

Regional Transportation Plan 2040

November 15, 2019



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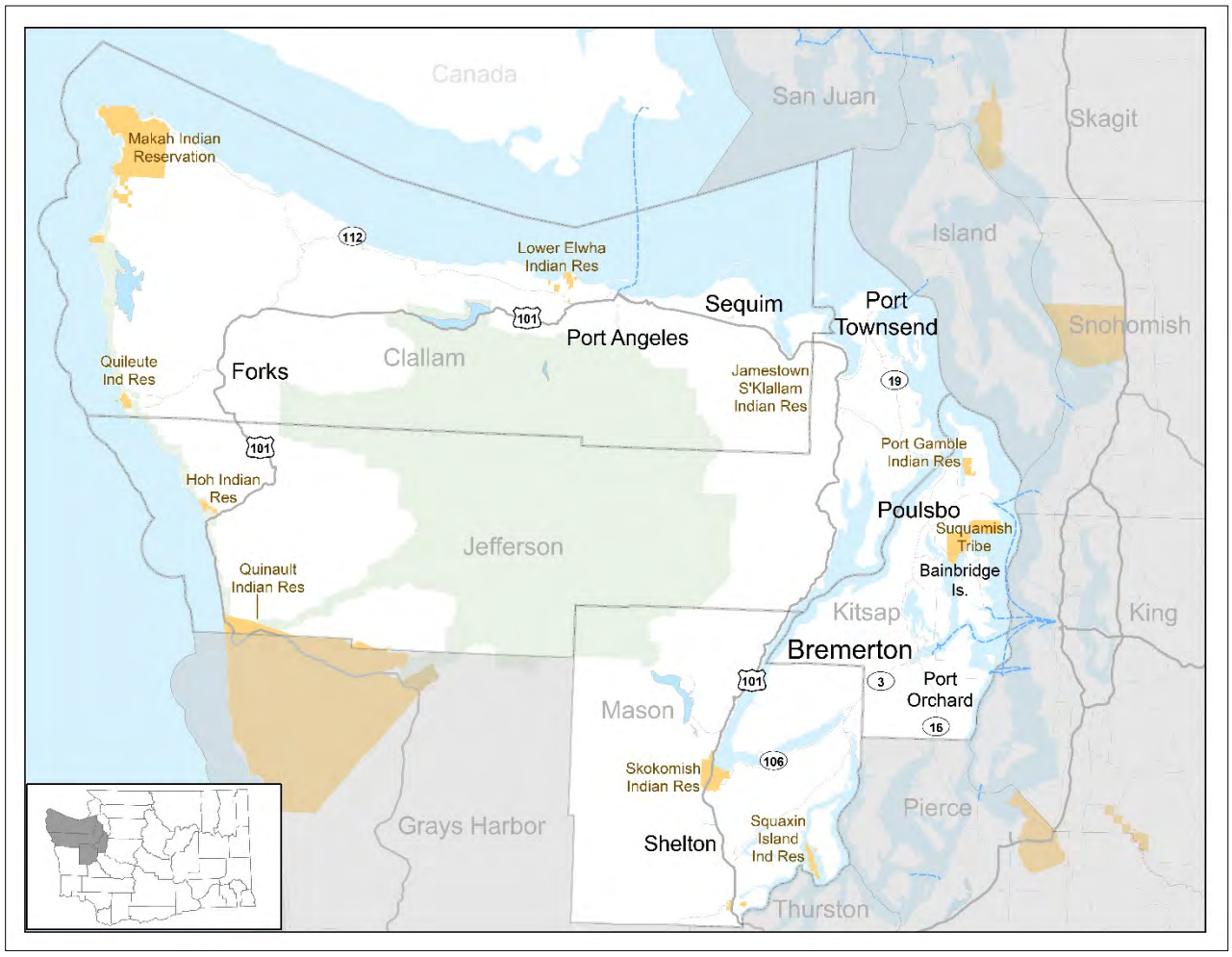
1: Introduction

This chapter describes the region, the purpose of the plan, and plan development.

Regional Overview

The Peninsula Regional Transportation Planning Organization (RTPO) is a voluntary regional organization of an association of cities, towns, counties, ports, tribes, and transit agencies that serves as a forum for developing regional transportation policies and making decisions regarding economic, transportation, and growth management issues in Clallam, Jefferson, Kitsap and Mason counties. Entities within Kitsap County have dual membership in both the Peninsula RTPO and the Puget Sound Regional Council (PSRC). Exhibit 1-1 shows the geographic limits of the Peninsula RTPO region.

Exhibit 1-1: Peninsula RTPO area



The primary objective of the Peninsula RTPO is to facilitate cooperative decision-making by the agencies within the region in order to bring about a coordinated and comprehensive transportation planning process. It seeks to ensure that all local plans are coordinated and consistent with the regional plan. This is accomplished through the participation of all jurisdictions in the technical analysis and policy approvals of the plan.

The Peninsula RTPO consists of representation from Clallam, Jefferson, Mason and Kitsap counties, seven cities, ten tribal nations, four transit agencies, five ports, and the Washington State Department of Transportation.

2040 Plan Purpose

This *Regional Transportation Plan 2040* for Peninsula RTPO is a planning tool to help the RTPO identify transportation needs, and to provide strategies and recommendations to address those needs. The plan, which updates the *Regional Transportation Plan 2035* for Peninsula RTPO (completed in 2015), provides a framework for coordinating and determining eligibility for federal and state funding for transportation projects. The Peninsula RTPO Regional Transportation Plan 2040 seeks to:

- Inform integration of regional transportation and land use decision-making processes supportive of local, county, and tribal governments to maintain livable communities.
- Move people and goods efficiently and cost effectively by increasing viable, affordable travel choices for people and goods within the region.
- Improve accessibility for all people regardless of age, ability, or income, promoting local economies, maintaining local core values.
- Ensure affected parties understand issues related to choices, impacts, and timing by fostering on-going and inclusive community involvement and education.
- Assure system funding is fair for all communities in the region by making effective investments maximizing resource potential in the future.
- Maintain existing investments by being realistic about financial capacity prioritizing accordingly, and evaluating the full cost of alternatives and recommendations.
- Make the system safer for all users, building redundancy into critical network links as emergency safeguards.
- Support interdependence of transportation resources and facilities, integrating non-motorized transportation designs into transportation solutions.
- Build multimodal strategies into transportation solutions providing barrier-free accessibility strategies for youth, elders, those with disabilities, low income, and those with limited English language skills.
- Make investments that add lasting value to our communities, minimizing impacts on air, water quality, and natural habitat and resources.
- Identify problem areas or opportunities warranting further consideration and coordination at the regional level.

The Regional Transportation Plan (RTP) is a document that defines regional transportation priorities for the region. It is a collaborative effort, developed through the work of all Peninsula RTPO member agencies. The RTP discusses all modes of transportation, and issues such as economic and community development that impact or are impacted by the regional transportation system. The development of an RTP helps to guide local transportation and land use policies within the region, and calls attention to the common challenges and opportunities facing the region.

State Planning Requirements

Peninsula RTPO is required to prepare and complete an RTP consistent with the requirements identified in state laws RCW 47.80.030 Regional transportation plan[1] and WAC 468-86-100 Regional transportation strategy[2].

RCW 47.80.030: Regional transportation

Development of this plan requires coordination with the Washington State Department of Transportation (WSDOT), providers of public transportation and high capacity transportation, ports, and local governments within the region. These requirements, and where they are discussed in this plan, are as follows:

a. Identifies the most cost-effective facilities, services, and programs based on least cost planning. (See **Chapter 5)**.
b. Identifies existing or planned transportation facilities, services, and programs, including but not limited to major roadways including state highways and regional arterials, transit and non-motorized services and facilities, multimodal and intermodal facilities, marine ports and airports, railroads, and noncapital programs including transportation demand management that should act as an integrated regional transportation system, giving emphasis to those facilities, services, and programs that show one or more of the following characteristics (See **Chapter 3)**:
    i. Crosses member county lines;
    ii. Is or will be used by a significant number of people who live or work outside the county in which the facility, service, or project is located;
    iii. Significant impacts are expected to be felt in more than one county;
    iv. Potentially adverse impacts of the facility, service, program, or project can be better avoided or mitigated through adherence to regional policies;
    v. Transportation needs addressed by a project have been identified by the regional transportation planning process and the remedy is deemed to have regional significance; and
    vi. Provides for system continuity.
c. Establishes level of service standards for state highways and state ferry routes, with the exception of transportation facilities of statewide significance as defined in RCW 47.06.140. These regionally established level of service standards for state highways and state ferries shall be developed jointly with the department of transportation, to encourage consistency across jurisdictions. In establishing level of service standards for state highways and state ferries, consideration shall be given for the necessary balance between providing for the free inter-jurisdictional movement of people and goods and the needs of local commuters using state facilities. (See **Chapter 4)**.
d. Includes a financial plan demonstrating how the regional transportation plan can be implemented, indicating resources from public and private sources that are reasonably expected to be made available to carry out the plan, and recommending any innovative

[1] RCW 47.80.030: Regional transportation plan – Contents, review, use. https://app.leg.wa.gov/RCW/default.aspx?cite=47.80.030
[2] WAC 468-86-100: Regional transportation strategy. https://app.leg.wa.gov/wac/default.aspx?cite=468-86-100

financing techniques to finance needed facilities, services, and programs. (See **Chapter 5)**.

e. Assesses regional development patterns, capital investment and other measures necessary to:
    i. Ensure the preservation of the existing regional transportation system, including requirements for operational improvements, resurfacing, restoration, and rehabilitation of existing and future major roadways, as well as operations, maintenance, modernization, and rehabilitation of existing and future transit, railroad systems and corridors, and non-motorized facilities; and
    ii. Make the most efficient use of existing transportation facilities to relieve vehicular congestion and maximize the mobility of people and goods. (See **Chapter 4)**.
f. Sets forth a proposed regional transportation approach, including capital investments, service improvements, programs, and transportation demand management measures to guide the development of the integrated, multimodal regional transportation system. For regional growth centers, the approach must discuss transportation concurrency strategies required under RCW 36.70A.070 and include a measurement of vehicle level of service for off-peak periods and total multimodal capacity for peak periods. (See **Chapter 6)**.
g. Where appropriate, sets forth the relationship of high capacity transportation providers and other public transit providers with regard to responsibility for, and the coordination between, services and facilities. (See **Chapter 3)**.

WAC 468-86-100: Regional transportation strategy

Each regional transportation planning organization shall develop a regional transportation strategy. The strategy should name alternative transportation modes within the region and recommend policies to:

(1) Address each transportation mode;

(2) Address intermodal connections between modes; and

(3) Address transportation demand management where required.

The regional transportation strategy is intended to guide development of the regional transportation plan and any periodic updates. Adopted multi-county and county-wide planning policies and policies from local comprehensive plans that are regional in scope and regionally consistent should provide the basis for the regional transportation strategy. The regional transportation strategy should be periodically reviewed and updated as necessary to reflect changing priorities or to maintain regional consistency.

WAC 468-86-110: Needs, deficiencies, data requirements, and coordinated regional transportation and land use assumptions

(1) The following components shall be developed and incorporated in the RTP:

(a) An inventory of existing regional transportation facilities and services, including physical, operational, and usage characteristics of the regional transportation system;

(b) An evaluation of current facilities and services, comparing current usage, and operational characteristics to level of service standards, and identification of regional transportation needs;

(c) Forecasts of future travel demand, based on the regional transportation strategy and local comprehensive plans;

(d) Identification of future regional transportation system deficiencies, comparing future travel needs for movement of people and goods to available facilities and services; and

(e) Coordinated common regional assumptions (growth, population, employment, mode split, etc.,) among local jurisdictions for the development of all transportation models to ensure consistency within the RTPO, and:

(i) These common regional assumptions shall recognize the planning requirements of the state's Growth Management Act, and;

(ii) Be consistent with population forecasts prepared by the office of financial management.

(2) Performance monitoring. An integral part of the regional transportation plan is monitoring the performance of the regional transportation system over time. This information is necessary to determine the success of plan implementation and the effect of the desired improvements on the performance of the regional transportation system. Each RTPO shall describe their performance monitoring system in the regional transportation plan. The performance monitoring measures shall include traffic volumes and vehicle miles of travel (VMT) at a minimum and can include, but are not limited to, travel time, speed, safety standards and other measures. Performance monitoring measures should be coordinated and measurable on a consistent basis throughout the RTPO.

(3) Regional development patterns and investments. The regional transportation plan shall include a general assessment of regional development patterns and investments. This analysis is intended to provide direction and background information for updates of the regional transportation plan. The RTP updates shall be based upon a general retrospective discussion of current land use and transportation patterns and their relationship to the region's goals and objectives and elsewhere in the regional transportation plan. Current and projected development patterns and the expected magnitudes and time frame in which these developments are expected to occur should be reviewed and evaluated against the regional growth and transportation strategies. If the regional growth and transportation strategies have changed or current and projected development can be shown to be inconsistent, the plan should be updated to reflect these changes, or development policies should be updated to assure consistency and continuity of transportation and land use issues within the region. The region’s interrelationships between growth and transportation should be discussed along with strategies such as access control, development of heritage corridors, and other measures designed to maintain current and proposed development patterns consistent with the regional transportation plan and the transportation and land use elements of local comprehensive plans.

WAC 468-86-120: Financial component

The financial component shall include the following:

(1) An analysis of funding capacity including an inventory of revenue sources for regional transportation improvements, and probable funding levels available for regional transportation improvements from each source;

(2) Probable funding comparisons with identified current and future needs, including identified funding shortfalls; and

(3) If funding shortfalls are identified, an analysis of additional funding resources to make up the shortfall, or a reassessment of the regional transportation strategies, at a minimum, to ensure that transportation needs fall within probable funding levels.

Practical Solutions

WSDOT has adopted Practical Solutions as an organizing principle for all agency roles, including all elements of planning, design, engineering, and delivering transportation solutions. WSDOT is using the Practical Solutions approach to increase the focus on transportation system performance and enable more flexible and sustainable transportation investment decisions. The approach includes increasing collaboration with communities and partners as we find needs and develop coordinated strategies to discuss the needs. By using this approach, WSDOT can make transportation investments at the right place and time for the lowest cost. See Appendix A for more information.

Public Involvement

Public engagement informs good public policy and sets the stage for practical solutions that reflect local and regional priorities. Five public meetings were held around the region to talk about the draft plan and the bigger regional context in which PRTPO and its partners operate. Public comments spoke not just to the plan itself, but to broad considerations that are reshaping how agencies plan for and deliver transportation services and infrastructure. Those big ideas will provide input to coordinated regional planning activities that will commence in 2020.

A summary of the public engagement process can be found in **Appendix B: Public Involvement**.

2: Policy Framework

This chapter describes the policy framework (step 1 in practical solutions) for this transportation plan, including the vision, goals, and policies. This framework provides the regional interface between the transportation elements of local, tribal and state plans. They reflect the need for a balance among safety, mobility, community, and environmental aims and acknowledge the need for cost-effective solutions.

Vision

The transportation system in the region efficiently and safely connects people and goods with places, offering choices, and ensuring accessibility. This vision emphasizes a long-term quality of life by promoting economic growth, recreational resources, community services, active transport, and public transit.

Transportation decisions support accessibility, connecting all people within the region with efficient ferries, surface transportation and active modes, while supporting land use plans. The state highway system has been preserved, maintaining mobility for people and freight. While single occupant vehicles are provided for in this system, multiple occupant vehicle travel is favored wherever possible through specific design treatments for transit buses, vanpools, and other modes. Road markings, intersection treatments, and signal settings should encourage multiple occupant vehicles, and bicycle and pedestrian travel modes. Active travel options along state highway and regional corridors are also supported through design treatments like safe shoulder widths on the highway for bicyclists, sidewalks in urban areas, or traffic separated trail corridors in rural areas for pedestrians and bicyclists of all ages and abilities.

Mobility has been preserved on the state highway system by coordination with tribal and local governments to control land use along the state highways so that new commercial and industrial land uses are contained within the boundaries of existing urban growth areas and rural centers. The state has also maintained the mobility and accessibility of its highway system through access control and consideration of viable alternatives to direct access along state highways. City streets access the state highway system in accordance with maintaining level of service benchmarks within the urban growth area, and business traffic is directed to frontage roads, shared driveways, or to existing intersections with traffic signals. Congestion problems at key intersections of tribal and county roads along the state highway system have been addressed through appropriate intersection improvements, such as grade separation, roundabouts, and other innovative treatments.

Tribal and local governments have been encouraged to establish and improve parallel routes to the state highway system and improve transit service to relieve pressure on the system. New traffic signals along the state highway system are generally discouraged, as they tend to degrade mobility between urban centers. Tribes and local jurisdictions of the region envision a regional active transportation system that traverses and links our jurisdictions, connecting our region with a safe, seamless, traffic-separated, multi-user, shared use pathway, wherever can be done.

The long-term expectation for this regional active transportation system is that it will provide a practical alternative to a road-based trip thereby reducing vehicles miles traveled and promoting public health.

The regional trail system is expected to be used by at least ten percent of the commuting population in the long-term near urban areas and, many thousands of other county residents and visitors for active recreation throughout the year. This system will link our population centers with the state ferry system.

Active transportation reduces congestion and emissions on our motorized routes and provides convenient and time efficient direct connection to many destinations inside and outside our counties and reservations. The active transportation system in this region is the westward extension of a cross-state trail system that in the future will provide direct links to the Cushman, Burke Gillman, Sammamish River, Palouse to Cascade, and Columbia Plateau trails; these trails establish connections to Spokane and to the Olympia to Vancouver trail corridor. Our active transportation system includes the Olympic Discovery Trail and the conceptual Sound to Olympics and Olympic Peninsula Loop Trails. Active travel is further enhanced within the region through transit and park-and-ride facilities at convenient intervals along the state highway system that facilitate and expedite a seamless and convenient change of mode between walking, bicycling, transit, and auto.

Goals and Policies

Goals and policies guide the region into a coordinated decision-making process at all levels of government. The goals and policies described here were developed in 2015 by a Peninsula RTPO sub-committee, recommended for adoption by the Peninsula RTPO Technical Advisory Committee, and adopted by the Peninsula RTPO Executive Board.

Goal 1: Intergovernmental Coordination

Goal: Support the creation of transportation facilities and programs that work seamlessly across community borders and between regions.

Policies:

a. Encourage coordination and partnerships among the local, regional, state, and tribal governments in the operation of the transportation system.
b. Work with government agencies to coordinate land uses, implement inter- and intra-county and tribal planning policies thereby refining the tools needed to accomplish these integrated land use plans and objectives.
c. Coordinate the development and update of local, county, state, and tribal transportation plans to ensure consistency.
d. Serve as a regional forum for the exchange of ideas, information, and issues among local jurisdictions, county, state, federal, and tribal transportation agencies and governments.
e. Encourage government-to-government relations between tribal and non-tribal governments within the region to encourage coordination of land use and transportation plans.

Goal 2: Public Involvement

Goal: Encourage public input into regional transportation planning and decision-making processes.

Policies:

a. Encourage early and continuing public involvement in all aspects of the interdependent motorized and non-motorized transportation planning process.

b. Ensure there is equal access to participation, including measures to ensure access to people and groups who have been traditionally underserved by the existing transportation system or public processes.
c. Promote increased community understanding of the relationship between land use choices and the future transportation consequences facing communities at local, regional, state, and tribal levels.
d. Engage in consultation and partnerships with tribal governments within the region to encourage participation.
e. Explore innovative participation techniques to increase overall public involvement.

Goal 3: Transportation and Land Use Consistency

Ensure that the design and role of transportation facilities supports the community development vision and that land use supports the transportation system.

Policies:

a. Provide transportation facilities, motorized and non-motorized, that support the location of jobs, housing, industry and other activities as called for in adopted land use plans.
b. Commit to the development and implementation of land use plans and design standards that encourage accessibility via public and private motorized transportation, as well as active transportation opportunities, recognizing the unique needs of all communities in the region.
c. Integrate mobility, accessibility and economic goals along transportation corridors with an appropriate combination of investments, policies and land use designations and development standards.
d. Create transportation improvements that have a lasting positive impact on the communities served, reflect the culture of the area, and contribute to the sense of place.
e. Promote land use policies that provide a variety of housing types in core areas near employment and services.

Goal 4: Barrier-free Transportation

Invest in and support travel needs of youth; elders; people with disabilities, literacy or language barriers and low income needs.

Policies:

a. Ensure that transportation facilities are accessible to those with differing physical capabilities.
b. Provide transportation services, facilities, and programs that minimize barriers to people who don't speak or read English.
c. Present information and provide public participation opportunities for people who have limited literacy skills.
d. Ensure that all income level populations have equal access to transportation facilities.

Goal 5: Travel Demand Management

Goal: Decrease traffic by encouraging people to travel by some other means than driving alone.

Policies:

a. Promote mixed-use and transit-oriented development that reduces the need for auto travel, including financial and other incentives to encourage transportation efficient development and redevelopment.

b. Improve access to public transportation, ridesharing, bicycling, and walking.
c. Ensure that travel alternatives are readily available during peak periods.
d. Promote programs and services that encourage employees to commute to work by means other than driving alone or to change commuting patterns through tele-working, flex-time or compressed work weeks.
e. Develop park-and-ride lots throughout the region, including shared use of underutilized parking lots at business and other facilities.
f. Encourage the use of technologies that enable people to participate in activities or meet their needs without having to travel.
g. Use demand management techniques that provide alternatives during temporary congestion resulting from major construction projects.
h. Implement incentive programs to reduce vehicle trips and vehicle miles travelled.
i. Support development patterns and standards that enhance safe accessibility to public transportation.

Goal 6: Transportation Technologies

Goal: Use technology-based approaches to address transportation congestion, safety, efficiency, and operations.

Policies:

a. Look for opportunities to invest in short- and long-range technological solutions, and integrate those solutions into regional transportation projects.
b. Recognize that transmittal of electronic information is an important role of a transportation system, and integrate this into transportation system evaluation, policies and implementation strategies.
c. Coordinate transportation technologies among regional jurisdictions and with other RTPOs and MPOs.

Goal 7: Performance Measures

Goal: Support the development of performance measures that are efficient to administer, effective in assessing performance, and are meaningful to the public.

Policies:

a. Use transportation performance measures to evaluate, monitor, and respond to the performance of policies and investments.
b. Use transportation performance measures that reflect priority regional objectives.
c. Adopt performance measures that quantify contributions of motorized and non- motorized modes.
d. Implement recommendations to ensure regional level of service consistency with policies and regulations.

Goal 8: Transportation Funding

Goal: Work to ensure that transportation revenue supports adopted land use strategies and goals of this plan.

Policies:

a. Strategically prioritize the maintenance and preservation of mobility of the transportation system to minimize life-cycle costs.
b. Consider costs and benefits in the use of transportation funds to ensure the best long-term investment decisions are made.
c. Encourage strategic transportation investments that reinforce well-planned growth and redevelopment decisions.
d. Support efforts to improve the availability, predictability, and flexibility of transportation revenues.
e. Support increased use of designated transportation funding to local agencies rather than state directed grant programs.
f. Use transportation funding policies and investments to make development decisions predictable, fair, and cost effective.
g. Encourage funding partnerships between tribal, regional, and local entities to accomplish mutual goals through federal and state grants.

Goal 9: Environmental and Human Health

Goal: Minimize transportation impacts on the natural environment and the people who live and work in the region.

Policies:

a. Protect water quality by effectively treating and managing runoff.
b. Use current technologies to encourage on-site infiltration of stormwater.
c. Minimize road crossings through designated environmentally sensitive areas and habitat corridors to avoid fragmentation and degradation of open spaces and wildlife habitats.
d. Use transportation planning, design, and construction methods that minimize negative impacts on fish-bearing streams.
e. Encourage development of transportation systems that increase regional energy efficiency and reduce environmental impacts.
f. Promote use of alternative fuels and technologies that reduce pollution and greenhouse gas emissions and other environmental impacts from motorized vehicles.
g. Engage the fullest range of non-motorized forms of transportation to encourage overall physical activity and community health.
h. Ensure environmental considerations are not used as justification to hinder non- motorized projects when the impact of those projects in reducing motorized travel outweigh its environmental impacts.
i. Ensure that minority populations and people with low income do not incur disproportionately high and adverse human health or environmental effects from transportation programs, policies, and investments.
j. Advocate and implement incentives for vehicle trip reduction strategies to reduce the growth in per capita vehicle miles traveled.

k. Strive to balance appropriate levels of environmental protection with the costs of achieving it, recognizing that environmental and human health impacts of the transportation system can be offset by engaging the complete range of motorized and non-motorized transportation options.

Goal 10: Preservation, Maintenance, and Repair

Protect investments that have already been made in the transportation system and keep life-cycle costs as low as possible.

Policies:

a. Prioritize maintenance/preservation, operations, and repair of existing transportation system with an eye to adapting existing routes to accommodate non-motorized modes of transportation.
b. Use preventive maintenance programs to ensure we have the lowest life-cycle costs.
c. Coordinate utility and road projects to minimize the impact of utility projects on the structural integrity of roads. Where possible, leverage investments for both project types to deliver more cost-effective public facilities.
d. Explore innovative programs that reduce infrastructure life-cycle cost or increase efficiency of service delivery, including use of new materials, technologies, and resource partnerships.
e. Coordinate road projects with neighboring jurisdictions.

Goal 11: Safety and Security

Promote the safety and security of those who use, operate, and maintain the transportation system.

Policies:

a. Use a combination of education, enforcement, design features, and investments, such as recoverable slopes, guardrail, etc. to mitigate existing hazards and avoid potential hazards.
b. Support construction of shoulders with enough width to accommodate safe, multiple uses.
c. Invest in projects that improve passenger safety and security on public transportation and at associated facilities like park-and-ride lots and transit centers.
d. Provide for safe school walking routes.
e. Retrofit key transportation facilities to improve their ability to withstand a major earthquake or other natural disaster.
f. Work towards system redundancy (e.g., parallel corridors), where workable, to support emergency responses and reduce community disruptions during natural or man-made disasters.
g. Encourage coordination between transportation system providers and emergency response providers.

Goal 12: State Highways

Goal: Protect the functionality and safety of the regional highway system, especially US 101, as the travel and freight corridors that support communities and their economies.

Policies:

a. Advocate for maintenance and improvement of regional highways — especially the primacy of US 101 — in consideration of the fact that the Olympic Peninsula is particularly reliant on regional highways due to topographic constraints and alternative routes are not often possible.
b. When intersection improvement is warranted for intersections with Highways of Statewide Significance (HSS), and where channelization and turn lanes are insufficient, consider grade-

separated interchanges, underpasses, and roundabouts rather than signalization and all-way stops.

c. Coordinate with the Washington State Department of Transportation at the planning level and the development review level to ensure that improvements needed to maintain access to and functionality of the highway system occur concurrently and are consistent with community development.
d. Work to get the entire US 101 route and State Route connectors to urban areas within the region designated as a critical freight corridor in state and federal studies, plans, policies, and funding allocation.

Goal 13: Streets, Roads, and Bridges

Goal: Establish a regional network of streets, roads, and bridges of regional significance that provide for the safe and efficient movement of people and goods, while supporting adopted land use planning goals.

Policies:

a. Support "complete streets" design and construction of streets, roads, and bridges which accommodate both motorized and non-motorized (i.e., active) modes of transportation.
b. Design transportation networks that facilitate multimodal options for intra- and inter-community travel.
c. Limit the addition of travel lanes to those corridors that can demonstrate long-term benefit, and where an increase is determined to be the best alternative.
d. Use roundabouts as tools for safely and efficiently managing the flow of traffic at intersections where they are an appropriate alternative to signalization or signage.
e. Consider the use of access management techniques to preserve roadway capacity, to minimize operating inefficiencies resulting from land use and development pressures, and to increase overall system's safety.
f. Develop an interconnected grid of local streets and roads to increase individual travel motorized and non-motorized options, enhancing community connectivity.
g. Ensure that transportation projects adequately meet needs, work in harmony with their surroundings, and add lasting accessibility to the communities they serve.
h. Speed limits should be based on objective traffic engineering considerations in order to achieve consistency across the network and to discourage unsafe vehicle speed discrepancy.

Goal 14: Multimodal Transportation System

Goal: Move toward an integrated multimodal transportation system that increases travel options, reducing the need to drive alone and vehicle miles traveled.

Policies:

a. Maximize quality transportation choices including walking, biking, public transportation, marine transportation and motor vehicles.
b. Develop transit transfer centers, activity centers, employment centers, schools, marine transportation terminals, the waterfront, and airports to incorporate safe and efficient connections of travel modes.
c. Invest in individual travel modes in ways that meet mode-specific needs while contributing to the overall development of a seamless, interdependent multimodal transportation system.

d. Plan for the integration of non-motorized modes on existing transportation system.
e. Develop and implement a public outreach and marketing effort that informs travelers about all travel options.

Goal 15: Public Transportation

Goal: Provide an appropriate level of interdependent reliable, effective public transportation options commensurate with the region's evolving needs.

Policies:

a. Support implementation of each transit agency's long-range transit plan, emphasizing accessibility via primary routes serving cores areas and regional transportation corridors.
b. Increase the share of all trips made solely by public transportation or in conjunction with other motorized or non-motorized travel modes.
c. Encourage transit agencies to accommodate bicycles in buses so that multimodal trips are possible without limitation.
d. Invest in sustaining the commuter vanpool program to provide cost effective, flexible alternatives to driving.
e. Develop inter-regional transit partnerships that result in development of express transit routes across the region linking it to ferry terminals and to the I-5 corridor.
f. Provide safe, convenient, and cost-effective transportation service to youth, elders, people with disabilities, or other people with special needs.
g. Increase awareness of public transportation strategies through expanded education and public information tailored for various age groups and interests.
h. Consider a broad range of public transportation programs and services including bus rapid transit and flex car programs to ensure a full mix of motorized and non-motorized transportation needs as they evolve.
i. Use optical data readers where transit performance can be improved.
j. Use information technology to inform travelers about transportation options for intra- and inter-community travel.
k. Support and advocate for the maintenance and enhancement of transit service, including rural areas, rather than reduction of service in periods of financial challenge.
l. When establishing transit stops, consider the need for safe passage for pedestrians across state highways.

Goal 16: Biking

Goal: Increase the share of all trips made safely and conveniently by biking.

Policies:

a. Complete a safe and convenient regional bicycle network that acts as an integral part of the overall transportation system.
b. Provide safe and convenient bicycle routes to all schools in the region.
c. Invest in a regional network of contiguous and connected north-south and east-west dedicated corridors to serve as the backbone of the non-motorized system.
d. Provide bicycle parking facilities such as "bike and rides" at existing and future transit centers, park-and-ride locations ferry terminals and other multimodal facilities.

e. Encourage provision of short- and long-term bicycle storage and amenities at schools, employment sites and major activity centers.
f. Develop an education program for bicyclists to increase understanding of bicycling laws and encourage appropriate cycling behavior.
g. Consider long-term strategies for funding bicycle facilities and services, encouraging public agency-funded bicycle facilities that support a level of service commensurate with bicycle mode share.
h. Support "bike share" programs that allow for temporary use of bicycles for intra-city transportation.

Goal 17: Walking

Goal: Increase the share of all trips made safely and conveniently by walking only and by integrating walking with other forms of motorized and non-motorized transportation.

Policies:

a. Provide a direct, safe, interconnected transportation and pedestrian network that supports existing desired land uses.
b. Construct safe sidewalks and effective well lit crosswalks within an appropriate radius of every school in the region.
c. Construct frequent well lit pedestrian crossings, especially along primary transit routes and near activity centers.
d. Develop direct, "cut-through" connections for pedestrian and bike travel within and among neighborhoods and destinations such as major transit routes, schools, activity centers, and other destination where pedestrian travel is expected.
e. Require pedestrian-friendly building and site design in areas where foot travel is likely and encouraged, such as city centers, regional activity centers and residential developments.
f. Provide street lighting, trees, benches, and other elements that make walking safe and pleasant.

Goal 18: Freight Mobility

Goal: Promote efficient, cost-effective, and safe movement of freight in and through the region.

Policies:

a. Promote access among highways and other major freight corridors, and among intermodal transportation facilities and industrial areas in the region.
b. Increase the amount of freight that is moved by rail or marine modes to enhance efficiency productivity, safety and mobility.
c. Reduce weather-related weight restrictions on streets, roads, and bridges that are important freight routes.
d. Review potential conflicts of transportation and land use with freight movement, and address outstanding issues as part of the action.
e. Minimize conflict caused by the growth of freight movement into and out of industrial areas in highly urbanized settings.
f. Promote policies and design standards that minimize congestion impacts on local streets caused by commercial delivery trucks, while maintaining economic support to businesses and services.
g. Promote the introduction of tolls during peak travel times for freight users to encourage off peak travel by trucks.

h. Encourage off-peak use by freight by providing signal priority for freight traffic during off-peak hours.
i. Consider introduction of intermodal freight transfer sites near urban centers and other measures to reduce the volume of heavy freight traffic on city streets, improve livability, and create employment opportunity.

Goal 19: Rail

Goal: Ensure the long-term viability and continued use of existing rail lines in the region for freight.

Policies:

a. Support appropriate short- and long-term opportunities for the potential shared uses of freight rail lines.
b. Facilitate other integration of transportation assets with existing rail corridors.
c. Use design techniques, ITS, and operations coordination to minimize potential conflicts between trains and other modes of transportation, and between trains and adjacent land uses.
d. Work with WSDOT's Rail Division to prioritize the acquisition of right-of-way threatened with abandonment in order to preserve these corridors for potential transportation use in the future.

Goal 20: Marine

Goal: Provide an appropriate level of facilities and services to meet the region's marine transportation needs.

Policies:

a. Maintain existing marine terminal facilities for waterborne freight movement.
b. Encourage coordination among all port districts and stakeholders to support consistency between adopted land use plans and long-range marine terminal development strategies, including adequate truck and rail access.
c. Consider long-term strategies for integrating maritime passenger service into the interdependent transportation system as alternatives develop.
d. Maintain and preserve existing auto and walk-on ferry service to ports and encourage new service where practical.
e. Consider incorporating information technology in scheduling of marine transportation that coordinates with other public transit mode technologies.

Goal 21: Aviation

Goal: Provide an appropriate level of facilities and services to meet the general aviation needs of residents and businesses in the region.

