	1074	599	671	1059	1613	-	-	1601	-	-
Mov Cap-2 Maneuver	698	668	-	599	671	-	-	-	-	-	-	-
Stage 1	941	860	-	815	740	-	-	-	-	-	-	-
Stage 2	765	739	-	790	854	-	-	-	-	-	-	-

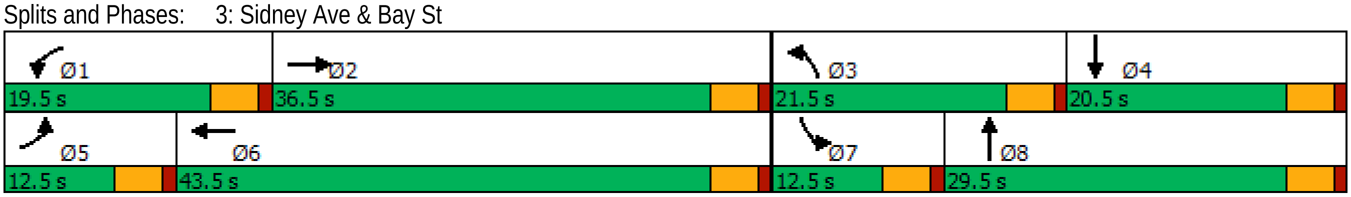
Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	10.8	5.3	3.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1613	-	-	682	669	1601	-	-
HCM Lane V/C Ratio	0.041	-	-	0.164	0.072	0.008	-	-
HCM Control Delay (s)	7.3	0	-	11.3	10.8	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.2	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	616	14	70	509	40	74	18	193	171	46	27
Future Volume (vph)	13	616	14	70	509	40	74	18	193	171	46	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	150		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		490			480			417			320	
Travel Time (s)		13.4			13.1			11.4			8.7	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5		10.5	22.5		10.5	20.5		10.5	20.5	
Total Split (s)	12.5	36.5		19.5	43.5		21.5	29.5		12.5	20.5	
Total Split (%)	12.8%	37.2%		19.9%	44.4%		21.9%	30.1%		12.8%	20.9%	
Maximum Green (s)	8.0	32.0		15.0	39.0		17.0	25.0		8.0	16.0	
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		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			9.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 98	
Actuated Cycle Length: 73.1	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: Sidney Ave & Bay St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	616	14	70	509	40	74	18	193	171	46	27
Future Volume (veh/h)	13	616	14	70	509	40	74	18	193	171	46	27
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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1826	1826	1826
Adj Flow Rate, veh/h	13	622	14	71	514	40	75	18	195	173	46	27
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	5	5	5
Cap, veh/h	35	702	16	117	740	58	120	23	250	205	237	139
Arrive On Green	0.02	0.38	0.38	0.07	0.43	0.43	0.07	0.17	0.17	0.12	0.22	0.22
Sat Flow, veh/h	1795	1836	41	1795	1727	134	1795	137	1482	1739	1079	633
Grp Volume(v), veh/h	13	0	636	71	0	554	75	0	213	173	0	73
Grp Sat Flow(s),veh/h/ln	1795	0	1878	1795	0	1861	1795	0	1618	1739	0	1712
Q Serve(g_s), s	0.5	0.0	21.5	2.6	0.0	16.4	2.8	0.0	8.5	6.6	0.0	2.4
Cycle Q Clear(g_c), s	0.5	0.0	21.5	2.6	0.0	16.4	2.8	0.0	8.5	6.6	0.0	2.4
Prop In Lane	1.00		0.02	1.00		0.07	1.00		0.92	1.00		0.37
Lane Grp Cap(c), veh/h	35	0	718	117	0	797	120	0	274	205	0	377
V/C Ratio(X)	0.38	0.00	0.89	0.61	0.00	0.69	0.62	0.00	0.78	0.84	0.00	0.19
Avail Cap(c_a), veh/h	212	0	886	397	0	1070	450	0	597	205	0	404
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.9	0.0	19.6	30.9	0.0	15.8	30.8	0.0	27.0	29.3	0.0	21.6
Incr Delay (d2), s/veh	5.0	0.0	8.7	3.7	0.0	1.0	3.9	0.0	3.6	25.6	0.0	0.2
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	0.3	0.0	10.4	1.2	0.0	6.6	1.3	0.0	3.5	4.1	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	0.0	28.3	34.6	0.0	16.7	34.7	0.0	30.5	54.9	0.0	21.7
LnGrp LOS	D	A	C	C	A	B	C	A	C	D	A	C
Approach Vol, veh/h		649			625			288			246	
Approach Delay, s/veh		28.5			18.8			31.6			45.0	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	30.4	9.0	19.4	5.8	33.6	12.5	16.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.0	32.0	17.0	16.0	8.0	39.0	8.0	25.0
Max Q Clear Time (g_c+I1), s	4.6	23.5	4.8	4.4	2.5	18.4	8.6	10.5
Green Ext Time (p_c), s	0.1	2.5	0.1	0.2	0.0	3.2	0.0	0.9

Intersection Summary			
HCM 6th Ctrl Delay			27.9
HCM 6th LOS			C

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	20	61	45	9	5	7	17	254	10	10	102	6
Future Vol, veh/h	20	61	45	9	5	7	17	254	10	10	102	6
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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	4	4	4
Mvmt Flow	26	78	58	12	6	9	22	326	13	13	131	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	545	544	135	606	542	333	139	0	0	339	0	0
Stage 1	161	161	-	377	377	-	-	-	-	-	-	-
Stage 2	384	383	-	229	165	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.236	-	-
Pot Cap-1 Maneuver	452	449	919	412	450	713	1451	-	-	1209	-	-
Stage 1	846	769	-	649	619	-	-	-	-	-	-	-
Stage 2	643	616	-	778	766	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	431	435	919	325	436	713	1451	-	-	1209	-	-
Mov Cap-2 Maneuver	431	435	-	325	436	-	-	-	-	-	-	-
Stage 1	830	760	-	637	607	-	-	-	-	-	-	-
Stage 2	616	604	-	646	757	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.6	14	0.5	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1451	-	-	535	429	1209	-	-
HCM Lane V/C Ratio	0.015	-	-	0.302	0.063	0.011	-	-
HCM Control Delay (s)	7.5	0	-	14.6	14	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.3	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	1	1	1	2	1	31	1	74	3	8	54	1
Future Vol, veh/h	1	1	1	2	1	31	1	74	3	8	54	1
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	66	66	66	66	66	66	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	0	0	0
Mvmt Flow	2	2	2	3	2	47	2	112	5	12	82	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	250	228	83	228	227	115	84	0	0	117	0	0
Stage 1	107	107	-	119	119	-	-	-	-	-	-	-
Stage 2	143	121	-	109	108	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	708	675	982	731	676	943	1519	-	-	1484	-	-
Stage 1	903	811	-	890	801	-	-	-	-	-	-	-
Stage 2	865	800	-	901	810	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	667	669	982	724	670	943	1519	-	-	1484	-	-
Mov Cap-2 Maneuver	667	669	-	724	670	-	-	-	-	-	-	-
Stage 1	902	805	-	889	800	-	-	-	-	-	-	-
Stage 2	820	799	-	891	804	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	9.2	0.1	0.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1519	-	-	748	916	1484	-	-
HCM Lane V/C Ratio	0.001	-	-	0.006	0.056	0.008	-	-
HCM Control Delay (s)	7.4	0	-	9.8	9.2	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	5	6	11	1	27	1	48	6	4	53	2
Future Vol, veh/h	2	5	6	11	1	27	1	48	6	4	53	2
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	62	62	62	62	62	62	62	62	62	62	62	62
Heavy Vehicles, %	8	8	8	0	0	0	1	1	1	0	0	0
Mvmt Flow	3	8	10	18	2	44	2	77	10	6	85	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	208	190	87	194	186	82	88	0	0	87	0	0
Stage 1	99	99	-	86	86	-	-	-	-	-	-	-
Stage 2	109	91	-	108	100	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	737	694	955	770	712	983	1514	-	-	1522	-	-
Stage 1	893	802	-	927	827	-	-	-	-	-	-	-
Stage 2	882	808	-	902	816	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	700	691	955	752	708	983	1514	-	-	1522	-	-
Mov Cap-2 Maneuver	700	691	-	752	708	-	-	-	-	-	-	-
Stage 1	892	799	-	926	826	-	-	-	-	-	-	-
Stage 2	840	807	-	880	813	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	9.3	0.1	0.5
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1514	-	-	794	896	1522	-	-
HCM Lane V/C Ratio	0.001	-	-	0.026	0.07	0.004	-	-
HCM Control Delay (s)	7.4	0	-	9.7	9.3	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

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	35	1	47	12	1	7	8	236	14	5	160	6
Future Vol, veh/h	35	1	47	12	1	7	8	236	14	5	160	6
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	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	52	1	70	18	1	10	12	352	21	7	239	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	650	655	244	680	649	363	248	0	0	373	0	0
Stage 1	258	258	-	387	387	-	-	-	-	-	-	-
Stage 2	392	397	-	293	262	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	385	388	800	368	391	686	1330	-	-	1197	-	-
Stage 1	751	698	-	641	613	-	-	-	-	-	-	-
Stage 2	637	607	-	719	695	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	373	381	800	330	384	686	1330	-	-	1197	-	-
Mov Cap-2 Maneuver	373	381	-	330	384	-	-	-	-	-	-	-
Stage 1	743	693	-	634	606	-	-	-	-	-	-	-
Stage 2	619	600	-	650	690	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.7	14.5	0.2	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1330	-	-	535	407	1197	-	-
HCM Lane V/C Ratio	0.009	-	-	0.232	0.073	0.006	-	-
HCM Control Delay (s)	7.7	0	-	13.7	14.5	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.9	0.2	0	-	-

Intersection												
Int Delay, s/veh	1.3											
Movement	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Lane Configurations												
Traffic Vol, veh/h	12	1	21	1	1	5	2	217	5	10	207	1
Future Vol, veh/h	12	1	21	1	1	5	2	217	5	10	207	1
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	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	17	1	30	1	1	7	3	314	7	14	300	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	657	656	301	668	653	318	301	0	0	321	0	0
Stage 1	329	329	-	324	324	-	-	-	-	-	-	-
Stage 2	328	327	-	344	329	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	381	388	743	375	389	727	1272	-	-	1250	-	-
Stage 1	688	650	-	692	653	-	-	-	-	-	-	-
Stage 2	689	651	-	676	650	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	371	382	743	354	383	727	1272	-	-	1250	-	-
Mov Cap-2 Maneuver	371	382	-	354	383	-	-	-	-	-	-	-
Stage 1	686	642	-	690	651	-	-	-	-	-	-	-
Stage 2	679	649	-	638	642	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.4	11.5	0.1	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1272	-	-	538	568	1250	-	-
HCM Lane V/C Ratio	0.002	-	-	0.092	0.018	0.012	-	-
HCM Control Delay (s)	7.8	0	-	12.4	11.5	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	43	2	26	1	25	3	1	76	1
Future Vol, veh/h	1	1	1	43	2	26	1	25	3	1	76	1
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	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	0	0	0
Mvmt Flow	1	1	1	61	3	37	1	35	4	1	107	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	169	151	108	150	149	37	108	0	0	39	0	0
Stage 1	110	110	-	39	39	-	-	-	-	-	-	-
Stage 2	59	41	-	111	110	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	799	744	951	822	746	1041	1470	-	-	1584	-	-
Stage 1	900	808	-	981	866	-	-	-	-	-	-	-
Stage 2	958	865	-	899	808	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	768	743	951	819	745	1041	1470	-	-	1584	-	-
Mov Cap-2 Maneuver	768	743	-	819	745	-	-	-	-	-	-	-
Stage 1	899	807	-	980	865	-	-	-	-	-	-	-
Stage 2	920	864	-	895	807	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.6	0.3	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1470	-	-	811	886	1584	-	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.113	0.001	-	-
HCM Control Delay (s)	7.5	0	-	9.5	9.6	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	60	1	4	166	222	10
Future Vol, veh/h	60	1	4	166	222	10
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	87	1	6	241	322	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	582	329	336	0	-	0
Stage 1	329	-	-	-	-	-
Stage 2	253	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	479	717	1235	-	-	-
Stage 1	734	-	-	-	-	-
Stage 2	794	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	476	717	1235	-	-	-
Mov Cap-2 Maneuver	476	-	-	-	-	-
Stage 1	730	-	-	-	-	-
Stage 2	794	-	-	-	-	-