Policies:

a. Encourage coordination between port districts to support consistency between adopted land use plans of local jurisdictions (i.e., cities, counties) and long-range airport development strategies, to encourage land use compatibility in affected areas adjacent to the airport.
b. Maintain and upgrade regional airport assets for small jet and prop aircraft.
c. Support efforts to support regional passenger service at airports.
d. Develop a multimodal transportation system that better serves the needs of air travelers by including viable travel alternatives between local communities and regional airport facilities, and to and from SeaTac International Airport

3: Regional Transportation System

This chapter describes the main parts of the multimodal transportation system in the region. The transportation system covers a large area of northwest Washington State that includes the Kitsap and Olympic Peninsulas, located in the most northwestern portion of the state. The Peninsula RTPO recognizes the importance of a multimodal transportation system for the movement of people and goods. Regional transportation facilities managed by WSDOT include highways such as US 101 and SR 3, the western part of the nation's largest ferry service, and the Hood Canal Bridge.

Important transportation infrastructure and services are designated as Transportation Facilities and Services of Statewide Significance in state law.[3] These facilities provide and support transportation roles that promote economic and travel linkages. The state legislature declared the following transportation facilities to be of statewide significance:

- Highways of statewide significance as designated by the legislature under chapter 47.05 RCW
- Interstate Highway System
- Interregional state principal arterials including ferry connections that serve statewide travel
- Intercity passenger rail services
- Intercity high-speed ground transportation
- Major passenger intermodal terminals excluding all airport facilities and services
- Freight railroad system
- Columbia/Snake navigable river system
- Marine port facilities and services that are related solely to marine activities affecting international and interstate trade
- Key freight transportation corridors serving these marine port facilities
- High capacity transportation systems serving regions as defined in RCW 81.104.015

The Transportation Facilities and Services of Statewide Significance in the Peninsula region are discussed in this chapter.

Transportation facilities in Clallam County are shown in Exhibit 3-1. Transportation facilities in Jefferson County are shown in Exhibit 3-2. Transportation facilities in Kitsap County are shown in Exhibit 3-3. Transportation facilities in Mason County are shown in Exhibit 3-4.

[3] RCW 47.06.140: Transportation facilities and services of statewide significance - Level of service standards. https://app.leg.wa.gov/rcw/default.aspx?cite=47.06.140

Exhibit 3-1: Transportation Facilities in Clallam County

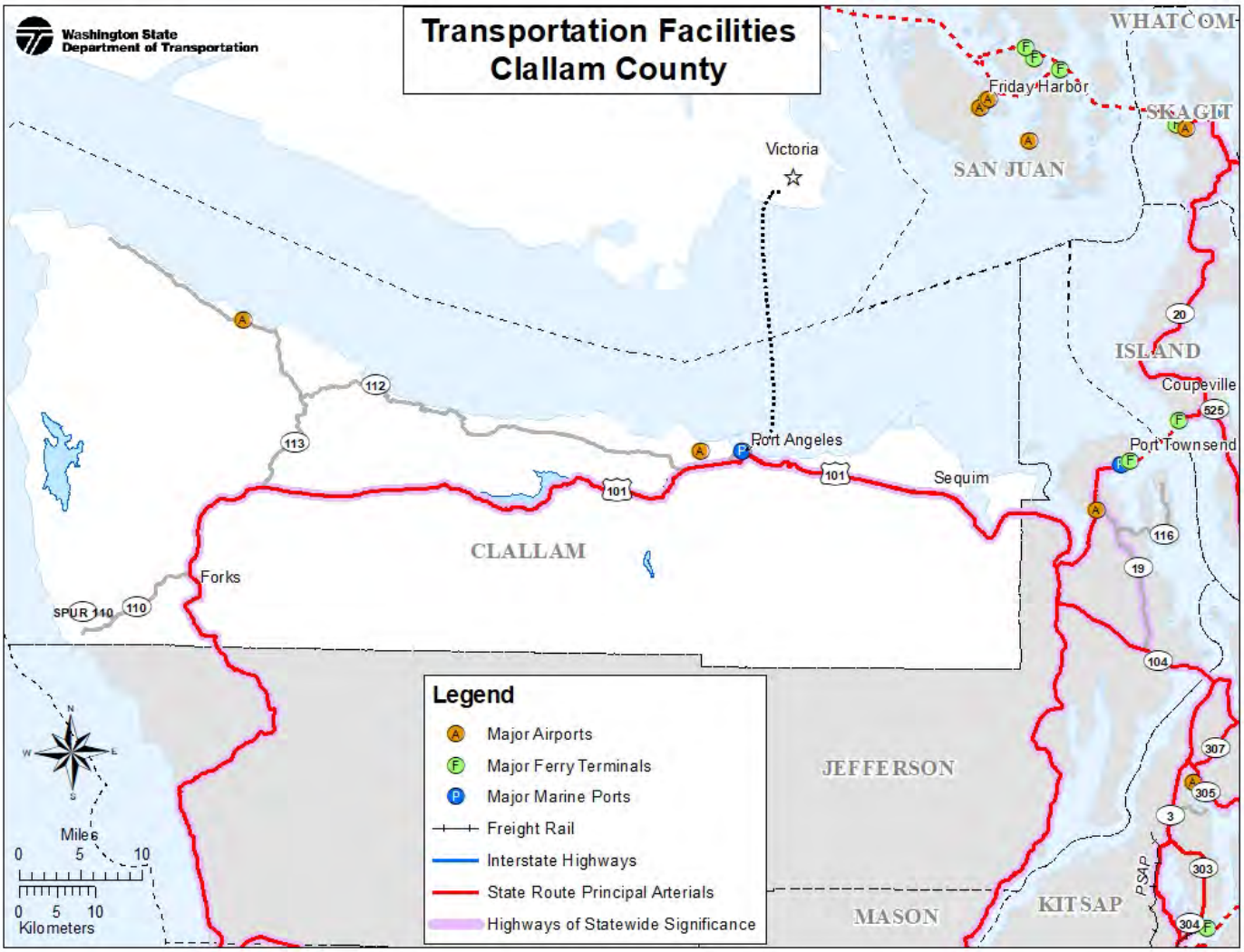


Exhibit 3-2: Transportation Facilities in Jefferson County

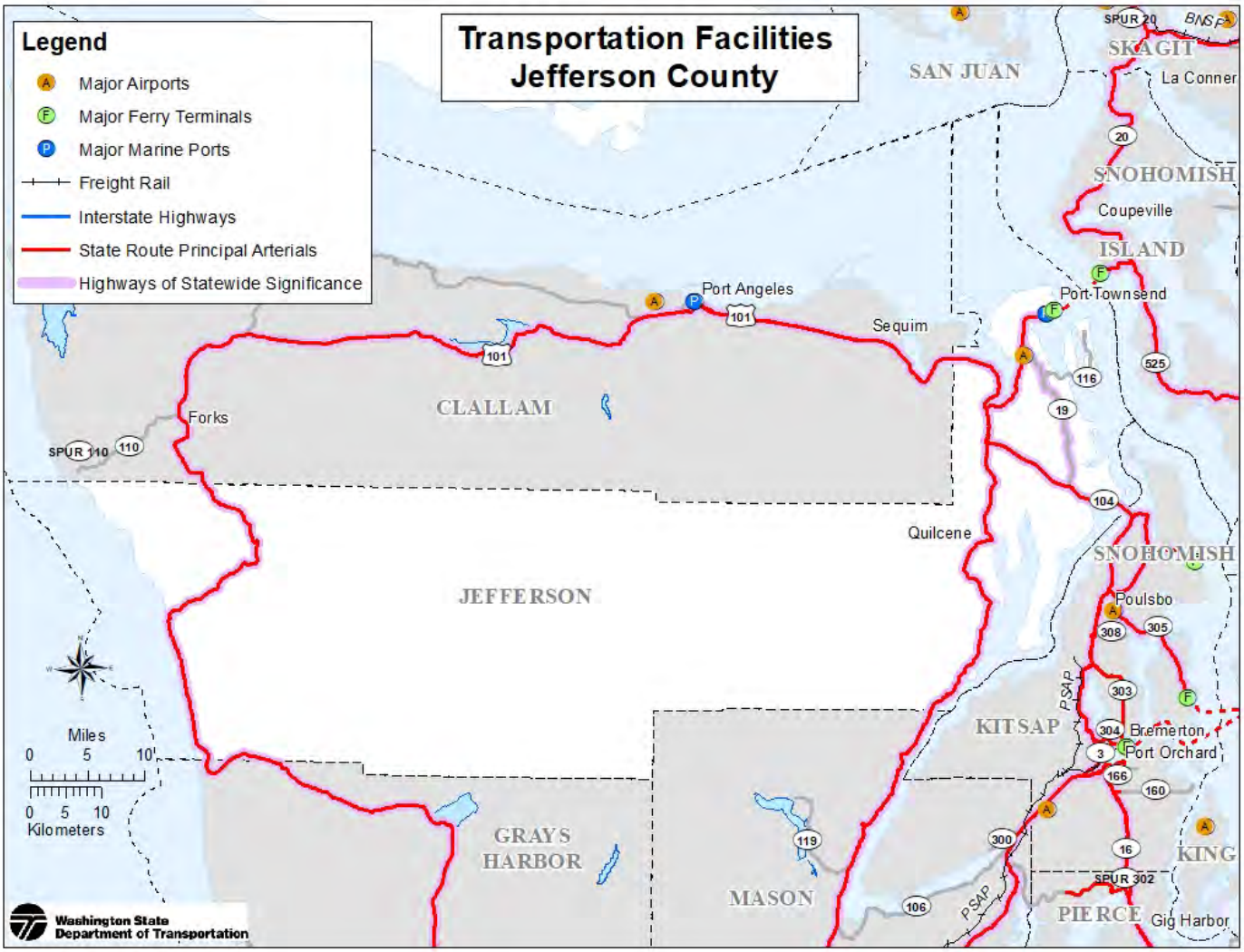


Exhibit 3-3: Transportation Facilities in Kitsap County

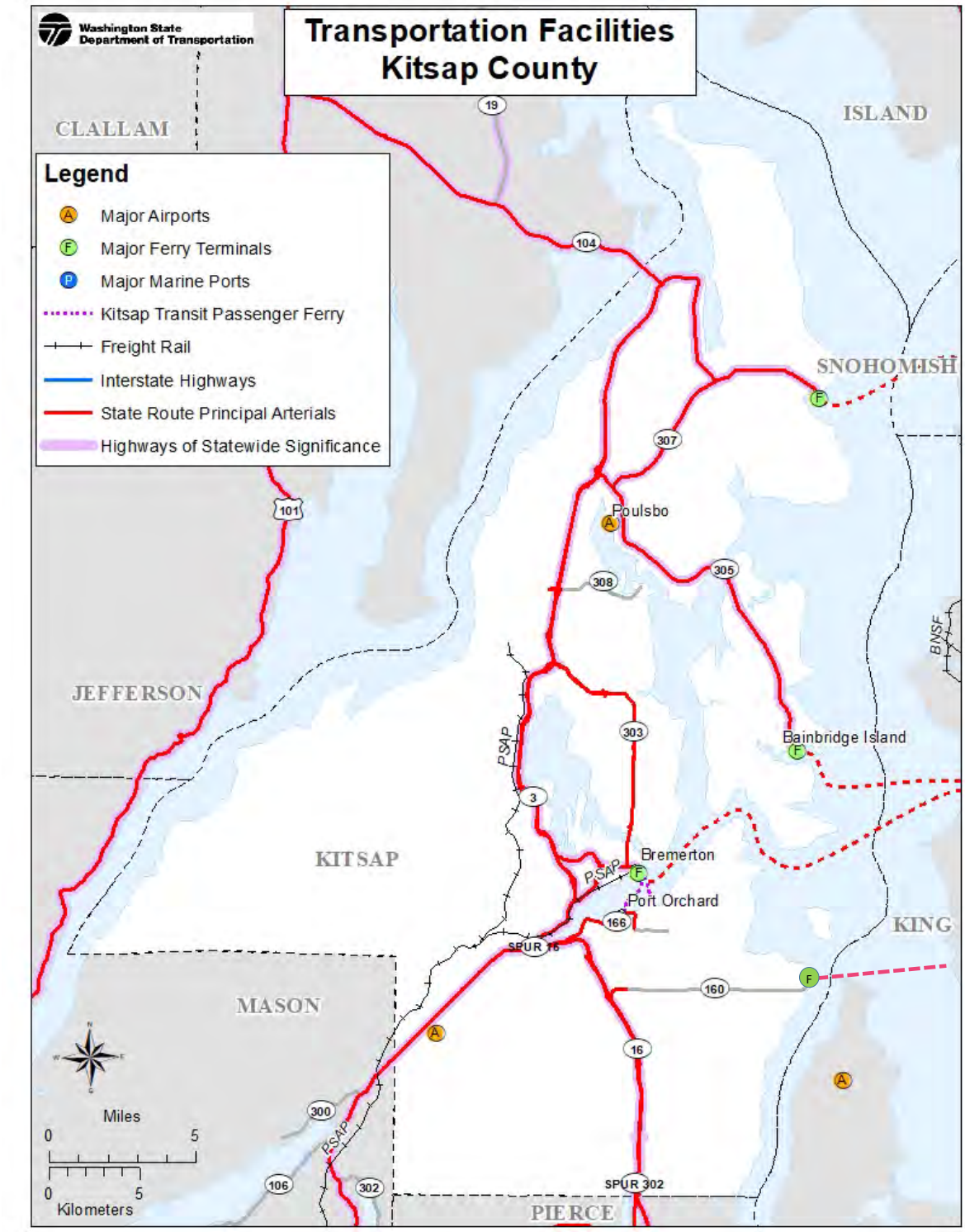
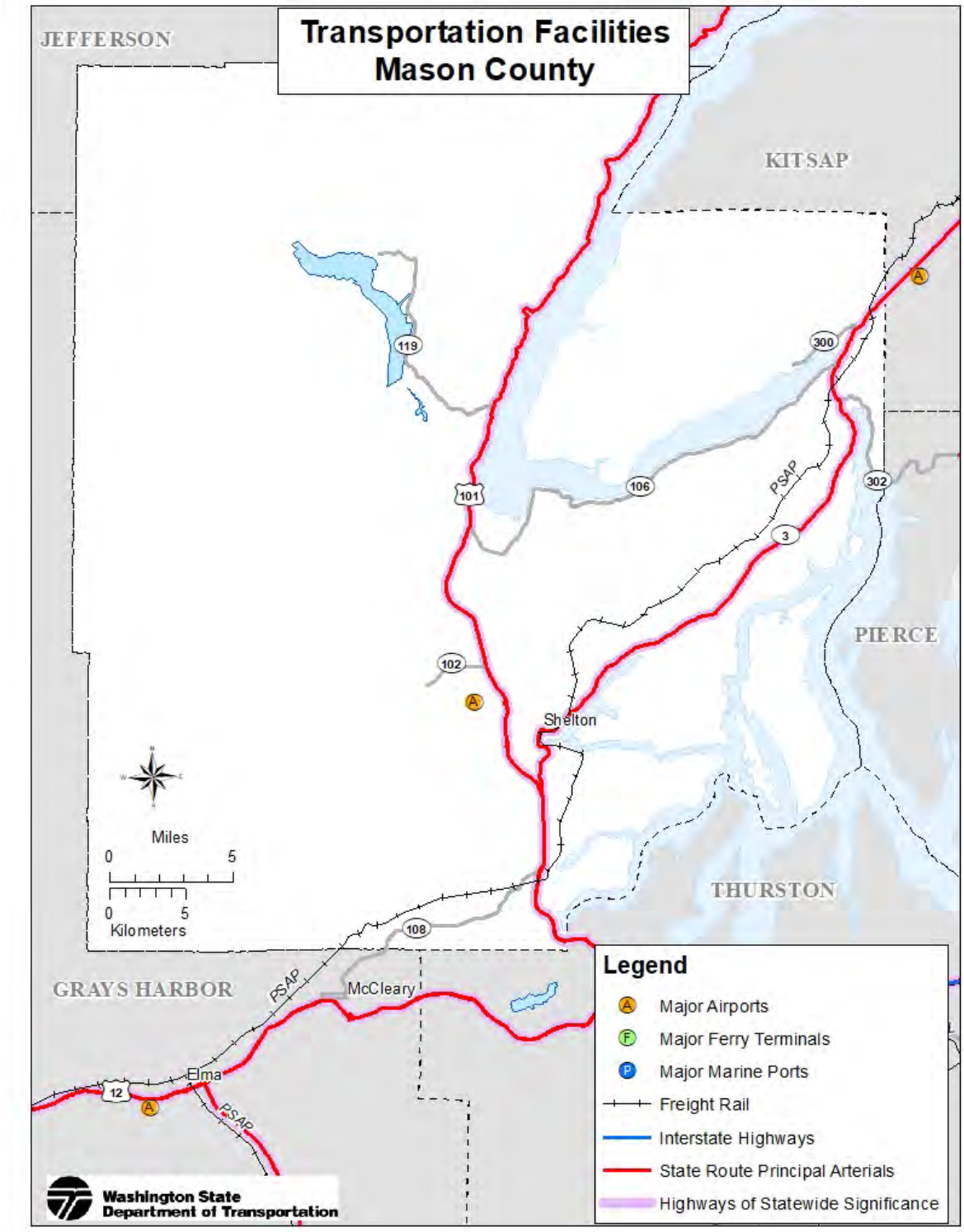


Exhibit 3-4: Transportation Facilities in Mason County



Highway System

The Washington State Highway System Plan is the state highway part of the Washington State Multimodal Transportation Plan. The Highway System Plan serves as the basis for the six-year highway program and the two-year biennial budget request to the State Legislature. WSDOT is dedicated to delivering a Highway System Plan that implements the Legislature's goals. This is done through the coordination and integration of specific parts from many statewide modal and program plans. The Highway System Plan is also aligned to the Washington Transportation Plan which outlines the policies adopted by the Washington Transportation Commission.

National Highway System

The National Highway System (NHS) is designated as a roadway important to the nation's economy, defense, and mobility. NHS routes include interstates, other principal arterials which provide access between an arterial and a major port, airport, public transportation facility, or other intermodal transportation facility; as well as designated routes roads important to the nation's economy, defense, and mobility. The NHS consists of NHS routes, Intermodal Facilities, and intermodal connector routes where travel from the NHS routes to the Intermodal Facilities is required. Routes designated as Strategic Highway Network (STRAHNET) by the Department of Defense also form part of the NHS. Eleven state routes within the region encompassing over 445 miles have been designated as NHS routes and over 850 miles of locally owned principal arterials. Exhibit 3-5 shows the local and state highway NHS mileage within the Peninsula RTPO region. The most current listing of NHS routes is available online. [4]

Exhibit 3.5: National Highway System mileage

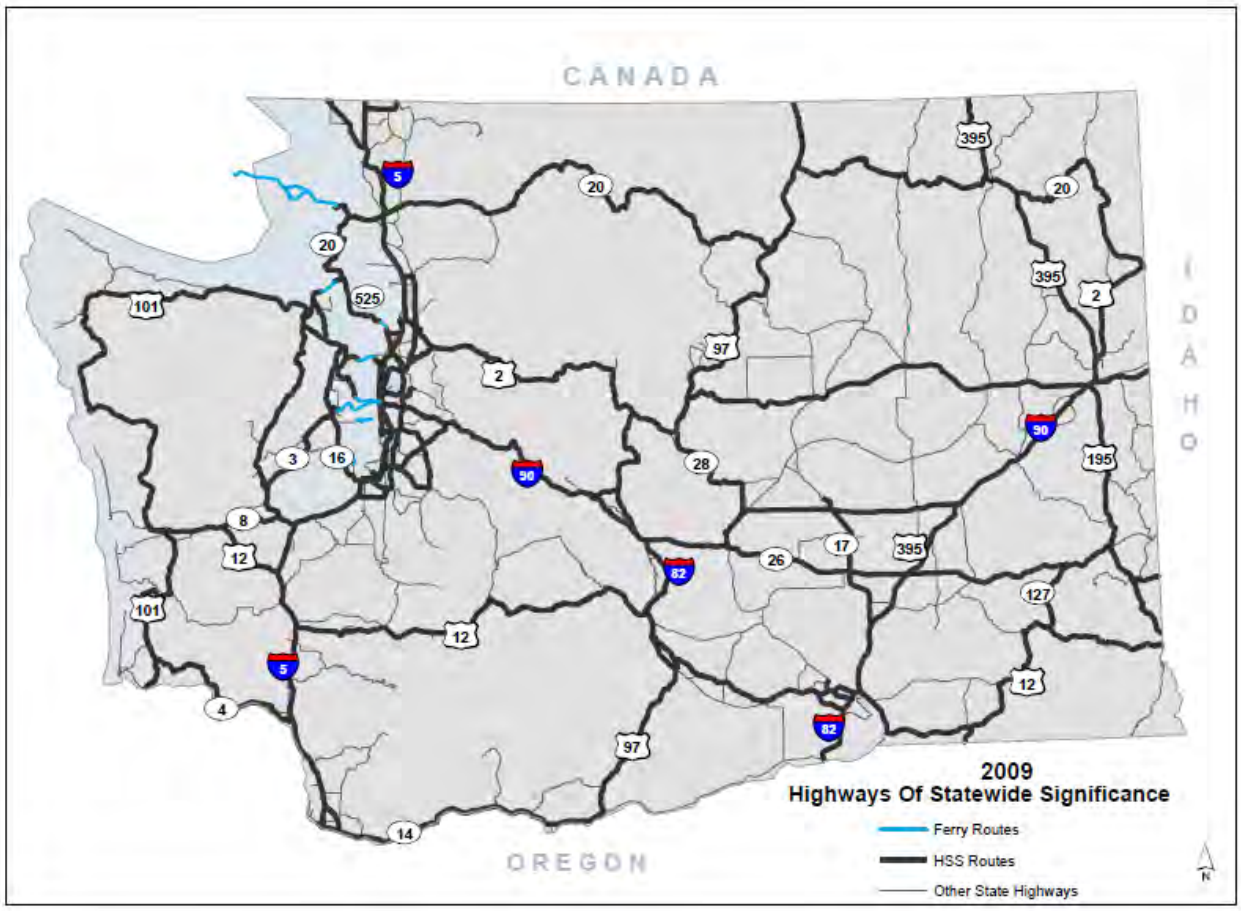
Area	Local NHS Roads (miles)	State Highway NHS Roads (miles)
Clallam	3	109
Jefferson	0	119
Kitsap	12	159
Mason	4	82
Total	**19**	**469**

Highways of Statewide Significance

Exhibit 3-6 shows the Highways of Statewide Significance[5], which includes the Interstate Highway System and other principal arterials that are needed to connect major communities in the state. This designation helps aid with the allocation and direction of funding.

[4] 2017 State Highway National Highway System Routes in Washington: https://www.wsdot.wa.gov/mapsdata/travel/hpms/NHSRoutes.htm
[5] Transportation Commission List of Highways of Statewide Significance https://www.wsdot.wa.gov/sites/default/files/2006/03/16/HSSlist2009mod2.pdf

Exhibit 3-6: Highways of Statewide Significance



Roadway Functional Classification

State highways provide a critical part of the transportation system in linking the region internally as well as to the rest of the state and nation. Many miles of state and federally owned and operated roadways also serve tribal reservations, state parks and national forest. In addition, there are many miles of county roadways in the region as well as roads that are operated and maintained by the cities. The infrastructure includes arterials, collectors, and local streets representing the bones of the Peninsula RTPO transportation network.

The Washington State Legislature in RCW 47.05.021 and the Federal-Aid Highway Act direct the WSDOT to analyze the entire state highway system to "subdivide", classify, and sub-classify all designated state highways according to their function and importance.

Functional classification is the grouping of highways, roads and streets by the character of service they provide and was developed for transportation planning purposes. Basic to this process is the recognition that individual routes do not serve travel independently in any major way. Rather, most travel involves movement through a network of roads. Comprehensive transportation planning, an integral part of total economic and social development, uses functional classification to determine how travel can be channelized within the network in a logical and efficient manner. Functional classification defines the part that any particular route plays in serving the flow of trips through a highway network.

Federal law (23 CFR 470) directs WSDOT the primary responsibility in Washington for developing and updating a statewide highway functional classification in rural and urban areas to determine functional usage of the existing roads and streets. WSDOT is to cooperate with responsible local officials, or appropriate federal agency in the case of areas under federal jurisdiction, in developing and updating the functional classification. Roadway functional classification is mapped and submitted to the Federal Highway Administration for approval and serves as the official record for federal-aid highways and the basis for designation of the National Highway System.

Under the functional classification process highways, roads, and streets are classified into groups having similar characteristics in providing mobility and/or land access. Arterials provide for the greatest degree of mobility of large volumes of long-distance traffic, with minimal direct access. Collectors generally provide equal emphasis upon mobility and land use accessibility. While local access, emphasizes abutting property needs and essentially discourages long distance travel. Exhibit 3-7 depicts the functional classification for state highway miles. There is a total of 794 miles of state highways in the Peninsula RTPO region. Principal arterials make up 274 miles of the state highways, with local access following at 267 miles, major collector highway at 132 miles, 82 miles of freeways or expressway, and 38 miles of minor arterial roadways.

Exhibit 3-7: Functional Classification for State Highways

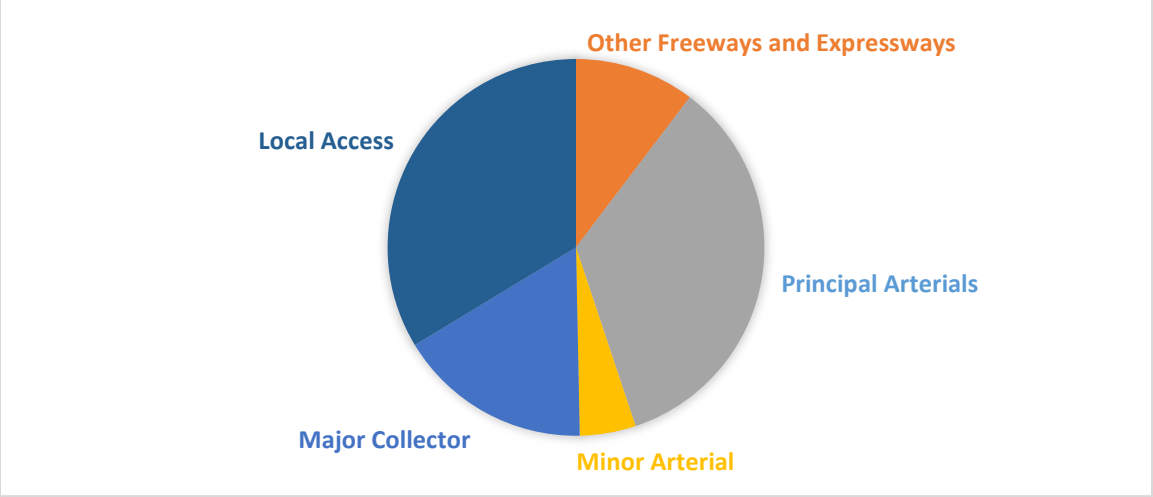


Exhibit 3-8 depicts the functional classification for county roadway miles. There is a total of 2,141 county- owned roadways in the Peninsula RTPO region. Local access type roadways are the majority type of roadway with 1,292 miles followed by major collector type roadways with 388 miles, 343 miles of minor collector type roadways, 112 miles of minor arterial type roadways, and 6 miles of principal arterial type roadways.

Exhibit 3-8: Functional Classification for County Roads

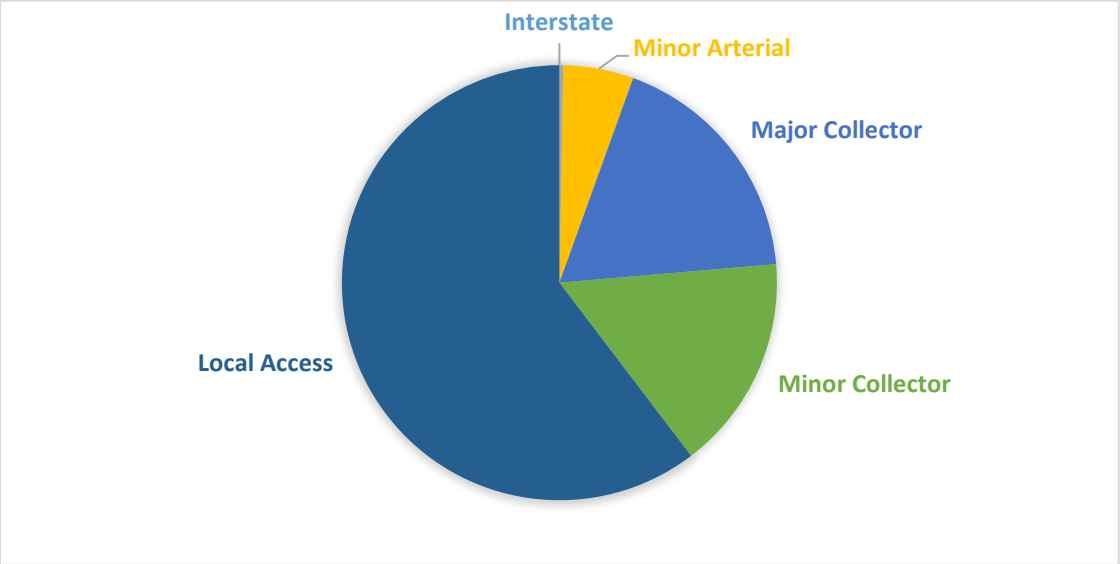


Exhibit 3-9 depicts the functional classification for city streets. There is a total of 737 miles within city limits in the Peninsula region. Local access roads are the majority with 508 miles followed by major collector type roadways with 129 miles, minor arterials with 84 miles, principal arterial roadway types with 11 miles, and minor collector type roadways with 6 miles.

Exhibit 3-9: Functional Classification for City Streets

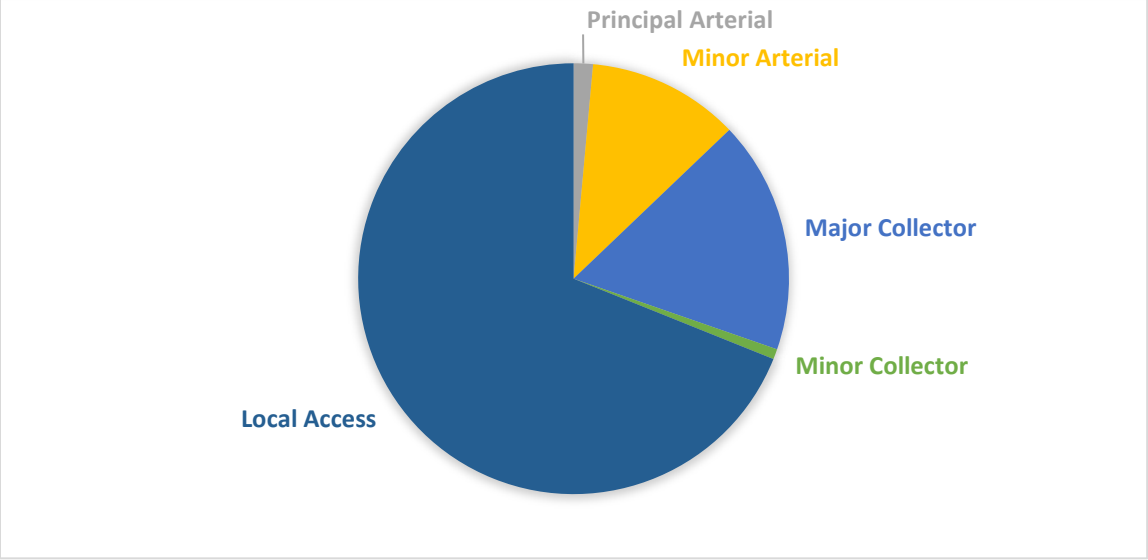


Exhibit 3-10 shows functional classification for other roadway miles in the Peninsula region including tribal roads as well as roads on state and federal lands. These roadways owned and operated by tribes, state, and federal land management agencies total 1,409 miles, accounting for almost 28 percent of overall roadway miles in the region. These roadways include 1,325 miles of local access roads followed by 50 miles of minor collectors and 34 miles of major collectors.

Exhibit 3-10: Functional Classification for Other Roadway Miles

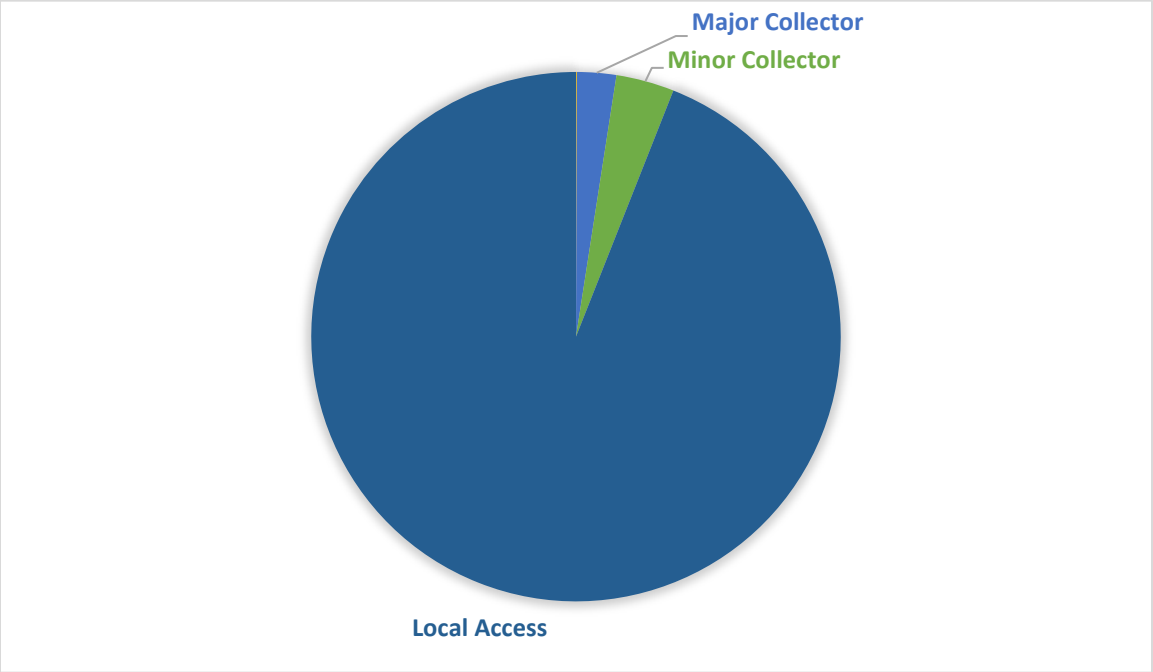


Exhibit 3-11 details the urban and rural road mileage[6] within the Peninsula RTPO region.

Exhibit 3-11: Roadway Functional Classification Mileage by County

County	Urban Roads Mileage			Rural Roads Mileage			Total System Mileage
	Access	Arterial	Total	Access	Arterial	Total	
Clallam	83.01	15.09	98.10	270.27	120.29	390.56	488.66
Jefferson	5.14	0.00	5.14	255.67	138.48	394.15	399.29
Kitsap	412.15	167.38	579.53	195.36	140.06	335.41	914.94
Mason	27.75	9.56	37.31	316.06	263.21	579.27	616.57
Region Total	**528.05**	**192.03**	**720.08**	**1,037.36**	**662.04**	**1,699.39**	**2,419.46**
State Total	4,447.23	1,942.26	6,389.49	20,389.49	12,391.28	32,780.29	39,169.79

County Roads

In rural areas, county roads provide mobility and access. Exhibit 3-12 shows the County Road mileage by type.

Exhibit 3-12: County Road Mileage

Area	Urban Roads			Rural Roads			System Centerline Total	Paved Arterial C/L Miles	Paved Arterial Lane Miles	Unpaved C/L Miles
	Access	Arterial	Total	Access	Arterial	Total				
Clallam	83.01	15.09	98.10	270.27	120.29	390.56	488.66	135.19	269.74	3.15
Jefferson	5.14	0.00	5.14	255.67	138.48	394.15	399.29	130.34	261.30	73.06
Kitsap	412.15	167.38	579.53	195.36	140.06	335.41	914.94	307.44	622.31	4.52
Mason	27.75	9.56	37.31	316.06	263.21	579.27	616.57	263.17	526.27	44.78
Region Total	**528.05**	**192.03**	**720.08**	**1037.36**	**662.04**	**1699.39**	**2419.46**	**836.14**	**1679.62**	**125.51**
State Total	4,447.23	1,942.26	6,389.49	20,389.49	12,391.28	32,780.29	39,169.79	12,795.90	25,895.30	13,437.96

[6] WSDOT's Esri Arc GIS Arc Map version 10.6 functional classification map layer

Public Transportation

In rural areas, public transportation is critical to connecting people to jobs, education, shopping, and health services. The region is serviced by both public and private transit providers. Regional public transit providers are Clallam Transit, Jefferson Transit, Mason Transit, and Kitsap Transit. Public transportation providers provide fixed-route bus, ride share, and deviated fixed-route bus services for use by the general public. Most of the service providers also extend their service beyond their county lines into adjacent counties and nearby cities. For example, Mason Transit extends service from Mason County into Kitsap County to the northeast. It also provides service connections to transit service in Thurston County to the east. Besides the four public transit agencies, there are several tribal, private, and nonprofit transportation providers that provide transportation service within the region. These smaller, private transit companies help to supplement the work of the larger public transit agencies by specializing in providing transit services.

Major Passenger Intermodal Terminals

Within the Peninsula RTPO region, major ferry terminals are featured in the following communities: Port Angeles, Port Orchard, Port Townsend, Bremerton, Southworth, Kingston, and Bainbridge Island. These major ferry terminals are featured in Exhibits 3-1, 3-2, and 3-3.

Clallam Transit System

Clallam Transit System (CTS) provides transit services throughout Clallam County. CTS has administrative and operations offices in Port Angeles and a maintenance facility located in a separate building on the property. A multi-use transportation center, small vehicle storage and light maintenance facility leased from the Quillayute Valley School District are provided in Forks. Service became operational in 1980. CTS service routes are shown in Exhibit 3-13, as published by Clallam Transit.[7]

CTS provides fixed-route, paratransit, Dial-a-Ride, and vanpool services throughout Clallam County. Fixed-route service is provided by 14 routes on weekdays between 5:13 a.m. and 10:12 p.m., by 11 routes on Saturdays between 7:00 a.m. and 8:59 p.m., and on one route on Sundays between 3:15 p.m. and 8:10 p.m. These routes link all the cities, unincorporated areas, and tribal nations in Clallam County. Route 123, The Strait Shot, is a commuter bus service connecting Port Angeles and Sequim with Poulsbo and the Bainbridge Island Ferry Terminal in Kitsap County.

CTS provides wheelchair accessible, origin-to-destination paratransit service with help for elderly and disabled persons who cannot use the fixed-route service. Within ¾-mile of fixed routes, service is provided for the same fare as a comparable fixed-route trip. In other areas of Clallam County, paratransit service can be arranged in advance based on a fee for each mile beyond the 3/4 –mile ADA paratransit boundary.

Dial-A-Ride service is provided to the general public in the Dungeness Valley area, specifically north of US 101, east of the junction with Old Olympic Highway and west of Blake Avenue in Sequim.

[7] Clallam Transit. http://www.clallamtransit.com/Routes-Schedule

Exhibit 3-13: Clallam Transit System



Twenty-four vanpool groups operate up to seven days a week and currently depart from Port Angeles and Forks to the Clallam Bay and Olympic Corrections Centers, Coast Guard stations at La Push and Neah Bay, and to various employers in Clallam and Jefferson Counties participating in the West End Job Lift Program operated by Olympic Community Action Programs. Each vanpool group sets its own schedule and pays a monthly mileage fee to cover the cost of operating and maintaining the vehicle and drivers' safety training which is supplied and supported by Clallam Transit.

Service connections and coordination

CTS connects with Jefferson Transit at the Sequim Transit Center for service to eastern Jefferson County and at the Forks Transportation Center and Rest Stop for service to western Jefferson County. CTS contributes annually to Jefferson Transit's Olympic Connector service between Forks and Amanda Park. CTS also links with Jefferson Transit's paratransit trips when they can be integrated into CTS's fixed-route system.

Beginning June 17, 2017, CTS implemented service from Port Angeles via Sequim to Bainbridge Island located within Kitsap County. This regional express service makes this connection twice per day Monday through Saturday and once on Sunday. This route completes travel east of Port Angeles and allows travelers enhanced access to and from the Seattle area. Connections with other transit agencies may be made at Discovery Bay (Jefferson Transit), North Viking Transit Center (Kitsap and Jefferson Transits), SR 305 and Suquamish Way (Kitsap Transit), and Bainbridge Island Ferry Terminal (Kitsap Transit and WSF).

CTS coordinates service with tribal transportation planners for transit connections in the county: Makah Transit in Neah Bay; Quileute Community Shuttle in Forks and La Push; Lower Elwha Transit in Port Angeles; and with Jamestown S'Klallam for contracted service to Blyn and the Jamestown Campus.

Service is provided to all of the major employment centers and public middle and high schools in CTS's service area, as well as to Peninsula Community College campus and satellite facilities in Port Angeles, Sequim and Forks.

CTS operates service to seven Park-And-Ride lots: US 101 at Deer Park Rest Stop; State Route 112 at Peters Road; US 101 at Laird's Corner; US 101 at Sappho; Sequim Transit Center; Gateway Transit Center; and Forks Transit Center.

Jamestown S'Klallam Tribe

The Jamestown S'Klallam Tribe works directly with Clallam Transit System to provide added service to the east end of Clallam County. The Tribe's Blyn Campus is the site of Jamestown Campus Route #50 which runs four times per day between the transit center in Sequim and Blyn. With this expanded service, transit riders can access eastern Clallam County on a regular basis, seven times per day. The service is part of Clallam Transit System's standard route schedule and is available to both Tribal and non-Tribal riders. This route is used by Tribal citizens who access Tribal services and employment, by patrons to the Jamestown S'Klallam Dental Clinic, by Tribal governmental, resort, and dental clinic staff. The dental clinic is in Blyn at the Tribal governmental campus and is a stop on the route. The non-Tribal population makes use of the service as well.

The route was originally funded with a Federal Transit Administration discretionary grant in 2010. The Tribe was successful in getting more grant funding for this route through 2022; the future of this route is subject to funding availability.

Jefferson Transit

Jefferson Transit Authority (JTA) provides fixed route buses, paratransit, vanpool, and rideshare transit services throughout Jefferson County. Jefferson Transit has a base supporting operations, maintenance, customer service, administrative offices, and a Park-and-Ride facility at 63 - 4 Corners Road, in Port Townsend. Jefferson Transit also has a customer service and Park-and-Ride facility located at 440 12th Street in Port Townsend. West End transit service operates out of a facility leased from the Quillayute Valley School District in Forks. Jefferson Transit became operational in 1981, as voters approved to establish the agency and subsequent sales tax levy revenue. Exhibit 3-14 shows the system map as published by Jefferson Transit.[8]

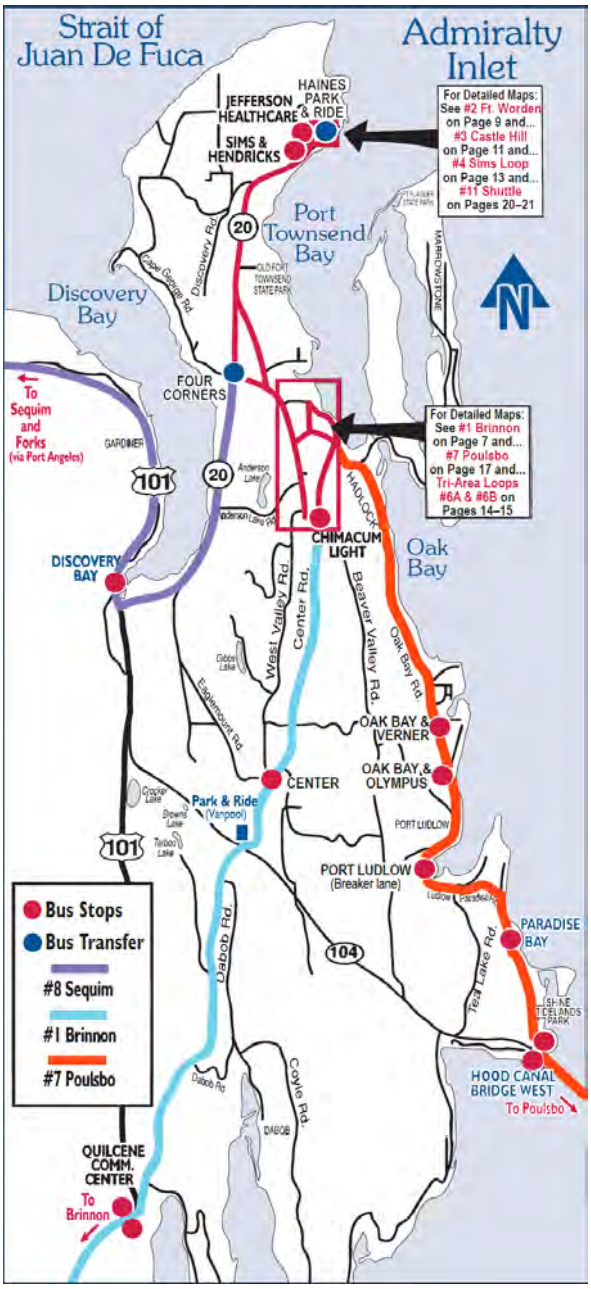
Jefferson Transit provides a variety of public transportation services that include fixed-route, route deviation, and vanpool, with both regional and intercity bus connections. In 2017, eight fixed-routes (including deviated fixed-routes) operated Monday through Friday from approximately 6:00 a.m. to 8:00 p.m.; all routes operated on Saturdays on a slightly reduced schedule. Jefferson Transit Authority uses the Viking Transit Center for Route #7, uses the Sequim Transfer Center for Route #8, and uses Triton Cove for Route 1. These routes ensure that the Olympic Loop service continues with Kitsap Transit, Clallam Transit, and Mason Transit.

Service connections and coordination

Jefferson Transit operates route-deviated services south of Highway 104 in Eastern Jefferson County and between Forks and Amanda Park, on US 101 in Western Jefferson County Monday through Saturday. ADA paratransit service, Dial-A-Ride, is provided by Jefferson Transit. Service levels and geographic coverage provide full compliance with federal ADA complementary paratransit regulations. Jefferson Transit travels beyond the ADA ¾ mile requirement by providing one-day per week service to Kala Point, Marrowstone Island, and Cape George.

[8] Jefferson Transit. https://jeffersontransit.com/maps-schedules/schedules/

Exhibit 3-14: Jefferson Transit System



Jefferson Transit connects passengers to major hubs six days a week, Monday through Saturday. The shuttle buses in Port Townsend provide frequent connecting service to the Port Townsend/Coupeville Washington State Ferry terminal. Jefferson Transit connects with Kitsap Transit in Poulsbo, Clallam Transit in Sequim; and Mason Transit at Triton Cove State Park. The Jefferson Transit Olympic Connection, a 64-mile route that travels between Forks and Amanda Park, links Grays Harbor Transit with Clallam Transit and Jefferson Transit. Through these connections, passengers can get to medical specialists in the urban areas, catch a flight at Sea-Tac International Airport or a bus at the Seattle Greyhound terminal. The economy benefits from the many travelers who use transit to get to Victoria BC, the Olympic Discovery Trail, the Pacific Beaches, and other locations on the Olympic Peninsula. Jefferson Transit maintains excellent coordination with the Olympic Connection.

Jefferson Transit coordinates its routes to provide service to educational institutions such as the Port Townsend public schools, Chimacum High School, Quilcene High School, and to Peninsula College in Port Townsend and Port Angeles via Clallam Transit. It also connects to the Washington State University Cooperative Extension in Port Hadlock. Life services are also incorporated into the routes such as the Port Townsend Food Bank, Jefferson County Courthouse, Jefferson County Library, Jefferson County Hospital, and various grocery stores. Routes also stop at popular destinations such as Fort Worden, Jefferson County Fairgrounds, and Dosewallips State Park. Jefferson Transit serves and connects Jefferson County to Jamestown S'Klallam campus multiple trips per weekday and twice on weekends.

Jefferson Transit's 4 Corners Park-and-Ride lot in Port Townsend serves as a connection point for the Greyhound Dungeness Line and the Olympic Discovery Bicycle and Pedestrian Trail. All of Jefferson Transit fixed route vehicles are equipped with bicycle racks.

Kitsap Transit

Kitsap Transit provides the primary public transit service in Kitsap County. The Bremerton-based system operates fixed route bus service, Dial-A-Ride services, a vanpool system, Worker/Driver services, and a

foot ferry. Kitsap Transit transports more than 3.5 million riders a year, backed by a sales tax of 0.8 percent for transit and 0.3 percent sales tax for passenger-only ferries. Kitsap Transit began providing services in early 1983. Kitsap Transit is in the process of adjusting its bus routes and improving service frequency with expanded hours to improve access to employment, services, etc. The first of the frequency improvements will connect Silverdale and Bremerton. Kitsap Transit's administrative, maintenance, and operations facility are located in Bremerton. Exhibit 3-15 shows the system map[9] as published by Kitsap Transit.

Kitsap Transit operates 40 fixed routes Monday through Friday. Of those, 14 are commute-hour only routes, timed to meet ferries. During commute hours many of these all-day routes are also scheduled to meet Washington State Ferries services at Bremerton, Southworth, and Bainbridge Island. The headways for routes that operate all day are usually one hour. Weekday service operates from 4:00 a.m. to 9:30 p.m., area dependent.

ACCESS Services provides door-to-door or curb-to-curb transportation to older adults and people with disabilities, who are unable to use the fixed route transit system. Trip purposes include medical appointments, shopping, social visits or any other destination within Kitsap County. ACCESS also provides general public Dial-A-Ride in portions of Kitsap County. The ACCESS VanLink program provides local social agencies with vans to transport their clients. This program gives agencies the ability to schedule client outings, work programs, daycare, and training as their schedule dictates. VanLink gives social service agencies more control over scheduling client outings or work programs, since each agency operates their vans with their own staff.

The vanpool program provides service for commuters, allowing them to ride together to their workplace. Vanpool rates are determined by the size of the van, the number of miles traveled on the vanpool route and the number of passengers on board.

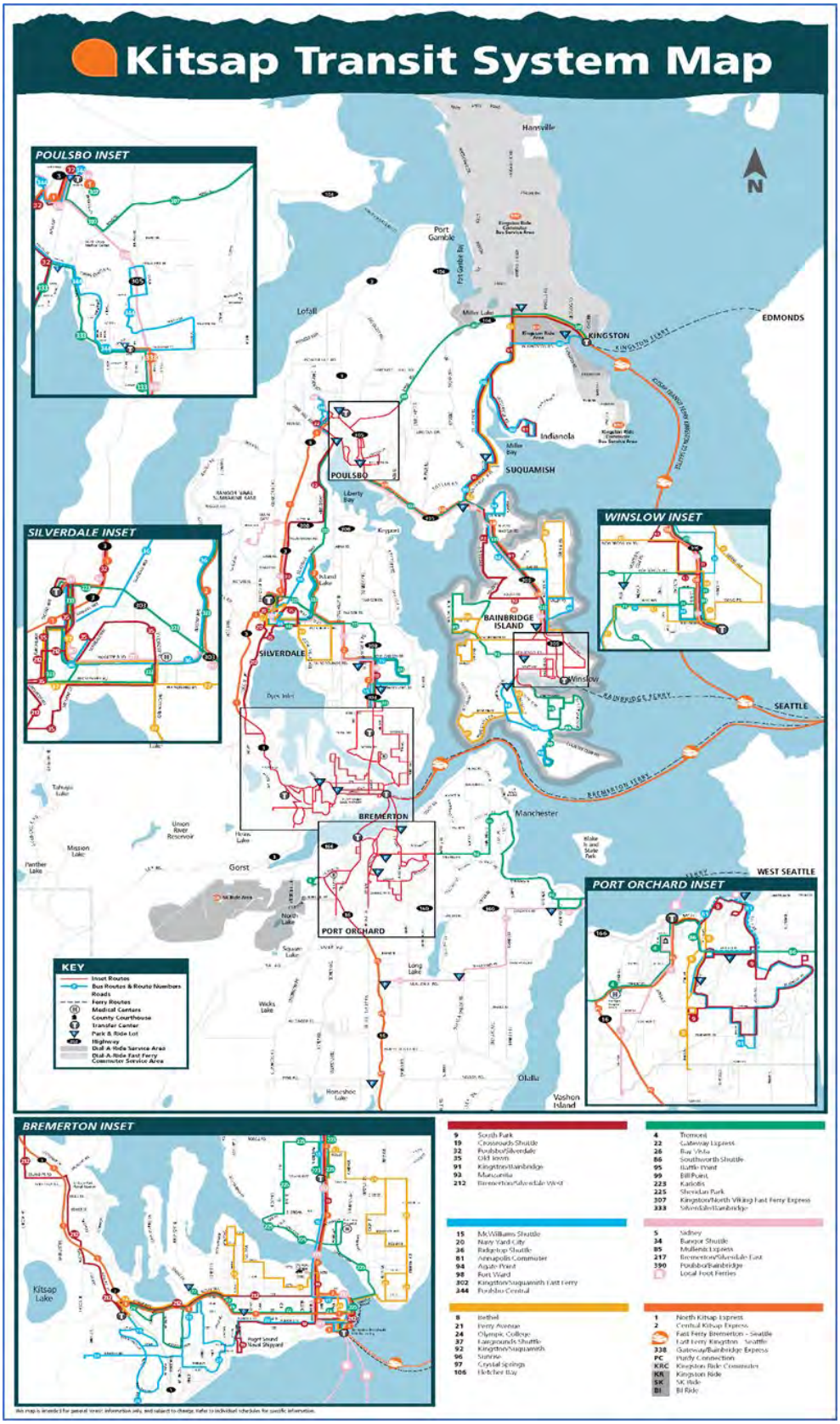
The Worker/Driver program offers another commuting option; full-time employees of the military facilities drive the buses. The buses operate much like a large carpool. The driver boards their bus near their home in the morning and travels to work, picking up co-workers along the way. After work, they return to their bus with their co-workers and drop them off on their drive home. Passengers may pay their fare with cash, ORCA, a Worker/Driver monthly pass, or a payment via the Department of Navy Transportation Incentive Program.

Kitsap Transit operates a Foot Ferry (passenger-only service) between Bremerton and Port Orchard and between Bremerton and Annapolis. In 2018, the ferry service carried 500,000 riders. The Bremerton-Port Orchard route runs from 4:30 a.m. to 9:00 p.m. on weekdays and from 8:30 a.m. to 8:00 p.m. on Saturdays. The Bremerton-Annapolis route operates during peak hours on weekdays, from 6:00 a.m. to 7:50 a.m., and from 3:30 p.m. to 6:00 p.m.

Kitsap Transit launched fast-ferry service[10] in 2017 on the route between Bremerton and Seattle. The passenger-only service operates from 5:25 a.m. to 8:15 p.m. on weekdays. Kitsap Transit launched fast-ferry service in 2018 on the route between Kingston and Seattle. This passenger-only service operates

[9] Kitsap Transit. http://www.kitsaptransit.com/system-map
[10] Kitsap Transit. http://kitsaptransit.com/service/routed-buses/kingston-ride-fast-ferry-commuter

Exhibit 3-15: Kitsap Transit System Map



from 5:25 a.m. to 7:24 p.m. on weekdays. Kitsap Transit will be providing added Fast Ferry service over the next few years including service from Southworth by 2022. **Service connections and coordination** The following locations provide connections to transportation services:

- Bremerton Transportation Center provides connections to Washington State Ferries, Kitsap Transit Foot Ferry, Mason Transit Authority, and other Kitsap Transit bus routes.
- Bainbridge Island Ferry Terminal provides connections to Washington State Ferries and other Kitsap Transit bus routes.
- Kingston Ferry Terminal provides connections to Washington State Ferries and other Kitsap Transit bus routes.
- Southworth Ferry Terminal provides connections to Washington State Ferries.
- Port Orchard Ferry Dock provides connections to Kitsap Transit's Foot Ferry and other Kitsap Transit routes.
- Annapolis Ferry dock with connections to Kitsap Transit's Fast Ferries.
- East Bremerton Transfer Center provides connections to other Kitsap Transit bus routes.
- West Bremerton Transfer Center provides connections to other Kitsap Transit bus routes.
- Silverdale Transfer Center provides connections to other Kitsap Transit bus routes.
- North Viking Transit Center with connections to other Kitsap Transit bus routes, Clallam and Jefferson Transits.
- Purdy park & ride lot in Pierce County provides connections to Pierce Transit routes 100 and 102.
- Kitsap Transit's Fast Ferry arrival location in Seattle is a short walk from King County's Bus Route 12 serving the Seattle Capitol Hill area.

Kitsap Transit also provides service to many of the middle and high schools in its service area, as well as the Bremerton and Poulsbo branches of Olympic College. All but two of the Worker/Driver buses and many vanpool vans serve Puget Sound Naval Shipyard/Naval Base Kitsap. Other vanpools serve Naval Base Bangor along with two Worker/Driver buses.

The Bainbridge Island Ride service started in June 2014. The service provides curb to curb Dial-A-Ride service to the general public. It operates Monday-Friday from 9:30 a.m. to 3:20 p.m. and Saturdays from 10:34 a.m. to 3:55 p.m.

The South Kitsap Ride service commenced in 2015. It offers an on-demand style of bus service that uses both traditional call-in requests and an application that can be downloaded to a phone or computer to request rides in the McCormick Woods area of Port Orchard, parts of Bremerton and the County. The service offers connections to Routes 4 and 5.

Kingston Ride[11] services began operation in June 2017. The service is based upon a similar model as the South Kitsap Ride bus service. The Kingston Ride will offer connections to WSF ferries at Kingston and Kitsap Transit routes #91 and #92 serving Bainbridge Island, Suquamish and Port Gamble. Kingston Ride[8] and Kingston Ride commuter service[9] serves the tribal land on weekdays. The Kingston Ride service is an example of rural demand response service.

[11] Kitsap Transit. http://kitsaptransit.com/service/routed-buses/kingston-ride#

Lower Elwha Klallam Tribe

Lower Elwha Klallam Tribe's Elwha Transit provides fixed route service three times daily via a one-hour ride connecting Bluffs, Heights, and Valley housing areas with the Elwha Health Clinic and Klallam Counseling Service, Justice Center, Social Services, Education, Tribal Center, Child Care, and the Laird Road Park-and-Ride lot. Elwha Transit provides about 1,200 rides per year connecting residents to Tribal services and activities, family and friends; and regional transit service via Clallam Transit System.

Clallam Transit System provides service to the Elwha Valley seven times per day on Monday through Fridays, and four times on Saturdays with direct access to the Gateway Center Port Angeles; and service from Elwha Heights to Port Angeles (eastbound) twice a day, Monday through Saturdays and westbound service from Port Angeles to Elwha Heights four time per day during the week and twice on Saturdays. Currently, Tribal Temporary Assistance to Needy Families provides 20 Clallam Transit bus passes per month to clients who use the bus to get to appointments.

Makah Tribe

Makah Public Transit provides deviated fixed-route service to the general public, elders, and disabled passengers from various community subdivisions throughout the Makah Reservation. The service operates year-round, with the exception of holidays and weekends, five days a week, from 7:00 a.m. through 9:35 p.m. The targeted population for the transit service includes youth, older adults and disabled populations, along with the general public. Makah Public Transit provides a curb-to-curb Paratransit service for the elderly and disabled each weekday from 10:00 a.m. to 11:30 a.m. A Senior Citizens Program provides transportation to cultural or leisure events off-reservation for those 50 years or older. Makah Public Transit connects four times daily Monday through Friday with Clallam Transit in Neah Bay for service into Port Angeles, Forks, and the rest of the Olympic Peninsula. On a limited basis, the Makah Health Program provides transportation for Tribal members who may have off-reservation medical appointments in the Clallam Bay, Forks, Port Angeles, Sequim, or the Seattle area.

Mason Transit Authority

Mason Transit Authority provides accessible public transportation services throughout Mason County with a combination of fixed-route, route deviation, and demand response (Dial-A-Ride) service, as well as coordinated volunteer transportation. Service connects the city of Shelton, Hoodsport, Grapeview, Allyn, Belfair, the native Tribal reservations of the Skokomish and Squaxin people; other commuter services are provided beyond the county to Olympia, Brinnon, and Bremerton. The agency also provides general public Dial-A-Ride service, operates a vanpool fleet, a Worker/Driver program that provides commuter service to the Puget Sound Naval Shipyard, volunteer driver program for senior transportation, and a community van program. Service became operational in 1992. Exhibit 3-16 shows the system map[10] as published by Mason Transit Authority.

In June 2003, Mason Transit Authority purchased a facility to serve as the central base of operations located on Johns Prairie Road in Shelton. Administration staff and operations employees providing scheduling, dispatching, and driving began occupying the new facility in November 2003. Site and facility improvement projects included the renovation of Building 4 for maintenance operations in 2004, and the addition of a fueling station in 2009.

In May 2006, Mason Transit Authority purchased the Shelton National Guard Armory with the goal of converting the facility into a multimodal transit center and community resource center. The facility

became fully operational in April 2015 and serves as a transportation information and transfer center and destination for persons seeking human and social service programs.

Mason Transit Authority operates 10 fixed routes in its service area[12], including the following transportation services:

- Routed service that has scheduled service going to the same locations at the same time on a regular basis
- Route deviation on most routes that allows a limited distance deviation off of the regular bus route for those who experience difficulty getting to bus stops
- Dial-A-Ride service that is available for customers who experience difficulties using regular routed service, and
- Link routes which is Dial-A-Ride service that is limited to a geographic area and may be limited to time of day or day of week.

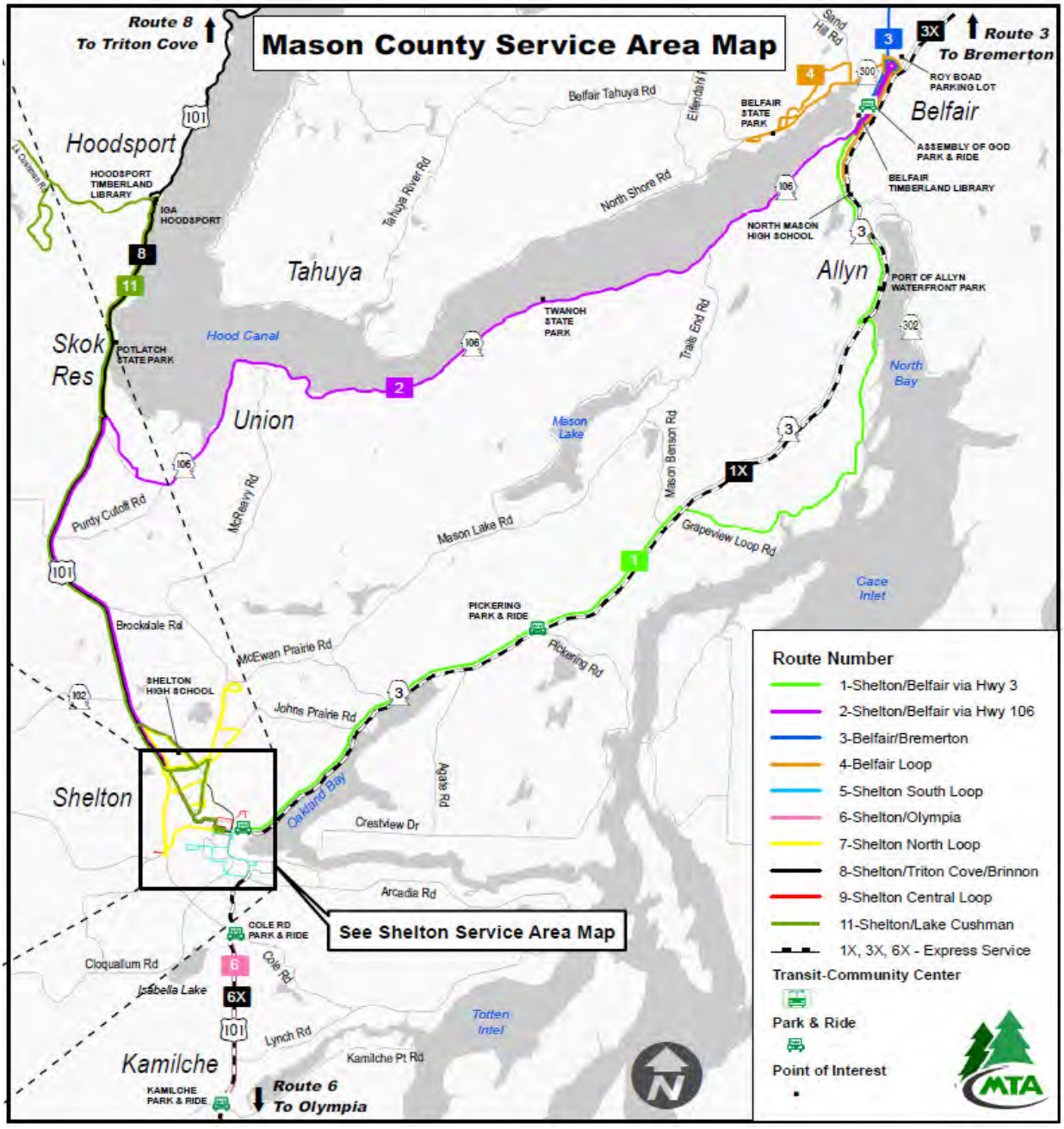
Service connections and coordination
Scheduled connections are made at the Kamilche Transit Center, Olympia Transit Center, the Bremerton Transportation Center, and the Triton Cove State Park which, in turn provide access to State ferries, AMTRAK and Greyhound bus service plus the following neighboring transit systems: Kitsap Transit, Jefferson Transit, Squaxin Island Transit, Intercity Transit, Grays Harbor Transit, Pierce Transit and Sound Transit.

Mason Transit Authority administers a Volunteer Driver Program funded by Lewis-Mason-Thurston Area Agency on Aging through the Washington State Senior Citizens Act, and/or provisions of the Older Americans Act of 1965, as amended. Using volunteers, senior citizens who are unable to use regular transit are provided essential transportation to kidney dialysis and cancer treatment centers as well as medical appointments as far away as Olympia, Bremerton, Tacoma, and within Mason County. Volunteer drivers donate their time and are reimbursed at a per mile rate for use of their personal vehicle. A Worker/Driver program provides express routed service to and from the Puget Sound Naval Shipyard for day shifts. Four coaches operate from Shelton and Belfair to the shipyard in Bremerton, Monday through Friday.

Mason Transit Authority also provides special service for community events. Among those supported include the Forest Festival, Allyn Days, and Hoodsport 4th of July.

[12] Mason Transit Authority. http://www.masontransit.org/busschedules/

Exhibit 3-16: Mason Transit Authority's System



Quileute Tribal Nation

The Quileute Nation Transit Community Shuttle service is open to the public and provides nine trips from La Push to Forks Monday through Friday, beginning service at 6:45 a.m. and ending service at 5:40 p.m. The transit shuttle serves Tribal Offices, the Health Clinic, the Ravens Crest Resort, and the Quileute Heights residential area. The service averages 1,000 passengers per month, and ridership continues to increase. Over 50 percent of the community uses the Quileute Community Shuttle as their sole form of transportation.

Quinault Indian Nation

Quinault Indian Nation operates deviated fixed-route transit service, the Rez Racer, which serves the communities of Queets, Amanda Park, Taholah, and Quinai-elt Village. The service provides mobility around the reservation and connects to Grays Harbor Transit, giving access to jobs and essential services in Aberdeen and Hoquiam. The service also provides demand-response service for seniors and for special chartered trips throughout the reservation.

Skokomish Indian Tribe

Tribal programs serve limited community transportation needs. The Head Start school bus program provides service to preschool children living on the reservation who attend Skokomish Head Start programs. The Youth transportation program provides special bus and van services for youth off-reservation travel to educational and cultural activities. The Transportation for Tribal Elders program provides a service where Community Health Representatives use Tribal vehicles to transport Elders to medical and social service facilities on and off the reservation.

The Skokomish Indian Tribe was awarded a grant from Federal Transit Authority for a pilot public transit service enhancement project. Mason Transit Authority (MTA) is now operating and solely maintaining the services by providing the maintenance, vehicles and drivers. The route continues to run along US 101 between Shelton and Hoodsport and State Route 119 to the Skokomish Park.

Squaxin Island Tribe

The Squaxin Island Tribe operates Squaxin Transit, a free public transportation service that serves residents of the Squaxin Tribal community and the surrounding Kamilche area. Riders range from youth to elders regardless of race, disability, or income. Squaxin Transit operates on a deviated fixed route basis Monday through Friday 6:30 a.m. to 4:30 p.m. and connects with Mason Transit Authority (MTA) at the Kamilche Transit Center near the US101/SR108 interchange. Squaxin Transit also offers limited service to the communities of McCleary and Elma in Grays Harbor County where riders can connect with Grays Harbor Transit. The Tribe currently has two wheelchair accessible cutaway minibuses in use for this program. It contracts with MTA for vehicle maintenance.

Suquamish Tribe

The Suquamish Tribe operates a shuttle that is limited to Tribal members. Services include transportation for shopping and medical appointments, respite, and chore services. Funding is provided through Tribal government sources. Tribal members in need of transportation can complete a form providing a 48-hour notice when they need transportation services.