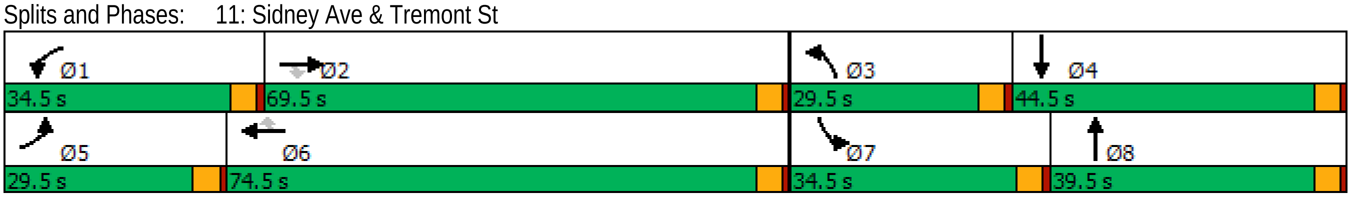
Approach	EB	NB	SB
HCM Control Delay, s	14.2	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1235	-	479	-	-
HCM Lane V/C Ratio	0.005	-	0.185	-	-
HCM Control Delay (s)	7.9	0	14.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	1031	26	156	753	81	16	62	179	170	83	114
Future Volume (vph)	59	1031	26	156	753	81	16	62	179	170	83	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		100	200		100	100		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		814			797			449			619	
Travel Time (s)		15.9			15.5			12.2			16.9	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	22.5	22.5	10.5	22.5		10.5	22.5	
Total Split (s)	29.5	69.5	69.5	34.5	74.5	74.5	29.5	39.5		34.5	44.5	
Total Split (%)	16.6%	39.0%	39.0%	19.4%	41.9%	41.9%	16.6%	22.2%		19.4%	25.0%	
Maximum Green (s)	25.0	65.0	65.0	30.0	70.0	70.0	25.0	35.0		30.0	40.0	
Yellow Time (s)	3.5	3.5	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		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.5	6.0	6.0	3.5	6.0	6.0	3.5	5.0		3.5	5.0	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	
Walk Time (s)		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	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 178	
Actuated Cycle Length: 142.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 11: Sidney Ave & Tremont St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	1031	26	156	753	81	16	62	179	170	83	114
Future Volume (veh/h)	59	1031	26	156	753	81	16	62	179	170	83	114
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	1885	1885	1885	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	1097	0	166	801	0	17	66	190	181	88	121
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	2	2	2
Cap, veh/h	83	1547		199	1790		38	79	227	214	203	279
Arrive On Green	0.05	0.44	0.00	0.11	0.50	0.00	0.02	0.19	0.19	0.12	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1795	3582	1598	1781	425	1225	1781	713	981
Grp Volume(v), veh/h	63	1097	0	166	801	0	17	0	256	181	0	209
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1795	1791	1598	1781	0	1650	1781	0	1694
Q Serve(g_s), s	4.3	30.7	0.0	11.0	17.5	0.0	1.1	0.0	18.2	12.1	0.0	12.3
Cycle Q Clear(g_c), s	4.3	30.7	0.0	11.0	17.5	0.0	1.1	0.0	18.2	12.1	0.0	12.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		0.58
Lane Grp Cap(c), veh/h	83	1547		199	1790		38	0	306	214	0	482
V/C Ratio(X)	0.76	0.71		0.84	0.45		0.44	0.00	0.84	0.84	0.00	0.43
Avail Cap(c_a), veh/h	366	1899		443	2061		366	0	475	439	0	557
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.3	28.1	0.0	53.0	19.6	0.0	58.8	0.0	47.7	52.4	0.0	35.5
Incr Delay (d2), s/veh	16.0	2.3	0.0	10.5	0.6	0.0	9.4	0.0	12.8	10.4	0.0	1.3
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	2.3	13.2	0.0	5.5	7.3	0.0	0.6	0.0	8.6	6.1	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.3	30.3	0.0	63.5	20.2	0.0	68.2	0.0	60.6	62.8	0.0	36.8
LnGrp LOS	E	C		E	C		E	A	E	E	A	D
Approach Vol, veh/h		1160	A		967	A		273			390	
Approach Delay, s/veh		32.7			27.7			61.0			48.9	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	57.5	7.1	39.1	10.1	65.3	19.1	27.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	65.0	25.0	40.0	25.0	70.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	13.0	32.7	3.1	14.3	6.3	19.5	14.1	20.2
Green Ext Time (p_c), s	0.5	20.3	0.0	2.5	0.1	17.5	0.6	2.4

Intersection Summary			
HCM 6th Ctrl Delay			36.0
HCM 6th LOS			D

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	1	10	108	1	1	2	715	99	2	603	2
Future Vol, veh/h	1	1	10	108	1	1	2	715	99	2	603	2
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	1	1	1
Mvmt Flow	1	1	10	110	1	1	2	730	101	2	615	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1406	1455	616	1411	1406	781	617	0	0	831	0	0
Stage 1	620	620	-	785	785	-	-	-	-	-	-	-
Stage 2	786	835	-	626	621	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	118	131	494	117	140	398	968	-	-	806	-	-
Stage 1	479	483	-	389	407	-	-	-	-	-	-	-
Stage 2	388	386	-	475	482	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	117	130	494	113	139	398	968	-	-	806	-	-
Mov Cap-2 Maneuver	117	130	-	301	320	-	-	-	-	-	-	-
Stage 1	478	482	-	388	406	-	-	-	-	-	-	-
Stage 2	385	385	-	463	481	-	-	-	-	-	-	-

Approach	EB	WB	NE	SW
HCM Control Delay, s	16.4	23.8	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1	WBLn1	SWL	SWT	SWR
Capacity (veh/h)	968	-	-	329	302	806	-	-
HCM Lane V/C Ratio	0.002	-	-	0.037	0.372	0.003	-	-
HCM Control Delay (s)	8.7	-	-	16.4	23.8	9.5	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.7	0	-	-

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	91	9	10	35	3	76	7	15	11	9	1
Future Vol, veh/h	1	91	9	10	35	3	76	7	15	11	9	1
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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	0	0	0
Mvmt Flow	1	107	11	12	41	4	89	8	18	13	11	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	256	242	12	292	233	17	12	0	0	26	0	0
Stage 1	38	38	-	195	195	-	-	-	-	-	-	-
Stage 2	218	204	-	97	38	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	701	663	1074	658	665	1059	1613	-	-	1601	-	-
Stage 1	982	867	-	804	737	-	-	-	-	-	-	-
Stage 2	789	737	-	907	861	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	632	621	1074	539	622	1059	1613	-	-	1601	-	-
Mov Cap-2 Maneuver	632	621	-	539	622	-	-	-	-	-	-	-
Stage 1	927	860	-	759	696	-	-	-	-	-	-	-
Stage 2	698	696	-	780	854	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.8	11.4	5.7	3.8
HCM LOS	B	B		

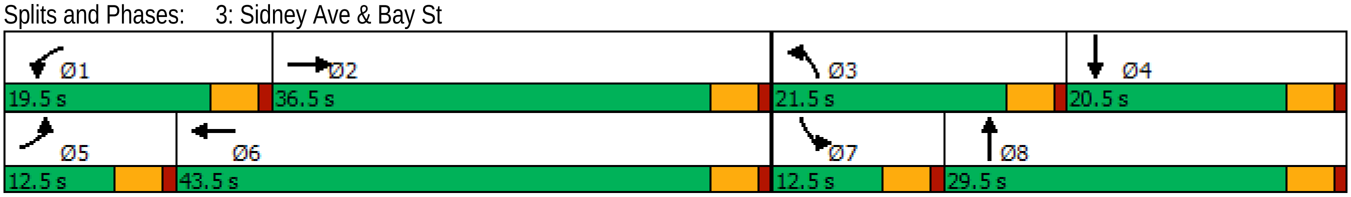
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1613	-	-	645	618	1601	-	-
HCM Lane V/C Ratio	0.055	-	-	0.184	0.091	0.008	-	-
HCM Control Delay (s)	7.4	0	-	11.8	11.4	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.7	0.3	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	616	14	73	509	40	74	18	209	171	46	27
Future Volume (vph)	13	616	14	73	509	40	74	18	209	171	46	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	150		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		490			480			417			320	
Travel Time (s)		13.4			13.1			11.4			8.7	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5		10.5	22.5		10.5	20.5		10.5	20.5	
Total Split (s)	12.5	36.5		19.5	43.5		21.5	29.5		12.5	20.5	
Total Split (%)	12.8%	37.2%		19.9%	44.4%		21.9%	30.1%		12.8%	20.9%	
Maximum Green (s)	8.0	32.0		15.0	39.0		17.0	25.0		8.0	16.0	
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		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			9.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	

Intersection Summary

Area Type: Other
Cycle Length: 98
Actuated Cycle Length: 73.2
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Sidney Ave & Bay St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	616	14	73	509	40	74	18	209	171	46	27
Future Volume (veh/h)	13	616	14	73	509	40	74	18	209	171	46	27
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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1826	1826	1826
Adj Flow Rate, veh/h	13	622	14	74	514	40	75	18	211	173	46	27
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	5	5	5
Cap, veh/h	34	699	16	118	737	57	119	23	266	201	246	144
Arrive On Green	0.02	0.38	0.38	0.07	0.43	0.43	0.07	0.18	0.18	0.12	0.23	0.23
Sat Flow, veh/h	1795	1836	41	1795	1727	134	1795	127	1490	1739	1079	633
Grp Volume(v), veh/h	13	0	636	74	0	554	75	0	229	173	0	73
Grp Sat Flow(s),veh/h/ln	1795	0	1878	1795	0	1861	1795	0	1617	1739	0	1712
Q Serve(g_s), s	0.5	0.0	22.0	2.8	0.0	16.8	2.8	0.0	9.4	6.8	0.0	2.4
Cycle Q Clear(g_c), s	0.5	0.0	22.0	2.8	0.0	16.8	2.8	0.0	9.4	6.8	0.0	2.4
Prop In Lane	1.00		0.02	1.00		0.07	1.00		0.92	1.00		0.37
Lane Grp Cap(c), veh/h	34	0	714	118	0	795	119	0	289	201	0	390
V/C Ratio(X)	0.38	0.00	0.89	0.63	0.00	0.70	0.63	0.00	0.79	0.86	0.00	0.19
Avail Cap(c_a), veh/h	207	0	867	389	0	1047	440	0	583	201	0	395
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.6	0.0	20.1	31.5	0.0	16.2	31.5	0.0	27.2	30.1	0.0	21.6
Incr Delay (d2), s/veh	5.0	0.0	9.5	4.0	0.0	1.1	4.1	0.0	3.7	29.2	0.0	0.2
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	0.3	0.0	10.8	1.3	0.0	6.9	1.3	0.0	3.8	4.4	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	0.0	29.6	35.6	0.0	17.3	35.6	0.0	30.9	59.3	0.0	21.7
LnGrp LOS	D	A	C	D	A	B	D	A	C	E	A	C
Approach Vol, veh/h		649			628			304			246	
Approach Delay, s/veh		29.8			19.4			32.1			48.2	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	30.9	9.1	20.3	5.8	34.1	12.5	16.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.0	32.0	17.0	16.0	8.0	39.0	8.0	25.0
Max Q Clear Time (g_c+I1), s	4.8	24.0	4.8	4.4	2.5	18.8	8.8	11.4
Green Ext Time (p_c), s	0.1	2.4	0.1	0.2	0.0	3.2	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	61	47	9	5	7	24	270	10	10	105	6
Future Vol, veh/h	20	61	47	9	5	7	24	270	10	10	105	6
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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	4	4	4
Mvmt Flow	26	78	60	12	6	9	31	346	13	13	135	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	587	586	139	649	584	353	143	0	0	359	0	0
Stage 1	165	165	-	415	415	-	-	-	-	-	-	-
Stage 2	422	421	-	234	169	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.236	-	-
Pot Cap-1 Maneuver	424	425	915	386	426	695	1446	-	-	1189	-	-
Stage 1	842	766	-	619	596	-	-	-	-	-	-	-
Stage 2	613	592	-	774	763	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	402	408	915	299	409	695	1446	-	-	1189	-	-
Mov Cap-2 Maneuver	402	408	-	299	409	-	-	-	-	-	-	-
Stage 1	819	757	-	602	580	-	-	-	-	-	-	-
Stage 2	582	576	-	641	754	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.3	14.6	0.6	0.7
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1446	-	-	511	401	1189	-	-
HCM Lane V/C Ratio	0.021	-	-	0.321	0.067	0.011	-	-
HCM Control Delay (s)	7.5	0	-	15.3	14.6	8.1	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.4	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	2	1	36	1	89	3	11	55	1
Future Vol, veh/h	1	1	1	2	1	36	1	89	3	11	55	1
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	66	66	66	66	66	66	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	0	0	0
Mvmt Flow	2	2	2	3	2	55	2	135	5	17	83	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	288	262	84	262	261	138	85	0	0	140	0	0
Stage 1	118	118	-	142	142	-	-	-	-	-	-	-
Stage 2	170	144	-	120	119	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	668	646	981	695	647	916	1518	-	-	1456	-	-
Stage 1	891	802	-	866	783	-	-	-	-	-	-	-
Stage 2	837	782	-	889	801	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	621	638	981	686	639	916	1518	-	-	1456	-	-
Mov Cap-2 Maneuver	621	638	-	686	639	-	-	-	-	-	-	-
Stage 1	890	792	-	865	782	-	-	-	-	-	-	-
Stage 2	785	781	-	875	791	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	9.3	0.1	1.2
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1518	-	-	715	891	1456	-	-
HCM Lane V/C Ratio	0.001	-	-	0.006	0.066	0.011	-	-
HCM Control Delay (s)	7.4	0	-	10.1	9.3	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	5	7	13	1	29	1	61	6	5	53	2
Future Vol, veh/h	2	5	7	13	1	29	1	61	6	5	53	2
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	62	62	62	62	62	62	62	62	62	62	62	62
Heavy Vehicles, %	8	8	8	0	0	0	1	1	1	0	0	0
Mvmt Flow	3	8	11	21	2	47	2	98	10	8	85	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	235	215	87	219	211	103	88	0	0	108	0	0
Stage 1	103	103	-	107	107	-	-	-	-	-	-	-
Stage 2	132	112	-	112	104	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	707	672	955	741	690	957	1514	-	-	1495	-	-
Stage 1	888	798	-	903	811	-	-	-	-	-	-	-
Stage 2	857	791	-	898	813	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	667	667	955	722	685	957	1514	-	-	1495	-	-
Mov Cap-2 Maneuver	667	667	-	722	685	-	-	-	-	-	-	-
Stage 1	887	793	-	902	810	-	-	-	-	-	-	-
Stage 2	813	790	-	873	808	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	9.5	0.1	0.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1514	-	-	785	864	1495	-	-
HCM Lane V/C Ratio	0.001	-	-	0.029	0.08	0.005	-	-
HCM Control Delay (s)	7.4	0	-	9.7	9.5	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	1	52	12	1	7	8	256	15	5	162	9
Future Vol, veh/h	38	1	52	12	1	7	8	256	15	5	162	9
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	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	57	1	78	18	1	10	12	382	22	7	242	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	686	691	249	719	686	393	255	0	0	404	0	0
Stage 1	263	263	-	417	417	-	-	-	-	-	-	-
Stage 2	423	428	-	302	269	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	364	370	795	346	373	660	1322	-	-	1166	-	-
Stage 1	747	694	-	617	595	-	-	-	-	-	-	-
Stage 2	613	588	-	712	690	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	352	363	795	307	366	660	1322	-	-	1166	-	-
Mov Cap-2 Maneuver	352	363	-	307	366	-	-	-	-	-	-	-
Stage 1	738	689	-	610	588	-	-	-	-	-	-	-
Stage 2	595	581	-	637	685	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.4	15.3	0.2	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1322	-	-	517	381	1166	-	-
HCM Lane V/C Ratio	0.009	-	-	0.263	0.078	0.006	-	-
HCM Control Delay (s)	7.7	0	-	14.4	15.3	8.1	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1	0.3	0	-	-

Intersection												
Int Delay, s/veh	1.4											
Movement	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Lane Configurations												
Traffic Vol, veh/h	15	1	25	1	1	5	2	235	5	10	214	1
Future Vol, veh/h	15	1	25	1	1	5	2	235	5	10	214	1
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	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	22	1	36	1	1	7	3	341	7	14	310	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	694	693	311	708	690	345	311	0	0	348	0	0
Stage 1	339	339	-	351	351	-	-	-	-	-	-	-
Stage 2	355	354	-	357	339	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	360	369	734	352	371	702	1261	-	-	1222	-	-
Stage 1	680	643	-	670	636	-	-	-	-	-	-	-
Stage 2	666	634	-	665	643	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	351	363	734	329	365	702	1261	-	-	1222	-	-
Mov Cap-2 Maneuver	351	363	-	329	365	-	-	-	-	-	-	-
Stage 1	678	634	-	668	634	-	-	-	-	-	-	-
Stage 2	656	632	-	622	634	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	11.8	0.1	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1261	-	-	515	543	1222	-	-
HCM Lane V/C Ratio	0.002	-	-	0.115	0.019	0.012	-	-
HCM Control Delay (s)	7.9	0	-	12.9	11.8	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	51	2	39	1	25	5	2	78	1
Future Vol, veh/h	1	1	1	51	2	39	1	25	5	2	78	1
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	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	0	0	0
Mvmt Flow	1	1	1	72	3	55	1	35	7	3	110	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	187	161	111	159	158	39	111	0	0	42	0	0
Stage 1	117	117	-	41	41	-	-	-	-	-	-	-
Stage 2	70	44	-	118	117	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	778	735	948	811	738	1038	1466	-	-	1580	-	-
Stage 1	892	803	-	979	865	-	-	-	-	-	-	-
Stage 2	945	862	-	891	803	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	733	733	948	807	736	1038	1466	-	-	1580	-	-
Mov Cap-2 Maneuver	733	733	-	807	736	-	-	-	-	-	-	-
Stage 1	891	801	-	978	864	-	-	-	-	-	-	-
Stage 2	891	861	-	886	801	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	9.7	0.2	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1466	-	-	793	889	1580	-	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.146	0.002	-	-
HCM Control Delay (s)	7.5	0	-	9.6	9.7	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	78	14	9	166	231	12
Future Vol, veh/h	78	14	9	166	231	12
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	113	20	13	241	335	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	611	344	352	0	-	0
Stage 1	344	-	-	-	-	-
Stage 2	267	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	460	703	1218	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	454	703	1218	-	-	-
Mov Cap-2 Maneuver	454	-	-	-	-	-
Stage 1	713	-	-	-	-	-
Stage 2	782	-	-	-	-	-

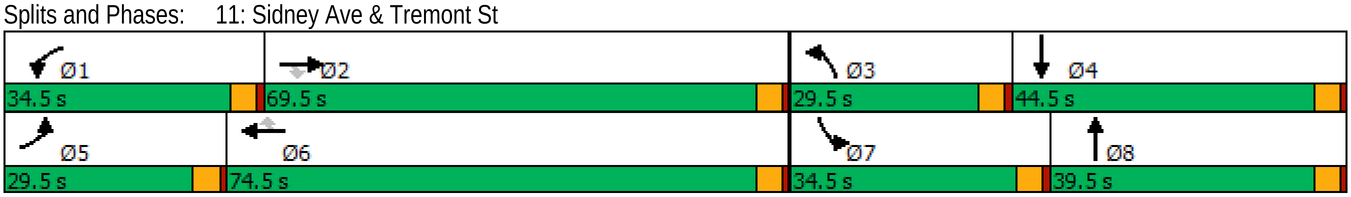
Approach	EB	NB	SB
HCM Control Delay, s	15.4	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1218	-	480	-	-
HCM Lane V/C Ratio	0.011	-	0.278	-	-
HCM Control Delay (s)	8	0	15.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	1.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	1031	26	156	753	84	16	62	179	182	84	129
Future Volume (vph)	62	1031	26	156	753	84	16	62	179	182	84	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		100	200		100	100		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		814			797			449			619	
Travel Time (s)		15.9			15.5			12.2			16.9	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	22.5	22.5	10.5	22.5		10.5	22.5	
Total Split (s)	29.5	69.5	69.5	34.5	74.5	74.5	29.5	39.5		34.5	44.5	
Total Split (%)	16.6%	39.0%	39.0%	19.4%	41.9%	41.9%	16.6%	22.2%		19.4%	25.0%	
Maximum Green (s)	25.0	65.0	65.0	30.0	70.0	70.0	25.0	35.0		30.0	40.0	
Yellow Time (s)	3.5	3.5	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		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.5	6.0	6.0	3.5	6.0	6.0	3.5	5.0		3.5	5.0	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	
Walk Time (s)		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	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 178	
Actuated Cycle Length: 143.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 11: Sidney Ave & Tremont St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	1031	26	156	753	84	16	62	179	182	84	129
Future Volume (veh/h)	62	1031	26	156	753	84	16	62	179	182	84	129
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	1885	1885	1885	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	1097	0	166	801	0	17	66	190	194	89	137
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	2	2	2
Cap, veh/h	86	1534		198	1768		38	79	227	227	193	297
Arrive On Green	0.05	0.43	0.00	0.11	0.49	0.00	0.02	0.19	0.19	0.13	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	1795	3582	1598	1781	425	1225	1781	664	1022
Grp Volume(v), veh/h	66	1097	0	166	801	0	17	0	256	194	0	226
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1795	1791	1598	1781	0	1650	1781	0	1686
Q Serve(g_s), s	4.5	31.4	0.0	11.2	18.0	0.0	1.2	0.0	18.5	13.2	0.0	13.6
Cycle Q Clear(g_c), s	4.5	31.4	0.0	11.2	18.0	0.0	1.2	0.0	18.5	13.2	0.0	13.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		0.61
Lane Grp Cap(c), veh/h	86	1534		198	1768		38	0	305	227	0	491
V/C Ratio(X)	0.77	0.72		0.84	0.45		0.44	0.00	0.84	0.85	0.00	0.46
Avail Cap(c_a), veh/h	360	1868		436	2028		360	0	467	432	0	545
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	58.1	28.9	0.0	53.9	20.4	0.0	59.8	0.0	48.6	52.8	0.0	35.9
Incr Delay (d2), s/veh	15.5	2.4	0.0	10.6	0.7	0.0	9.5	0.0	13.3	10.5	0.0	1.4
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	2.4	13.5	0.0	5.6	7.5	0.0	0.6	0.0	8.8	6.6	0.0	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.6	31.3	0.0	64.6	21.1	0.0	69.3	0.0	61.9	63.3	0.0	37.3
LnGrp LOS	E	C		E	C		E	A	E	E	A	D
Approach Vol, veh/h		1163	A		967	A		273			420	
Approach Delay, s/veh		33.7			28.5			62.4			49.3	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.2	57.9	7.2	40.5	10.5	65.5	20.3	27.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	65.0	25.0	40.0	25.0	70.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	13.2	33.4	3.2	15.6	6.5	20.0	15.2	20.5
Green Ext Time (p_c), s	0.5	20.0	0.0	2.6	0.2	17.4	0.6	2.4

Intersection Summary	
HCM 6th Ctrl Delay	37.0
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	1	11	116	1	1	2	779	107	2	657	2
Future Vol, veh/h	1	1	11	116	1	1	2	779	107	2	657	2
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	1	1	1
Mvmt Flow	1	1	11	118	1	1	2	795	109	2	670	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1530	1583	671	1535	1530	850	672	0	0	904	0	0
Stage 1	675	675	-	854	854	-	-	-	-	-	-	-
Stage 2	855	908	-	681	676	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	97	110	460	~ 96	118	363	923	-	-	756	-	-
Stage 1	447	456	-	356	378	-	-	-	-	-	-	-
Stage 2	356	357	-	444	456	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	96	109	460	~ 93	117	363	923	-	-	756	-	-
Mov Cap-2 Maneuver	96	109	-	274	296	-	-	-	-	-	-	-
Stage 1	446	455	-	355	377	-	-	-	-	-	-	-
Stage 2	353	356	-	431	455	-	-	-	-	-	-	-

Approach	EB	WB	NE	SW
HCM Control Delay, s	17.6	27.9	0	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1	WBLn1	SWL	SWT	SWR
Capacity (veh/h)	923	-	-	299	275	756	-	-
HCM Lane V/C Ratio	0.002	-	-	0.044	0.438	0.003	-	-
HCM Control Delay (s)	8.9	-	-	17.6	27.9	9.8	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	2.1	0	-	-

Notes

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

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	99	10	11	37	3	81	9	17	12	11	1
Future Vol, veh/h	1	99	10	11	37	3	81	9	17	12	11	1
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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	0	0	0
Mvmt Flow	1	116	12	13	44	4	95	11	20	14	13	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	277	263	14	317	253	21	14	0	0	31	0	0
Stage 1	42	42	-	211	211	-	-	-	-	-	-	-
Stage 2	235	221	-	106	42	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	679	646	1072	634	649	1054	1611	-	-	1595	-	-
Stage 1	978	864	-	789	726	-	-	-	-	-	-	-
Stage 2	773	724	-	897	858	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	606	602	1072	507	605	1054	1611	-	-	1595	-	-
Mov Cap-2 Maneuver	606	602	-	507	605	-	-	-	-	-	-	-
Stage 1	919	856	-	742	682	-	-	-	-	-	-	-
Stage 2	678	681	-	760	850	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.2	11.7	5.6	3.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1611	-	-	627	595	1595	-	-
HCM Lane V/C Ratio	0.059	-	-	0.206	0.101	0.009	-	-
HCM Control Delay (s)	7.4	0	-	12.2	11.7	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.8	0.3	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	673	15	79	555	44	81	20	225	186	50	29
Future Volume (vph)	14	673	15	79	555	44	81	20	225	186	50	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	150		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		490			480			417			320	
Travel Time (s)		13.4			13.1			11.4			8.7	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5		10.5	22.5		10.5	20.5		10.5	20.5	
Total Split (s)	10.6	46.2		11.8	47.4		14.6	20.6		19.4	25.4	
Total Split (%)	10.8%	47.1%		12.0%	48.4%		14.9%	21.0%		19.8%	25.9%	
Maximum Green (s)	6.1	41.7		7.3	42.9		10.1	16.1		14.9	20.9	
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		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			9.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 98	
Actuated Cycle Length: 78.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: Sidney Ave & Bay St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	673	15	79	555	44	81	20	225	186	50	29
Future Volume (veh/h)	14	673	15	79	555	44	81	20	225	186	50	29
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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1826	1826	1826
Adj Flow Rate, veh/h	14	680	15	80	561	44	82	20	227	188	51	29
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	5	5	5
Cap, veh/h	36	756	17	111	781	61	112	23	262	226	267	152
Arrive On Green	0.02	0.41	0.41	0.06	0.45	0.45	0.06	0.18	0.18	0.13	0.24	0.24
Sat Flow, veh/h	1795	1837	41	1795	1725	135	1795	131	1487	1739	1093	621
Grp Volume(v), veh/h	14	0	695	80	0	605	82	0	247	188	0	80
Grp Sat Flow(s),veh/h/ln	1795	0	1878	1795	0	1861	1795	0	1618	1739	0	1714
Q Serve(g_s), s	0.6	0.0	28.2	3.6	0.0	21.5	3.7	0.0	12.1	8.6	0.0	3.0
Cycle Q Clear(g_c), s	0.6	0.0	28.2	3.6	0.0	21.5	3.7	0.0	12.1	8.6	0.0	3.0
Prop In Lane	1.00		0.02	1.00		0.07	1.00		0.92	1.00		0.36
Lane Grp Cap(c), veh/h	36	0	772	111	0	843	112	0	285	226	0	418
V/C Ratio(X)	0.39	0.00	0.90	0.72	0.00	0.72	0.73	0.00	0.87	0.83	0.00	0.19
Avail Cap(c_a), veh/h	134	0	961	161	0	980	223	0	320	318	0	440
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.4	0.0	22.4	37.5	0.0	18.1	37.5	0.0	32.6	34.6	0.0	24.4
Incr Delay (d2), s/veh	5.0	0.0	9.3	6.5	0.0	1.9	6.8	0.0	19.3	10.8	0.0	0.2
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	0.3	0.0	13.7	1.8	0.0	9.2	1.8	0.0	6.2	4.3	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	0.0	31.7	44.0	0.0	20.0	44.3	0.0	51.9	45.3	0.0	24.6
LnGrp LOS	D	A	C	D	A	B	D	A	D	D	A	C
Approach Vol, veh/h		709			685			329			268	
Approach Delay, s/veh		31.9			22.8			50.0			39.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	38.0	9.6	24.4	6.1	41.4	15.1	18.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.3	41.7	10.1	20.9	6.1	42.9	14.9	16.1
Max Q Clear Time (g_c+I1), s	5.6	30.2	5.7	5.0	2.6	23.5	10.6	14.1
Green Ext Time (p_c), s	0.0	3.3	0.0	0.3	0.0	3.5	0.2	0.3