Kitsap Transit operates two routes that serve the public roadways within Suquamish Tribal Reservation. The reservation is easily accessible by county and state highways. State ferries that connect with the mainland at Seattle and Edmonds allow access to metropolitan areas of Bainbridge Island and Bremerton. Kitsap Transit has service to the area via SR 305 and Suquamish Way.

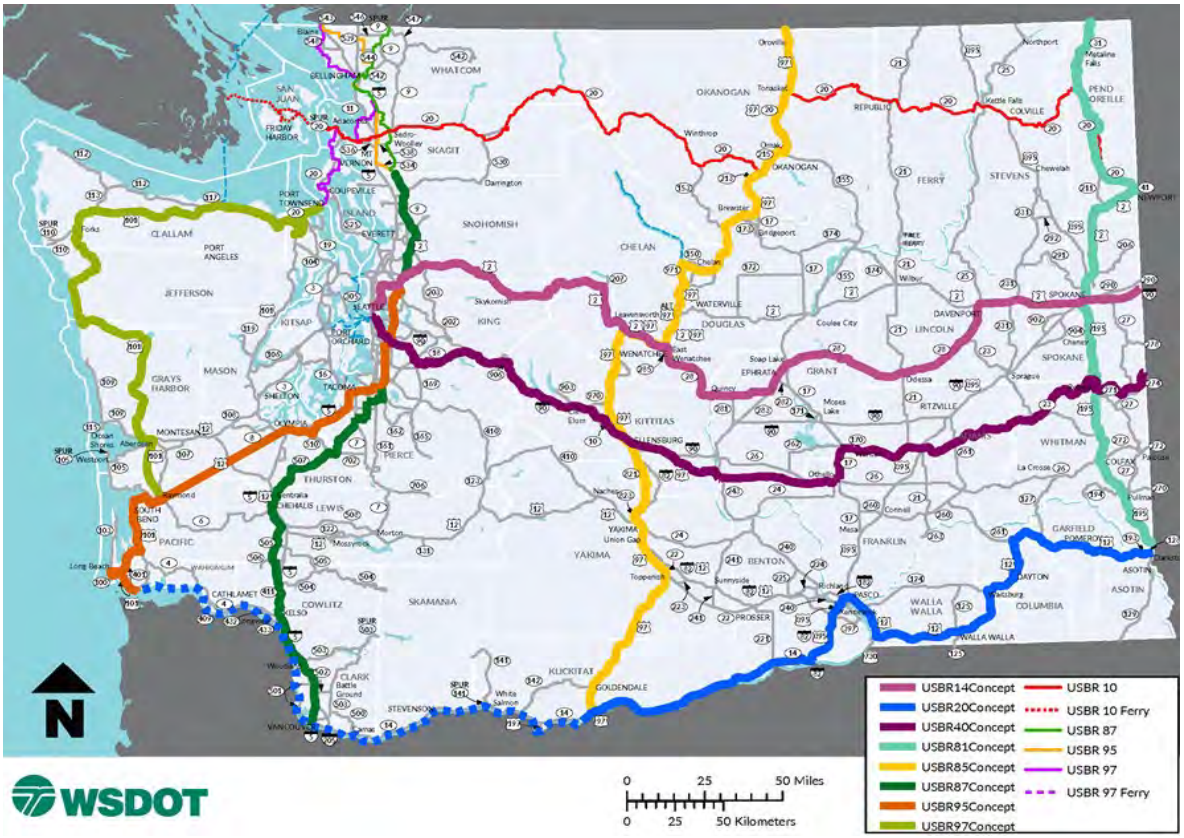
Active Transportation

Active transportation is self-propelled, human-powered transportation, such as walking or bicycling, and non-motorized Class 1 and Class 2 electric bikes and scooters with a top speed of 20 mph. Just as motorized transportation networks connect destinations via an interconnected system of roadways, active transportation network allows people to do the same thing by walking and bicycling. Improving these elements could encourage active transportation such as children biking to school or employees walking to work.

US Bicycle Route System

The US Bicycle Route System[13] was established in 1978 by the American Association of State Highway and Transportation Officials (AASHTO). The system is a network of regionally significant bike routes that connect communities throughout Washington State. Currently, the Larry Scott Trail/ODT is a proposed route and an extension of one of the approved routes. Several other proposed cross-state routes, as well as the Mountains to Sound Trail, terminate at the Seattle Ferry Terminal. From there, bicyclists can connect via ferry to Bremerton, Kingston, or Bainbridge Island, and continue through Kitsap County to connect to the ODT and the Sound to Olympics Trail. The U.S. Bicycle Route System (USBRS) is a developing national network of public bike travel routes. Over 13,500 miles are rideable today. Routes in Washington are shown in Exhibit 3-17.

Exhibit 3-17: US Bicycle Routes in Washington



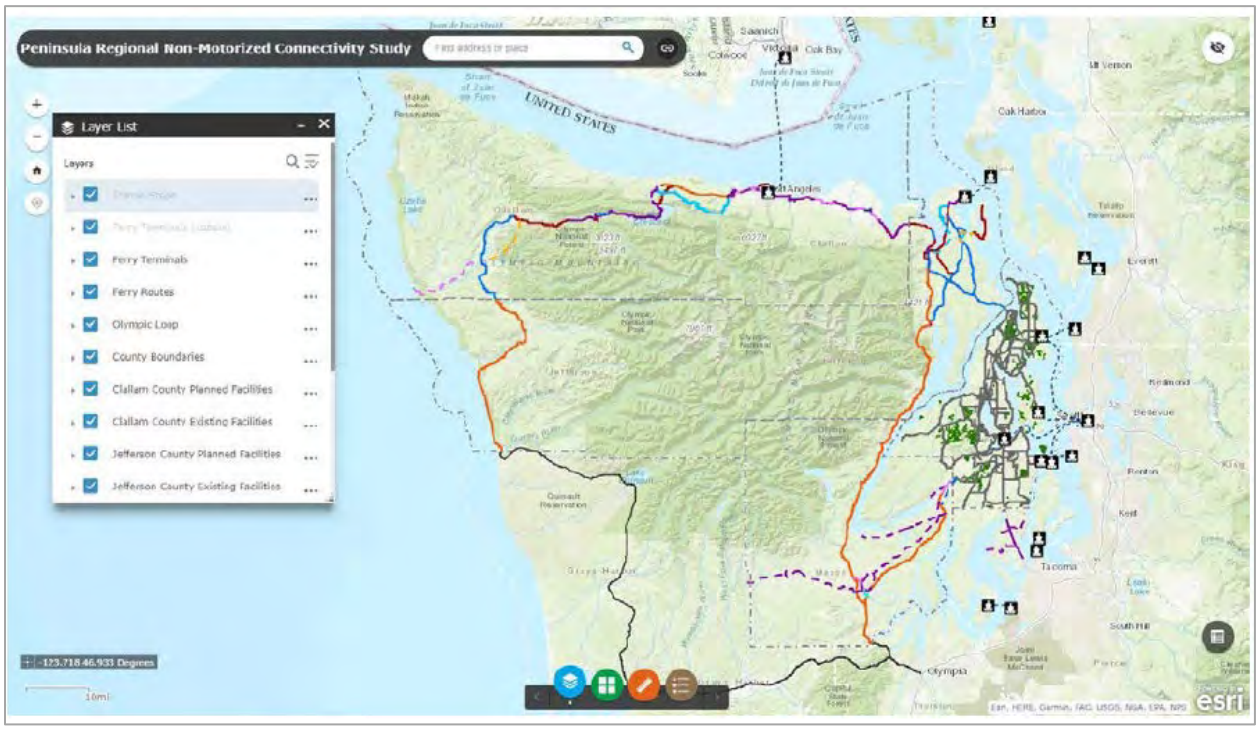
[13] US Bicycle Route System. https://www.adventurecycling.org/routes-and-maps/us-bicycle-route-system/

Regionally Significant Bicycle Routes

The Olympic Discovery Trail (ODT) is the major east-west non-motorized corridor in Clallam County and on the north side of the Peninsula RTPO region. The ODT also includes the Larry Scott trail connecting into Port Townsend. The Olympic Discovery Trail has been a priority project for the region since its inception. The trail is envisioned to extend 130 miles from Port Townsend in Jefferson County westward through Clallam County to the Pacific Coast. Currently the trail extends 35 continuous miles from the Clallam-Jefferson County line to the Elwha River, west of Port Angeles. Trail use varies depending upon local needs and circumstance with trail use counts of over 110,000 trips per year at Railroad Bridge Park. In Jefferson County, the eight-mile segment from the marina in Port Townsend to the 4 Corners intersection is used as a recreational bicycling, walking, hiking and equestrian trail. In both Jefferson County and Clallam County the trail sees increasing use for commuter purposes as well. Ultimately, the ODT will run 145 miles from the Port Townsend ferry terminal to the Pacific Coast.

In early 2019, the Peninsula RTPO completed the *Peninsula Regional Non-Motorized Connectivity Study* that identifies existing and planned facilities, and the gaps in regional connectivity. Results show that over 1,100 miles of facilities exist, ranging from paths to lanes, sidewalks, and shoulders. Over 140 more miles are in concept/planning stage. A non-motorized connectivity study document and an interactive webmap were developed as part of the study. A copy of the connectivity study document is available on the Peninsula RTPO's website. Exhibit 3-18 depicts a screen shot of the Peninsula Regional Non-Motorized Connectivity Study's interactive webmap. Clallam County has offered to host the Peninsula RTPO's interactive trails webmap on the county's website. The map is expected to go live in 2020.

Exhibit 3-18: Peninsula RTPO Non-Motorized Connectivity Study's Interactive webmap



Truck Freight

WSDOT has adopted a Statewide Freight and Goods Transportation System (FGTS) which categorizes highways and local roads according to the tonnage of freight they carry. The FGTS map online shows that the busiest freight and goods movement within the region, T-1 (more than 10 million tons of freight tonnage each year), is moved along routes in Kitsap County, specifically along SR 16 and SR 3. The next busiest freight movement corridors, T-2 (between 4 million and 10 million tons of freight moved per year), are moved through Jefferson and Clallam Counties along SR 104 and US 101 between the City of Port Angeles to the Hood Canal Bridge and in Mason County on US 101 from Thurston County to Shelton. The majority of the other region's roadways are designated as T-3, which means between 300,000 to 4 million tons of freight are moved each year. An interactive map of the FGTS truck corridors is available at the WSDOT freight website.[14] Exhibit 3-19 highlights the truck route classes by mileage and county.

Exhibit 3-19: Freight and Goods Transportation System

Area	Truck Route Class					Total	Total Adequate	% Adequate
	T-1	T-2	T-3	T-4	T-5			
Clallam	0	0	73.03	61.55	11.01	145.59	3.75	2.6%
Jefferson	0	0	36.87	35.78	65.75	138.40	108.06	78.1%
Kitsap	0	2.39	220.68	98.86	0	321.93	231.72	72.0%
Mason	0	.20	104.35	85.79	0	190.34	54.82	28.8%
Region Total	**0**	**2.59**	**434.93**	**281.98**	**76.76**	**796.26**	**398.35**	**6.88%**
State Total	16.61	183.34	5,363.05	4,481.71	2,592.50	12,637.20	5,790.12	45.8%

Rail System

The rail system includes all freight railroads including military, and passenger railroads and services. In the Peninsula RTPO region, there are no passenger rail services.

Rail Freight

Regional rail service is limited in the region. The Puget Sound & Pacific Railroad (PSAP) is the only remaining active rail line within the four counties most of the other lines having been abandoned between 1970 and 1991. The Burlington Northern, now the BNSF, owned and operated the line from Centralia to Grays Harbor, and from Elma to Shelton. The BNSF also operated the federal government line from Shelton to Bangor from 1994. In 1997 RailAmerica acquired the operating rights and formed the PSAP. In 2012, RailAmerica was purchased by the Genesee & Wyoming Company, the largest shortline company in North America.

This line serves Naval Base Kitsap with its only rail connection to the rest of the North American rail network. The PSAP interchanges with both the BNSF and Union Pacific at Centralia. From Bangor Station on the north end, the line is approximately 140 miles to Centralia; the branch line to Naval Station Bremerton is 4.6 miles. The rail line is designated as R3 Rail Economic Corridor, which carries 500,000 to a million tons per year. The traffic base of the railroad includes forest and agricultural products, and chemicals. A map of the FGTS rail corridors is available at the WSDOT freight website.[15] A map of the rail system by owner is available at the WSDOT freight website.[16]

[14] Washington State Freight and Goods Transportation System. http://www.wsdot.wa.gov/Freight/fgtS/.
[15] Washington State Freight and Goods Transportation System. http://www.wsdot.wa.gov/Freight/fgtS/.
[16] Washington State Rail System by Owner. http://www.wsdot.wa.gov/Freight/Rail/default.htm

Marine Transportation System

Maritime Freight

Marine transportation provides cost-effective, fuel-efficient, and safer movement for many kinds of freight. Increased use of the marine system — by way of modal diversion — can reduce demand on the highway and rail systems, and thereby provide social, economic, and environmental benefits to the region. Trade is reliant on the safe and efficient movement of goods, making ports important to the region's economic competitiveness. There are three marine freight ports in the region: Port Angeles, which handles primarily logs and lumber and international freight; Shelton, which handles primarily lumber; and Bremerton, which handles primarily military commodities and fuel.

Naval Base Kitsap is the third largest Navy base in the U.S. The base includes three major port facilities: Puget Sound Naval Shipyard and Intermediate Maintenance Facility at Bremerton, Submarine Base Bangor, and Manchester Fuel Department. The Puget Sound Naval Shipyard has the only dry dock on the west coast capable of handling the Navy's large aircraft carriers. The Manchester Fuel Department is the largest underground Navy fuel storage facility on the West Coast. A map of the FGTS waterway corridors is available at the WSDOT freight website.[17]

Washington State Ferries

WSDOT's Washington State Ferries was formed in 1951 and is now the largest ferry transit system in the United States. The ferry service provides priority loading for freight, bicycles, vanpools, and carpools. Within the region, ferry service provides an important connection to the Central Puget Sound from the Kitsap and Olympic Peninsulas. The Washington State Ferries make five important connections within the region: Port Townsend to Fort Casey; Kingston to Edmonds; Bainbridge Island to Seattle; Bremerton to Seattle; and Southworth to Fauntleroy. A map of Washington State Ferries routes and terminals is available at the Washington State Ferries website.[18]

Kitsap Transit Ferries

Kitsap Transit operates a Foot Ferry (i.e., passenger-only service) between Bremerton and Port Orchard and between Bremerton and Annapolis. In addition, Kitsap Transit launched fast-ferry service in 2017 on the route between Bremerton and Seattle and another route between Kingston and Seattle started November 2018. Kitsap Transit will be providing added Fast Ferry service over the next few years including service from Southworth by 2022.

Blackball Ferry

The privately owned and operated Black Ball Ferry Line provides daily, year-round international vehicle and passenger ferry service from Port Angeles to Victoria, British Columbia.

[17] Washington State Freight and Goods Transportation System. http://www.wsdot.wa.gov/Freight/fgtS/.
[18] Washington State Ferries. http://www.wsdot.wa.gov/ferries/

Aviation

Airports play a minor but vital role in the region. Airports are part of the multimodal transportation system and are designated as essential public facilities. Within the air transportation system, different airports are designed to serve different air transportation needs. This is similar to highways serving a different purpose than arterials and local streets. Individual airports contribute at different and varying levels and serve different roles to meet the needs of a growing population, economic demand, and emergency response.

The Federal Aviation Administration identifies airports that are important to the national air transportation system and classifies them in the National Plan of Integrated Airport Systems (NPIAS). The FAA classification system focuses largely on facilities with commercial passenger service. The region has nine airports; the largest airport in the Peninsula Region is the Fairchild International Airport in Port Angeles, followed by Bremerton National Airport in Kitsap County. Other airports include Jefferson County International Airport, Sanderson Field in Mason County, and Quillayute Airport. Of the remaining smaller airports, three are privately owned: Apex Airport; Port Orchard Airport; and Diamond Point.

4: Trends, Conditions, Needs, and Performance

This chapter provides information on trends and the current condition and performance of the transportation system, including measures of performance. A summary of overall needs on the state highway system are shown in Exhibit 4-1.

Exhibit 4-1: Program Level Needs on the State Highway System

Program Funding (millions of dollars)		
Program	Statewide Estimated Annual Need	Peninsula RTPO Estimated Annual Need
Targeted safety investments (Program I2)	$62.5	$7
Highway maintenance program costs (Program M)	$250	$12
Pavement/Roadway preservation costs (Program P1)	$244	$9 on National Highway System (NHS) $2 non-NHS $11 Total
Bridge preservation costs (Program P2)	$285	$11 on National Highway System (NHS) $1 non-NHS $12 Total
Seismic Resilience (P2 for Bridges, P3 for Other Highway Assets)	Bridge Retrofit Estimated Annual Need: $30 Estimated liquefaction and other asset retrofit estimated annual need: $20 $50 Total	$2
Other facility preservation costs (Program P3)	$104	$6
Traffic operations program (Program Q)	$10	$0.2
Environmental Retrofit (I4)	$330	$89

Demographics and Population Trends

As of April 2019, the estimated population for Washington State is 7,546,400 people with a median age of 38.2 years and a projected state median household income of $73,294. The poverty rate in 2017 was recorded at 12.2 percent and the number of employees was 3.47 million. The median property value was $362,100 in 2018. [19]

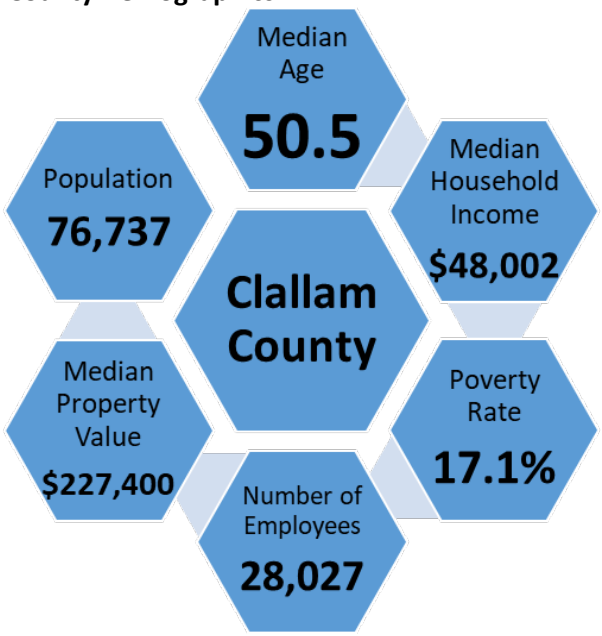
The entire four-county region has a geographical area of 6,471 square miles and a current population of 439,840. The population of the Peninsula RTPO region is mostly rural, and the overall population of the region is growing.

[19] Office of Financial Management https://ofm.wa.gov/about/news/2019/06/washington-tops-75-million-residents-2019

Clallam County

Clallam County has a total area of 2,671 square miles. The Strait of Juan de Fuca, which is the international boundary with Canada, borders the northern side of the county; the Pacific Ocean borders the western side of the county; and Jefferson County borders the southern and eastern sides. Located within the county is Neah Bay, the westernmost town in the continental United States. Exhibit 4-2 shows Clallam County demographics at a glance.[20]

Exhibit 4-2: Clallam County Demographics



In 2018, the estimated population of Clallam County was 76,737. Within the boundaries of Clallam County are the following cities with the highest population:

- Port Angeles with 19,370 residents;
- Sequim with 7,460 residents, and
- Forks with 3,532 residents.

Within the boundaries of Clallam County, the following five Indian tribes or nations are represented:

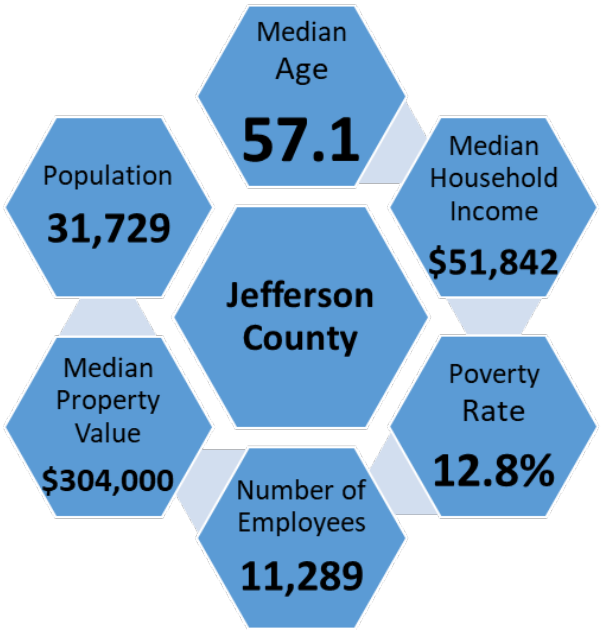
- Makah Tribe has 2,952 enrolled Tribal members of which 1,434 live on the reservation;
- Quileute Nation with 706 members living on or near the reservation;
- Lower Elwha Klallam Tribe with 882 enrolled Tribal members with a population of 583 people living on or near the reservation; and
- Jamestown S'Klallam Tribe with 517 Tribal citizens, their descendants and families, and 641 other Native Americans and Alaskan Natives who reside within the communities of Clallam and Jefferson counties.

[20] https://datausa.io/profile/geo/

Jefferson County

Jefferson County has a total area of 2,183 square miles. The Strait of Juan de Fuca, Admiralty Inlet, and Puget Sound border the eastern side of the county; the Pacific Ocean borders the western side of the county; Clallam County borders the northern side of the county; and Mason and Grays Harbor counties border the southern side of the county. In central Jefferson County lies the Olympic Mountains within Olympic National Park and Olympic National Forest. Because the mountains create a transportation barrier, roads do not connect the eastern and western sides within Jefferson County. Exhibit 4-3 shows Jefferson County demographics at a glance.[21]

Exhibit 4-3: Jefferson County Demographics



In 2018, the estimated population of Jefferson County was 31,729. Within the boundaries of Jefferson County are the following cities with the highest population:

- Port Townsend, the only incorporated city in the county, with a population of 9,545;
- Port Hadlock-Irondale with 3,580 residents;
- Port Ludlow with 2,603 residents; and
- Brinnon with 797 residents.

Within the boundaries of Jefferson County, the following two Indian tribes or nations are represented:

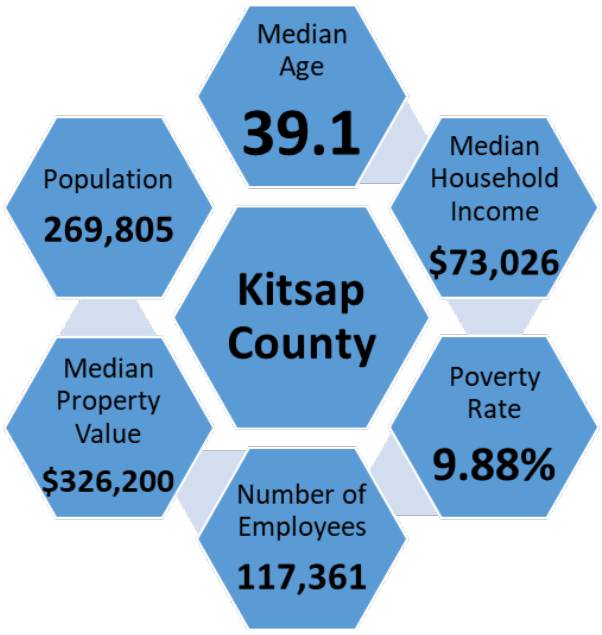
- Hoh Tribe with 272 enrolled Tribal members with 136 Tribal members living on or near the reservation; and
- Quinault Indian Nation with 2,453 enrolled Tribal members living on or near the reservation.

[21] https://datausa.io/profile/geo/

Kitsap County

Kitsap County has a total area of 566 square miles. The county is surrounded by water on almost all sides; US Navy installations are located at Puget Sound Naval Shipyard, Naval Undersea Warfare Center, and Naval Base Kitsap. Exhibit 4-4 shows Kitsap County demographics at a glance.[22]

Exhibit 4-4: Kitsap County Demographics



In 2018, the estimated population of Kitsap County was 269,805. Within the boundaries of Kitsap County are the following cities with the highest population:

- Bremerton with 40,500 residents;
- Bainbridge Island with 23,840 residents; and
- Port Orchard with 13,607 residents.

Within the boundaries of Kitsap County, the following two Indian tribes or nations are represented:

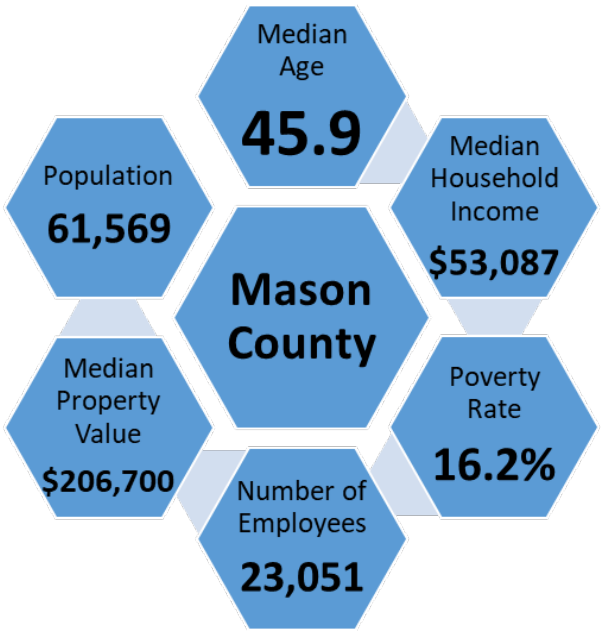
- Port Gamble Klallam Tribe with 1,200 enrolled Tribal members; and
- Suquamish Tribe with 6,536 enrolled Tribal members living on or near the reservation.

[22] https://datausa.io/profile/geo/

Mason County

Mason County has a total area of 1,051 square miles. Puget Sound borders the eastern side of the county, including Hood Canal, Case Inlet, and Totten Inlet. Grays Harbor County is southwest of Mason County, and Olympia is located to the southeast. Exhibit 4-5 shows Mason County demographics at a glance.[23]

Exhibit 4-5: Mason County Demographics



In 2018, the estimated population of Mason County was 65,507. Within the boundaries of Mason County are the following cities with the highest population:

- Shelton, the only incorporated city in the county, with 9,980 residents;
- Belfair with 3,931 residents; and
- Allyn-Grapeview with 2,917 residents

Within the boundaries of Mason County, the following two Indian tribes or nations are represented:

- The Skokomish Indian Tribe with a population of 777 members living on or near the reservation; and
- Squaxin Island Tribe with 431 enrolled Tribal members living on or near the reservation.

[23] https://datausa.io/profile/geo/

Economic Trends

Economic development and growth within a region can be advantageous because of the economic benefits of increased employment and a larger tax base. Unmanaged, fast rates of growth can have a severe impact on the ability of a community to provide needed infrastructure and services. On the other hand, a transportation system dependent on deteriorating and outmoded facilities can be an inhibitor to the efficient, safe movement of people and goods. Employment plays a factor in determining impacts on transportation. Increases in the employment base of an area can be used as a gauge of the growth of the area and emerging needs for access to and from the workplace. Transportation planning, especially in urban areas, takes into consideration home-to-work commute trips when evaluating the potential impacts to transportation systems. The location and concentration of jobs in a region relative to where people live can produce high demands on transportation facilities.

County profiles highlight aspects of the economic health of each of the counties. Data for the county profiles were synthesized by the Washington State Employment Security Department[24] and collected from a variety of sources such as the Federal Bureau of Labor Statistics, federal Bureau of Economic Analysis, the U.S. Census Bureau, Washington State Department of Revenue, Washington State Office of Financial Management and other resources.

Clallam County

The year 2018 was a year of moderate gains in Clallam County. This economic growth has been shaped by a vibrant port district in the county's major coastal city of Port Angeles. Some projects have continued over the years, but new development has been a challenge. The county is primed to add jobs in many areas of the economy including healthcare, advanced composites, marine trades and outdoor tourism. The service sector has also been experiencing growth over the past decade. In 2018 it accounted for 88.7 percent of all non-farm employment. The county houses two prisons, a hospital and school district, which are top employers. The city of Forks continues to be a tourist attraction after the Twilight movies put it on the map. New in-migration is also on the rise as many retirees are attracted to Sequim's "sunbelt" climate.

The Port of Port Angeles, the peninsula's only deep-water port, supports local industry and employs office and trades staff which brings valued revenue into the community. The port operates a marine terminal and trades area, a log yard, airport and rental properties, and two marinas. Current projects at the port include a composites training institute.

Science and academic institutions in the county continue to research important topics and educate the next generation of the labor force. The Department of Energy's Marine Sciences Laboratory is based at the Pacific Northwest National Laboratory in Sequim. Current projects at the lab include ocean energy development, impact of populations on marine environments and improved coastline security. The hope is to find a vibrant opportunity for growth in the areas of marine conservation and aquaculture.

Peninsula College continues to be a vibrant part of the community by offering programs including advanced manufacturing, community education and worker retraining. It has three campus locations at Port Angeles, Port Townsend and Forks. In the 2017-18 school year total enrollment was 4,454 students.

[24] Washington State Employment Security Department. https://esd.wa.gov/labormarketinfo/county-profiles

Jefferson County

The economy of Jefferson County is formed of both an industrial and an agricultural base. Industrially, the county's history, climate and terrain support healthy forest products and maritime sectors including lumber, fish processing, ship repair and maintenance as well as ship and boat building. The agricultural base encompasses tree farms for logging, aquaculture, and a flourishing organic farming sector. Food production includes artisan cheeses, and breads. Tourism also provides revenue streams to the county. Economic activity is supported by a vibrant port and airport, ferry terminal, and state highways. Port Townsend, the economic center of the county, has experienced periods of boom and bust over the century due to its dependency on these volatile industries. During 2011, Port Townsend finally started to recover from the Great Recession with visible signs of economic growth including new shops, new investments and rebounds in tourism. Annual taxable sales in the county have grown strongly since 2013. In 2018, the Port of Port Townsend had the highest revenue in five years for its major operating units.

The outlook for Jefferson County in 2019 is one of growth, as data indicates non-farm employment up 260 jobs in 2018 3 percent higher than the state average of 2.6 percent. The number of jobs is up and unemployment rates are down; growth in non-farm jobs is showing strength in 2019.

Kitsap County

Because of Kitsap County's geographic configuration, the Washington State Ferry system is an important infrastructure link for Kitsap residents. In 2018, more than 6.35 million passenger trips were taken on the Seattle-Bainbridge ferry run, and more than 2.89 million trips were taken on the Seattle-Bremerton route. In the north part of the county, the ferries serving the Edmonds and Kingston run hosted over 4.23 million passenger trips during the year. And for the third year in a row, the Southworth-Vashon route had the fastest growth in the Washington State Ferry system. More than half of all ridership on the Washington State Ferries originates or ends in Kitsap County.

The U.S. Navy established the Puget Sound Naval Shipyard in 1891, which soon became a magnet for other businesses and workers. Today spending by the Department of Defense, including U.S. Navy centers at Bremerton, Keyport and Bangor, continues to dominate the economy of the county as demonstrated by an annual military and defense payroll in excess of $1.5 billion.

The unemployment rate for most of the region has been lagging below the state average. In 2019 the unemployment rate for three rural counties of Clallam (7.7 percent), Jefferson (6.7 percent), and Mason (7.3 percent) fell above the state average of 5.5 percent. Kitsap, which is the most urbanized county in the region, fell below the state average at 4.7 percent.

Mason County

Mason County banker Alfred Anderson partnered with loggers and then with Sol Simpson to create the Simpson Logging Company, which became the largest employer in the state. In the 1980s, the Forest Service ended most timber sales to protect the spotted owl. The prison in Shelton added hundreds of beds during this period, helping to offset job losses in the forest industry. Recreation as well as oyster and seafood production and processing also have increased in importance. Mason County also has become an important community for commuters to Thurston and Pierce counties. In 2017, 53.2 percent of earned income came from residents working outside the county. Mason County has reduced its

unemployment rate levels to those last seen in 2006. However, the return to pre-recession employment totals in some industries continues to be slow. Manufacturing had over 1,900 jobs as recently as 2006 compared to an average of 880 in 2018. Construction, which employed 1,140 in 2006, averaged 820 in 2018. In fact, total non-farm employment in 2018, while above 14,000 for the first time since 2008, still lags pre-2008 totals by several hundred jobs. Compared to the 2010 high of 11.9 percent, the county has had declining unemployment rates. The 2018 rate was 6.3 percent. The 2017 average annual rate was 6.6 percent.

The labor force has been above 23,000 since 2011 on an average annual basis but remains below the 25,549 total jobs for 2009. The 2018 data showed a slight increase in this metric, averaging 24,274 jobs. Non-farm industry employment in Mason County has been consistent over the last several years, with most industries remaining steady. However, non-farm employment totals continue to trail the pre-recession figure of 14,860 in 2007. The 2018 annual average of 14,140 jobs is 360 more jobs than in 2017. It is also the first time that the total has broken the 14,000-job barrier since 2008. The largest industries in the Mason County economy during 2018 were government (5,870) and trade, transportation and utilities (2,540). The manufacturing industry in 2018 accounted for 880 jobs, down from 1900 in 2006. The 2018 industry employment level represents a 2.6 percent gain in total non-farm employment compared to the 2017 totals. This trend will likely be the norm heading beyond 2019.

Tribal Enterprises

Tribal enterprises have also contributed to the region's economy and their impact on surrounding economies is significant. Washington residents have much to gain from tribal enterprises (e.g., casinos, businesses, government), which employ three non-Native individuals for every Native individual they employ. In 2010, more than 27,000 Washington residents received $1.3 billion in wages. These paychecks bring economic help to rural areas and populations that are economically distressed.

In operating their casino-resorts, other businesses and government operations, tribes purchased $2.4 billion in goods and services in 2010. Tribal casino and government building construction through local firms in 2010 alone totaled $3.5 billion value added in Washington's economy. Indirectly this business activity generated an estimated $268 million in business taxes for the state treasury.

Tribal economic development brings jobs and growth to areas that have been traditionally underserved. Tribal economic development has resulted in contributions to local infrastructure and transportation needs. The Jamestown, Quileute, Makah, Quinault, Squaxin Island, and Skokomish tribes provide bus services to their reservations and surrounding communities through ownership or contract with local transit agencies. The Jamestown, Makah, Quileute, Lower Elwha, Suquamish, Port Gamble, Squaxin Island and Skokomish tribes also have completed major infrastructure projects to US 101, multimodal improvements to the Olympic Discovery Trail, and development of disaster preparedness resources throughout the region.