Intersection Summary	
HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	66	51	10	5	8	25	290	11	11	114	7
Future Vol, veh/h	23	66	51	10	5	8	25	290	11	11	114	7
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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	4	4	4
Mvmt Flow	29	85	65	13	6	10	32	372	14	14	146	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	630	629	151	697	626	379	155	0	0	386	0	0
Stage 1	179	179	-	443	443	-	-	-	-	-	-	-
Stage 2	451	450	-	254	183	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.236	-	-
Pot Cap-1 Maneuver	397	402	901	358	403	672	1431	-	-	1162	-	-
Stage 1	827	755	-	598	579	-	-	-	-	-	-	-
Stage 2	592	575	-	755	752	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	374	385	901	267	386	672	1431	-	-	1162	-	-
Mov Cap-2 Maneuver	374	385	-	267	386	-	-	-	-	-	-	-
Stage 1	803	745	-	581	562	-	-	-	-	-	-	-
Stage 2	560	558	-	613	742	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.8	15.6	0.6	0.7
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1431	-	-	484	369	1162	-	-
HCM Lane V/C Ratio	0.022	-	-	0.371	0.08	0.012	-	-
HCM Control Delay (s)	7.6	0	-	16.8	15.6	8.1	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.7	0.3	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	2	1	39	1	98	3	12	60	1
Future Vol, veh/h	1	1	1	2	1	39	1	98	3	12	60	1
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	66	66	66	66	66	66	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	0	0	0
Mvmt Flow	2	2	2	3	2	59	2	148	5	18	91	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	313	285	92	285	284	151	93	0	0	153	0	0
Stage 1	128	128	-	155	155	-	-	-	-	-	-	-
Stage 2	185	157	-	130	129	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	643	628	971	671	628	901	1508	-	-	1440	-	-
Stage 1	881	794	-	852	773	-	-	-	-	-	-	-
Stage 2	821	772	-	878	793	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	593	619	971	662	619	901	1508	-	-	1440	-	-
Mov Cap-2 Maneuver	593	619	-	662	619	-	-	-	-	-	-	-
Stage 1	880	784	-	851	772	-	-	-	-	-	-	-
Stage 2	765	771	-	864	783	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	9.4	0.1	1.2
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1508	-	-	693	876	1440	-	-
HCM Lane V/C Ratio	0.001	-	-	0.007	0.073	0.013	-	-
HCM Control Delay (s)	7.4	0	-	10.2	9.4	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	6	8	14	1	32	1	68	10	5	58	2
Future Vol, veh/h	2	6	8	14	1	32	1	68	10	5	58	2
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	62	62	62	62	62	62	62	62	62	62	62	62
Heavy Vehicles, %	8	8	8	0	0	0	1	1	1	0	0	0
Mvmt Flow	3	10	13	23	2	52	2	110	16	8	94	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	261	242	96	245	235	118	97	0	0	126	0	0
Stage 1	112	112	-	122	122	-	-	-	-	-	-	-
Stage 2	149	130	-	123	113	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	680	649	944	713	669	939	1503	-	-	1473	-	-
Stage 1	879	791	-	887	799	-	-	-	-	-	-	-
Stage 2	839	777	-	886	806	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	638	644	944	692	664	939	1503	-	-	1473	-	-
Mov Cap-2 Maneuver	638	644	-	692	664	-	-	-	-	-	-	-
Stage 1	878	786	-	886	798	-	-	-	-	-	-	-
Stage 2	790	776	-	858	801	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	9.7	0.1	0.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1503	-	-	765	842	1473	-	-
HCM Lane V/C Ratio	0.001	-	-	0.034	0.09	0.005	-	-
HCM Control Delay (s)	7.4	0	-	9.9	9.7	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	1	56	13	1	8	9	272	16	5	176	10
Future Vol, veh/h	43	1	56	13	1	8	9	272	16	5	176	10
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	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	64	1	84	19	1	12	13	406	24	7	263	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	736	741	271	771	736	418	278	0	0	430	0	0
Stage 1	285	285	-	444	444	-	-	-	-	-	-	-
Stage 2	451	456	-	327	292	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	337	347	773	320	349	639	1296	-	-	1140	-	-
Stage 1	727	679	-	597	579	-	-	-	-	-	-	-
Stage 2	592	572	-	690	675	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	325	340	773	280	342	639	1296	-	-	1140	-	-
Mov Cap-2 Maneuver	325	340	-	280	342	-	-	-	-	-	-	-
Stage 1	718	674	-	589	571	-	-	-	-	-	-	-
Stage 2	572	565	-	610	670	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.8	16.1	0.2	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1296	-	-	481	356	1140	-	-
HCM Lane V/C Ratio	0.01	-	-	0.31	0.092	0.007	-	-
HCM Control Delay (s)	7.8	0	-	15.8	16.1	8.2	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.3	0.3	0	-	-

Intersection												
Int Delay, s/veh	1.4											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	16	1	26	1	1	5	2	249	5	10	232	1
Future Vol, veh/h	16	1	26	1	1	5	2	249	5	10	232	1
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	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	23	1	38	1	1	7	3	361	7	14	336	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	740	739	337	755	736	365	337	0	0	368	0	0
Stage 1	365	365	-	371	371	-	-	-	-	-	-	-
Stage 2	375	374	-	384	365	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	335	347	710	328	349	685	1234	-	-	1202	-	-
Stage 1	658	627	-	653	623	-	-	-	-	-	-	-
Stage 2	650	621	-	643	627	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	326	341	710	306	343	685	1234	-	-	1202	-	-
Mov Cap-2 Maneuver	326	341	-	306	343	-	-	-	-	-	-	-
Stage 1	656	618	-	651	621	-	-	-	-	-	-	-
Stage 2	640	619	-	599	618	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.5	12.1	0.1	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1234	-	-	485	519	1202	-	-
HCM Lane V/C Ratio	0.002	-	-	0.128	0.02	0.012	-	-
HCM Control Delay (s)	7.9	0	-	13.5	12.1	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	52	2	44	1	27	5	2	87	1
Future Vol, veh/h	1	1	1	52	2	44	1	27	5	2	87	1
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	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	0	0	0
Mvmt Flow	1	1	1	73	3	62	1	38	7	3	123	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	206	177	124	175	174	42	124	0	0	45	0	0
Stage 1	130	130	-	44	44	-	-	-	-	-	-	-
Stage 2	76	47	-	131	130	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	756	720	932	792	723	1034	1450	-	-	1576	-	-
Stage 1	878	792	-	975	862	-	-	-	-	-	-	-
Stage 2	938	860	-	877	792	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	707	718	932	788	721	1034	1450	-	-	1576	-	-
Mov Cap-2 Maneuver	707	718	-	788	721	-	-	-	-	-	-	-
Stage 1	877	790	-	974	861	-	-	-	-	-	-	-
Stage 2	878	859	-	872	790	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	9.9	0.2	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1450	-	-	773	880	1576	-	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.157	0.002	-	-
HCM Control Delay (s)	7.5	0	-	9.7	9.9	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	78	14	9	181	252	13
Future Vol, veh/h	78	14	9	181	252	13
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	113	20	13	262	365	19

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	663	375	384	0	-	0
Stage 1	375	-	-	-	-	-
Stage 2	288	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	429	676	1186	-	-	-
Stage 1	699	-	-	-	-	-
Stage 2	766	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	423	676	1186	-	-	-
Mov Cap-2 Maneuver	423	-	-	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	766	-	-	-	-	-

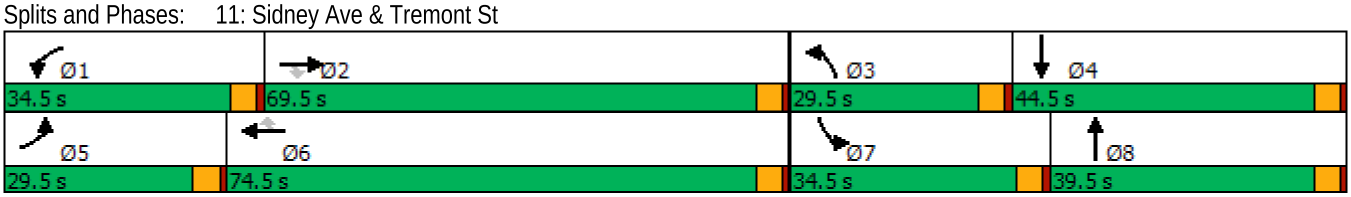
Approach	EB	NB	SB
HCM Control Delay, s	16.4	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1186	-	449	-	-
HCM Lane V/C Ratio	0.011	-	0.297	-	-
HCM Control Delay (s)	8.1	0	16.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	1.2	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	1124	28	170	821	91	17	68	195	197	91	139
Future Volume (vph)	67	1124	28	170	821	91	17	68	195	197	91	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		100	200		100	100		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		814			797			449			619	
Travel Time (s)		15.9			15.5			12.2			16.9	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	22.5	22.5	10.5	22.5		10.5	22.5	
Total Split (s)	29.5	69.5	69.5	34.5	74.5	74.5	29.5	39.5		34.5	44.5	
Total Split (%)	16.6%	39.0%	39.0%	19.4%	41.9%	41.9%	16.6%	22.2%		19.4%	25.0%	
Maximum Green (s)	25.0	65.0	65.0	30.0	70.0	70.0	25.0	35.0		30.0	40.0	
Yellow Time (s)	3.5	3.5	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		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.5	6.0	6.0	3.5	6.0	6.0	3.5	5.0		3.5	5.0	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	
Walk Time (s)		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	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	

Intersection Summary
Area Type: Other
Cycle Length: 178
Actuated Cycle Length: 152.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Sidney Ave & Tremont St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	1124	28	170	821	91	17	68	195	197	91	139
Future Volume (veh/h)	67	1124	28	170	821	91	17	68	195	197	91	139
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	1885	1885	1885	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	1196	0	181	873	0	18	72	207	210	97	148
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	2	2	2
Cap, veh/h	92	1513		210	1760		39	82	237	239	204	312
Arrive On Green	0.05	0.43	0.00	0.12	0.49	0.00	0.02	0.19	0.19	0.13	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1795	3582	1598	1781	426	1224	1781	668	1019
Grp Volume(v), veh/h	71	1196	0	181	873	0	18	0	279	210	0	245
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1795	1791	1598	1781	0	1650	1781	0	1687
Q Serve(g_s), s	5.5	40.5	0.0	13.8	22.8	0.0	1.4	0.0	22.8	16.1	0.0	16.4
Cycle Q Clear(g_c), s	5.5	40.5	0.0	13.8	22.8	0.0	1.4	0.0	22.8	16.1	0.0	16.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		0.60
Lane Grp Cap(c), veh/h	92	1513		210	1760		39	0	319	239	0	516
V/C Ratio(X)	0.78	0.79		0.86	0.50		0.47	0.00	0.87	0.88	0.00	0.47
Avail Cap(c_a), veh/h	320	1661		387	1803		320	0	415	384	0	516
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	65.2	34.5	0.0	60.3	23.8	0.0	67.2	0.0	54.4	59.1	0.0	39.2
Incr Delay (d2), s/veh	15.4	3.8	0.0	11.7	0.8	0.0	10.3	0.0	19.0	14.2	0.0	1.4
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	2.9	18.0	0.0	6.9	9.7	0.0	0.7	0.0	11.2	8.3	0.0	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.6	38.3	0.0	72.1	24.6	0.0	77.5	0.0	73.4	73.3	0.0	40.6
LnGrp LOS	F	D		E	C		E	A	E	E	A	D
Approach Vol, veh/h		1267	A		1054	A		297			455	
Approach Delay, s/veh		40.7			32.7			73.6			55.7	
Approach LOS		D			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.8	63.7	7.5	47.1	11.6	72.8	23.2	31.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	65.0	25.0	40.0	25.0	70.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	15.8	42.5	3.4	18.4	7.5	24.8	18.1	24.8
Green Ext Time (p_c), s	0.5	16.7	0.0	2.8	0.2	18.8	0.6	2.1

Intersection Summary			
HCM 6th Ctrl Delay			43.4
HCM 6th LOS			D

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	1	11	135	1	1	2	779	111	2	657	2
Future Vol, veh/h	1	1	11	135	1	1	2	779	111	2	657	2
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	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	1	1	1
Mvmt Flow	1	1	11	138	1	1	2	795	113	2	670	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1532	1587	671	1537	1532	852	672	0	0	908	0	0
Stage 1	675	675	-	856	856	-	-	-	-	-	-	-
Stage 2	857	912	-	681	676	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	96	109	460	~ 96	118	362	923	-	-	754	-	-
Stage 1	447	456	-	355	377	-	-	-	-	-	-	-
Stage 2	355	355	-	444	456	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	95	108	460	~ 93	117	362	923	-	-	754	-	-
Mov Cap-2 Maneuver	95	108	-	273	295	-	-	-	-	-	-	-
Stage 1	446	455	-	354	376	-	-	-	-	-	-	-
Stage 2	352	354	-	431	455	-	-	-	-	-	-	-

Approach	EB	WB	NE	SW
HCM Control Delay, s	17.7	31.1	0	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NEL	NET	NER	EBLn1	WBLn1	SWL	SWT	SWR
Capacity (veh/h)	923	-	-	297	274	754	-	-
HCM Lane V/C Ratio	0.002	-	-	0.045	0.51	0.003	-	-
HCM Control Delay (s)	8.9	-	-	17.7	31.1	9.8	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	2.7	0	-	-

Notes

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

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	100	13	11	43	3	94	9	17	12	11	1
Future Vol, veh/h	1	100	13	11	43	3	94	9	17	12	11	1
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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	0	0	0
Mvmt Flow	1	118	15	13	51	4	111	11	20	14	13	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	313	295	14	351	285	21	14	0	0	31	0	0
Stage 1	42	42	-	243	243	-	-	-	-	-	-	-
Stage 2	271	253	-	108	42	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	643	620	1072	602	623	1054	1611	-	-	1595	-	-
Stage 1	978	864	-	758	703	-	-	-	-	-	-	-
Stage 2	739	701	-	895	858	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	563	572	1072	471	574	1054	1611	-	-	1595	-	-
Mov Cap-2 Maneuver	563	572	-	471	574	-	-	-	-	-	-	-
Stage 1	910	856	-	705	654	-	-	-	-	-	-	-
Stage 2	632	652	-	754	850	-	-	-	-	-	-	-

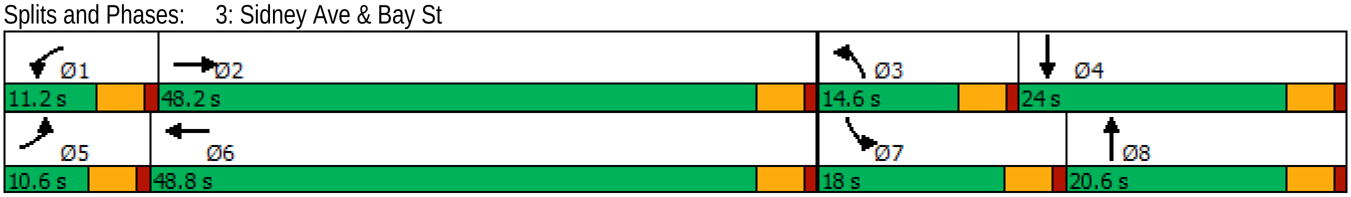
Approach	EB	WB	NB	SB
HCM Control Delay, s	12.7	12.2	5.8	3.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1611	-	-	604	564	1595	-	-
HCM Lane V/C Ratio	0.069	-	-	0.222	0.119	0.009	-	-
HCM Control Delay (s)	7.4	0	-	12.7	12.2	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.8	0.4	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	673	15	82	555	44	81	20	236	186	50	29
Future Volume (vph)	14	673	15	82	555	44	81	20	236	186	50	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	150		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		490			480			417			320	
Travel Time (s)		13.4			13.1			11.4			8.7	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5		10.5	22.5		10.5	20.5		10.5	20.5	
Total Split (s)	10.6	48.2		11.2	48.8		14.6	20.6		18.0	24.0	
Total Split (%)	10.8%	49.2%		11.4%	49.8%		14.9%	21.0%		18.4%	24.5%	
Maximum Green (s)	6.1	43.7		6.7	44.3		10.1	16.1		13.5	19.5	
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		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			9.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 98	
Actuated Cycle Length: 77.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: Sidney Ave & Bay St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	673	15	82	555	44	81	20	236	186	50	29
Future Volume (veh/h)	14	673	15	82	555	44	81	20	236	186	50	29
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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1826	1826	1826
Adj Flow Rate, veh/h	14	680	15	83	561	44	82	20	238	188	51	29
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	5	5	5
Cap, veh/h	36	757	17	110	782	61	110	23	270	225	272	155
Arrive On Green	0.02	0.41	0.41	0.06	0.45	0.45	0.06	0.18	0.18	0.13	0.25	0.25
Sat Flow, veh/h	1795	1837	41	1795	1725	135	1795	125	1491	1739	1093	621
Grp Volume(v), veh/h	14	0	695	83	0	605	82	0	258	188	0	80
Grp Sat Flow(s),veh/h/ln	1795	0	1878	1795	0	1861	1795	0	1617	1739	0	1714
Q Serve(g_s), s	0.6	0.0	28.8	3.8	0.0	21.9	3.7	0.0	12.9	8.8	0.0	3.1
Cycle Q Clear(g_c), s	0.6	0.0	28.8	3.8	0.0	21.9	3.7	0.0	12.9	8.8	0.0	3.1
Prop In Lane	1.00		0.02	1.00		0.07	1.00		0.92	1.00		0.36
Lane Grp Cap(c), veh/h	36	0	774	110	0	844	110	0	293	225	0	427
V/C Ratio(X)	0.39	0.00	0.90	0.75	0.00	0.72	0.75	0.00	0.88	0.84	0.00	0.19
Avail Cap(c_a), veh/h	131	0	985	144	0	990	218	0	312	282	0	427
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.3	0.0	22.9	38.5	0.0	18.4	38.5	0.0	33.2	35.4	0.0	24.6
Incr Delay (d2), s/veh	5.1	0.0	8.7	12.7	0.0	1.8	7.2	0.0	22.5	15.1	0.0	0.2
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	0.3	0.0	13.9	2.0	0.0	9.4	1.9	0.0	6.8	4.6	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	0.0	31.6	51.1	0.0	20.3	45.7	0.0	55.7	50.5	0.0	24.8
LnGrp LOS	D	A	C	D	A	C	D	A	E	D	A	C
Approach Vol, veh/h		709			688			340			268	
Approach Delay, s/veh		31.9			24.0			53.3			42.8	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	38.8	9.6	25.3	6.2	42.3	15.3	19.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.7	43.7	10.1	19.5	6.1	44.3	13.5	16.1
Max Q Clear Time (g_c+I1), s	5.8	30.8	5.7	5.1	2.6	23.9	10.8	14.9
Green Ext Time (p_c), s	0.0	3.5	0.0	0.2	0.0	3.6	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	34.3
HCM 6th LOS	C

Intersection												
Int Delay, s/veh	5											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	66	52	10	5	8	31	301	11	11	117	7
Future Vol, veh/h	23	66	52	10	5	8	31	301	11	11	117	7
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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	4	4	4
Mvmt Flow	29	85	67	13	6	10	40	386	14	14	150	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	664	663	155	732	660	393	159	0	0	400	0	0
Stage 1	183	183	-	473	473	-	-	-	-	-	-	-
Stage 2	481	480	-	259	187	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.236	-	-
Pot Cap-1 Maneuver	377	384	896	339	386	660	1427	-	-	1148	-	-
Stage 1	823	752	-	576	562	-	-	-	-	-	-	-
Stage 2	570	558	-	750	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	352	365	896	248	367	660	1427	-	-	1148	-	-
Mov Cap-2 Maneuver	352	365	-	248	367	-	-	-	-	-	-	-
Stage 1	793	742	-	555	542	-	-	-	-	-	-	-
Stage 2	535	538	-	607	739	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.6	16.3	0.7	0.7
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1427	-	-	464	348	1148	-	-
HCM Lane V/C Ratio	0.028	-	-	0.39	0.085	0.012	-	-
HCM Control Delay (s)	7.6	0	-	17.6	16.3	8.2	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.8	0.3	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	2	1	39	1	111	3	12	63	1
Future Vol, veh/h	1	1	1	2	1	39	1	111	3	12	63	1
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	66	66	66	66	66	66	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	0	0	0
Mvmt Flow	2	2	2	3	2	59	2	168	5	18	95	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	337	309	96	309	308	171	97	0	0	173	0	0
Stage 1	132	132	-	175	175	-	-	-	-	-	-	-
Stage 2	205	177	-	134	133	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	621	609	966	647	609	878	1503	-	-	1416	-	-
Stage 1	876	791	-	832	758	-	-	-	-	-	-	-
Stage 2	802	756	-	874	790	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	572	600	966	638	600	878	1503	-	-	1416	-	-
Mov Cap-2 Maneuver	572	600	-	638	600	-	-	-	-	-	-	-
Stage 1	875	781	-	831	757	-	-	-	-	-	-	-
Stage 2	746	755	-	860	780	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	9.6	0.1	1.2
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1503	-	-	674	853	1416	-	-
HCM Lane V/C Ratio	0.001	-	-	0.007	0.075	0.013	-	-
HCM Control Delay (s)	7.4	0	-	10.4	9.6	7.6	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection												
Int Delay, s/veh	3.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	2	6	8	14	1	32	1	81	10	6	60	2
Future Vol, veh/h	2	6	8	14	1	32	1	81	10	6	60	2
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	62	62	62	62	62	62	62	62	62	62	62	62
Heavy Vehicles, %	8	8	8	0	0	0	1	1	1	0	0	0
Mvmt Flow	3	10	13	23	2	52	2	131	16	10	97	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	289	270	99	273	263	139	100	0	0	147	0	0
Stage 1	119	119	-	143	143	-	-	-	-	-	-	-
Stage 2	170	151	-	130	120	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	651	626	941	684	646	915	1499	-	-	1447	-	-
Stage 1	871	786	-	865	782	-	-	-	-	-	-	-
Stage 2	818	761	-	878	800	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	609	621	941	663	641	915	1499	-	-	1447	-	-
Mov Cap-2 Maneuver	609	621	-	663	641	-	-	-	-	-	-	-
Stage 1	870	780	-	864	781	-	-	-	-	-	-	-
Stage 2	769	760	-	849	794	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	9.9	0.1	0.7
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1499	-	-	746	815	1447	-	-
HCM Lane V/C Ratio	0.001	-	-	0.035	0.093	0.007	-	-
HCM Control Delay (s)	7.4	0	-	10	9.9	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	1	56	13	1	8	9	289	16	5	180	10
Future Vol, veh/h	43	1	56	13	1	8	9	289	16	5	180	10
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	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	64	1	84	19	1	12	13	431	24	7	269	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	767	772	277	802	767	443	284	0	0	455	0	0
Stage 1	291	291	-	469	469	-	-	-	-	-	-	-
Stage 2	476	481	-	333	298	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	322	333	767	305	335	619	1290	-	-	1116	-	-
Stage 1	721	675	-	579	564	-	-	-	-	-	-	-
Stage 2	574	557	-	685	671	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	310	326	767	267	328	619	1290	-	-	1116	-	-
Mov Cap-2 Maneuver	310	326	-	267	328	-	-	-	-	-	-	-
Stage 1	711	670	-	571	556	-	-	-	-	-	-	-
Stage 2	554	549	-	605	666	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.3	16.7	0.2	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1290	-	-	466	340	1116	-	-
HCM Lane V/C Ratio	0.01	-	-	0.32	0.097	0.007	-	-
HCM Control Delay (s)	7.8	0	-	16.3	16.7	8.2	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.4	0.3	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	1	26	1	1	5	2	266	5	10	236	1
Future Vol, veh/h	16	1	26	1	1	5	2	266	5	10	236	1
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	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	23	1	38	1	1	7	3	386	7	14	342	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	771	770	343	786	767	390	343	0	0	393	0	0
Stage 1	371	371	-	396	396	-	-	-	-	-	-	-
Stage 2	400	399	-	390	371	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	320	333	704	312	335	663	1227	-	-	1177	-	-
Stage 1	653	623	-	633	607	-	-	-	-	-	-	-
Stage 2	630	606	-	638	623	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	311	327	704	290	329	663	1227	-	-	1177	-	-
Mov Cap-2 Maneuver	311	327	-	290	329	-	-	-	-	-	-	-
Stage 1	651	614	-	631	605	-	-	-	-	-	-	-
Stage 2	620	604	-	593	614	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.8	12.4	0.1	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1227	-	-	470	499	1177	-	-
HCM Lane V/C Ratio	0.002	-	-	0.133	0.02	0.012	-	-
HCM Control Delay (s)	7.9	0	-	13.8	12.4	8.1	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.1	0	-	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	59	2	57	1	27	7	3	87	1
Future Vol, veh/h	1	1	1	59	2	57	1	27	7	3	87	1
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	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	0	0	0
Mvmt Flow	1	1	1	83	3	80	1	38	10	4	123	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	219	182	124	178	177	43	124	0	0	48	0	0
Stage 1	132	132	-	45	45	-	-	-	-	-	-	-
Stage 2	87	50	-	133	132	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	741	716	932	789	720	1033	1450	-	-	1572	-	-
Stage 1	876	791	-	974	861	-	-	-	-	-	-	-
Stage 2	926	857	-	875	791	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	679	713	932	784	717	1033	1450	-	-	1572	-	-
Mov Cap-2 Maneuver	679	713	-	784	717	-	-	-	-	-	-	-
Stage 1	875	789	-	973	860	-	-	-	-	-	-	-
Stage 2	850	856	-	870	789	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	10	0.2	0.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1450	-	-	760	886	1572	-	-
HCM Lane V/C Ratio	0.001	-	-	0.006	0.188	0.003	-	-
HCM Control Delay (s)	7.5	0	-	9.8	10	7.3	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.7	0	-	-

Intersection						
Int Delay, s/veh	4					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	95	31	13	181	252	17
Future Vol, veh/h	95	31	13	181	252	17
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	138	45	19	262	365	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	678	378	390	0	-	0
Stage 1	378	-	-	-	-	-
Stage 2	300	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	421	673	1180	-	-	-
Stage 1	697	-	-	-	-	-
Stage 2	756	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	413	673	1180	-	-	-
Mov Cap-2 Maneuver	413	-	-	-	-	-
Stage 1	684	-	-	-	-	-
Stage 2	756	-	-	-	-	-