Roadway Preservation and Maintenance

Transportation infrastructure in Washington is aging while reliance on the transportation systems to sustain the state's economy and providing mobility is growing. Much of the roadway system was built between the 1950s and 1970s and is now at or near the end of its useful life. Preservation is one of six statewide transportation system policy goals established by the legislature as part of practical solutions.[25]

Maintenance refers to the day-to-day activities needed to keep the transportation system in good working order, while operations keep the system safe, clean, reliable, and efficient. Such activities include filling potholes, repairing drainage ditches, repairing guardrails, replacing damaged signs, plowing snow, removing rocks, and efficiently operating traffic signals. Preservation are those specialized maintenance activities that serve to extend the originally estimated useful life of the system structures and facilities through such projects as repaving roads, rehabilitating bridges, and rock fall protection.

Preservation encompasses preventative and major maintenance of the assets that make up the statewide transportation network. The region's broad and diverse network encompasses all forms of transportation and all capital facilities and includes access to public transportation service. An important part of the preservation and maintenance program for the region is its paving program. This program is operated by WSDOT for the state highways in the region and by the four local counties for their county-owned roadways.

With decreasing funding sources, some of the region's counties are starting to experience challenges to keep up with their repaving schedules. With the loss of the federal Secure Rural Schools and Community Self Determination Act funding, which represents as much as 25 percent of some county operating budgets, and with reductions in revenues received from the Motor Vehicle Excise Tax (MVET), counties like Jefferson County cannot fund a complete preservation program. Currently, their preservation program is operating at about 50 percent of its historic level and further reductions could be expected.

Increasingly, the county paving programs in the region are using chip sealing to maintain their roadways because it is the most cost-effective preservation technique. Rural counties like Jefferson County do very little paving due to its high cost, and the county tolerates reduced ride quality and rutting as a result. In order to fund any preservation, other maintenance in Jefferson County is being deferred, particularly in the area of drainage structure replacement (i.e., culverts) where a single project can easily cost 25 percent to 50 percent of an entire year's maintenance budget and fish passage requirements continue to result in even higher costs. Jefferson County is experiencing road failures at culverts on a 1 to 2-year recurrent basis due to this lack of maintenance, which has resulted in road closures, temporary loss of resident access, and further budget impacts.

The most urbanized county in the region is Kitsap County. Kitsap County funds its roadway maintenance program with an average of 36 to 44 lane miles a year mostly of thin lift asphalt overlay, and 36 to 40 lane miles of seal coat.

[25] RCW 47.04.280: Transportation system policy goals. https://app.leg.wa.gov/rcw/default.aspx?cite=47.04.280

Mason County, which has approximately 612 centerline miles of hard surface roadway of which over half is classified as local access roadways, is having a difficult time finding funding to support its local access roads. Currently, the county paves approximately 50 miles of collector roads per year; this is a combination of hot mix asphalt (HMA) and chip seal.

Clallam County has 500 miles of county road. Up until three years ago when Secure Schools Road funding started to diminish and timber harvest revenues dropped, the county was chip sealing/HMA 70 miles of road per year on a 7-year rotation cycle. The County is now down to 30 miles of chip sealing/HMA per year and a 17-year rotation schedule. At this rate, Clallam County roads will be experiencing significant deterioration before they can be resurfaced.

The Peninsula RTPO considers the preservation of the region's existing transportation infrastructure and services as a high priority. Preservation and maintenance are absolutely critical to the transportation system. The transportation system fails without a strong preservation and maintenance program; everything depends on the transportation system being in a state of good repair.

Exhibit 4-6 shows preservation activities by county.

Exhibit 4-6: County Arterial Preservation Program, 2017

Area	Arterial Sealcoat Center Line Miles	Arterial Overlay Center Line Miles	Total Resurface Center Line Miles	Percent System Resurfaced
Clallam	53.70	0.0	53.70	39.70
Jefferson	7.70	2.30	9.90	7.60
Kitsap	1.10	6.80	7.90	2.60
Mason	19.90	7.0	26.90	10.10
Region Total	**82.4**	**16.1**	**98.4**	**60**
State Total	*1,091.30*	*113.50*	*1,204.80*	*9.4*

Pavement condition performance measures [MAP-21]

WSDOT is required to report pavement condition annually to the Federal Highway Administration to ensure progress is being made related to pavement condition. Statewide pavement condition is summarized in Exhibit 4-7. In order to avoid a penalty, pavement on the Interstate Highway System must not exceed 5 percent in poor condition.

Exhibit 4-7: Statewide Pavement Condition Performance Measures

Measures	Current Data	2-year target	4-year target	Penalty
Percent of Interstate pavement on the NHS in good condition	32.5%	N/A	30%	No
Percent of Interstate pavement on the NHS in poor condition	3.6%	N/A	4%	Yes
Percent of non-Interstate pavement on the NHS in good condition	18%	45%	18%	No
Percent of non-Interstate pavement on the NHS in poor condition	5%	21%	5%	No

Bridge Preservation and Maintenance

Bridges within the region play an important part of the transportation system by connecting roadways that are separated by the area's many rivers and other water bodies including the Hood Canal. Bridges within the region are operated and maintained by WSDOT or by local jurisdictions.

Approximately 28 percent of the bridges in the region are in Mason County while 26 percent are in Clallam County, 30 percent in Kitsap County and 16 percent in Jefferson County. A majority of bridges within the region (59 percent) are owned by WSDOT. This portion of the regional road system is analyzed regularly and has been the focus of much evaluation over the past couple of years.

A federal mandate requires a biannual review of all bridges to determine their condition. The result of this inspection is a rating of bridges to determine if they are structurally deficient or functionally obsolete. Of those bridges within the four counties which have been designated structurally deficient, over half are owned by local jurisdictions. Similarly, of those bridges designated functionally obsolete, 30 percent are owned by local jurisdictions.

The WSDOT Bridge Office inspects its bridges every two years. This two-year cycle allows the department the opportunity to inspect every bridge it owns and operates. According to the Department of Transportation's Bridge Office, the classification of Structurally Deficient refers to a bridge that is in a structurally deteriorated condition and does not adequately carry its intended traffic loads. While the classification of functionally obsolete refers to a bridge that does not have adequate approach alignment, geometry or clearance to meet the intended traffic needs and is below accepted design standards. In many cases it means that the bridge was built to outdated standards but is still structurally sound. Often, a bridge is deemed obsolete simply for being narrower than engineers would currently like it to be, given the level of traffic throughput. However, one factor in deeming a bridge functionally obsolete can be that it wasn't built to withstand current vehicle weight loads or heights.

An example of the lesser standards of earlier days is the Agate Pass Bridge at Bainbridge Island built in the 1950s. It is classified as functionally obsolete because its lanes are too narrow; its two lanes together are only 19.5 feet wide and each lane should be 12 feet wide with 6 feet wide shoulders or a combined width of 40 feet. This bridge provides the only land access to Bainbridge Island.

Bridge condition performance measures [MAP-21]

In accordance with the requirement of RCW 36.78.070, the Washington State County Road Administration Board (CRAB) presents to the legislature a report of county bridge data.[26] Conditions of county-owned bridges are summarized in Exhibit 4-8.

[26] County Road Administration Board. 2018 Annual Report. http://www.crab.wa.gov/crab/dcs/annualReport/2018_Annual.pdf

Exhibit 4-8: 2018 County-owned Bridge Condition

Area	County Owned Bridges	Bridges Posted or May Consider Posting				Bridges With Posting Not Required				Deficient Bridges
		Federal Aid Routes	Square Feet	Non-Federal Aid Routes	Square Feet	Federal Aid Routes	Square Feet	Non-Federal Aid Routes	Square Feet	
Clallam	28	0	0	3	7,939	10	70,022	15	64,528	5
Jefferson	32	0	0	0	0	13	23,082	19	67,852	4
Kitsap	39	0	0	0	0	22	88,509	17	23,767	2
Mason	53	0	0	1	9,386	10	44,917	42	111,949	13
Region Total	**152**	**0**	**0**	**4**	**17,325**	**55**	**226,530**	**93**	**268,096**	**24**
State Total	*3,325*	*122*	*387,069*	*205*	*335,246*	*1,434*	*5,623,469*	*1,564*	*3,142,714*	*605*

Level of Service Standards for State Highways

There is a strong link between GMA and statewide transportation planning regarding who has responsibility to set Level of Service (LOS) for certain facilities, and how the adopted LOS must be included within local plans, and why. LOS for state-owned transportation facilities shall be included in the local comprehensive plan. The current State Highway System Plan identifies service objectives as a highway capacity LOS for state highways. Local jurisdictions must include the adopted LOS for designated HSS in their local plans. The LOS for state highways is divided into two categories, rural and urban. For rural areas the target is LOS C and for urban areas it is LOS D. Exhibit 4-9 shows LOS standards for state highways.

Exhibit 4-9: LOS Standards for Washington State Highways, 2010

County	Non-HSS Level of Service		HSS for Level of Service	
	Urban	Rural	Urban	Rural
Clallam County	D	C	D	C
Jefferson County	D	C	D	C
Mason County	D	C	D	C
Kitsap County	*	*	D	C

LOS will be measured consistent with the latest edition of the Highway Capacity Manual and based on a one-hour p.m. peak period.

Tier 1: The “inner” urban area is generally defined as a 3-mile buffer around the most heavily traveled freeways plus all designated urban centers. The proposed standard for Tier 1 routes is LOS E/Mitigated, meaning that congestion should be mitigated when p.m. peak hour LOS falls below LOS E.

Tier 2: These routes serve the “outer” urban area – those outside the 3-mile buffer – and connect the “main” urban growth area to the first set of “satellite” UGAs. These urban and rural areas are generally farther from transit alternatives, have fewer alternative roadway routes, and locally adopted LOS standards in these areas are generally LOS D or better.

Tier 3: Rural routes are regionally significant state routes in rural areas that are not in Tier 2. The proposed standard for rural routes is LOS C consistent with the rural standard in effect for those routes once they leave the 4-county PSRC region.[27]

Level of service (LOS) is a qualitative measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. LOS grades are categorized with LOS A representing free flow and LOS F reflecting stop and go or failing traffic flows.

LOS A: A condition of free flow in which there is little or no restriction on speed or maneuverability caused by the presence of other vehicles.

LOS B: A condition of stable flow in which operating speed is beginning to be restricted by other traffic.

LOS C: A condition of stable flow in which the volume and density levels are beginning to restrict drivers in their freedom to select speed, change lanes, or pass.

LOS D: A condition approaching unstable flow in which tolerable average operating speeds are maintained but are subject to sudden variations.

LOS E: A condition of unstable flow in which operating speeds are lower with some momentary stoppages. The upper limit of this LOS is the capacity of the facility.

LOS F: A condition of forced flow in which speed and rate of flow are low with frequent stoppages occurring for short or long periods of time; with density continuing to increase causing the highway to act as a storage area.

The Peninsula RTPO is required to establish level of service (LOS) standards for state highways and state ferry routes, except for transportation facilities of statewide significance. These regionally established level of service standards are developed jointly with WSDOT to ensure consistency across jurisdictions. In establishing level of service standards for state highways and state ferries, consideration must be given for the necessary balance between providing for the free inter-jurisdictional movement of people and goods and the needs of local commuters using state facilities. State law allows agencies to use any number of performance measures to evaluate operational efficiency of the transportation system as long as they are coordinated regionally.

The Washington State Transportation Commission adopted thresholds to establish congested highways at the index values of 10 for urban highways and 6 for rural highways. When compared to traditional technical measures, these thresholds are approximately equivalent to LOS D operation in urban areas and LOS C operation in rural areas. Highways above the threshold index values are identified as deficient. The current 2007-2026 Highway System Plan identifies locations of severe congestion as being worse than 70 percent of the posted speed. Exhibit 4-10 summarizes these thresholds.

[27] WSDOT & Commerce: Coordinating Transportation and Growth Management Planning

Exhibit 4-10: Level of Service Thresholds

Congestion Index	Level of Service Thresholds
< 6.0	LOS C or Better
6 up to 10	LOS D
10 up to 70 percent of posted speed	LOS E
Recordable hours below 70 percent of posted speed	LOS F

Rural planning areas such as the Peninsula region are to make use of a basic trend line extrapolation formula or some low-cost modeling technique to determine transportation needs rather than land use-based travel demand model as used by the metropolitan planning organizations. The WSDOT Statewide Highway Analysis Program was used to conduct the regional traffic demand forecast analysis for the development of this regional plan by providing a screen line analysis of roadway segments within the Peninsula RTPO Region. This program provides a simplified level-of-service report card grading system to find where congestion on the regional transportation system exists. The Washington Statewide Highway Analysis Program is the methodology used for corridor analyses in prior Washington Transportation Plans (WTP) and used in subsequent Highway System Plan (HSP) updates, therefore it provides the RTPO with a compatible process with that of the HSP analysis process.

The 2015 Highway Segment Analysis Program (HSAP) was used to forecast Year 2018 and Year 2040 congestion index ratios (annual average daily traffic volumes divided by 1-hour calculated capacities) and the number of hours with speed below 70 percent of posted speed along Highway Pavement Monitoring Segments in the four counties of the Peninsula RTPO. Congested LOS D, LOS E, and LOS F conditions are shown for 2018 in Exhibit 4-11, and for 2040 in Exhibit 4-12.

Exhibit 4-11: 2018 Level of Service

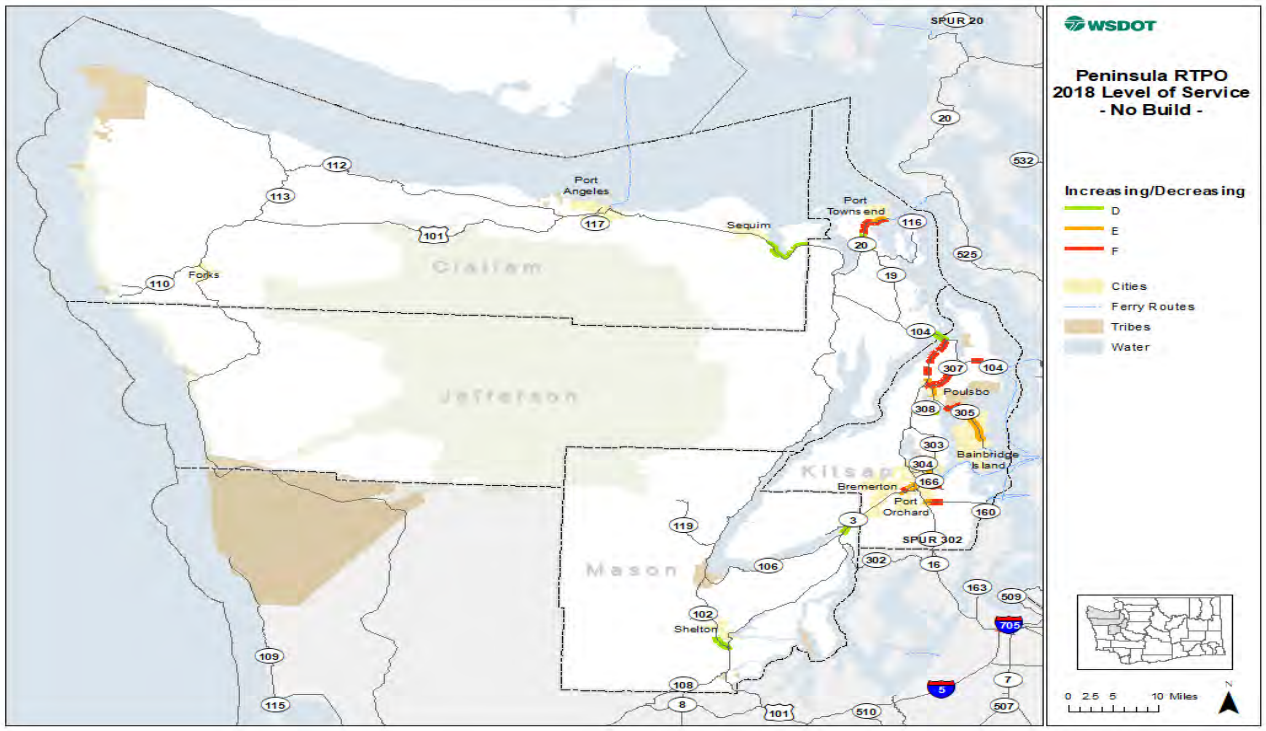
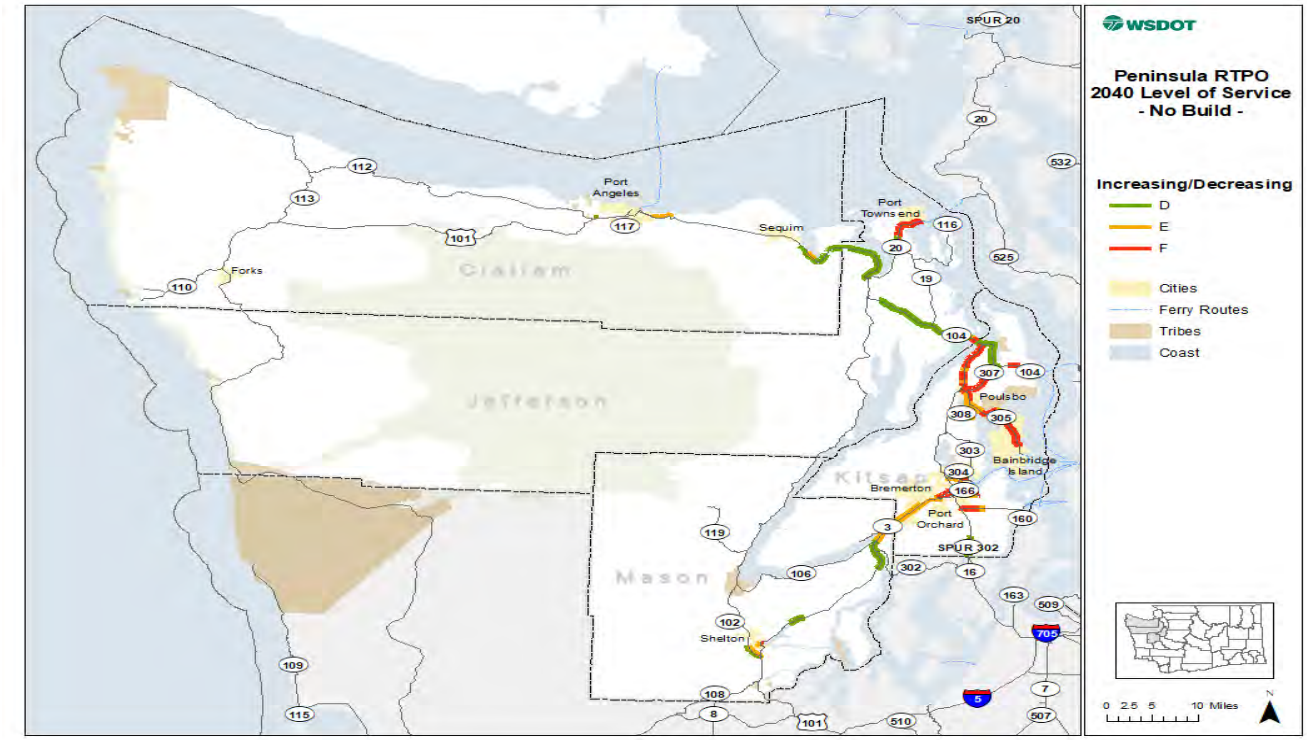


Exhibit 4-12: 2040 Level of Service



Safety

The Strategic Highway Safety Plan, also called Target Zero, is a data-driven plan developed by Washington Traffic Safety Commission and WSDOT. It is used to name priorities and solutions, help create common goals, and promote collaboration. First published in 2000, the plan established an ambitious goal of zero traffic fatalities and serious injuries by the year 2030. Target Zero sets statewide traffic safety priorities based upon the most frequently cited contributing factors. Statewide in 2018, the top three factors were: inattentiveness/distraction, which contributed to 28.6 percent of all traffic fatalities and serious injury crashes; young drivers, which contributed to 28.5 percent of all traffic fatalities and serious injury crashes; and speed, which contributed to 23.7 percent of all traffic fatalities and serious injury crashes.

In the Peninsula region there were 33 traffic related fatal crashes in 2018 compared to 36 in 2016, and 28 in 2009. This is similar to statewide data where there were 497 traffic related fatal crashes in 2018, compared to 511 in 2016, and 454 in 2009. Traffic related serious injury crashes have decreased. In the Peninsula region, there were 124 traffic related serious injury crashes in 2018 compared to 125 in 2016, and 159 in 2009. Statewide, there were 1,918 traffic related serious injury crashes in 2018, compared to 1,887 in 2016, and 2,240 in 2009.

Safety performance measures [MAP-21]

WSDOT is required to report safety performance annually to the Federal Highway Administration to ensure progress is being made related to safety. Safety targets are listed in Exhibit 4-13.

Exhibit 4-13: Statewide Safety Performance Targets

Measures	2019 Safety Performance Goal
Number of traffic fatalities on all public roads	≤ 489.2
Rate of traffic fatalities per 100 million vehicle miles traveled (VMT) on all public roads	≤ 0.813
Number of serious traffic injuries on all public roads	≤ 1,855.0
Rate of serious traffic injuries per 100 million VMT on all public roads	≤ 3.068
Number of non-motorist traffic fatalities plus serious injuries	≤ 511.8

Under 23 U.S. Code § 409 and 23 U.S. Code § 148, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

Traffic Forecast

To determine transportation needs, traffic demand forecasting is required to find where mobility needs exist. A regional analysis provides a picture of levels of service in the region. It is important to emphasize, however, that analysis contained in this plan is not a substitute for local level analysis and planning. Rather, the regional analysis is intended to provide trends and information to help WSDOT and local jurisdictions find areas of regional potential concern. Rural planning areas like the Peninsula RTPO can use of a basic trend line extrapolation formula or other low-cost modeling technique to determine transportation needs.

The WSDOT Statewide Highway Analysis Program was used to conduct the regional traffic demand forecast analysis for the development of this regional plan by providing a screen line analysis of roadway segments within the region. This program provides a simplified level of service report card grading system to show where congestion on the regional transportation system exists. The Program is the methodology used for corridor analysis in prior Washington Transportation Plans (WTP) and in subsequent Highway System Plan (HSP) updates, therefore it provides the RTPO with a compatible process with that of the HSP analysis process.

For long-range planning purposes, future-year conditions are forecasted to determine when and where congestion will occur. A base year of 2015 annual average daily traffic volumes were used to forecast 2018 and 2040. This is not an operational analysis, therefore no intersection or interchange analysis was conducted. It is important to note that the analysis performed also does not reflect the impact of congestion associated with weather, special events, construction, collisions or incidents. The analysis primarily focuses on state routes, which the RTPO recognizes as the major routes of our regional system that interconnect the member counties.

Highway System Performance (Congestion performance measures) [MAP-21]

WSDOT is required to report highway system performance annually to the Federal Highway Administration to ensure progress is being made related to safety. Congestion targets are listed in Exhibit 4-14.

Exhibit 4-14: Highway System Performance

Measures	Current data	2-year target	4-year target
Highway System Performance (Congestion)	73%	70%	68%
Percent of person-miles traveled on the Interstate System that are reliable	77%	N/A	61%

5: Financial Plan

This chapter includes a discussion of funded priorities and unfunded projects supported by the region.

State Highway Revenues

The primary sources of funding for the state highway system are from the Washington State Transportation Budget. Funding comes from the following sources: motor vehicle fuel taxes (32 percent); bonds (23.9 percent); federal funds (20.1 percent); license, permits, and fees (12.9 percent); ferry fares (4.2 percent); and other sources.

The following three recent Legislative transportation revenue packages are instrumental in providing dedicated transportation funding resources in the 2019-2021 Transportation Budget:

1) 2003 Transportation Nickel Account,

2) 2005 Transportation Partnership Account (TPA) and the

3) 2015 Connecting Washington Act.

2003 Transportation Nickel Account
The 2003 Legislature adopted a 10-year transportation revenue package also referred to as "the Nickel package" in the amount of $4.2 billion, of which $3.6 billion were funds restricted to highway purposes and $600 million were flexible funds.

2005 Transportation Partnership Account
In 2005, the Legislature enacted the Transportation Partnership Act (TPA) to continue to address the significant transportation needs of the state. The TPA funding package was estimated to raise $8.5 billion over a 16-year period. Of the estimated total, $7.1 billion must be spent on highway purposes and $1.4 billion are flexible funds which may be used for non-highway purposes such as transit, Safe Routes to School, Commute Trip Reduction tax credit program, passenger rail investment, and freight rail investments.

2015 Connecting Washington Account
In 2015, Washington State made the biggest transportation improvement investment in state history with the enactment of the Connecting Washington Act. This transportation funding package is estimated to provide $16 billion in new resources for the delivery of 132 projects and improvements over 16 years.

In addition to the recent transportation revenue packages, Governor Inslee also divided the following funding for the 2019-2021 Transportation budget[28]:

- $3.3 million for high-speed corridor authority
- $89.7 million for continued commitment to congestion relief
- $124.9 million for ferry system support
- $275 million for fish passage barrier removal

[28] OFM. 2019-2021 Budget. https://www.ofm.wa.gov/sites/default/files/public/budget/statebudget/highlights/budget19/19-21-transportation_0.pdf

- $3 million for cooperative automated transportation
- $13 million for practical solutions implementation
- $5.8 million for the development of a worker safety program
- $2 million for installation of up to 24 public accessible electric vehicle charging stations
- $2.4 million for the Washington State Patrol to hire more troopers for full staffing levels in 2021.
- $5.2 million for the Department of Licensing to secure private data and enhance data management.
- $185 thousand for the Department of Licensing to move towards target zero. Development of new requirements for obtaining a motorcycle endorsement that bolster skills and safety of new motorcycle drivers.

County Road-Related Revenues

Actual County road related revenues are shown in Exhibit 5.1. Taxes are the primary source of revenues, but other sources are also shown.

Exhibit 5.1: Actual County Road-Related Revenues

Area	Program Funding (thousands of dollars)							
	Motor Vehicle Fuel Tax					Other Taxes		
	County Regular	Transportation Improvement Board	Rural Arterial Program	County Arterial Preservation Program	Motor Vehicle Fuel Tax Total	Property	Timber Excise	Other Taxes
Clallam	2,129	0	1,035	171	3,335	7,176	351	25
Jefferson	1,470	0	730	166	2,366	3,631	225	12
Kitsap	5,363	$1,280	1,314	295	8,352	24,839	55	50
Mason	2,368	0	803	339	3,509	8,151	0	0
Region Total	**11,330**	**1,280**	**3,882**	**971**	**17,562**	**43,797**	**631**	**87**
State	*152,137*	*11,500*	*19,384*	*19,265*	*202,286*	*480,356*	*6,657*	*9,070*

Actual County Road-Related Expenditures

Actual County road related expenditures are shown in Exhibit 5.2. Taxes are the primary source of revenues, but other sources are also shown.

Exhibit 5-2: Actual County Road-Related Expenditures

Area	Program Funding (thousands of dollars)							
	Construction	Maintenance	Administrative & Operating	Facilities	Other	Rural Arterial Program	County Arterial Preservation Program	Totals
Clallam	5,226	8,377	3,109	10	933	1,035	0	17,655
Jefferson	2,866	4,579	1,426	168	513	730	166	9,552
Kitsap	13,323	14,239	11,531	211	4,898	1,314	395	44,250
Mason	4,439	6,785	2,937	149	910	803	339	15,220
Region Total	**25,854**	**33,980**	**19,003**	**538**	**7,302**	**3,882**	**900**	**86,677**
State Total	*220,491*	*413,166*	*216,446*	*14,160*	*77,596*	*19,384*	*16,776*	*953,150*

Each year the Peninsula RTPO develops a Regional Transportation Improvement Program (RTIP), which is a list of local projects with planned or secured funding and anticipated to begin within the next six years. Once completed, it is forwarded to WSDOT headquarters where some of the projects will be combined with those from other MPO/RTPO TIPs to create the Statewide Transportation Improvement Program (STIP).

The STIP is a four-year, financially constrained funding program. It includes all projects that have secured federal funds regardless of responsible agency; it does not include planned projects. It includes all funding- secured WSDOT projects regardless of funding source. And it includes capacity projects in major metropolitan areas that are subject to air quality conformity analysis, regardless of funding source. Those projects potentially impacting air quality are defined in federal statute as "regionally significant" projects. The STIP includes projects of all modes and for cities and counties, transit, tribes, and WSDOT. Federal planning regulations require that TIPs from the Tribal Transportation Program, Washington Western Federal Lands Transportation, or Access Programs shall be included without change into the STIP, directly or by reference. Therefore, individual hyperlinks to these TIPs are also featured on WSDOT's STIP website.[29]

The Peninsula RTPO RTIP is prepared annually in order to:

- Advance regional projects for which federal funds have been secured and which are scheduled for implementation over the ensuing four years into the STIP;
- Identify proposed transportation projects (planned) for the next six years for which local agencies will seek funding and as compiled in local six-year TIPs.

For the development of the 2019-2024 RTIP, the Peninsula RTPO initiated a call for projects in July 2018; cities, counties, ports, and tribes were requested to submit their projects. The RTIP was completed on August 6, 2018 and released for a 30-day public comment period. Executive Board members approved the RTIP on September 21, 2018. RTIP projects listed in Exhibit 5-3 have secured funding and are priorities for the region.

Exhibit 5-3: Funded Priorities

STIP ID	Agency	Project Name	Project Description	Funding
WA-07674	Clallam County	Black Diamond Road Safety Project	Improve dangerous curves, widen shoulders, add recoverable slopes, remove clear zone hazards, partial paving and add gravel sidewalk	HSIP: $250,000 Local Funds: $290,000 Total: $540,000
WA-07744	Clallam County	Deer Park Road and Little River Road Speed Recording Speed Limit Signs	Install solar powered speed recording digital speed limit signs at 4 location on each road.	HSIP: $49,500 Local Funds: $5,500 Total: $55,000
WA-08918	Clallam County	ODT-Spruce Railroad Trail and Tunnels, Segment B	Restore the Spruce Railroad Trail between the 2 railroad tunnels and the western tunnel known as the Daley-Rankin Tunnel to a multi-user shared use path.	TAP(R): $100,000 Local Funds: $1,600,000 Total: $1,700,000
WA-04546	Forks	Bogachiel Way Overlay	Overlay and sub-grade repair	STP(R): $30,000 Local Funds: $6,682 Total: 36,682

[29] WSDOT's Statewide TIP, Washington Tribal TIPs, and the Washington Western Federal Lands TIP: https://www.wsdot.wa.gov/LocalPrograms/ProgramMgmt/STIP.htm

STIP ID	Agency	Project Name	Project Description	Funding
WA-10567	Jamestown S'Klallam Tribe	Bike Racks	Install bike racks at various Tribal facilities.	TTP: $10,000 Total: $10,000
JST102012	Jamestown S'Klallam Tribe	Corriea - Sophus Road Enhancement	Connect two county roads with a bridge to provide improved access to tribal properties.	Local Funds: $8,425,629
WA-10565	Jamestown S'Klallam Tribe	Dungeness River Center Access/Parking Lot Upgrades	Construct new access drive and parking lot at the Dungeness River Audubon Center. Driveway and parking lot will be paved.	TTP: $250,000 Local Funds: $324,000 Total: $574,000
JST012014	Jamestown S'Klallam Tribe	Longhouse Market Trail	The trail will provide pedestrian and bicycle trail access from the north side of US 101 to the Longhouse Market without requiring crossing the highway.	TTP: $200,000 Local Funds: $25,000 Total: $225,000
JST112012	Jamestown S'Klallam Tribe	Transit Service Enhancements	Provide operations subsidy to local transit provider to increase service to tribal government, health and business entities.	WSDOT: $139,096 Total: : $139,096
WA-11767	Jefferson County	Countywide Bridge Load Re-Rating Assessment	A new federal mandate requires the agency to perform a re-analysis of bridge load ratings for accommodating new specialized hauling vehicles.	STP(R): $17,374 Local Funds: $17,374 Total $128,699
WA-11504	Mason County	2019 Mason County Overlay	Hot mix asphalt overlay of selected roads based on county's pavement management system and maintenance history.	STP(R):$730,000 HIP(R): $64,365 Local Funds: $470,000 Total: $1,264,365
WA-08504	Mason County	Bear Creek Dewatto Rd Clear Zone Improvements	Improve clear zone by slope flattening, adding/upgrading guardrail, etc.	HSIP: $226,228 Local Funds: $25,172 Total: $251,400
sq18	Sequim	West Fir St. Rehab	Reconstruct roadway, construct sidewalk, ADA ramp, storm drain, curb & gutter, and signals, install speed feed back signs, speed limit signs, activated pedestrian warning system & bike lanes.	SRTS: $200,000 TIB: $3,103,422 Local Funds: $613,928 Total: $3,917,350

WSDOT Olympic Region's secured 2019-2024 RTIP projects within the Peninsula RTPO region are shown in Exhibit 5-4.