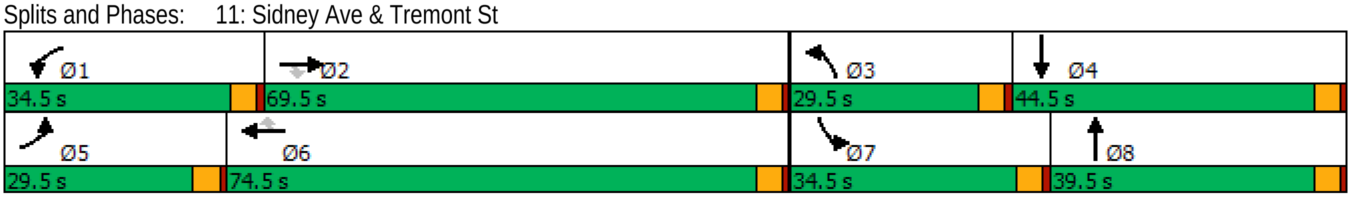
Approach	EB	NB	SB
HCM Control Delay, s	18.1	0.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1180	-	456	-	-
HCM Lane V/C Ratio	0.016	-	0.4	-	-
HCM Control Delay (s)	8.1	0	18.1	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	1.9	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	1124	28	170	821	93	17	68	195	205	91	151
Future Volume (vph)	70	1124	28	170	821	93	17	68	195	205	91	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		100	200		100	100		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		814			797			449			619	
Travel Time (s)		15.9			15.5			12.2			16.9	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	10.5	22.5	22.5	10.5	22.5		10.5	22.5	
Total Split (s)	29.5	69.5	69.5	34.5	74.5	74.5	29.5	39.5		34.5	44.5	
Total Split (%)	16.6%	39.0%	39.0%	19.4%	41.9%	41.9%	16.6%	22.2%		19.4%	25.0%	
Maximum Green (s)	25.0	65.0	65.0	30.0	70.0	70.0	25.0	35.0		30.0	40.0	
Yellow Time (s)	3.5	3.5	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		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.5	6.0	6.0	3.5	6.0	6.0	3.5	5.0		3.5	5.0	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	
Walk Time (s)		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	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	

Intersection Summary	
Area Type:	Other
Cycle Length: 178	
Actuated Cycle Length: 153.7	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 11: Sidney Ave & Tremont St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	1124	28	170	821	93	17	68	195	205	91	151
Future Volume (veh/h)	70	1124	28	170	821	93	17	68	195	205	91	151
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	1885	1885	1885	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	1196	0	181	873	0	18	72	207	218	97	161
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	2	2	2
Cap, veh/h	95	1505		210	1744		38	82	236	247	196	325
Arrive On Green	0.05	0.42	0.00	0.12	0.49	0.00	0.02	0.19	0.19	0.14	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1795	3582	1598	1781	426	1224	1781	632	1049
Grp Volume(v), veh/h	74	1196	0	181	873	0	18	0	279	218	0	258
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1795	1791	1598	1781	0	1650	1781	0	1681
Q Serve(g_s), s	5.8	41.1	0.0	13.9	23.2	0.0	1.4	0.0	23.1	16.9	0.0	17.6
Cycle Q Clear(g_c), s	5.8	41.1	0.0	13.9	23.2	0.0	1.4	0.0	23.1	16.9	0.0	17.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		0.62
Lane Grp Cap(c), veh/h	95	1505		210	1744		38	0	319	247	0	521
V/C Ratio(X)	0.78	0.79		0.86	0.50		0.47	0.00	0.88	0.88	0.00	0.49
Avail Cap(c_a), veh/h	317	1645		384	1785		317	0	411	381	0	521
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	65.6	35.2	0.0	60.9	24.4	0.0	67.9	0.0	55.0	59.4	0.0	39.5
Incr Delay (d2), s/veh	15.1	3.9	0.0	11.9	0.8	0.0	10.3	0.0	19.4	15.7	0.0	1.6
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	3.0	18.3	0.0	7.0	10.0	0.0	0.8	0.0	11.4	8.8	0.0	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.8	39.1	0.0	72.8	25.3	0.0	78.2	0.0	74.4	75.0	0.0	41.0
LnGrp LOS	F	D		E	C		E	A	E	E	A	D
Approach Vol, veh/h		1270	A		1054	A		297			476	
Approach Delay, s/veh		41.5			33.4			74.6			56.6	
Approach LOS		D			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.9	64.0	7.5	48.0	12.0	72.9	24.0	31.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	65.0	25.0	40.0	25.0	70.0	30.0	35.0
Max Q Clear Time (g_c+I1), s	15.9	43.1	3.4	19.6	7.8	25.2	18.9	25.1
Green Ext Time (p_c), s	0.5	16.4	0.0	2.9	0.2	18.7	0.6	2.0

Intersection Summary	
HCM 6th Ctrl Delay	44.3
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Appendix E
Roadway Segment Analysis Methodology

8.4. Level of Service

Transportation Level of Service (LOS) is a qualitative description of the operating performance of a given element of a transportation infrastructure. It is typically expressed as a letter grade from LOS A, representing free flow operations with almost no travel delay, to LOS F, representing complete breakdown of flow and high delay. LOS establishes a basis for comparison between streets and intersections and helps guide the prioritization of improvement projects.

Port Orchard's road network needs to maintain consistency with Kitsap County's network while recognizing the City's transportation needs and vision. In order to establish and maintain this consistency, the City's LOS standards should be similar to those in the adjacent urban unincorporated area while recognizing the transportation goals and needs specific to the City. This section describes the Level of Service standards for the streets and intersections on the City's arterial street network as well as the findings of a citywide LOS analysis.

8.4.1 Segment Level of Service

Table 8-3 describes a set of street capacity standards which incorporate planning-level vehicle capacity estimates with consideration for the impact of non-motorized facilities on vehicle capacity. These standards can be applied to calculate capacity for every arterial street in Port Orchard.

These street capacity standards use a base peak hour capacity which is based on Highway Capacity Manual (HCM) and similar methodologies used throughout the region. Base capacity is adjusted based on facility attributes including left-turn lanes, access restrictions, bike lanes, sidewalks, and on-street parking.

Left-turn lanes are estimated to add the capacity equivalent of one half through lane by removing major approach left-turn delay. Similarly, segments with limited access (e.g. physical or natural barriers) experience an increase of the equivalent of 70 percent of one through lane. Capacity reductions for lack of non-motorized facilities are based on the principle that HCM capacity calculations assume fully-built urban street sections. Streets without sidewalk or bike lanes will force nonmotorized users into vehicle lanes, reducing vehicle capacity. Exceptions to these nonmotorized reductions can be made for freeways and state highways which are designed to emphasize vehicle mobility over nonmotorized traffic. The presence of on-street parking, for example along Bay Street, is also expected to reduce capacity slightly.

The segment LOS described in this Transportation Element is based upon the street capacity methodology outlined in Table 8-3.

Table 8-3. Proposed Port Orchard Segment Capacity Standards

Functional Classification	Base Peak Hour Capacity (veh/hr/lane)	Capacity Adjustments				
		Left-Turn Lane (vph)	Access-Restricted Segment (vph)	No Bike Lane	No Sidewalk	On-Street Parking
Freeway	2,000	n/a	n/a	n/a	n/a	n/a
State Highway	950	475	665	0	0	0
Principal Arterial	850	425	595	-85	-170	-45
Minor Arterial	750	375	525	-40	-75	-40
Collector	620	310	435	-30	-60	-30

Street segment LOS is based on the ratio of traffic volume to roadway capacity and can be described as a roadway's ability to serve all users. POMC 16.71.007 defines LOS thresholds which are consistent with the Port Orchard/South Kitsap Subarea Plan and with the planning-level LOS thresholds defined in Highway Capacity Manual 1994 (HCM1994). These thresholds and descriptions have been adapted and modified to fit the multimodal capacity approach described above. See Table 8-4.

Table 8-4. Port Orchard Street Segment LOS Characteristics

LOS	Volume / Capacity	Description
A	≤ 0.60	Facility accommodates all modes of transportation. Vehicles experience free flow, with low volumes and high speeds
B	0.61 – 0.70	Stable flow, with traffic conditions beginning to restrict operating speeds. Drivers still have reasonable maneuverability between multiple lanes. All modes are accommodated
C	0.71 – 0.80	Fairly stable flow, but higher volumes more closely constrict speeds and maneuverability.
D	0.81 – 0.90	Approaching unstable flow, with tolerable operating speeds and limited maneuverability. Facilities without nonmotorized facilities and heavy pedestrian/bike volume may experience unstable flow.
E	0.91 – 1.00	Nonmotorized users in travel lanes will conflict with heavy vehicle volume and cause breakdowns in flow. Vehicles experience unstable flow with reduced operating speeds.
F	> 1.00	Facility is unable to accommodate all modes. Vehicles experience forced flow, operating under stop-and-go conditions

Source: TSI 2015, Port Orchard Transportation Element 2011

Appendix C

Kitsap County Courthouse Parking Demand Analysis

Prepared by SCJ Alliance

Technical Memo

To Amos Callender, AIA, Project Manager

From: Elisabeth Wooton, PTP, Senior Transportation Planner

Date: January 24, 2020

Project: Kitsap County Courthouse Master Plan & Permitting

Subject Parking Demand Analysis

Kitsap County plans to expand their existing courthouse campus located at 614 Division Street in Port Orchard. The expansion will include increased courthouse space, additional parking, and access revisions. The full project will occur in a series of phases.

In the near-term, Phase 1 will consist of the adaptive reuse of the existing courthouse space and constructing an additional 82,660 square feet of courthouse space. Phase 2 will add another 57,240 square feet of courthouse space. In the long-term, Phases 3 and 4 will demolish the existing courthouse building and the Bullard Building and construct a new courthouse building that is connected to the Phase 1 and 2 buildings. In total, the future courthouse is expected to be approximately 240,000 square feet at full build.

The following parking demand analysis was preformed to determine the current parking occupancy and usage patterns as well as develop a parking generation rate for the campus. The analysis results will be used to inform the design of the parking lots and parking structures that are planned as part of the courthouse expansion project.

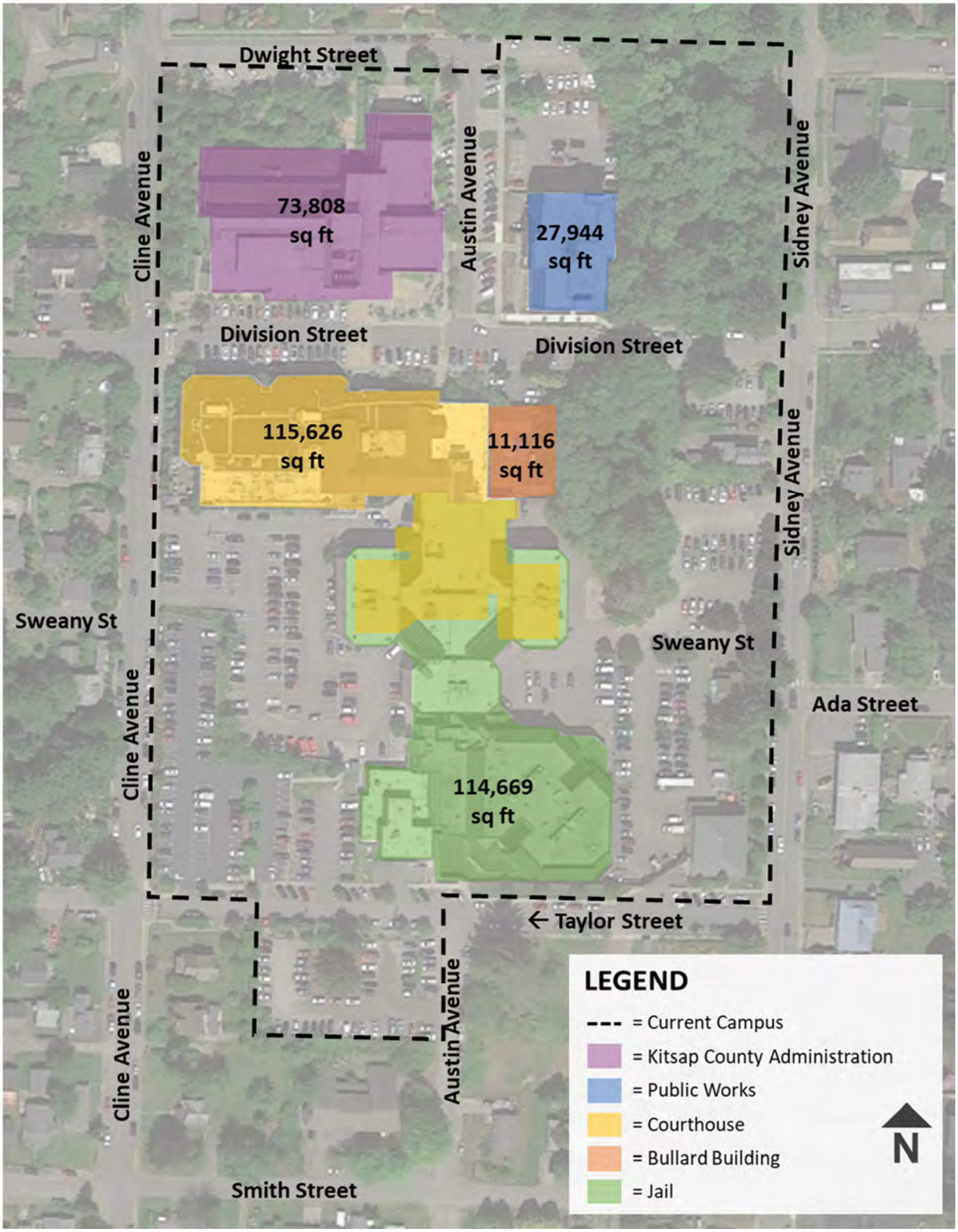
Existing Conditions

The existing Kitsap Courthouse campus is located in Port Orchard, south of SW Bay Street and between Port Orchard Boulevard and Bethel Road SE. The main campus consists of several buildings totaling approximately 343,165 square feet. The campus primarily consists of the following buildings:

- Administration building (73,808 square feet)
- Public Works building (27,944 square feet)
- Courthouse building (115,626 square feet)
- Jail building (114,669 square feet)
- Bullard building (11,116 square feet)

Figure 1 on the following page shows the location of campus buildings and adjacent street network.

Figure 1. Campus Overview – Existing Buildings

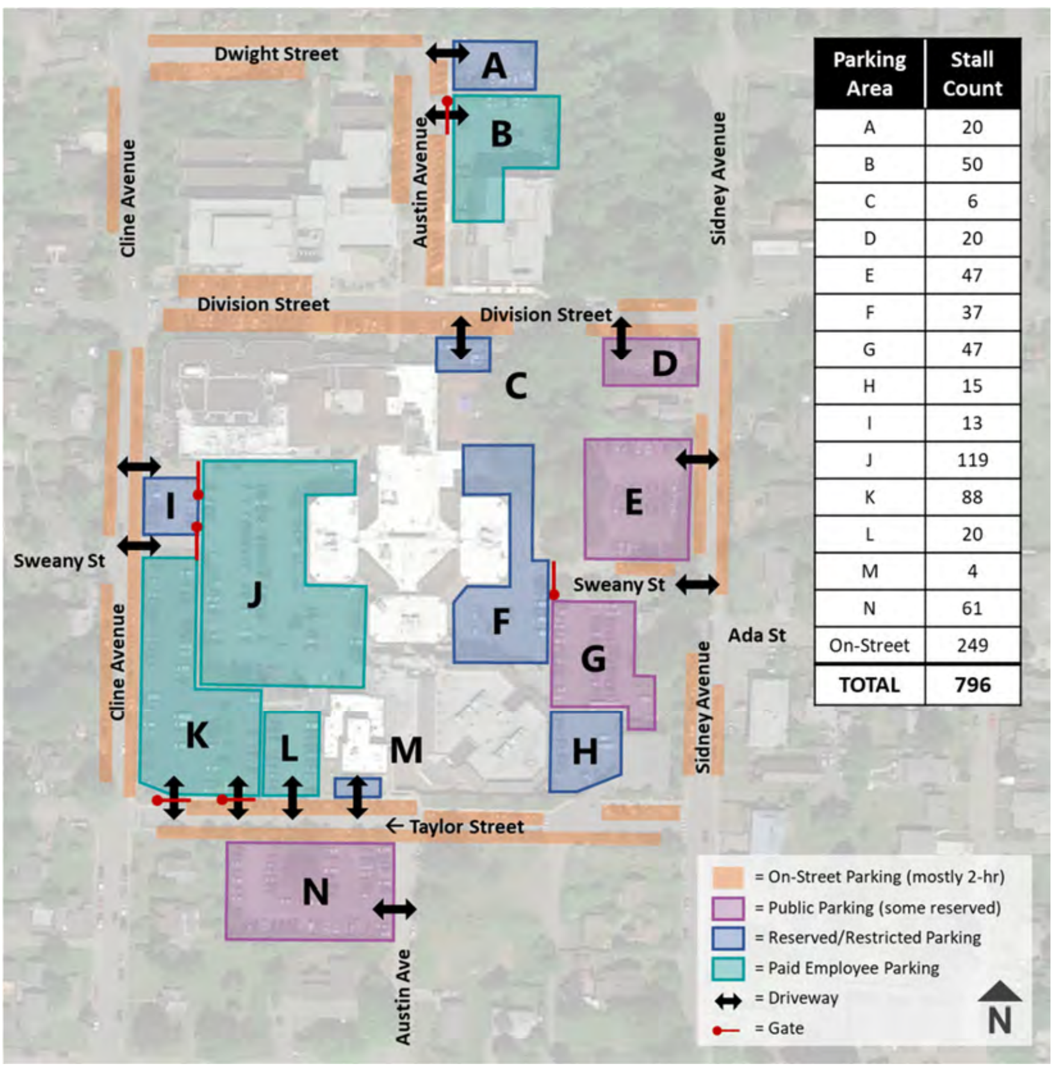


Data Collection

There are several existing parking areas and driveways serving the campus, primarily located on Cline Avenue, Sidney Avenue, Division Street, and Taylor Street. Most of the parking on campus is located in surface parking lots, both paved and unpaved. Some of these parking areas and/or stalls are reserved for particular vehicles, such as specific staff, carpool/vanpool, or visitors. Other parking areas are free and open to the public. There are four parking areas restricted to paid parking for staff and employees. In addition, most of the adjacent streets have unmetered, 2-hour curbside parking which is predominantly used for visitors and guests.

A parking occupancy study was conducted to gather data regarding existing supply and usage on the courthouse campus. **Figure 2** shows the 14 parking areas on campus and their respective stall counts that were identified by the consultant team and confirmed by County staff, including available on-street parking. During data collection, a total of 796 parking stalls were surveyed.

Figure 2. Existing Campus Parking



Parking Area	Stall Count
A	20
B	50
C	6
D	20
E	47
F	37
G	47
H	15
I	13
J	119
K	88
L	20
M	4
N	61
On-Street	249
TOTAL	796

Parking data was collected on-site by Traffic Count Consultants, Inc. The study was conducted on Monday, September 30, 2019 and Tuesday October 1, 2019. Each hour, beginning at 7:00 AM, the number of occupied parking stalls was noted for each parking area and adjacent on-street parking. The hourly sweeps were conducted throughout the day with the last count occurring after 6:00 PM for a total of 12 hours of parking occupancy data. Unlike most traffic studies which target mid-week activity, parking data was collected deliberately on Monday to capture the busiest traffic day of the week on campus as a result of the jury duty reporting schedule.

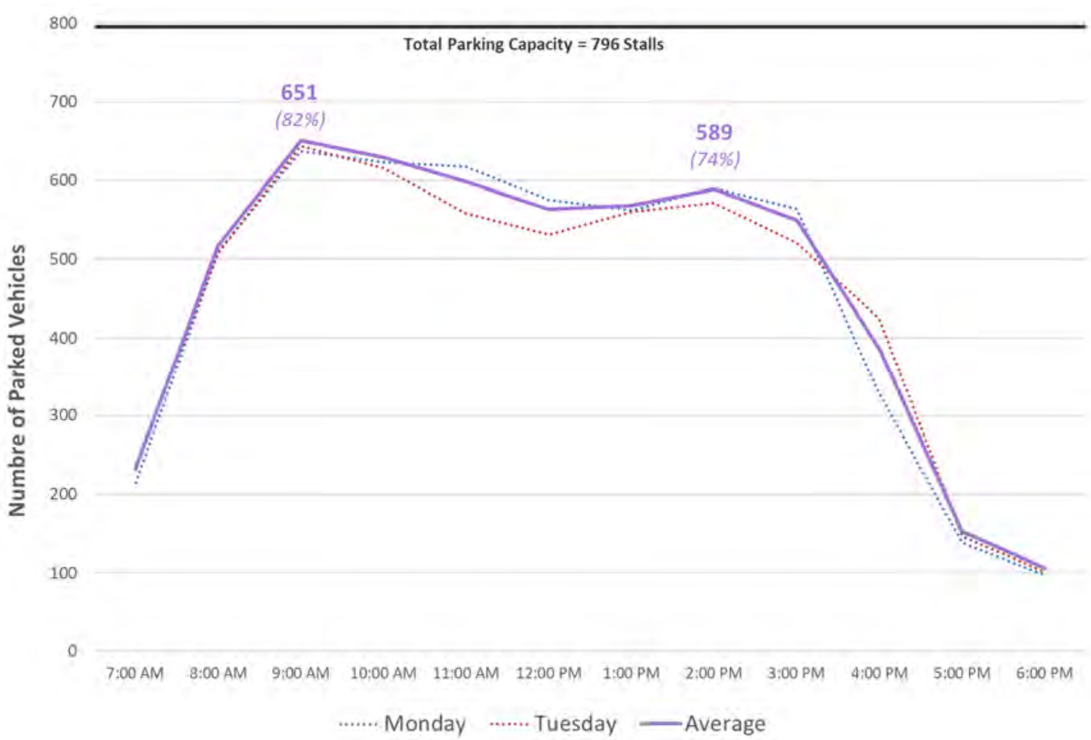
Parking Occupancy

Parking occupancy data, gathered through hourly sweeps of all parking on campus, indicates how many stalls are occupied at any given time. This data is useful in determining the parking demand on campus and developing a parking generation rate for the existing uses. However, the collected data does not provide turn-over information, average length of stay, or the number of actual vehicles that park on campus over the course of the day. Collecting that data is much more time intensive and is particularly useful when making parking policy or pricing decisions, which were not the explicit objective of this study.

Campus-wide Occupancy

The observed campus-wide parking occupancy is illustrated in **Figure 3** which shows occupancy by hour across all parking areas that were surveyed.

Figure 3. Hourly Parking Occupancy Across Campus



The occupancy pattern across the day was typical of most parking studies where peak occupancy occurs at the beginning of the workday with a slight dip over lunchtime and a second, smaller peak in the afternoon. Parking occupancy was only slightly higher on Monday compared to Tuesday.

When looking at the campus as a whole, average peak occupancy reached 651 vehicles (82%) during the 9 AM hour. Looking at this scale, parking occupancy never reached or exceeded capacity. However, looking on a more granular level and comparing occupancy data by type of parking area can help create a more complete picture of parking usage across campus.

Given the similarity between the two data collection days, the average parking occupancy was used for further analysis. Considering all the available parking on campus, **Table 1** shows the average hourly occupancy in each of the parking areas, including a summary of all on-street parking spaces.

Table 1. Average Hourly Parking Occupancy by Parking Area

Parking Area		A	B	C	D	E	F	G	H	I	J	K	L	M	N	On-Street
Public?		No	No	No	Yes	Yes	No	Yes	No	No	No	No	No	No	Yes	Yes
Paid?		No	Yes	No	No	No	No	No	No	No	Yes	Yes	Yes	No	No	No
Stall Count		20	50	6	20	47	37	47	15	13	119	88	20	4	61	249
Hourly Parking Occupancy (Percent Occupied)	7:00 AM	9	14	0	8	21	18	35	11	0	21	19	13	0	9	54
		45%	*28%*	*0%*	*40%*	*45%*	*49%*	*74%*	*73%*	*0%*	*18%*	*22%*	*65%*	*0%*	*15%*	*22%*
	8:00 AM	16	25	5	20	45	23	42	10	7	68	51	20	1	48	136
		80%	*50%*	*83%*	*100%*	*96%*	*62%*	*89%*	*67%*	*54%*	*57%*	*58%*	*100%*	*25%*	*79%*	*55%*
	9:00 AM	17	34	5	20	47	27	46	10	10	75	57	20	0	59	224
		85%	*68%*	*83%*	*100%*	*100%*	*73%*	*98%*	*67%*	*77%*	*63%*	*65%*	*100%*	*0%*	*97%*	*90%*
	10:00 AM	13	35	5	20	46	23	46	10	7	75	58	20	0	59	212
		65%	*70%*	*83%*	*100%*	*98%*	*62%*	*98%*	*67%*	*54%*	*63%*	*66%*	*100%*	*0%*	*97%*	*85%*
	11:00 AM	12	31	5	18	47	26	46	12	8	76	59	20	0	57	181
		60%	*62%*	*83%*	*90%*	*100%*	*70%*	*98%*	*80%*	*62%*	*64%*	*67%*	*100%*	*0%*	*93%*	*73%*
	12:00 PM	12	31	4	19	44	24	44	13	7	66	54	20	0	57	169
		60%	*62%*	*67%*	*95%*	*94%*	*65%*	*94%*	*87%*	*54%*	*55%*	*61%*	*100%*	*0%*	*93%*	*68%*
	1:00 PM	11	31	4	18	43	23	44	11	6	71	56	20	0	54	176
		55%	*62%*	*67%*	*90%*	*91%*	*62%*	*94%*	*73%*	*46%*	*60%*	*64%*	*100%*	*0%*	*89%*	*71%*
	2:00 PM	10	28	4	20	44	24	44	11	9	76	59	19	0	52	189
		50%	*56%*	*67%*	*100%*	*94%*	*65%*	*94%*	*73%*	*69%*	*64%*	*67%*	*95%*	*0%*	*85%*	*76%*
	3:00 PM	14	29	4	14	38	23	37	11	8	75	58	15	0	53	171
		70%	*58%*	*67%*	*70%*	*81%*	*62%*	*79%*	*73%*	*62%*	*63%*	*66%*	*75%*	*0%*	*87%*	*69%*
	4:00 PM	13	23	5	9	29	20	32	6	7	58	28	11	0	38	107
		65%	*46%*	*83%*	*45%*	*62%*	*54%*	*68%*	*40%*	*54%*	*49%*	*32%*	*55%*	*0%*	*62%*	*43%*
	5:00 PM	10	12	0	0	13	17	18	6	0	13	10	3	0	13	37
		50%	*24%*	*0%*	*0%*	*28%*	*46%*	*38%*	*40%*	*0%*	*11%*	*11%*	*15%*	*0%*	*21%*	*15%*
	6:00 PM	9	8	0	0	11	13	17	6	1	10	7	2	0	9	13
		45%	*16%*	*0%*	*0%*	*23%*	*35%*	*36%*	*40%*	*8%*	*8%*	*8%*	*10%*	*0%*	*15%*	*5%*

The parking occupancy data reveals that there are some parking areas that are near full capacity during the workday between the hours of 8 AM and 3 PM, including Areas D, E, G, L, and N. With the exception of Area L, these are all of the free public parking lots. Areas D, E, and L all experienced at least two hours of being at full capacity.