Exhibit 5-4: Funded WSDOT Olympic Region Priority Projects in 2019-2024 RTIP

Location	WSDOT Project Name	Revenue Source & Amount	Phase & Year
Clallam County	US 101/Grader Creek Fish Barrier Removal	NHPP: $9,702,675	2023 PE, 2024 RW, 2024 CN
Clallam County	US 101/SE of Johnson Rd to W of Indian Creek Special Repair: Replace bridge expansion joints	NHPP: $539,364	2019 PE, 2020 CN
Clallam County	US 101/Indian Creek Fish Barrier Removal	NHPP: $7,221.014	2020 PE, 2020 RW, 2021 CN
Clallam County	US 101/Elwha River Bridge Fish Barrier Removal	NHPP: $29,121,953	2019 RW, 2019 2020, 2021 CN
Clallam County	US 101/Jct SR 117 to N of Happy Valley Rd ADA Compliance	STP: $413,481	2024 PE, 2024 RW, 2024 CN
Clallam County	US 101/Tumwater Creek in Vicinity of Nicholas Rd Fish Barrier Removal	NHPP: $13,968,544	2022 PE, 2024 RW, 2024 CN
Clallam County	US 101/Golf Course Rd to N of W. Uncas Rd Rumble Strips	HSIP: $104,845	2021 PE, 2022 CN
Clallam County	US 101/Morse Creek Safety Improvements Restripe & install radar speed control signs	HSIP: $369,686	2019 PE, 2020 CN
Clallam County	US 101/Bagley Creek Fish Barrier Removal	NHPP: $16,554,448	2019 PE, 2019 RW, 2020 CN
Clallam County	US 101/Deer Park to Dungeness River Bridge Install median cable barrier	HSIP: $1,941,800	2019 CN
Clallam County	US 101/Deer Park to Dungeness River Bridge Install median cable barrier	HSIP: $1,941,800	2019 CN

Location	WSDOT Project Name	Revenue Source & Amount	Phase & Year
Location	WSDOT Project Name	Revenue Source & Amount	Phase & Year
Clallam County	US 101/Siebert Creek Fish Barrier Removal	NHPP: $20,457,260	2019 RW, 2020 CN
Clallam County	US 101/Johnson Creek Fish Barrier Removal Fish Barrier Removal	NHPP: $9,273,300	2020 PE, 2023 CN
Clallam County	US 101/Unnamed Tributary to Sequim Bay Fish Barrier Removal	NHPP: $5,492,470	2020 PE, 2021 RW, 2022 CN
Clallam County	US 101/Chicken Coop Creek Fish Barrier Removal	NHPP: $2,609,350	2019 PE, 2023 RW, 2023 CN
Clallam County	SR 112/Makah Reservation to 1.3 Miles W. of Green Creek ADA Compliance	STPH: $173,356	2024 PE, 2024 RW, 2024 CN
Clallam County	SR 112/Falls Creek Graul-Rampo Rd Fish Barrier Removal	STP: $3,060,861	2024 PE, 2024 RW, 2024 CN
Clallam County	US 110/Bogachiel River Bridge Bridge Deck Repair	STP: $1,398,060	2023 PE, 2024 CN
Clallam County	SR 112/Bullman Creek Bridge Replacement	STP: $1,398,060	2022 PE, 2023 CN
Clallam County	SR 112/ Pysht River Bridge – Scour Repair	STP: $709,602	2024 PE, 2024 CN
Jefferson County	SR 20/Discovery Road, Kearney Street Intersection Roundabouts	NHPP: $901,092	2021 PE, 2022 RW, 2022 CN
Jefferson County	US 101/Harlow Creek Fish Barrier Removal	NHPP: $8,563,765	2019 RW, 2019 CN
Jefferson County	US 101/Fisher Creek Fish Barrier Removal	NHPP: $2,516,660	2019 RW, 2019 CN
Jefferson County	US 101/Steamboat Creek Fish Barrier Removal	NHPP: $7,069,590	2019 CN
Jefferson County	US 101/Unnamed Tributary to Hoh River Fish Barrier Removal	NHPP: $2,788,165	2019 PE 2019 RW, 2020 CN
Jefferson County	US 101/May Creek Dowans Creek Rd Fish Barrier Removal	NHPP: $6,768,800	2019 RW, 2020 CN
Jefferson County	US 101/Eagle Creek –Fish Barrier Removal	NHPP: $2,608,965	2020 PE, 2021 RW, 2023 CN
Jefferson County	US 101/Contractor Creek Fish Barrier Removal	NHPP: $5,859,954	2020 PE, 2021 RW, 2023 CN
Jefferson County	US 101/Unnamed Tributary to Leland Creek Fish Barrier Removal MP 290.35 – 290.36	NHPP: $3,261,246	2019 PE, 2022 CN
Jefferson County	US 101/Leland Creek Tributary to Little Quilcene River Fish Barrier Removal MP 292.52 – 292.53	NHPP: $4,530,021	2020 PE, 2021 RW, 2022 CN
Jefferson County	US 101/Big Quilcene River Bridge Bridge Painting	CWA: $1,398,122	2022 PE, 2024 CN
Jefferson County	SR 104/Paradise Bay – Shine Road Intersection Safety Improvements	HSIP: $4,610,253	2021 PE, 2021 RW, 2022 CN
Jefferson County	SR 104/SR 19 Intersection Safety Improvements (Roundabout to enhance safety)	HSIP: $4,132,892	2020 PE, 2020 RW, 2021 CN
Jefferson County	SR 104/HCB WA Bugge Bridge Special Repair Column/crossbeam sealing, pontoon deck overlay	NHPP: $4,967,250	2020 CN
Jefferson County	SR 116/Chimacum Creek – Fish Barrier Removal	NHPP: $16,993,857	2019 PE, 2020 RW, 2022 CN
Jefferson County	SR 116/W of Chimacum Cr Dr to W of Ann Kivley Dr ADA Compliance	NHPP: $246,807	2019 PE, 2020 RW, 2022 CN
Jefferson County	SR 116/Kilisut Harbor Fish Barrier Removal	STP: $1,730,500	2019 CN
Mason County	SR 3/Freight Corridor – New Alignment (SR 3/Belfair Bypass)	CWA: $66,910,000	2019 PE, 2020 RW, 2022 CN
Mason County	SR 3/Cascade Ave Signal – Signal Replacement	STP: $609,365	2022 PE, 2023 CN
Mason County	US 101/N of Sund Creek to N of Bourgault Rd ADA Compliance	STP: $62,082	2020 PE, 2020 RW, 2021 CN
Mason County	US 101/Coffee Creek Fish Barrier Removal	NHPP& STP: $4,498,808	2019 RW, 2019 CN
Mason County	US 101/Lynch Road – Safety Improvements	CWA: $2,394,593	2019 CN
Mason County	SR 106/McReavy Rd Vicinity – Culvert Repair	CWA: $214,570	2021 RW, 2022 CN
Mason County	SR 106 Twanah Creek Fish Barrier Removal	STP: $3,437,260	2021 PE, 2022 RW, 2023 CN
Mason County	SR108/McDonald Creek Fish Barrier Removal	NHPP: $8,056,117	2023 PE, 2024 RW, 2024 CN
Mason County	SR 300/Belfair State Park to SR 3 ADA Compliance	STP: $57,592	2020 RW, 2021 CN

Location	WSDOT Project Name	Revenue Source & Amount	Phase & Year
Mason County	SR 302/Victor Creek Fish Barrier Removal	STP: $4,778,760	2019 PE, 2021 RW, 2022 CN

Planned Projects in the 2019-2024 RTIP

Planned projects identified in the RTIP are those projects without a secured funding source. Planned 2019-2024 RTIP projects in the Peninsula region are shown in Exhibit 5-5. These projects have yet to be awarded funding and so they are not included in the STIP.

Exhibit 5-5: Planned Projects in PRTPO 2019-2024 RTIP

Agency	Project Name	Project Description	Potential Funding Sources
Clallam Transit System	Replacement of cutaway vehicles	Replacement of cutaway vehicles	5339: $864,000 Local Funds: $216,000 Total: $1,080,000
Clallam Transit System	Replacement of cutaway vehicles	Replacement of cutaway vehicles	5310: $440,000 Local Funds: $110,000 Total: $550,000
Clallam Transit System	Replacement of cutaway vehicles	Replacement of cutaway vehicles Revised funding amounts	5339: $864,000 Local Funds: $216,000 Total: $1,080,000
Clallam Transit System	Replacement of cutaway vehicles	Replacement of cutaway vehicles	5339: $864,000 Local Funds: $216,000 Total: $1,080,000
Clallam Transit System	Purchase Heavy Duty Buses	Purchase Heavy Duty Buses	5339: $3,786,250 Local Funds: $1,163,750 Total: $4,950,000
Forks	Calawah Way Grind and Overlay	Grind and inlay Calawah Way with sub-grade repair.	TIB: $500,000 Total $500,000
Forks	Bogachiel Way Overlay	Overlay and sub-grade repair	STP: $386,760 Total $386,760
Forks	Roadway Reconstruction and Sidewalks A St E	Roadway reconstruction with sidewalks	SRTS: $292,000 Total: $292,000
Forks	Campbell St Pavement Overlay	Pavement overlay and repair 25% of total area	TIB: 104,000 Total: $104,000
Forks	E Street Pavement Overlay with trail	Overlay and repair 5% of total area.	TIB $323,000 Total: $323,000
Forks	Russell Rd Pavement Overlay	Pavement overlay and 10% repair of total area.	TIB: $108,000 Total: $108,000
Forks	Tillicum Ln Pavement Overlay	Pavement overlay and 50% repair of total area	TIB: $152,000 Total: $152,000
Forks	Trillium Ave Pavement Overlay	Pavement overlay and 10% repair of total are	TIB: $120,000 Total: $120,000
Forks	Danielson Rd Pavement Overlay	Repair and Resurface 100% of total are	TIB: $107,000 Total: $107,000
Jefferson Transit	Equipment and Service Vehicles	To maintain equipment and replace service vehicles for preservation as well as purchase equipment and service vehicles for expansion.	STP(R): $456,000 Local Funds: $114,000 Total: $570,000
Jefferson Transit	ITS Improvements	ITS Improvements such as new computers, new software and software updates, etc	STP(R): $480,000 Local Funds: $120,000 Total: $600,000
Jefferson Transit	Maintain Equipment	Maintain JTA large equipment	STP(R): $200,000 Local Funds: $50,000 Total: $250,000
Jefferson Transit	Park and Ride Lot	Enhance and expand park and ride lots	STP(R): $580,000 Local Funds: $145,000 Total: $725,000

Agency	Project Name	Project Description	Potential Funding Sources
Jefferson Transit	Passenger Amenities, Services	Kiosk and/or other electronic services along with other amenities that will enhance passenger service.	STP(R): $300,000 Local Funds: $75,000 Total: $375,000
Jefferson Transit	Purchase electric vehicle charging infrastructure for 63 4 Corners and Haines Place Transit Centers	Purchase electric vehicle charging infrastructure for 63 4 Corners and Haines Place Transit Centers	5339: $1,160,000 Local Funds: $290,000 Total: $1,450,000
Jefferson Transit	Purchase replacement ADA Vans and Light-Duty Cutaways	Purchase replacement ADA vans and light-duty cutaways for Dial-A-Ride	STP(R): $576,000 Local Funds: $144,000 Total: $720,000
Agency	**Project Name**	**Project Description**	**Potential Funding Sources**
Jefferson Transit	Purchase replacement electric vehicles (heavy, medium buses)	Purchase replacement electric heavy-duty buses to comply with the FAST Act.	5339: $5,600,000 Local Funds: $1,400,000 Total: $7,000,000
Jefferson Transit	Purchase replacement vehicles (heavy, medium-duty buses)	Purchase replacement heavy-duty and medium-duty buses	5339: $4,800,000 Local Funds: $1,200,000 Total: $6,000,000
Jefferson Transit	Purchase Vanpool Vans	Purchase vanpool expansion and vanpool replacement vans	WSDOT: $345,200 Local Funds: $86,300 Total: $431,500
Jefferson Transit	Transit Base Preserve and Upgrade	To preserve and enhance the structure of JTA's Administrative and Maintenance buildings with major maintenance projects and upgrades.	STP(R): $200,000 Local Funds: $50,000 Total: $250,000
Jefferson Transit	Transit Shelters and I-Stops	Purchase and enhance transit shelters and I-Stops.	5309: $40,000 STP(R): $60,000 Local Funds: $25,000 Total: $125,000
Jefferson Transit	Purchase replacement medium duty cutaways	Purchase replacement medium-duty cutaways for JTOC	5309: $400,000 STP(R): $200,000 Local Funds: $150,000 Total: $750,000
Mason Transit Authority	2 heavy 35' coach vehicles (SGR Maintenance)	replacement of 2 35' coaches (SGR Scheduled Replacements)	5311: $782,400 Local Funds: $195,600 Total: $978,000
Mason Transit Authority	Replace 2 40" coaches	Replace 2 40' coaches that are beyond useful life.	5339: $1,482,690 Local Funds: $296,538 Total: $1,779,228
Mason Transit Authority	Admin/Operations Facility	Construct a new facility for MTA administration and operations to improve functionality and provide better ADA accessibility. It was determined that it would be more workable to construct a new facility as the current facility would take major renovation to meet the requirements for ADA and better functionality. A new facility would also improve the parking area and mobility of vehicles as well as provide space for a bus wash facility.	5309: $2,000,000 Local Funds: $500,000 Total: $2,500,000
Mason Transit Authority	Replace two (2) Coaches	Replace two (2) coaches that have exceeded their useful service lives.	5311: $782,400 Local Funds: $195,600 Total: $978,000
Mason Transit Authority	Construct Wet Maintenance Facility at Main Base	Construct an environmentally safe on-site bus washing facility.	5311: $400,000 Local Funds: $100,000 Total: 500,000
Mason Transit Authority	Allyn Transit Center Planning	Work with County and WSDOT to initiate a planning process for a transit center supporting commercial, retail and residential masterplan for Allyn. This project is also Improvement type 18- Planning	5311: $40,000 Local Funds: 10,000 Total: 50,000
Mason Transit Authority	Hoodsport Transit Center US Hwy 101 and SR119	Design, locate and construct a small transit center near the intersection of sr119 and US 101 to complement a locally developed park and ride lot.	5311: $40,000 Local Funds: $10,000 Total: $50,000
Mason Transit Authority	Replace one (1) 1 30 ft Coach	Replace one (1) 30 ft. Coach	5311: $391,200 Local Funds: $97,800 Total: $489,000

Agency	Project Name	Project Description	Potential Funding Sources
Port Angeles	ADA improvements near Francis Street	Curb ramps will be installed to provided sidewalk accessibility and meet ADA compliance.	Local Funds: $300,000 Total: $300,000
Port Angeles	Race Street Complete Street Development	Installation of bike lanes along Race Street from First Street to Park Avenue, eliminating on street parking on this section of Race Street.	Other: $7,650,000 Local Funds: $1,350,000 Total: $9,000,000
Port Angeles	Peabody Creek/Lincoln Street Culvert Rehab	The project involves the repair of the Peabody Creek culvert under Lincoln Street (US 101) which is experiencing differential settlement, and voids have been detected surrounding the culvert.	TIB: $2,550,000 Local Funds: $450,000 Total: $3,000,000
Port Angeles	1st/2nd/Valley/Oak Green Alley	Repair pavement and stormwater connections in this alley.	Other: $337,500 Local Funds: $112,000 Total: $450,000
Agency	**Project Name**	**Project Description**	**Potential Funding Sources**
Port Angeles	Alley Paving Revolving Funding	Annual repaving of alleys.	Local Funds: $750,000 Total: $750,000
Port Angeles	Peabody Chipseal Phase I	Chip seal Peabody Street between Lauridsen and 8th Street.	Local Funds: $125,000 Total: $125,000
Port Angeles	Peabody Street Chip Seal Phase 3	Chip seal Peabody Street from Alhvers Rd to Park Avenue	Local Funds: $200,000 Total: $200,000
Port Angeles	Peabody Street Chip Seal Phase 2	Chip Seal Peabody Street from Park Avenue to Lauridsen Blvd.	Local Funds: $125,000 Total: $125,000
Port Angeles	Lauridsen Blvd Overlay	Overlay Lauridsen Blvd from Lincoln Street to Ennis Street.	TIB: $900,00 Local Funds: $320,000 Total: $1,220,000
Port Angeles	Hill Street - ODT Development	Project will complete the Port Angeles portion of the ODT and allow trail users to safely ascend up and down Hill Street on a newly developed trail following the old railroad grade.	Ped/Bike Program: $2,117,997 Local Funds: $1,630,748 Total: $3,748,745
Port Angeles	Lincoln Street Safety	Install pedestrian and traffic safety treatments on Lincoln Street between 2nd and 8th Street.	Ped/Bike Program: $600,000 Local Funds: $100.000 Total: $700,000
Port Angeles	5th and Liberty Solar Speed Display	The project will install solar powered electronic speed signs on 5th Street.	Local Funds: $50,000 Total: $50,000
Port Angeles	Ennis Creek Culvert Replacement	Project is to replace dual concrete culverts in Ennis Creek Cutoff Road with a fish passable culvert/bridge.	Other: $525,000 Total: $525,000
Port Angeles	16th Street LID (C Street to L Street)	The project involves LID techniques on 16th Street from C Street to L Street. Replacement of this section of road is needed because the asphalt has gone beyond the life expectancy and potholes and rutting have developed	Other: $835,000 Local Funds: $225,000 Total: $1,060,000
Port Angeles	Hamilton School Walking Routes	This project will create safe walking routes for children walking to Hamilton School.	SRTS: $170,000 Local Funds: $45,000 Total: $215,000
Port Angeles	City Hall East Parking Lot LID	LID techniques to manage stormwater and parking surface of City parking lot.	Other: $477,000 Local Funds: $125,000 Total: $602,000
Port Angeles	Ennis Street Pavement Repair	Square cut pavement patches from Ennis Street between Front and 5th.	Local Funds $70,000 Total: $70,000
Port Angeles	Lauridsen Blvd Traffic Calming	Construct traffic calming chicanes and curb bump outs to calm speed of traffic and allow safer pedestrian crossing of Lauridsen Blvd between Lincoln and Race Street.	Ped/Bike Program: $200,000 Local Funds: $100,000 Total: $300,000
Port Angeles	6th/7th Alley (Francis to Washington)	Replace alley base and surfacing	Local Funds: $200,000 Total: $200,000
Port Angeles	Laurel St. Street Stair Replacement	The project involves the replacement of failing wood stairway with low maintenance concrete stairs which will complement the fountain plaza and downtown improvements.	Local Funds: $400,000 Total: $400,000
Port Angeles	N Street (5th to 15th) - Chip Seal	Chip seal of N Street from 5th St to 15th St.	Local Funds: $300,000

Agency	Project Name	Project Description	Potential Funding Sources
			Total: $300,000
Port Angeles	Front St Alleys	Replace alley base and surfacing.	Local Funds: $250,000 Total: $250,000
Port Angeles	Golf Course Road Chip Sea	Overlay on Golf Course Rd from 1st Street to Lindberg Road.	Local Funds: $200,000 Total: $200,000
Port Angeles	Stevens Middle School	Install sidewalks and curb ramps on designated school walking routes near Stevens Middle School.	SRTS: $550,000 Local Funds: $100,000 Total: $650,000
Port Angeles	8th/10th Street Bike Lanes	Bike lanes and shared route from 10th and I St to 8th St and A St.	Ped/Bike Program: $200,000 Local Funds: $200,000 Total: $400,000
Port Angeles	8th Street (C to I) Chip Seal	Chip sealing of 8th Street from C to I St.	Local Funds: $300,000 Total Funds: $300,000
Agency	**Project Name**	**Project Description**	**Potential Funding Sources**
Port Angeles	Park Avenue Paving Overlay	Overlay of asphalt and subgrade repairs on Park Avenue from Race to Liberty Street.	TIB: $318,000 Local Funds: $56,250 Total: $375,000
Port Angeles	I Street (5th to 16th) Chipseal	Chipseal I Street from 5th to 16th Street.	Local Funds: $300,000 Total: $300,000
Port Angeles	School Area Speed Signs	The project will install electronic speed signs near Franklin School.	Local Funds: $50,000 Total: $50,000
Port Angeles	ADA - Peabody Street	Curb Ramps installed to provide sidewalk accessibility and meet ADA compliance.	Local Funds: $310,000 Total: $310,000
Port Angeles	Liberty Street Reconstruction	Reconstruction of Liberty Street from 5th Street to Lauridsen Blvd to correct structural failure of roadway. Replace base, asphalt, update drainage.	Local Funds: $450,000 Total: $450,000
Port Townsend	Discovery Road I	Rebuild roadway, sidewalks, drainage, shoulder improvements, bike lanes	Other: $8,350,000 Total: $8,350,000
Port Townsend	Washington Street	Streetscape improvements; new curb, gutter, pavement, sidewalk repair and replacement	Local Funds: $2,350,000 Total: $2,350,000
Port Townsend	Sims Way Improvements III	Turn lanes, shoulder improvements, intersection improvements, bike lanes, transit pullouts, sidewalks, mitigation of ferry traffic impact	WSDOT: $6,600,000 Total: $6,600,000
Port Townsend	Sims Way Improvements II	Intersection improvements; shoulder improvements; drainage; transit pullouts; sidewalks; pedestrian crossings; stormwater treatment	WSDOT: $5,600,000 Total: $5,600,000
Port Townsend	Sims Way (SR 20) Intersection Improvements	Intersection improvements	Local Funds: $2,000,000 Total: $2,000,000
Port Townsend	Discovery Road II	Rebuild roadway, bike lanes, sidewalks, pathway, transit pullouts, drainage, intersection improvements	Other: $2,500,000 Local Funds: $500,000 Total: $3,000,000
Port Townsend	San Juan Improvements II	Grind and install new road surface. Replace utility lines. Sidewalk on one side only.	Local Funds: $1,700,000 Total: $1,700,000
Port Townsend	Hastings Avenue Improvements	Shoulder widening, bike lanes, pavement overlay, drainage improvements	Local Funds: $3,725,000 Total: $3,725,000
Port Townsend	Lawrence Street Improvements	Grind, base upgrade, repave, sidewalks, shoulder improvements	Local Funds: $1,000,000 Total: $1,000,000
Port Townsend	Jackson / Walnut Improvements	Shoulder improvements, overlay, drainage improvements	Local Funds: $500,000 Total: $500,000
Port Townsend	Rainier Street Extension II	New street extension	Other: $2,200,000 Local: $4,500,000 Total: $6,700,000
Port Townsend	Mill Road Intersection	Intersection improvements	WSDOT: $10,000,000 Total: $10,000,000
Port Townsend	Admiralty Avenue Improvements	Shoulder improvements, sidewalk, bike lanes, drainage	Local Funds: $700,000 Total: $700,000
Port Townsend	Monroe Street Improvements	Address road settlement, re-do subgrade, repave	Local Funds: $1,000,000 Total: $1,000,000

Agency	Project Name	Project Description	Potential Funding Sources
Port Townsend	49th Street / Cook Ave Improvements	Shoulder widening, drainage improvements, pavement overlay, bike and pedestrian accommodations	Local Funds: $1,200,000 Total: $1,200,000
Port Townsend	McPherson Street Improvements	Add sidewalks, bike lanes	Local Funds: $1,780,000 Total: $1,780,000
Port Townsend	Blaine Street Improvements	Sidewalk, shoulder improvements, drainage, curb and gutter	Local Funds: $500,000 Total: $500,000
Port Townsend	Non-Motorized Multi Modal Loop Trail	Loop trail as identified in Non-Motorized Transportation Plan	STP (E): $150,000 Other: $150,000 Local Funds: $200,000 Total: $500,000
Port Townsend	10th Street	Sidewalks, bike lanes, drainage, shoulders	Local Funds: $600,000 Total: $600,000
Port Townsend	12th Street	Sidewalks, shoulders, drainage improvements	Local Funds: $700,000 Total: $700,000
Port Townsend	Cherry / Redwood Improvements	Shoulder improvements, overlay, drainage improvements	Local Funds: $1,000,000 Total: $1,000,000
Agency	**Project Name**	**Project Description**	**Potential Funding Sources**
Port Townsend	Discovery Road Improvements III	Rebuild roadway, shoulder improvements, bike lanes, sidewalks, pathway, drainage, intersection improvements	TIB: $350,000 Other: $1,600,000 Local Funds: $50,000 Total: $2,000,000
Port Townsend	9th Street	Sidewalks, bike lanes	Local Funds: $700,000 Total: $700,000
Port Townsend	W Street Improvements	Shoulder widening, overlay, drainage improvements	Local Funds: $800,000 Total: $800,000
Port Townsend	Lawrence Street	Road rebuild	Local Funds: $500,000 Total: $500,000
Port Townsend	Washington Street II	Road rebuild	Local Funds: $500,000 Total: $500,000
Port Townsend	Monroe Street II	Road rebuild	Local Funds: $500,000 Total: $500,000
Port Townsend	Sheridan Street	Road rebuild	Local Funds: $700,000 Total: $700,000

Funding programs

The following are federal and state revenue sources available to support transportation projects throughout the Peninsula region.

Federal Funds

Following are descriptions of federal funding sources available through the FAST Act with particular relevance to the Peninsula region. This list does not include all available federal funding sources.

Better Utilizing Investments to Leverage Development (BUILD Grants): Highly competitive national transportation grant program provides a unique opportunity for the state and local agencies to invest in road, rail, transit and port projects that promise to achieve national objectives.

Local Bridge Program: This program provides funding assistance for eligible bridges on public roads. The state prioritizes and programs state and local bridges for funding. Due to the federal bridge program discontinuation, local bridge projects are funded by National Highway Performance Program (NHPP) and STBG. May be reflected in Statewide Transportation Improvement Program (STIP) under Surface Transportation Block Grant (STP).

Federal Lands and Tribal Transportation Programs: Fixing America's Surface Transportation (FAST) Act continues the long-standing recognition of the importance of access to federal and tribal lands. It funds a unified program for tribal transportation facilities, federal lands transportation facilities, federal lands access transportation facilities, and tribal transportation facilities.

> **Tribal Transportation Program (TTP):** Funds projects that improve access to and within tribal lands. This program adds new set asides for tribal bridge projects and tribal safety projects. Funds may be identified in STIP as IRR.
>
> **Federal Lands Transportation Program (FLTP)**: Funds projects that improve access within federally held lands such as national forests and national recreation areas on infrastructure owned by the federal government.
>
> **Federal Lands Access Program (FLAP)**: Funds projects that improve access to Federal lands on infrastructure owned by states and local governments. Projects providing access to any federal lands are eligible for this comprehensive program.

FTA Section 5310: These transit funds support the mobility needs of the elderly and persons with disabilities primarily through private, nonprofit organizations and transit agencies in small urban and rural areas. Eligible activities include operating assistance, mobility management, purchase of passenger vehicles and related equipment.

FTA Section 5311: These transit funds support the public transportation needs of rural communities. Eligible activities include purchase of passenger vehicles, operating assistance, and Rural Transit Assistance Program (RTAP) technical assistance. A 15 percent apportionment is allocated to rural intercity bus programs. The program is administered through WSDOT's Consolidated Grant Program.

FTA Section 5339: The Bus and Bus Facilities Formula Program provides capital funding to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities in rural and small urban areas. Funding awards are determined through a competitive application process.

Highway Infrastructure Program (HIP): The 2018 Omnibus bill provided added funds apportioned as the STBG program (23 CFR 133(d)) for road and bridge projects. These funds must be obligated by September 30, 2021 or they will lapse.

Highway Safety Improvement Program (HSIP): A FAST Act objective of the core safety program continues to be achieving a significant reduction in traffic fatalities and serious injuries on all public roads. All state and local agencies and tribal nations in Washington are eligible to apply. WSDOT prioritizes and programs state and local projects based upon the Strategic Highway Safety plan approved by the Governor in 2006 and updated in 2016, called Target Zero. This program has a set-aside for the railway/highway crossing program.

Safe Routes to Schools (HSIP-SR): These funds support the planning, design, and construction of infrastructure-related projects on any public road or any bicycle or pedestrian pathway or trail within two-miles of K-12 schools that will substantially improve the ability of students to walk and bicycle to school. Eligible activities also include strategies to encourage walking and bicycling to school. WSDOT prioritizes and programs Safe Routes to Schools projects for funding

National Highway Freight Program (NHFP): Established by the FAST Act, these funds are directed at projects that improve the efficient movement of freight on US highways that are part of the National Highway Freight Network (NHFN).

National Highway Performance Program (NHPP): This program supports projects that improve the condition and performance of the National Highway System (NHS) as well as construction of new facilities on the NHS. The intent is to ensure that investments of federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a state's asset management plan for the NHS. Eligible activities include construction, reconstruction, resurfacing, restoration, rehabilitation, and preservation of highways and bridges, including bridges on a non-NHS Federal-aid highway (If Interstate System and NHS Bridge Condition provision requirements are satisfied), or operational improvement of segments of the National Highway System. The enhanced National Highway System (NHS) is composed of rural and urban roads serving major population centers, international border crossings, intermodal transportation facilities, and major travel destinations. It includes the Interstate System, all principal arterials (including some not previously designated as part of the NHS) and border crossings on those routes, highways that provide motor vehicle access between the NHS and major intermodal transportation facilities, and the network of highways important to U.S. strategic defense (STRAHNET) and its connectors to major military installations.

Surface Transportation Block Grant (STBG): This program provides flexible funding that may be used by state and local agencies, transit agencies, ports, and tribes for projects that preserve and improve the conditions and performance of any Federal-aid highway, bridge or tunnel. Eligible activities can address public roads, pedestrian and bicycle infrastructure, and transit capital projects including intercity bus terminals. The STBG program includes sub-allocated funds based on urban/rural population and flexible funds for use anywhere.

Transportation Alternatives (TA): This program is a set-aside of STBG funds and is restricted to programs and projects related to on- and off-road pedestrian and bicycle facilities, improving non-driver access to public transportation and enhanced mobility, community improvement activities, environmental mitigation and safe routes to school projects. A set-aside for the Recreational Trails Program is provided. MPOs and RTPOs are responsible for allocating TAP funds to priority projects.

State Funds

The following are descriptions of available state funding sources with particular relevance to the Peninsula region and its partners. This list does not include all available funding sources.

Urban Arterial Program (UAP): funds roadway projects that improve safety and mobility in cities with a population over 5,000 people.

Urban Corridor Program (UCP): funds roadway projects with multiple funding partners that expand capacity in cities with a population over 5,000 people.

Sidewalk Program (SP): funds sidewalk projects that improve safety and connectivity in cities with a population over 5,000 people.

Small City Arterial Program (SCAP): funds projects that improve safety and roadway conditions in small cities with a population under 5,000 people.

Small City Preservation Program (SCPP): funds projects for rehabilitation in small cities with a population under 5,000 people.

Connecting Washington Account (CWA): The 2015 *Connecting Washington* funding package was a 16-year, $16 billion investment package supporting many state and local projects.

Recreation and Conservation Office Grants (RCO): RCO grants are managed to create and enhance outdoor recreation opportunities, protect the best of the state's wildlife habitat and farmland, and help restore salmon habitat. It is often used to support trail projects.

Rural Arterial Program (RAP): This program managed by the County Road Administration Board funds improvements to existing rural arterial road networks owned by unincorporated county agencies.

County Arterial Preservation Program (CAPP): This program managed by the County Road Administration Board funds priority pavement preservation projects located on the existing paved arterial road network of unincorporated county agencies.

County Ferry Capital Improvement Program (CFCIP): This program offers financial assistance for major capital improvements to the four county-operated ferry systems.

Pedestrian and Bicycle Program: This program's objective is to improve the transportation system to enhance safety and mobility for people who chose to walk or bike. WSDOT prioritizes and programs projects.

Safe Routes to School (SRTS): This state-funded equivalent to the federally funded program is targeted to projects that enable and encourage children, including those with disabilities, to walk and bicycle to school. Eligible activities include projects and programs that make walking and bicycling to school safe and more appealing, as well as those that facilitate the planning, development and implementation of projects within two-miles of K-12 schools to improve safety and reduce traffic, fuel consumption and air pollution in the vicinity of schools. WSDOT prioritizes and programs projects.

Brian Abbott Fish Barrier Removal Board Grant Program: The Legislature established the grant program in 2014 to identify and remove impediments to salmon and steelhead migration. The grant program is administered jointly by the Washington Department of Fish and Wildlife and the Recreation and Conservation Office. All fish barrier removal board funded grant projects are reviewed and approved by the Fish Barrier Removal Board.

6: Regional Transportation Strategies

This chapter identifies strategies to improve the performance of the state highway system. These strategies were developed with WSDOT and the Peninsula RTPO partners working together using the practical solutions approach as part of the corridor sketch initiative. Legislative support to fund improvements on local priority state routes will be enhanced if local, regional, and state priorities are aligned. Corridor sketches document mobility needs, performance gaps, planned improvements, and potential strategies for each state route. Corridor sketches incorporate information from:

- Prior studies and WSDOT Route Development and Corridor Plans
- Local jurisdiction comprehensive plans and transportation plans
- The regional 2040 plan
- County-wide meetings with local partner agencies

More information on Corridor sketches and Practical Solutions is provided in Appendix A.

WSDOT and its PRTPO partners identified the following strategies and associated actions to keep the corridors working well and address performance gaps. Strategies are grouped by Transportation System Policy Goals.[30] This list is not meant to be all-inclusive, nor is it an established list of priorities. Instead, it identifies problem areas meriting a closer look. Further evaluation is needed before a solution can be identified.

Economic Vitality

WSDOT will continue to work with partners in developing strategies for the corridors listed below.

- SR 3: SR 305 Jct (Poulsbo vicinity) to SR 104 Jct (Hood Canal Bridge)
- SR 3: Freight Corridor from vicinity SR 302 to vicinity SR 3 at Lake Flora Road (underway)
- SR 300: Belfair State Park to SR 3 Jct (Belfair)
- SR 305: West Access to WSF (SR 3 to Bainbridge Ferry Terminal)
- SR 3: SR 16 Jct (Gorst) to SR 305 Jct (Poulsbo vicinity)
- US 101/SR 104/SR 117: US 101 Jct at SR 112 to SR 104 Jct at SR 3
- SR 19/20/116: West Access to WSF (Port Townsend)
- SR 110: US 101 Jct (Forks) to La Push/Mora (Access to Quileute Indian Reservation)
- SR 102: Washington State Corrections Center to US 101 Jct (Shelton Vic)
- SR 119: US 101 Jct (Hoodsport) to Lake Cushman
- SR 106: US 101 Jct to SR 3 Jct (Belfair)
- SR 16: I-5 Jct (Tacoma) to SR 3 Jct (Gorst)
- US 101: Hoquiam to SR 112 Jct (Lower Elwha vicinity)

[30] RCW 47.04.280: Transportation System Policy Goals. https://apps.leg.wa.gov/rcw/default.aspx?cite=47.04.280.

- US 101: SR 104 Jct (Port Ludlow vicinity) to SR 102 Jct (Shelton)
- US 101: SR 102 Jct (Shelton) to I-5 Jct (Tumwater/Olympia)
- SR 104/SR 307: West Access to WSF (Kingston Ferry Terminal)
- SR 112/113: Port Angeles to Neah Bay
- SR 160: SR 16 Jct to Southworth Ferry Terminal
- SR 304: West Access to WSF (SR 3/SR 304 Jct to Bremerton Ferry Terminal)
- SR 302: SR 3 Jct to SR 16 Jct
- SR 166: SR 16 Jct (Gorst Vic) to East Port Orchard City Limits
- SR 308: SR 3 Jct to Keyport

Preservation

Strategies to address preservation are included for the corridors listed below.

SR 3: SR 305 Junction (Poulsbo vicinity) to SR 104 Junction (Hood Canal Bridge)
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified two pavement actions in the next six years encompassing 100 percent of the corridor.

SR 300: Belfair State Park to SR 3 Junction (Belfair)
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified one Pavement action in the next six years encompassing 91 percent of the corridor.

SR 305: West Access to WSF (SR 3 to Bainbridge Ferry Terminal)
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Structures: WSDOT has identified one Structures action in the next six years at a single location on this corridor.