Occupancy Comparisons

The occupancy data was analyzed further to identify patterns and trends in parking usage that may help to develop recommendations on how to increase parking efficiency on campus. The following series of tables provides comparisons between different types of parking areas.

Table 2 compares the average occupancy of paid and unpaid parking stalls across campus. Paid parking areas are

Table 2. Campus-wide Parking Occupancy – Paid vs. Unpaid Stalls

	Paid *(277 Total Stalls)*		Unpaid *(519 Total Stalls)*		Total *(796 Total Stalls)*	
7:00 AM	67	*24%*	165	*32%*	232	*29%*
8:00 AM	164	*59%*	353	*68%*	517	*65%*
9:00 AM	186	*67%*	465	*90%*	651	*82%*
10:00 AM	188	*68%*	441	*85%*	629	*79%*
11:00 AM	186	*67%*	412	*79%*	598	*75%*
12:00 PM	171	*62%*	393	*76%*	564	*71%*
1:00 PM	178	*64%*	390	*75%*	568	*71%*
2:00 PM	182	*66%*	407	*78%*	589	*74%*
3:00 PM	177	*64%*	373	*72%*	550	*69%*
4:00 PM	120	*43%*	266	*51%*	386	*48%*
5:00 PM	37	*13%*	114	*22%*	151	*19%*
6:00 PM	27	*10%*	79	*15%*	106	*13%*

The data indicates that peak occupancy is much higher for the unpaid parking stalls (90%) than the paid parking stalls (68%). Also, the paid parking spaces have a slightly later peak occupancy, during the 10 AM hour, when compared to the campus-wide average.

Table 2 shows the comparison of hourly occupancy between public parking spaces including on-street versus reserved, restricted, or employee parking spaces. It should be noted that employees are not prohibited from parking in the public parking areas.

Table 2. Campus-wide Parking Occupancy – Public vs. Reserved Stalls

	Public *(424 Total Stalls)*		**Reserved** *(372 Total Stalls)*		**Total** *(796 Total Stalls)*	
7:00 AM	127	*30%*	105	*28%*	232	*29%*
8:00 AM	291	*69%*	291	*78%*	582	*73%*
9:00 AM	396	*93%*	255	*69%*	651	*82%*
10:00 AM	383	*90%*	246	*66%*	629	*79%*
11:00 AM	349	*82%*	249	*67%*	598	*75%*
12:00 PM	333	*79%*	231	*62%*	564	*71%*
1:00 PM	335	*79%*	233	*63%*	568	*71%*
2:00 PM	349	*82%*	240	*65%*	589	*74%*
3:00 PM	313	*74%*	237	*64%*	550	*69%*
4:00 PM	215	*51%*	171	*46%*	386	*48%*
5:00 PM	81	*19%*	71	*19%*	152	*19%*
6:00 PM	50	*12%*	56	*15%*	106	*13%*

The data indicates that public parking spaces have a higher peak occupancy (93%) when compared to spaces that have some sort of restriction such as employee, official vehicle, or carpool parking (78%). In addition, the reserved parking spaces have a slightly earlier peak occupancy, during the 8 AM hour, when compared to the campus-wide average.

Table 3 shows the comparison of on-street parking versus parking lot areas.

Table 3. Campus-wide Occupancy – Parking Lot vs. On-Street

	Parking Lot *(547 Total Stalls)*		**On-Street** *(249 Total Stalls)*		**Total** *(796 Total Stalls)*	
7:00 AM	178	*33%*	54	*22%*	232	*29%*
8:00 AM	381	*70%*	136	*55%*	517	*65%*
9:00 AM	427	*78%*	224	*90%*	651	*82%*
10:00 AM	417	*76%*	212	*85%*	629	*79%*
11:00 AM	417	*76%*	181	*73%*	598	*75%*
12:00 PM	395	*72%*	169	*68%*	564	*71%*
1:00 PM	392	*72%*	176	*71%*	568	*71%*
2:00 PM	400	*73%*	189	*76%*	589	*74%*
3:00 PM	379	*69%*	171	*69%*	550	*69%*
4:00 PM	279	*51%*	107	*43%*	386	*48%*
5:00 PM	115	*21%*	34	*14%*	149	*19%*
6:00 PM	93	*17%*	13	*5%*	106	*13%*

The data indicates that parking lot spaces have a lower peak occupancy (78%) when compared to the on-street spaces adjacent to campus (90%). However, while the peak occupancy for parking lots on campus appears to be below the average peak occupancy across campus, a more granular analysis reveals another important pattern in parking usage.

Removing on-street parking from the analysis and looking exclusively at usage in the parking lot areas, **Table 5** compares the hourly parking occupancy between public and reserved parking lot areas. Reserved parking includes any paid employee parking as well as any restricted areas that are reserved for specific employees, county vehicles, carpool, etc.

Table 5. Parking Lot Occupancy – Public vs. Reserved

	Public *(175 Total Stalls)*		**Reserved** *(372 Total Stalls)*		**Total Parking Lot Spaces** *(547 Total Stalls)*	
7:00 AM	73	*42%*	105	*28%*	178	*33%*
8:00 AM	155	*89%*	226	*61%*	381	*70%*
9:00 AM	172	*98%*	255	*69%*	427	*78%*
10:00 AM	171	*98%*	246	*66%*	417	*76%*
11:00 AM	168	*96%*	249	*67%*	417	*76%*
12:00 PM	159	*91%*	233	*63%*	392	*72%*
1:00 PM	164	*94%*	231	*62%*	395	*72%*
2:00 PM	160	*91%*	240	*65%*	400	*73%*
3:00 PM	142	*81%*	237	*64%*	379	*69%*
4:00 PM	108	*62%*	171	*46%*	279	*51%*
5:00 PM	44	*25%*	71	*19%*	115	*21%*
6:00 PM	37	*21%*	56	*15%*	93	*17%*

This analysis reveals that the public parking lots are nearing capacity for many hours of the workday. Occupancy in the public parking lots exceeds 90% for six hours of the day with a peak occupancy of 98% occurring between 9 AM and 11 AM. Meanwhile, occupancy in the reserved parking areas only reached a peak occupancy of 69% at the beginning of the workday.

These results indicate that while there is currently enough parking available on campus, the distribution across campus is not even. Usage is heavily weighted toward the free, unrestricted parking areas, especially those located closer to Division Street. With peak parking occupancy at 90% for on-street spaces and 98% for public parking lot spaces, visitors on campus are likely finding it difficult to find parking during peak periods.

A usage pattern like this indicates that there may be some opportunities to change parking pricing, reallocate reserved stalls, or improve employee incentive programs to increase the use of reserved and/or paid parking areas for employees on campus.

Parking Generation Rate

The parking generation rate for the existing campus is an important metric for planning the expansion of the courthouse. The parking generation rate has been calculated as occupied parking stalls per 1,000 square feet of gross floor area (GFA). For purposes of estimating the parking generation rate, an average of the Monday and Tuesday data is used to represent the peak on a “typical” day.

The campus consists of many different types of buildings and uses which are expected to vary in terms of both parking generation and activity. Some uses may have higher turn-over throughout the day while others may be more commuter-driven activity related to employee shifts. For instance, it is expected that the courthouse will generate more trips across the entire day, with more turn-over, as a result of visitors coming and going for court appearances. Conversely, the jail is more likely to have parking activity more closely related to employee shift changes.

However, the data collected does not indicate which parked vehicles are related to specific buildings or uses on campus. Therefore, the parking rate metric presented in this study considers all the uses across campus. Currently, the total gross floor area on campus is approximately 343,165 square feet. Using the average peak occupancy of 651 vehicles, the following parking generation rate is produced.

651 occupied stalls ÷ 343,165 sf × 1,000 sf = ***1.90 occupied stalls per 1,000 sf GFA***

Parking Occupancy Targets

Best practice suggests a parking system operates most efficiently at an occupancy rate between 85% and 95% of capacity. Having some unoccupied stalls helps to ensure that entering cars don’t have to circle through the entire parking area to find a vacant space.

Specific to the courthouse campus, 90% is the recommended peak occupancy target for the parking areas. However, for designated employee parking, especially if parking stalls are permitted or assigned, the target peak occupancy could be higher.

Overall, the campus is below the target occupancy rate with 82% occupied during the peak hour. However, when examined on a more granular level, some specific parking areas and/or types of parking areas are above the recommended target capacity for a large part of the day while others are well below the target. For instance, the public parking lots experience occupancy levels above 90% for six hours of the workday with a peak occupancy of 98% which is well above the target occupancy.

Future Parking Needs

The parking generation rate identified earlier was used to forecast the increase in parking demand as a result of the courthouse expansion project and provide a recommended parking supply that would be needed to maintain the peak occupancy target. **Table 6** summarizes the estimated parking demand and recommended parking supply that will be needed based on the building square footage expected for Phase 1, Phase 2, and at Full Build.

Table 6. Total Parking Needs by Project Phase

	Total Capmus Area *(GFA in Sq Ft)*	**Estimated Parking Demand** *(1.90 stalls/1,000 Sq Ft)*	**Recommended Parking Supply** *(90% Target Occupancy)*
Phase 1	425,823	809	899
Phase 2	483,063	918	1,020
Full Build	456,361	867	963

Following Phase 1, it is recommended that a total of 899 parking stalls should be provided across campus, including on-street parking. Following Phase 2, it is recommended that a total of 1,020 parking stalls should be provided across campus, including on-street parking. The anticipated Full Build is actually less gross floor area than Phase 2, so the parking demand and recommended supply are expected to decrease.

It should be noted that the recommendation assumes a target occupancy is 90%, regardless of the type of parking facility. However, if the target occupancy for reserved, employee parking areas were to be increased to 95%, the recommended number of parking stalls would decrease slightly in those parking areas.

Summary

As a part of the courthouse expansion project, there will be a need for additional parking provided on campus. Assuming a target peak occupancy of 90% across campus, it is estimated that 899 total parking stalls would be needed following Phase 1 and 1,020 total stalls would be needed following Phase 2.

Current peak occupancy only reaches 82% across campus which suggests that, overall, there is a surplus of parking today. However, some parking areas are well above the recommended target peak occupancy and reaching full capacity for multiple hours of the day, especially the free, public parking lots. Meanwhile, other areas, particularly the paid employee parking lots, are under parked.

The planned expansion is going to remove portions of the reserved, employee parking lots located along Cline Street (Areas I, J, and K) which are some of the least utilized parking areas on campus. While this means that fewer actual vehicles will be displaced, it also puts additional pressure on other parking areas that are at or near capacity for a better part of the day.

To improve parking utilization across campus, including new parking areas added as a part of the courthouse expansion project, Kitsap County could explore a variety of strategies which are broken into three main categories and discussed below.

More Efficient Use of Existing Parking

- **Reallocation of parking:** The County may consider reducing the number of paid employee parking areas, which are underutilized, to increase the amount of public parking which is currently constrained.
- **Adjust employee parking fees:** The County could consider lowering the parking fee, which is currently set at between $30 (off-site) and $35 (on-site) a month. The excess capacity in these lots may indicate that

current pricing disincentivizes use of employee lots. A reduction in the monthly cost of parking may encourage more people to use the reserved employee parking. The fee structure could also be based on location so that parking located closer to campus is more than parking areas located further away.

- **Restrict employee use of public parking lots:** Employees could be restricted from using the public parking areas, especially those that are closest to campus and ideal for visitors. However, enforcement of this policy may be challenging.

Reduce Demand for Parking

- **Expand incentive programs for transit and vanpool/carpool:** In 2019, the County began subsidizing bus, ferry, and vanpool users at 100% which will potentially decrease the number of single occupancy vehicles (SOVs) commuting to work. As a result, the parking generation rate may decrease as people make changes to their commute mode. Providing further incentives or a campus-wide initiative to reduce SOV commute trips may further encourage usage of other modes.
- **Require employees to pay for parking:** Some institutions require that all employees pay for parking and have found it to greatly influence commute choices. If implemented, parking fees should be set as daily rates, potentially varied by time of day. Monthly passes are not recommended because they incentivize maximizing the value of the purchase by driving and parking as often as possible.
- **Improved communication about transit options:** Maximize the use of existing transit services by providing better information to employees and consider including transit directions or a link to Kitsap Transit's website to the "Maps and Directions" section of the County's website.

Increase the Supply of Parking

- **Build additional parking:** Any reduction in parking as a result of the courthouse expansion will need to be replace by either building new parking areas or expanding existing parking areas. Structured parking areas may also be considered as a way to maximize square footage but are significantly more expensive to construct compared to surface parking lots. For any new parking area, structured or surface, careful consideration should be given to potential fees, parking restrictions, and enforcement to ensure that it will be well utilized.

Each of these strategies vary in estimated cost, expected popularity, and potential impact. Further evaluation will be required to weigh the costs and benefits and determine the feasibility of each action. In particular, any action that affects the cost or convenience of employee parking will be a sensitive issue and would benefit greatly from a stakeholder engagement process.

If you have any questions or comments about the enclosed information, please contact us at (360) 352-1465.

Enclosures: Parking Count Raw Data

N:\Projects\1835 Thomas Architecture Studio, Inc\1835.19 Kitsap County Courthouse Master Plan & Permitting\Phase 01 - Civil Master Planning & Schematic Design\Traffic\Scoping Letter\L2019-1122 Kitsap County Courthouse traffic scoping.docx