SR 3: SR 16 Junction (Gorst) to SR 305 Junction (Poulsbo vicinity)
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified three Pavement actions in the next six years encompassing 76 percent of the corridor

US 101/SR 104/SR 117: US 101 Junction at SR 112 to SR 104 Junction at SR 3
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified four Pavement actions in the next six years encompassing 100 percent of the corridor.
Structures: WSDOT has identified four Structures actions in the next six years encompassing 7 percent of the corridor.

SR 19/20/116: West Access to Port Townsend Ferry Terminal
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified six Pavement actions in the next six years encompassing 68 percent of the corridor.

Other Facilities: WSDOT has identified one Other Facilities action in the next six years at a single location on this corridor.

SR 110: US 101 Junction (Forks) to La Push/Mora (Access to Quileute Indian Reservation)
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Structures: WSDOT has identified one Structures action in the next six years at a single location on this corridor.

SR 102: Washington State Corrections Center to US 101 Junction (Shelton Vicinity)
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified one Pavement action in the next six years encompassing 100 percent of the corridor.

SR 119: US 101 Junction (Hoodsport) to Lake Cushman

Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified one Pavement action in the next six years encompassing 66 percent of the corridor.

SR 106: US 101 Junction to SR 3 Junction (Belfair)
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified one Pavement action in the next six years encompassing 96 percent of the corridor.

Other Facilities: WSDOT has identified one Other Facilities action in the next six years at a single location on this corridor.

SR 16: Kitsap-Pierce County Line to SR 3 Junction (Gorst)
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified one Pavement action in the next six years encompassing 30 percent of the corridor.

Structures: WSDOT has identified one Structures action in the next six years encompassing 4 percent of the corridor.

US 101: Grays Harbor-Jefferson County Line to SR 112 Junction (Lower Elwha vicinity)
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified three Pavement actions in the next six years encompassing 36 percent of the corridor.

Structures: WSDOT has identified three Structures actions in the next six years at specific locations within this corridor.

Other Facilities WSDOT has identified one Other Facilities action in the next six years at a single location on this corridor.

US 101: SR 104 Junction (Port Ludlow vicinity) to SR 102 Junction (Shelton)
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified two Pavement actions in the next six years encompassing 37 percent of the corridor.

Structures: WSDOT has identified three Structures actions in the next six years at specific locations within this corridor.

US 101: SR 102 Junction (Shelton) to Mason-Thurston County Line
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified one Pavement action in the next six years encompassing 36 percent of the corridor.

Structures: WSDOT has identified one Structures action in the next six years at a single location on this corridor.

SR 104/SR 307: West Access to Kingston Ferry Terminal
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement WSDOT has identified two Pavement actions in the next six years encompassing 70 percent of the corridor.

SR 112/113: Port Angeles to Neah Bay
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified two Pavement actions in the next six years encompassing 86 percent of the corridor.

Other Facilities: WSDOT has identified one Other Facilities action in the next six years encompassing 5 percent of the corridor.

SR 160: SR 16 Junction to Southworth Ferry Terminal
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified two Pavement actions in the next six years encompassing 70 percent of the corridor.

SR 304: West Access at the SR 3/SR 304 Junction to Bremerton Ferry Terminal
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified one Pavement action in the next six years encompassing 28 percent of the corridor.

SR 302: SR 3 Junction to the Kitsap-Pierce County Line
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified two Pavement actions in the next six years encompassing 39 percent of the corridor.

Structures: WSDOT has identified one Structures action in the next six years at a single location on this corridor.

Other Facilities: WSDOT has identified one Other Facilities action in the next six years at a single location on this corridor.

SR 166: SR 16 Junction (Gorst Vicinity) to East Port Orchard City Limits
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Pavement: WSDOT has identified one Pavement action in the next six years encompassing 26 percent of the corridor.

SR 308: SR 3 Junction to Keyport
Maintenance: Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.

Safety

Strategies to address safety are included for the corridors listed below.

SR 305: West Access at SR 3 to Bainbridge Ferry Terminal)
Investment: WSDOT has identified one Safety Investment action in the next six years encompassing 85 percent of the corridor.

SR 3: SR 16 Junction (Gorst) to SR 305 Junction (Poulsbo vicinity)
Investment: WSDOT has identified one Safety Investment action in the next six years encompassing 78 percent of the corridor

US 101/SR 104/SR 117: US 101 Junction at SR 112 to SR 104 Junction at SR 3
Investment: WSDOT has identified seven Safety Investment actions in the next six years encompassing 100 percent of the corridor.

SR 19/20/116: West Access to Port Townsend Ferry Terminal
Investment: WSDOT has identified two Safety Investment actions in the next six years encompassing 25 percent of the corridor.

SR 16: Pierce-Kitsap County Line to SR 3 Junction (Gorst)
Investment: WSDOT has identified one Safety Investment action in the next six years encompassing 34 percent of the corridor.

US 101: SR 104 Junction (Port Ludlow vicinity) to SR 102 Junction (Shelton)
Investment: WSDOT has identified one Safety Investment action in the next six years encompassing 17 percent of the corridor.

US 101: SR 102 Junction (Shelton) to Mason-Thurston County Line
Investment: WSDOT has identified two Safety Investment actions in the next six years encompassing 12 percent of the corridor.

SR 104/SR 307: West Access to Kingston Ferry Terminal
Investment: WSDOT has identified one Safety Investment action in the next six years encompassing 35 percent of the corridor.

SR 112/113: Port Angeles to Neah Bay
Investment: WSDOT has identified one Safety Investment action in the next six years encompassing 29 percent of the corridor.

SR 160: SR 16 Junction to Southworth Ferry Terminal
Investment: WSDOT has identified two Safety Investment actions in the next six years encompassing 25 percent of the corridor.

SR 304: West Access at SR 3/SR 304 Junction to Bremerton Ferry Terminal
Investment: WSDOT has identified one Safety Investment action in the next six years encompassing 28 percent of the corridor.

SR 302: SR 3 Junction to Kitsap-Pierce County Line
Investment: WSDOT has identified one Safety Investment action in the next six years encompassing 33 percent of the corridor.

SR 166: SR 16 Junction (Gorst Vicinity) to East Port Orchard City Limits
Investment: WSDOT has identified one Safety Investment action in the next six years encompassing 35 percent of the corridor.

Mobility

Operational improvement strategies to address mobility are included for the corridors listed below.

SR 3: SR 305 Junction (Poulsbo vicinity) to SR 104 Junction (Hood Canal Bridge)

- Continue installing “smart highway” devices. These devices include added traffic cameras, and electronic overhead messaging signs.
- Consider incident response team trucks that help detect and clear crashes to minimize congestion.
- Consider signs to direct northbound traffic to use shoulder as a holding lane when traffic backs up.
- Consider advance warning lights for SR 3/Pioneer Way NW-Tyler Road NE intersection to address sight concerns.

SR 300: Belfair State Park to SR 3 Junction (Belfair)

Assessment: An operational improvement mobility performance strategy has not been identified by WSDOT.

SR 305: West Access at SR 3 to Bainbridge Ferry Terminal

- Evaluate sidewalk bulb-outs within Poulsbo that are reducing or blocking shared shoulder for bicycles.
- Coordinate signals on Bainbridge Island for efficiency.
- Upgrade overhead loading for passengers at Washington Ferry Terminal for efficiency.
- Improve dilemma zone detection for bicycle and motorcycle in Poulsbo (SR 3 to Hostmark St).
- Transit signal priority at signalized intersections in Poulsbo.
- Lengthen turn lane storage at signalized intersections in Poulsbo to reduce congestion.
- Shift High Occupancy Vehicle lanes to inside lanes in Poulsbo for efficiency.
- Implement traffic calming strategies at the Poulsbo entrance for efficiency to reduce speed.
- Consider "no right turn on red" from side streets on Bainbridge Island north of Day Road to break up ferry platooning and provide breaks in traffic to reduce congestion.

SR 3: SR 16 Junction (Gorst) to SR 305 Junction (Poulsbo vicinity)

- The Statewide Intelligent Transportation System (ITS) Plan includes on-ramp meters between SR 16 and SR 304 for efficiency.
- Consider incident response to help reduce nonrecurring congestion.
- The Statewide Intelligent Transportation System (ITS) Plan includes variable message signs and onramp meters between SR 16 and SR 104 for improving mainline efficiency.
- Consider incident response for non-recurring congestion (crashes that cause queuing).

US 101/SR 104/SR 117: US 101 Junction at SR 112 to SR 104 Junction at SR 3

- Use advance notice sign to let users know of pullout to reduce queuing behind slow vehicles.

SR 19/20/116: West Access to Port Townsend Ferry Terminal

- Add illumination and northbound right turn channelization at Prospect Avenue intersection to improve visibility and traffic flow.
- Implement left turn with acceleration receiving lane, and right turn channelization at Woodland Drive/Airport Road intersection in order to reduce delay.
- Install centerline and shoulder rumble strips, between Prospect Avenue and SR 20 with low noise wave pattern and four-foot effective shoulder for bicyclists.
- Implement traffic calming at Prospect Avenue and Woodland Drive/Airport Road Intersections through the use of advanced warning signage and paint striping to improve traffic flow and improve environment for non-motorized users.

SR 110: US 101 Junction (Forks) to La Push/Mora (Access to Quileute Indian Reservation)

Assessment: An operational improvement mobility performance strategy has not been identified by WSDOT.

SR 102: Washington State Corrections Center to US 101 Junction (Shelton Vicinity)

Assessment: An operational improvement mobility performance strategy has not been identified by WSDOT.

SR 119: US 101 Junction (Hoodsport) to Lake Cushman

Assessment: An operational improvement mobility performance strategy has not been identified by WSDOT.

SR 106: US 101 Junction to SR 3 Junction (Belfair)

Assessment: An operational improvement mobility performance strategy has not been identified by WSDOT.

SR 16: Pierce-Kitsap County Line to SR 3 Junction (Gorst)

- Consider expansion of nearby Traffic Management Center to continue providing Intelligent Transportation Systems (upgrade end equipment and software).

US 101: Grays Harbor-Jefferson County Line to SR 112 Junction (Lower Elwha vicinity)

- Assessment: An operational improvement mobility performance strategy has not been identified by WSDOT.

US 101: SR 104 Junction (Port Ludlow vicinity) to SR 102 Junction (Shelton)

- Assessment: An operational improvement mobility performance strategy has not been identified by WSDOT.

US 101: SR 102 Junction (Shelton) to Mason-Thurston County Line

- Implement advanced warning signage to reduce delays.
- Reduce posted speed between the US 101/Shelton-Matlock interchange and US 101/SR 3 interchange to reduce the number of slowing vehicles at ramps.
- Implement advance warning signage to reduce delays.
- Install signage for southbound zipper merging in the morning peak hour to reduce queuing.
- Implement statewide Intelligent Transportation Systems to reduce delays.
- Consider creating specific merging lanes with signs and lighting to reduce queuing.
- Develop options for increasing ramp throughput and reduce queuing at the US 101/SR 8 interchange.
- Implement Intelligent Transportation Systems to reduce delays.

SR 104/SR 307: West Access to Kingston Ferry Terminal

- Evaluate improving sight distance south of NE Gunderson Road near a topsoil company.
- Evaluate adding signage northbound for left turns ahead to provide early warning.
- Create a vehicle reservation system for the Kingston –Edmonds ferry route to reduce queuing.
- Explore possibility of vehicle reservations for ferry customers between Kingston and Edmonds.
- Consider a right turn lane southbound on Hansville Road NE for traffic turning onto SR 104.

SR 112/113: Port Angeles to Neah Bay

Assessment: An operational improvement mobility performance strategy has not been identified by WSDOT.

SR 160: SR 16 Junction to Southworth Ferry Terminal

Assessment: An operational improvement mobility operational strategy was not identified by WSDOT.

SR 304: West Access at SR 3/SR 304 Junction to Bremerton Ferry Terminal

- Explore possibility of ferry reservation system between Bremerton and Seattle to reduce queuing.
- Consider adaptive traffic signals to detect and accommodate changing traffic patterns in a network grid (City of Bremerton jurisdiction).
- Evaluate using law enforcement during summer weekends for ferry loading priority along right lane of Burwell St to reduce queuing.

SR 302: SR 3 Junction to Kitsap-Pierce County Line
Assessment: An operational improvement mobility performance strategy has not been identified by WSDOT.

SR 166: SR 16 Junction (Gorst Vicinity) to East Port Orchard City Limits
Assessment: An operational improvement mobility performance strategy has not been identified by WSDOT.

SR 308: SR 3 Junction to Keyport
Assessment: An operational improvement mobility performance strategy has not been identified by WSDOT.

Environment

The following three strategies to address environment are included for the corridors listed below.

Protect and Maintain: Protect and maintain existing assets that provide environmental roles (these include WSDOT's mitigation sites, storm water systems, and fish-passable culverts).

Enhance or Restore: Enhance or restore natural areas and environmental roles associated with the multimodal transportation system.

Fish Barrier Retrofit: WSDOT has prioritized the removal of state-owned culverts that block habitat for salmon and steelhead.

An interactive map of uncorrected fish barriers is located on WSDOT's Fish Passage website.[31]

- SR 3: SR 305 Junction (Poulsbo vicinity) to SR 104 Junction (Hood Canal Bridge)
- SR 300: Belfair State Park to SR 3 Junction (Belfair)
- SR 305: West Access at SR 3 to Bainbridge Ferry Terminal
- SR 3: SR 16 Junction (Gorst) to SR 305 Junction (Poulsbo vicinity)
- US 101/SR 104/SR 117: US 101 Junction at SR 112 to SR 104 Junction at SR 3
- SR 19/20/116: West Access to Port Townsend Ferry Terminal
- SR 110: US 101 Junction (Forks) to La Push/Mora (Access to Quileute Indian Reservation)
- SR 102: Washington State Corrections Center to US 101 Junction (Shelton Vicinity)
- SR 119: US 101 Junction (Hoodsport) to Lake Cushman
- SR 106: US 101 Junction to SR 3 Junction (Belfair)
- SR 16: Kitsap-Pierce County Line to SR 3 Junction (Gorst)
- US 101: Grays Harbor-Jefferson County Line to SR 112 Junction (Lower Elwha vicinity)

[31] WSDOT. Fish Passage. http://www.wsdot.wa.gov/Projects/FishPassage/default.htm.

- US 101: SR 104 Junction (Port Ludlow vicinity) to SR 102 Junction (Shelton)
- US 101: SR 102 Junction (Shelton) to Mason-Thurston County Line
- SR 104/SR 307: West Access to Kingston Ferry Terminal
- SR 112/113: Port Angeles to Neah Bay
- SR 160: SR 16 Junction to Southworth Ferry Terminal
- SR 304: West Access at SR 3/SR 304 Junction to Bremerton Ferry Terminal
- SR 302: SR 3 Junction to Kitsap-Pierce County Line
- SR 166: SR 16 Junction (Gorst Vicinity) to East Port Orchard City Limits
- SR 308: SR 3 Junction to Keyport

Stewardship

Under Practical Solutions, the Corridor Sketch Initiative identifies corridor performance, and assesses alternative strategies to improve the quality, effectiveness, and efficiency of the transportation system. Strategies to address stewardship are included for the corridors listed below.

- SR 3: SR 305 Junction (Poulsbo vicinity) to SR 104 Junction (Hood Canal Bridge)
- SR 300: Belfair State Park to SR 3 Junction (Belfair)
- SR 305: West Access at SR 3 to Bainbridge Ferry Terminal
- SR 3: SR 16 Junction (Gorst) to SR 305 Junction (Poulsbo vicinity)
- US 101/SR 104/SR 117: US 101 Junction at SR 112 to SR 104 Junction at SR 3
- SR 19/20/116: West Access to Port Townsend Ferry Terminal
- SR 110: US 101 Junction (Forks) to La Push/Mora (Access to Quileute Indian Reservation)
- SR 102: Washington State Corrections Center to US 101 Junction (Shelton Vicinity)
- SR 119: US 101 Junction (Hoodsport) to Lake Cushman
- SR 106: US 101 Junction to SR 3 Junction (Belfair)
- SR 16: Kitsap-Pierce County Line to SR 3 Junction (Gorst)
- US 101: Grays Harbor-Jefferson County Line to SR 112 Junction (Lower Elwha vicinity)
- US 101: SR 104 Junction (Port Ludlow vicinity) to SR 102 Junction (Shelton)
- US 101: SR 102 Junction (Shelton) to Mason-Thurston County Line
- SR 104/SR 307: West Access to Kingston Ferry Terminal
- SR 112/113: Port Angeles to Neah Bay
- SR 160: SR 16 Junction to Southworth Ferry Terminal
- SR 304: West Access at SR 3/SR 304 Junction to Bremerton Ferry Terminal
- SR 302: SR 3 Junction to Kitsap-Pierce County Line
- SR 166: SR 16 Junction (Gorst Vicinity) to East Port Orchard City Limits
- SR 308: SR 3 Junction to Keyport

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7: Next Steps

This *Regional Transportation Plan 2040* identifies system information and conditions, describes trends and needs, and lists performance measures. **Chapter 6** lists the strategies on state highways and problem areas without easy solutions that the Peninsula RTPO will collectively work towards over the 20-year planning horizon.

Beyond the strategies and problem areas identified in Chapter 6, the PRTPO plan informs local and state transportation policies and investments through its vision and goals and the overarching inter-jurisdictional coordination resulting from the on-going regional transportation planning process. The many individual day-to-day decisions and investments made by PRTPO's partners in building, maintaining, operating, and planning for the region's multimodal transportation system are all important elements of plan implementation.

Coordination and Collaboration

The Peninsula RTPO will coordinate RTP implementation and updates with members over the life of the plan. Moving the region towards a more integrated, multimodal transportation system requires partnership and collaboration among the PRTPO's members and its many stakeholders. Roles and responsibilities for implementing this plan are diverse because responsibility for managing the multimodal transportation system is shared by many entities.

On-going implementation activities that PRTPO undertakes will be identified in the agency's annual Unified Planning Work Program, or UPWP[32]. Implementation activities that individual members undertake may be reflected in their local Comprehensive Plans, Transit Develop Plans, Transportation Improvement Programs, and Tribal Transportation Improvement Programs, depending upon the nature of the work and funding availability. Regional implementation activities will be consistent with local Comprehensive Plans, furthering the iterative and enduring collaboration between local and regional planning partners in providing for community needs.

New Horizons

In 2019 PRTPO completed its transition to an independent RTPO responsible for setting its own direction and identifying and implementing its regional planning priorities. In 2020 PRTPO will begin exploring regional issues and opportunities to identify those priority needs that it is best suited to address in its capacity as the regional transportation planning organization for the Clallam-Jefferson-Kitsap-Mason County region.

Input to that strategic planning process will come from public comments received during the review of this 2040 plan in its draft form. Details on that public engagement process can be found in Appendix B.

[32] The most current version of PRTPO's Unified Planning Work Program (UPWP) can be found on the Publications page of PRTPO's website at: https://prtpo.kitsaptransit.com/publications.htm

Substantive topics emerged from the draft review that merit further discussion as PRTPO members consider the array of issues and opportunities facing the region.

Focus on system resiliency

The region relies on a fragile transportation system and there is little or no plan in place to increase resiliency or system redundancy. Many areas have only a single route for ingress and egress. Consider the role the region's many small ports and public launch facilities might play in emergency access and response in the event of a major disaster. Also consider potential standards for new infrastructure development that enhance overall community resiliency.

Rural intercity public transportation provides critical connections and should be increased

Build on existing partnerships and innovative services to create more frequent and reliable connections between the rural destinations people are traveling between. Expand Sunday service, at least during peak festival and biking season, recognizing the region cannot attract more tourists arriving by bus and ferry for weekend activities if they can't get home by those same means on Sunday.

Active transportation offers untapped opportunities for economic vitality

People come to the Olympic and Kitsap peninsulas to enjoy active recreation which directly supports the essential tourism economy, creating incentives to expand biking and walking opportunities and the ability to arrive and depart without needing a car. Harnessing this opportunity supports other aims. Efforts to complete the Olympic Discovery Trail, expand the network built on that trail, and increase multimodal access to and from the national park and forest support many regional objectives including economic vitality.

The plan is silent on climate change and reducing greenhouse gas emissions

The plan does not explicitly mention climate change nor does it describe efforts to reduce greenhouse gas emissions and growth in per capita vehicle miles traveled. Climate change considerations entail a stronger focus on active transportation, intercity transit and passenger-only ferry connections, demand management, and electric vehicle infrastructure as well as pragmatic pursuit of system resilience and adaption measures.

Inherent frictions between freight mobility and walkable places call for innovative strategies

Truck freight underpins the region's economic lifeline, but when highways bisect urban centers it also conflicts with other mobility goals like walkability and creating people-oriented urban spaces. Conflicts between reliable and efficient freight mobility and walkable, people-centric downtown environment require innovative strategies to resolve, ranging from designated routes and reconsideration of one-way couplets to street design and land use strategies.

Travel reliability on the Hood Canal Bridge affects the entire region.

Congestion on the east side of the Hood Canal Bridge and extensive delays when the Bridge is opened for marine traffic create impacts felt all the way to Port Angeles and beyond, generating travel time delays for the region's freight shippers and dampening the region's tourism economy. What happens in Kitsap County matters to the rest of the region's economic health, especially in terms of the Hood Canal Bridge and central Puget Sound ferry service.

A 21st century plan should address electric vehicle infrastructure and new mobility options

While most of the region is highly rural, that is no reason the long-range regional plan shouldn't speak to the role of electric vehicles (EV) and their supporting infrastructure. The EV infrastructure model will be different in a rural region than in a metropolitan area, and the regional planning process is the right process to describe what it looks like. Similarly, with new mobility options like ride-share companies (Lyft, Uber) and other emerging travel options, it is appropriate for PRTPO to explore the future role of these in meeting regional mobility needs.

Conscious effort needed to ensure equitable access to opportunity in the future

Equitable access to transportation services and the opportunities that access affords can be eroded without a vigilant focus. This quickly encompasses issues ranging from housing affordability to broadband access throughout the region. Without explicit consideration, the divide between those with means and those without will increase in the Peninsula region as transportation becomes less affordable for more people.

Regional planning and coordination makes sense

Though most people were not familiar with PRTPO specifically, the concept of regional collaboration and partnership resonated with people, who also expressed interest in learning more and having more opportunity to engage in regional planning. Partnerships and collaboration to get things done just makes sense.

Create more meaningful opportunities for community engagement

It is hard to expect people to know how to participate and provide informed input to regional planning processes if they are not engaged on a regular basis. Regional transportation planning underpins things people care about – quality of life, access to jobs and health care and affordable housing, environmental health, a strong economy. It should be easier for people to learn about PRTPO and its work. There can be more opportunities for people to participate in the regional transportation planning process and contribute to a thriving region.

Big ideas emerging from public review of the draft RTP 2040 merit more deliberate discussion about their implications and regional opportunities, and the potential role that PRTPO can play in shaping a strategic direction.

In early 2020, PRTPO will undertake work to develop a strategic direction for the Peninsula Region with near term and longer-term priorities. That process begins with big ideas including those generated by the public in its review of the regional plan.

Near-term priorities will inform PRTPO's Unified Planning Work Program and support for local agency grants and partnership opportunities. Work on longer-term priorities will proceed as resources and opportunities allow. Both near- and long-term priorities will inform the required biennial plan review and a rewrite of the next regional transportation plan, which may get underway as early as 2021.

In the course of its regular work program activities PRTPO will review this plan and update it in accordance with state regulations and regional need.

Appendix A: State Facilities Action Plan

This chapter of the Regional Transportation Plan (RTP) takes a broad look at state and federal transportation facilities in the region. Washington State Department of Transportation (WSDOT) is responsible for building and maintaining such facilities, which are an integral and vital part of the region's transportation system.

With a growing population and new technologies, WSDOT and local government approaches to managing the entire transportation system are evolving. Better data – and more of it – means better decisions that can help WSDOT, Peninsula RTPO, and its cities and towns maximize the transportation system's capacity. Through collaboration, WSDOT and our local transportation agencies can better balance transportation, community, economic, and land use needs to manage a comprehensive multimodal transportation system.

We live in a resource constrained environment. Collaboration between our local governments and WSDOT is key to prioritizing innovative, timely, and cost-effective solutions that help keep us all moving – whether on our local roads or on the region's highways.

WSDOT's Vision and Mission

Vision – Washington travelers have a safe, sustainable, and integrated multimodal transportation system.

Mission – We provide safe, reliable, and cost-effective transportation options to improve communities and economic vitality for people and businesses.

Practical Solutions

Practical Solutions is WSDOT's approach to achieving the agency's core mission – to provide safe, reliable, and cost-effective transportation options to improve communities and economic vitality for people and businesses. Under Practical Solutions lens, WSDOT views how they plan, design, build, operate, and maintain the state's transportation system.

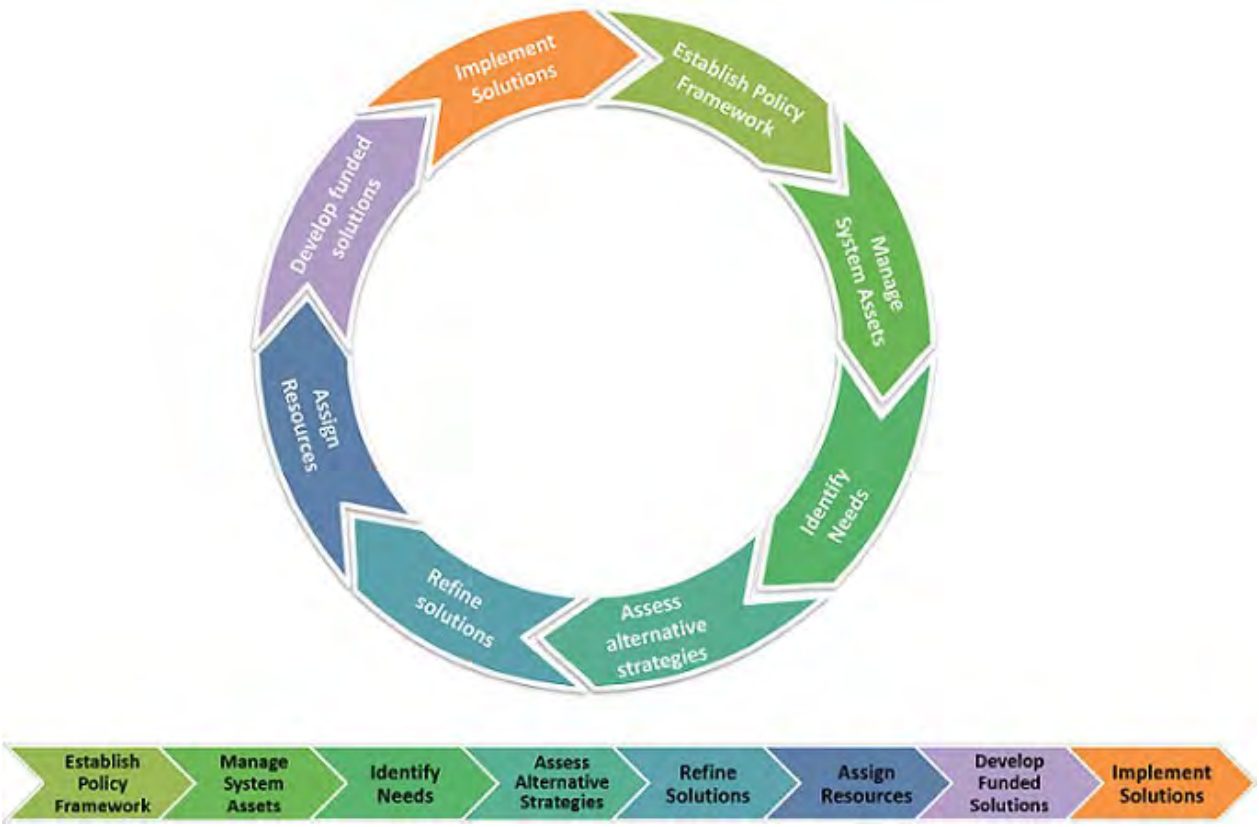
Practical Solutions is a performance-based and data-driven decision-making framework that uses performance measures to identify flexible, sustainable, and cost-efficient approaches to building and maintaining the public's transportation investments. This includes highways, ferries, transit, rail, and other multimodal facilities. RCW 47.04.280 establishes the policy goals for WSDOT and RCW 47.01.480 establishes the use of practical design, now referred to as practical solutions. In compliance with these RCWs, WSDOT is developing a performance framework for Practical Solutions to ensure:

- Solutions are aligned with other community partners, including cities and counties
- Solutions are flexible, addressing both community values and state interests
- Risks and tradeoffs are understood before a final solution is identified
- The public and partner agencies are involved and informed during the decision-making process
- Design solutions are evaluated in a consistent manner throughout a project's life

- WSDOT thinks systematically, recognizing the impact decisions on local roads have on WSDOT's facilities – and the impacts that WSDOT's facilities have on local roads.

Practical Solutions approach increases the focus on transportation system performance and enables flexible and sustainable transportation investment decisions. The approach includes collaborating with communities and partners so together we identify needs, and develop coordinated strategies to address the needs. By using Practical Solutions, WSDOT can make transportation investments at the right place and time for the lowest cost, maintaining the system in a state of good repair. Exhibit A-1 provides an overview of the practical solutions process.

Exhibit A-1: Practical Solutions Process



Establish Policy Framework: The first activity in Practical Solutions is the policy framework. WSDOT follows the policy goals set out by the legislature in the RCW, along with federal direction, technical manuals, and executive orders to establish the policy framework. [33]

Manage System Assets: WSDOT considers asset management a key component of Practical Solutions, as a way to cost-effectively manage the assets of the transportation system (Secretary's Executive Order E

[33] Practical solutions performance framework: https://www.wsdot.wa.gov/about/practical-solutions/performance-framework

1098.00). Asset Management includes maintaining pavement, bridge, roadways adjacent to slopes, and traffic demand management. WSDOT manages assets for the long term.

Identify Needs: The asset management system identifies needs by determining when a specific asset cannot be maintained in a state of good repair and may have a performance gap. Another tool used to identify needs is the Corridor Sketch Initiative. This Corridor Sketch Initiative evaluates economic vitality, and determines the corridor performance level along with any performance gaps. When there are gaps, public outreach begins for determining purpose and need within the corridor (PS overview training updated February 2019 Manual).

Assess Alternative Strategies: The key strategies used for Practical Solutions approach are based on the operational, demand management, and capital needs. Operational and demand management are identified in **RCW 47.06.050** and requires review of the existing system needs prior to capital investments. Sometimes the capital investment can be developed in conjunction with operational and demand strategies (PS overview training updated February 2019 Manual).

Refine Solutions: This is the scoping of the strategies, this takes into account the performance tradeoffs for each strategy along with considering the public outreach that has led to the potential solutions. Additionally, this stage is the data analysis, evaluating solutions, determining if the solution closes performance gaps that were identified earlier (PS overview training updated February 2019 Manual).

Assign Resources: Capital Programming Division of WSDOT will assign funding (PS overview training updated February 2019 Manual).

Develop Funded Solutions: This is commonly known as the project design phase. Design decisions are based on information obtained in the Practical Solutions process (PS overview training updated February 2019 Manual).

Implement Solutions: This is the implementation phase of the solutions. This could be construction or it could be implementing a signal timing or ramp metering solution.

State Facilities within the Peninsula RTPO

Practical Solutions is how WSDOT manages transportation facilities. There are several state facilities within the Peninsula RTPO. Twenty-five state transportation facilities help move people and goods in the Peninsula RTPO region, these facilities include US 101, State Routes (SR): 3, 16, 19, 20, 102, 104, 106, 108, 110, 112, 113, 116, 117, 119, 160, 166, 300, 302, 303, 304, 305, 307, 308, and 310.

Exhibit A-2 shows the state transportation facility and estimated lane miles by county.

Exhibit A-2: Transportation Facilities and Estimated Lane Miles

Area	State Facility	Lane Miles
Clallam County		**372.48 miles**
Clallam County	US 101	204.99
Clallam County	SR 110	22.2
Clallam County	SR 112	122.62
Clallam County	SR 113	19.96
Clallam County	SR 117	2.71
Jefferson County		**252 miles**
Jefferson County	SR 19	28.18
Jefferson County	SR 20	25.23
Jefferson County	US 101	153.34
Jefferson County	SR 104	28.99
Jefferson County	SR 116	16.26
Kitsap County		**290.37 miles**
Kitsap County	SR 3	102.18
Kitsap County	SR 16	45.04
Kitsap County	SR 104	19.93
Kitsap County	SR 160	14.94
Kitsap County	SR 166	11.08
Kitsap County	SR 303	36.75
Kitsap County	SR 304	8.49
Kitsap County	SR 305	27.44
Kitsap County	SR 307	10.5
Kitsap County	SR 308	7.04
Kitsap County	SR 310	6.98
Mason County		**252.9 miles**
Mason County	SR 3	56.4
Mason County	US101	96.46
Mason County	SR 102	5.72
Mason County	SR 106	40.18
Mason County	SR 108	15.56
Mason County	SR 119	21.86
Mason County	SR 300	6.7
Mason County	SR 302	10.02
Peninsula RTPO		**1,167.75 miles**

Managing System Assets

Infrastructure preservation planning needs to occur in conjunction with regional planning which improves overall system performance. Working with our partners to coordinate projects avoids excessive delays for the system users.

Bridge structures are another asset WSDOT manages. The bridge structures on the state facilities within the Peninsula RTPO region were built between 1900 and 2018. Exhibit A-3 depicts the number of bridges that will be 80 years or older by 2040. There are four bridges, one in each county, that were built in 1900 making them one hundred and nineteen years old.

Exhibit A-3: Number of state bridges 80 years and older by 2040

County	Number of State Bridges 80 + years in 2040	Bridges Built in 1900
Clallam County	28	SR 112 E. Makah Reservation
Jefferson County	20	US 101 Pins Creek
Kitsap County	11	SR 166 Blackjack Creek
Mason County	24	US 101 Schaerer Creek
Peninsula RTPO	**83**	

Maintaining a state of good repair for bridges requires looking at a potential replacement when the bridge has been in use for 80 years. As shown in Exhibit A-3, there are eighty-three bridges that will be

over 80 years of age by 2040. In the Peninsula RTPO region, like much of the state, WSDOT faces risks and challenges to preserve WSDOT facilities. This includes funding and the future demands on the transportation system.

Maintaining a State of Good Repair

WSDOT uses similar strategies statewide for preserving WSDOT facilities across the transportation network. Based on the proactive Practical Solutions approach, WSDOT properly times preservation activities to provide a state of good repair, extending the facility life cycle and – where possible – avoiding a state where repair is unaffordable.

Strategies for maintaining a state of good repair for pavement include using select panel replacement and diamond grinding to preserve concrete pavement, allowing it to reach a service life of 55 to 70 years. When the pavement sections reach the end of their life cycle and need replacement, WSDOT will compare replacement alternatives with a Life Cycle Cost Analysis. Depending on the life cycle costs over a 50-year design life, potential strategies include:

- Remove and replace with asphalt
- Remove and replace with concrete
- Break up the existing concrete to form a solid base layer for asphalt overlay (crack, seat, and overlay)

Sections of asphalt pavement throughout the corridor that are not at the end of their life cycle, are maintained by properly timed resurfacing. Resurfacing is done between 15 and 18 years to maintain a state of good repair. This resurfacing removes and replaces the top two inches of asphalt, with eight or more inches of asphalt. This process preserves the pavement for decades.

Near term Operational Efficiency and Demand Management Actions

Work is underway to assess and recommend near term actions (Practical Solutions – Assess alternative strategies and refine solutions) that could be implemented on state facilities. Near term operational and demand management generally refers to changes to use available highway, street, and transit capacity to meet the needs of people in the communities served by state facilities. Examples of operational and demand management improvements include:

- Ramp meters to reduce delay and collisions due to merging traffic, improve traffic flow and, in some locations, provide a time and reliability advantage to transit and other high occupancy vehicles
- Transportation demand management/commute trip reduction to engage local communities and employers to increase the number of people who ride transit, carpool, vanpool, bicycle, walk, telework and shift their work schedules to off-commute times.
- Incident response to clear blockages to reduce duration of congestion
- Buffer separation of portions of the HOV lane system
- Integrated corridor management to coordinate traffic controls on parallel roadways to help manage diversion around incidents
- Traveler information to advise drivers to use less congested routes, transit, carpools, vanpools, bicycles, walking, telework, shift their travel time, etc.

- Increased transit, vanpools, and carpools to move more people in fewer vehicles
- Changes in geometrics or striping to limit weaving, improve safety, and smooth the flow of transit
- Hard shoulder running (i.e., paved and reinforced shoulders) or auxiliary lanes to provide added capacity in spot locations to remove bottlenecks, improve transit speed and reliability, and/or improve safety
- Peak period managed lanes to provide improved speed, reliability, and person throughput by limiting demand to within available capacity and improving transit, vanpool, and 3+ carpool speed and reliability

WSDOT Planning Policies and Strategies

Over the past 15 years, legislative packages have funded specific major corridor improvements throughout the state, culminating in the Connecting Washington program enacted in 2015. However, many identified improvements to state highways remain unfunded. In addition, maintenance and preservation funding is needed for many local roadways, and continuing rapid growth is increasing demands on local- interest state highways. WSDOT proposes a renewed collaborative effort to find efficient multimodal solutions for emerging issues, ensure previously identified solutions are still sensible, and align state and regional priorities for funding.

Many communities in the RTPO rely on state highways for regional travel and local circulation. The state routes serving these communities are usually principal or minor arterials rather than limited access freeways and often act as “main streets” through suburban areas and smaller cities. They serve a wide range of needs, including daily commuting, commerce, non-motorized travel, transit and school bus routes, safe routes to schools, and access for emergency services. While the state and transit agencies have made significant investments in the regional corridors, growth is also increasing congestion on many of the other state highways.

WSDOT plans for highways in the RTPO are guided by the state transportation policy goals adopted by the legislature, as well as regional policies and local plans. These include:

- State transportation system policy goals in RCW 47.04.280 which emphasize economic vitality, system preservation, safety, mobility, environment, and stewardship.
- RTPO policy goals which include the regional growth strategy and the regional economic strategy.
- Local jurisdiction plans which provide guidance on land use plans, local street improvements, and non-motorized transportation needs.

Starting with guidance provided by these adopted policies, WSDOT uses a practical solutions approach to evaluate potential improvements. Practical Solutions begin with an understanding of what local stakeholders need, and then apply lower cost enhancements that address essential corridor roles, improve performance, and address those local needs. In collaboration with local partners, WSDOT uses this process to find performance gaps and evaluate trade-offs among competing objectives.

Improvements that increase capacity by adding lanes will be considered if policy change, local network improvements, operational improvements, or demand management strategies don’t address identified mobility needs.

Mobility strategies

Strategies that respond to mobility needs include:

- Increased transit service. The effectiveness of transit strategies depends on the characteristics of each corridor as well as the plans and service policies of the transit agencies.
- Highway operational improvements. Strategies such as signal timing, adaptive signal systems, modifications to channelization and signage have the potential to improve traffic flow.
- Local street network additions. In some corridors, improvements to the local street network can reduce demand on state highways and improve overall mobility.
- Local comprehensive plans. Much of the travel demand on local priority state highways is the result of local development. Incorporating smart growth techniques in local land use plans can help shape development to minimize vehicle trips.
- Transportation Demand Management programs. TDM incentives have the potential to increase the HOV/transit mode share when the corridor offers an HOV travel time advantage and transit and ridesharing options are attractive.
- Non-motorized transportation improvements. Improved facilities for multimodal options (bike, pedestrian, scooters, etc) can provide an alternative for short trips.
- HOV priority treatments. HOV lanes, BAT lanes, and transit signal priority systems can create travel time incentives that help shift demand to transit and HOV modes.
- Highway capacity improvements. Capacity improvements such as addressing bottlenecks at spot locations or adding lanes may be considered when lower cost strategies are insufficient to meet mobility needs.

System implications

Some state facilities have very little spare capacity to accept more traffic. The interstate system is essentially complete, and there are often significant and sometimes insurmountable constraints to widening state facilities due to limited rights of way and environmental concerns. Funding is also limited, and maintaining aging infrastructure is a higher priority than expansion.

Assessing needs on local priority state routes

WSDOT has been working on developing “corridor sketches,” which document mobility needs, performance gaps, planned improvements, and potential strategies for each state route.

Corridor sketches incorporate information from:

- Prior studies and WSDOT Route Development and Corridor Plans
- Local jurisdiction comprehensive plans and transportation plans
- The regional 2040 plan
- Meetings with local partner agencies

Strategies that do not require extensive analysis will be identified in collaboration with local partners using a practical solutions approach.

Many local jurisdictions and subarea groups have identified project priorities on these routes that emerged from planning conducted in partnership with WSDOT. The corridor sketch process looks at whether conditions have changed, or less expensive solutions could meet the identified purpose and need for these investments. Where the answer is yes, an analysis and local engagement process will be proposed to reconfirm or update previously identified strategies or projects.

Resiliency

WSDOT is very actively participating in emergency management and resilience programs. WSDOT coordinates with federal, other state, regional and local stakeholders and collaborates to maximize resilience across transportation modes and networks. Other WSDOT participation in emergency management includes:

- WA State Emergency Management Department (EMD)[34]. WSDOT is a member of several planning efforts and work groups with EMD, including development of a Catastrophic Incident Plan, the Statewide Catastrophic Incident Planning Team, and the Infrastructure Resilience Sub-Committee.
- Seismic Safety Committee.[35] WSDOT is a participant of the multi-jurisdictional committee under the guidance of the Emergency Management Council. (https://www.mil.wa.gov/emergency-management-division/emergencymanagement-council)
- Washington Cascadia Subduction Zone (CSZ)[36] Transportation Systems Regional Resiliency Assessment Program which includes the Department of Homeland Security IP Region 10, WA EMD, FEMA Region 10, US Coast Guard District 13, and USDOT Region 10. (https://www.dhs.gov/transportation-systems-sector)
- Local emergency planners. WSDOT coordinates with Peninsula Regional Planning on seismic retrofit and identification of local lifeline corridors.

Corridor Sketch Initiative

The Washington State Department of Transportation's (WSDOT) Corridor Sketch Initiative is a set of planning activities that engages the agency's partners to determine the context and performance of state highway corridors and find high-level strategies for addressing performance gaps. The initiative complements and supports regional planning processes around the state. As part of the Corridor Sketch Initiative, the agency produced Corridor Sketch Summaries for state highways throughout Washington. Corridor Sketch summaries are available at the WSDOT website.[37]

WSDOT has compiled baseline data for all corridors and engaged partners to show high-level strategies for corridors with mobility challenges. As of June 2019, the agency has completed 304 highway corridors with Corridor Sketch summaries. All corridor sketch summaries for roadways within the Peninsula RTPO region are complete.

Multi-agency, multidisciplinary, and multimodal (M3) teams were formed to develop strategies for all transportation policy goals. The M3 teams used quantitative and qualitative analysis to assess the effectiveness of proposed strategies. Quantitative analysis is necessary to ensure WSDOT meets its performance expectations. WSDOT will require detailed corridor planning studies before highway expansion is considered. Strategies may include:

- Acceptance of current performance

[34] Washington State Military Department. Emergency Management. (https://www.mil.wa.gov/emergency-management-division
[35] Washington State Military Department. Emergency Management Council. https://www.mil.wa.gov/emergency-management-division/emergencymanagement-council
[36] Department of Homeland Security. Washington Cascadia Subduction Zone. (https://www.dhs.gov/transportation-systems-sector
[37] WSDOT. Corridor Sketch Initiative. http://www.wsdot.wa.gov/planning/corridor-sketch-initiative.

- Operational improvements
- Travel demand management
- Local network improvements
- Policy changes
- More detailed corridor planning studies/traffic analysis

Each Corridor Sketch summary covers corridor context, highlights and performance, strategies, and external resources. If a corridor has any congestion performance gaps, a mobility assessment is included. Mobility assessments detail where the performance gap occurs and potential strategies for addressing the identified congestion. Working with M3 teams to assess operational, travel demand management, and other cost-effective strategies prior to considering system expansion. Ultimately, the corridor sketch results will be reflected in the WSDOT's Highway System Plan.

Proposed Planning Work Program for Local-Interest State Routes
The Corridor Sketch process engaged local and regional technical staff in a structured collaborative process during 2018 to develop a prioritized list of desired outcomes for corridor projects in Central Puget Sound.

Baseline data gathered from corridor sketches, existing models, plans, and a variety of other sources, were displayed as overlays on a network base map. Local area teams prioritized performance issues and opportunities worth further consideration, including:

- Common sense early actions that don't require extensive analysis (e.g., operational improvements such as hard shoulder running and ramp metering),
- Site-specific issues or opportunities that may be discussed through workshop(s),
- Issues that require structured alternatives evaluation for corridor-wide treatments,
- System planning issues that require coordinated action on multiple corridors, and
- Reconsideration of previously identified projects due to changed conditions.

Based on the corridor sketches, WSDOT is working with local stakeholders determining:

- Near-term actions that are common sense and require little added analysis that can be implemented without substantial new funding.
- A program of longer-term planning activities needed to assess the most effective solutions to identified issues, with each activity scaled to match the complexity and magnitude of the problem for both analysis as well as public and agency engagement.

Because the legislature is more likely to fund improvements on local priority state routes with aligned local, regional, and state priorities, WSDOT will continue to collaborate with regional partners, including counties, cities and tribes, to prioritize solutions. As WSDOT continues to evolve its Practical Solutions approach, this process will be adapted to be consistent with Practical Solutions objectives and guidance.

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APPENDIX B: PUBLIC ENGAGEMENT

Overview

Public review of the draft Regional Transportation Plan 2040 (RTP 2040) formally opened September 3rd and extended through noon on October 18th. The review process kicked off with four open houses around the region to introduce the plan. The aim was to generate awareness of the plan and the regional planning process and to encourage people to share their thoughts on the plan and regional transportation issues in general. Details of the events and notifications are outlined below.

Input from the open house discussions and comments received to date were shared with and discussed by the Technical Advisory Committee (TAC) on October 10th. The final package of comments and insights from the TAC discussion were presented to the Executive Board for its discussion and direction on October 18th. The record of all comments received is found at the end of this appendix.

Substantive topics arose during the public review process. These topics will be incorporated into PRTPO work sessions in 2020 focused on strategic planning and coordination. A summary of those topics can be found in the Insights section of this appendix.

Events

Four open houses were originally scheduled to kick off the public review process. Care was taken to identify locations served by public transit and accessible to all people.

Port Angeles
Tuesday, September 3
4:30 – 6:30 pm
Port Angeles Main Library
2210 South Peabody Street, Port Angeles
Clallam Transit Route 22

Port Townsend
Wednesday, September 4
4:30 – 6:30 pm
Port Townsend Public Library
1220 Lawrence Street, Port Townsend
Jefferson Transit Routes 11A, 11B

Bremerton
Thursday, September 5
5:00 – 6:30 pm
Kitsap Transit – Bremerton Harborside Office, 3rd Floor Conference Room
60 Washington Avenue, Bremerton
Harborside is next to the Bremerton Transit Center and is served by many Kitsap Transit routes

Shelton
Wednesday, September 11
4:30 – 6:00 pm
Shelton Timberland Library
710 W. Alder Street, Shelton
Mason Transit Route 5

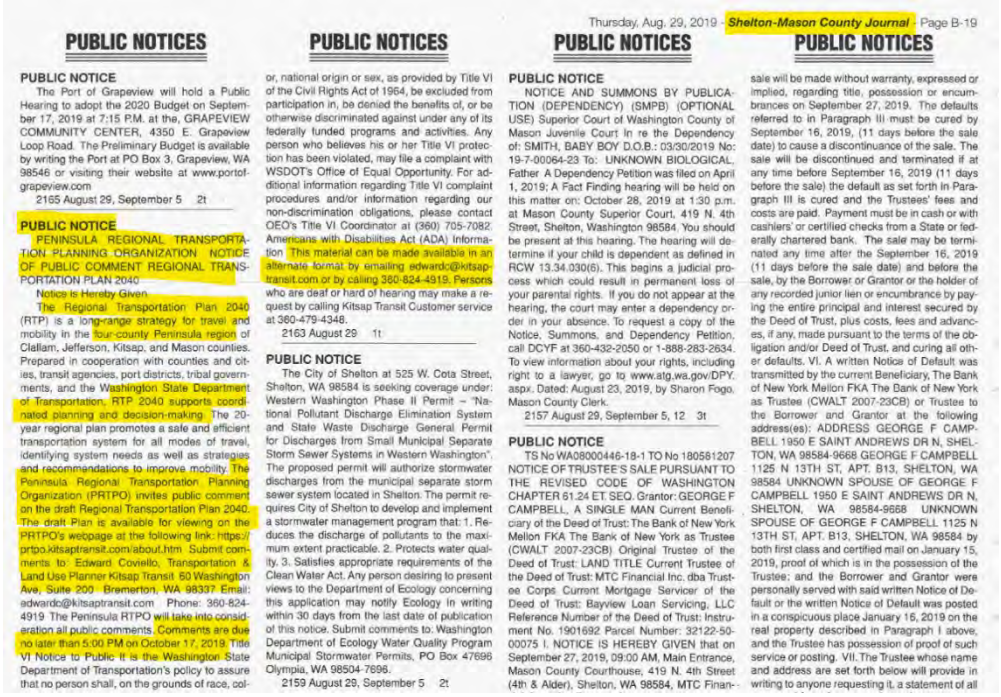
The Shelton open house was inadvertently scheduled the same day as the Mason County TIP-CAP meeting. The TIP-CAP is Mason County's Transportation Improvement Program Citizen Advisory Panel, the members of the public most likely to have attended a meeting to talk about the regional transportation plan. For that reason, a fifth meeting was scheduled to talk with the TIP-CAP directly at its October 9th meeting.

Notification / flyers

Notification of the draft plan review and public events was conducted through a variety of means.

Legal Notice

Legal notice was placed in the newspapers of record in each of the four counties. The following example is the legal notice from the Shelton-Mason County Journal.



Thursday, Aug. 29, 2019 - Shelton-Mason County Journal - Page B-19

PUBLIC NOTICES

PUBLIC NOTICE

The Port of Grapeview will hold a Public Hearing to adopt the 2020 Budget on September 17, 2019 at 7:15 P.M. at the, GRAPEVIEW COMMUNITY CENTER, 4350 E. Grapeview Loop Road. The Preliminary Budget is available by writing the Port at PO Box 3, Grapeview, WA 98546 or visiting their website at www.portofgrapeview.com
2165 August 29, September 5 2t

PUBLIC NOTICE

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION NOTICE OF PUBLIC COMMENT REGIONAL TRANSPORTATION PLAN 2040

Notice is Hereby Given

The Regional Transportation Plan 2040 (RTP) is a long-range strategy for travel and mobility in the four-county Peninsula region of Clallam, Jefferson, Kitsap, and Mason counties. Prepared in cooperation with counties and cities, transit agencies, port districts, tribal governments, and the Washington State Department of Transportation, RTP 2040 supports coordinated planning and decision-making. The 20-year regional plan promotes a safe and efficient transportation system for all modes of travel, identifying system needs as well as strategies and recommendations to improve mobility. The Peninsula Regional Transportation Planning Organization (PRTPO) invites public comment on the draft Regional Transportation Plan 2040. The draft Plan is available for viewing on the PRTPO's webpage at the following link: https://prtpo.kitsaptransit.com/about.htm Submit comments to: Edward Coviello, Transportation & Land Use Planner Kitsap Transit 60 Washington Ave, Suite 200 Bremerton, WA 98337 Email: edwardc@kitsaptransit.com Phone: 360-824-4919 The Peninsula RTPO will take into consideration all public comments. Comments are due no later than 5:00 PM on October 17, 2019. Title VI Notice to Public It is the Washington State Department of Transportation's policy to assure that no person shall, on the grounds of race, color, national origin or sex, as provided by Title VI of the Civil Rights Act of 1964, be excluded from participation in, be denied the benefits of, or be otherwise discriminated against under any of its federally funded programs and activities. Any person who believes his or her Title VI protection has been violated, may file a complaint with WSDOT's Office of Equal Opportunity. For additional information regarding Title VI complaint procedures and/or information regarding our non-discrimination obligations, please contact OEO's Title VI Coordinator at (360) 705-7082. Americans with Disabilities Act (ADA) Information This material can be made available in an alternate format by emailing edwardc@kitsaptransit.com or by calling 360-824-4919. Persons who are deaf or hard of hearing may make a request by calling Kitsap Transit Customer service at 360-479-4348.
2163 August 29 1t

PUBLIC NOTICE

The City of Shelton at 525 W. Cota Street, Shelton, WA 98584 is seeking coverage under: Western Washington Phase II Permit – "National Pollutant Discharge Elimination System and State Waste Discharge General Permit for Discharges from Small Municipal Separate Storm Sewer Systems in Western Washington". The proposed permit will authorize stormwater discharges from the municipal separate storm sewer system located in Shelton. The permit requires City of Shelton to develop and implement a stormwater management program that: 1. Reduces the discharge of pollutants to the maximum extent practicable. 2. Protects water quality. 3. Satisfies appropriate requirements of the Clean Water Act. Any person desiring to present views to the Department of Ecology concerning this application may notify Ecology in writing within 30 days from the last date of publication of this notice. Submit comments to: Washington Department of Ecology Water Quality Program Municipal Stormwater Permits, PO Box 47696 Olympia, WA 98504-7696.
2159 August 29, September 5 2t

PUBLIC NOTICE

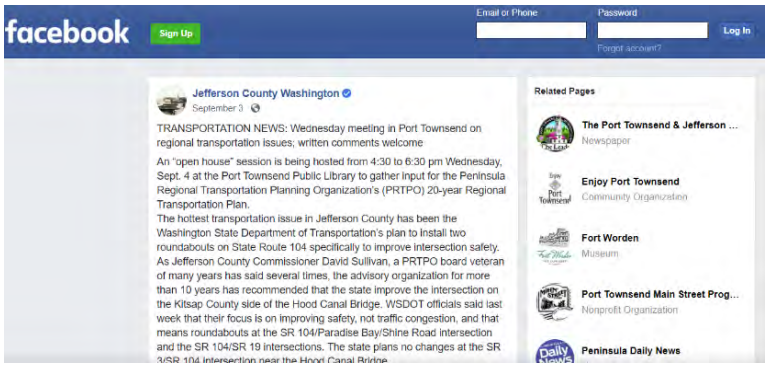
NOTICE AND SUMMONS BY PUBLICATION (DEPENDENCY) (SMPB) (OPTIONAL USE) Superior Court of Washington County of Mason Juvenile Court In re the Dependency of: SMITH, BABY BOY D.O.B.: 03/30/2019 No: 19-7-00064-23 To: UNKNOWN BIOLOGICAL Father A Dependency Petition was filed on April 1, 2019; A Fact Finding hearing will be held on this matter on: October 28, 2019 at 1:30 p.m. at Mason County Superior Court, 419 N. 4th Street, Shelton, Washington 98584. You should be present at this hearing. The hearing will determine if your child is dependent as defined in RCW 13.34.030(6). This begins a judicial process which could result in permanent loss of your parental rights. If you do not appear at the hearing, the court may enter a dependency order in your absence. To request a copy of the Notice, Summons, and Dependency Petition, call DCYF at 360-432-2050 or 1-888-283-2634. To view information about your rights, including right to a lawyer, go to www.atg.wa.gov/DPY.aspx. Dated: August 23, 2019, by Sharon Fogo, Mason County Clerk.
2157 August 29, September 5, 12 3t

PUBLIC NOTICE

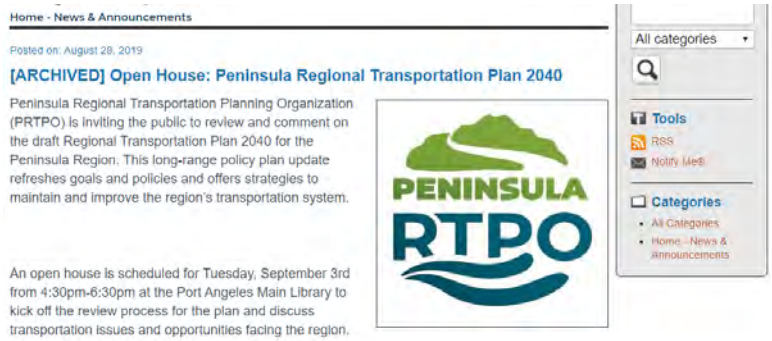
TS No WA08000446-18-1 TO No 180581207 NOTICE OF TRUSTEE'S SALE PURSUANT TO THE REVISED CODE OF WASHINGTON CHAPTER 61.24 ET SEQ. Grantor: GEORGE F CAMPBELL, A SINGLE MAN Current Beneficiary of the Deed of Trust: The Bank of New York Mellon FKA The Bank of New York as Trustee (CWALT 2007-23CB) Original Trustee of the Deed of Trust: LAND TITLE Current Trustee of the Deed of Trust: MTC Financial Inc. dba Trustee Corps Current Mortgage Servicer of the Deed of Trust: Bayview Loan Servicing, LLC Reference Number of the Deed of Trust: Instrument No. 1901692 Parcel Number: 32122-50-00075 I. NOTICE IS HEREBY GIVEN that on September 27, 2019, 09:00 AM, Main Entrance, Mason County Courthouse, 419 N. 4th Street (4th & Alder), Shelton, WA 98584, MTC Financial sale will be made without warranty, expressed or implied, regarding title, possession or encumbrances on September 27, 2019. The defaults referred to in Paragraph III must be cured by September 16, 2019, (11 days before the sale date) to cause a discontinuance of the sale. The sale will be discontinued and terminated if at any time before September 16, 2019 (11 days before the sale) the default as set forth in Paragraph III is cured and the Trustees' fees and costs are paid. Payment must be in cash or with cashiers' or certified checks from a State or federally chartered bank. The sale may be terminated any time after the September 16, 2019 (11 days before the sale date) and before the sale, by the Borrower or Grantor or the holder of any recorded junior lien or encumbrance by paying the entire principal and interest secured by the Deed of Trust, plus costs, fees and advances, if any, made pursuant to the terms of the obligation and/or Deed of Trust, and curing all other defaults. VI. A written Notice of Default was transmitted by the current Beneficiary, The Bank of New York Mellon FKA The Bank of New York as Trustee (CWALT 2007-23CB) or Trustee to the Borrower and Grantor at the following address(es): ADDRESS GEORGE F CAMPBELL 1950 E SAINT ANDREWS DR N, SHELTON, WA 98584-9668 GEORGE F CAMPBELL 1125 N 13TH ST, APT. B13, SHELTON, WA 98584 UNKNOWN SPOUSE OF GEORGE F CAMPBELL 1950 E SAINT ANDREWS DR N, SHELTON, WA 98584-9668 UNKNOWN SPOUSE OF GEORGE F CAMPBELL 1125 N 13TH ST, APT. B13, SHELTON, WA 98584 by both first class and certified mail on January 15, 2019, proof of which is in the possession of the Trustee; and the Borrower and Grantor were personally served with said written Notice of Default or the written Notice of Default was posted in a conspicuous place January 16, 2019 on the real property described in Paragraph I above, and the Trustee has possession of proof of such service or posting. VII. The Trustee whose name and address are set forth below will provide in writing to anyone requesting it, a statement of all

Notices and Networking

Calendar events with short blurbs about the open houses were sent to local newspapers. The Peninsula Daily News, which covers Jefferson and Clallam Counties, picked this up and provided good coverage of the upcoming events in Port Angeles and Port Townsend in its Sunday, September 1st paper. The event notices were also shared with PRTPO members, several of whom distributed them through their agency Facebook pages and email distribution lists.



In addition to digital media notification, old-fashioned window flyers were made advertising the open house events. Images for the meeting flyers were tailored to each geographic area in an effort to make the regional plan more relevant to the surrounding communities. Posters were placed in the facilities hosting the events and on the public bulletin boards maintained by member agencies. As with the calendar events, some PRTPO members posted the meeting flyer on their Facebook pages.



A reporter from the Peninsula Daily News attended the Port Townsend event and talked to attendees, resulting in a prominent and informative story that further extended outreach efforts. A copy of the media coverage is included at the end of this appendix.

For more information please see the attached flyer: https://www.cityofpa.us/DocumentCenter/View/6900/2040_Regional_Transportation_Plan_Window_Flyers

or the PRTPO website: https://prtpo.kitsaptransit.com/default.htm

Open House Flyer





Draft *Regional Transportation Plan 2040*
Available for Public Review and Comment

PENINSULA RTPO

Peninsula Regional Transportation Planning Organization **(PRTPO)** invites the public to review and comment on the draft Regional Transportation Plan 2040 for the Peninsula Region. This long-range policy plan establishes a vision, goals and policies for the four-county Peninsula region. This update of the 2035 plan extends the planning horizon to 2040, refreshes goals and policies, and offers a range of regional strategies to maintain and improve the region's transportation system.

The public comment period extends from September 3 – October 18. An open house is scheduled to kick off the review process and increase awareness about the plan and PRTPO. Drop in to learn about the plan and talk about transportation issues and opportunities facing the region.

OPEN HOUSE
Thursday, September 5 | 5:00 – 6:30 pm
Kitsap Transit – Bremerton Harborside Office,
3rd Floor Conference Room
60 Washington Avenue, Bremerton
The Harborside Office is next to the Bremerton Transit Center and is served by many Kitsap Transit routes. See www.kitsaptransit.com for details.

Comments on the draft plan will be accepted until noon on Friday, October 18, 2019.

Please submit comments by mail or email:
Edward Coviello
Kitsap Transit
60 Washington Avenue, Suite 200
Bremerton, WA 98337
Email: edwardc@kitsaptransit.com

PRTPO is the regional transportation planning organization for the Clallam-Jefferson-Kitsap-Mason County region. PRTPO is made up of representatives from the counties, cities, tribes, transit agencies, and port districts within the region, and WSDOT Olympic Region. Its members work together to identify and address transportation and mobility issues affecting the region. PRTPO and its members are committed to coordinated planning and decision-making that supports safe, efficient, reliable travel choices for communities, visitors, and businesses on the Olympic Peninsula.

For more information on PRTPO and its regional transportation program, please visit https://prtpo.kitsaptransit.com/default.htm or call Ed Coviello at 360.824.4919.

Meeting posters used images recognizable to people in each of the four geographies to help make the long-range regional transportation plan relevant to more people.

Meeting Materials

Events were scheduled as drop-in open houses and so display boards served as the framework for public interaction with policy makers and staff. Display boards provided attendees with background on PRTPO and the regional transportation planning process, an overview of the draft plan, and details on the vision and plan goals and policies. A copy of the three explanatory poster boards can be found on the following pages. Additionally, one map for each county was prepared showing the transportation facilities identified in the Regional Transportation Plan. Comment forms were available that people could complete before leaving, though most people chose to review the plan and submit comments later.

A special folio was prepared for the TIP-CAP meeting to support that discussion since that was not a traditional open house event but rather, was scheduled as an agenda item on the TIP-CAP meeting. The folio provided most of the same information as was available on the display boards.

Staff were joined by Board and TAC members at each event, ensuring wide ranging discussions representing a variety of perspectives.

PENINSULA RTPO

Serving the communities of the Clallam-Jefferson-Kitsap-Mason County Region

PRTPO – REGIONAL PARTNERSHIP ON MOBILITY ISSUES

What is PRTPO?

PRTPO is a cooperative intergovernmental forum for coordinated transportation planning in the four-county Clallam-Jefferson-Kitsap-Mason County region. Its members include the four counties and the cities of the region, the tribal governments, transit agencies, and port districts. It also includes WSDOT Olympic Region, the owner and operator of essential state facilities and services that support the region. Established by state statute in 1990 to promote coordinated, long-range transportation decision-making among different jurisdictions in the region, PRTPO is one of 16 regional transportation planning organizations in Washington. Rules governing the structure and regional transportation planning work of PRTPO can be found in RCW 47.80.

PRTPO Members

Clallam County
Jefferson County
Kitsap County
Mason County

Bainbridge Island
Bremerton
Forks
Port Angeles
Port Orchard
Port Townsend
Poulsbo
Sequim
Shelton

Clallam Transit Authority
Jefferson Transit
Kitsap Transit
Mason Transit

Port of Allyn
Port of Bremerton
Port of Port Angeles
Port of Shelton

WSDOT Olympic Region

Hoh River Tribe
Jamestown S'Klallam Tribe
Lower Elwha Klallam Tribe
Makah Tribe
Port Gamble S'Klallam Tribe
Quileute Tribe
Squaxin Island Tribe
Skokomish Tribe
Suquamish Tribe

2019 Officers

Chair: Annette Nesse, Jamestown S'Klallam Tribe

Vice-Chair: Bek Ashby, Port Orchard

Treasurer: Tammi Rubert, Jefferson Transit Authority

PRTPO is hosted by Kitsap Transit, in cooperation with Jefferson Transit and the other members of PRTPO. To learn more, please visit: https://prtpo.kitsaptransit.com



Map of the Peninsula RTPO Region

What is regional transportation planning?

Regional transportation planning is the consideration of mobility issues and opportunities that are bigger than any one jurisdiction and which are consequential to the residents and businesses of a region. It is done by representatives from local and tribal governments who agree to collaborate with each other in a regional forum on big matters that impact their communities. Regional planning often takes a long look into the future and its uncertainties so communities can be prepared as new issues emerge or strategic opportunities arise. Sometimes regional transportation planning entails funding for projects, but more often it is focused on policies, analysis, and coordination. It is always multimodal and always supportive of local land use plans and policies.

What is a "multimodal" transportation system?

A multimodal transportation system is one in which people have choices about how to travel. This is especially important for people who can't drive, but it matters for everyone. The Peninsula Region offers an array of travel choices in addition to driving: transit and ferries, walking and biking, school buses, carpools and vanpools, as well as specialized transportation services for people with special mobility needs. In some parts of the region new mobility choices like Lyft and Uber are appearing. All of these need to work together as part of an efficient, seamless multimodal system for the traveling public.

PENINSULA RTPO

Serving the communities of the Clallam-Jefferson-Kitsap-Mason County Region

REGIONAL TRANSPORTATION PLAN 2040 – AN OVERVIEW

What is a Regional Transportation Plan?

A regional transportation plan is a long-range multimodal strategic framework that helps ensure the transportation system works seamlessly across jurisdiction borders today, and long into the future. It is less detailed than a local transportation plan that typically identifies local construction projects or transit system improvements. It is more focused than statewide transportation plans, though, and establishes the nexus between local and state plans in each region. The Peninsula Region's current plan extends through 2035. This update extends that horizon to 2040.

Map of the Peninsula RTPO Region



Why is PRTPO updating its plan?

PRTPO is responsible for periodically reviewing and updating a long-range transportation plan for the region. By maintaining a 20-year or longer planning horizon, the regional plan takes the long view to identify potential issues and opportunities that PRTPO and its partners should pay attention to and, when warranted, address in a coordinated fashion.

Conditions change. Even if PRTPO were not required by state law to update its long-range plan, it makes sense to give the RTP a look every so often, update what is no longer current or relevant, and introduce new considerations when needed.

Consistency with Statewide Objectives

The Peninsula Region's transportation system is part of the bigger statewide multimodal transportation system. PRTPO's plan must be consistent with the six statewide transportation goals set in statute. They include:

- **Economic Vitality** *Promote and develop transportation sytems that stimulate, support, and enhance the movement of people and goods to ensure a prosperous economy.*
- **Preservation** *Maintain, preserve, and extend the life and utility of prior investments in transportation systems and services.*
- **Safety** *Provide for and improve the safety and security of transportation customers and the transportation system.*
- **Mobility** *Improve the predictable movement of goods and people throughout Washington state, including congestion relief and improved freight mobility.*
- **Environment and Health** *Enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment.*
- **Stewardship** *Continuously improve the quality, effectiveness, and efficiency of the transportation system.*

PRTPO's Regional Transportation Plan 2040 is consistent with statewide policy. It's goals, policies, and regional strategies support statewide transportation objectives while addressing the needs of communities and businesses in the Peninsula Region. Pages 73-82 of the draft plan identifies some strategies to improve the state highway system and the way it functions with the local system. Strategies are grouped by the six statewide goals.


Environmental Health


Economic Vitality


Social Equity

PENINSULA RTPO

Serving the communities of the Clallam-Jefferson-Kitsap-Mason County Region

REGIONAL TRANSPORTATION PLAN 2040 – OBJECTIVES

VISION:
The transportation system efficiently and safely connects people and goods with places, offering choices, and ensuring accessibility. This vision emphasizes a long-term quality of life by promoting economic growth, recreational resources, community services, active transport, and public transit.

Map of the Peninsula RTPO Region





Through its goals and policies and on-going collaboration amongst its partners, PRTPO's Regional Transportation Plan 2040 seeks to:

- Inform integration of regional transportation and land use decision-making processes supportive of local, county, and tribal governments to maintain livable communities.
- Move people and goods efficiently and cost effectively by increasing viable, affordable travel choices for people and goods within the region.
- Improve accessibility for all people regardless of age, ability, or income, promoting local economies, maintaining local core values.
- Ensure affected parties understand issues related to choices, impacts, and timing by fostering on-going and inclusive community involvement and education.
- Assure system funding is fair for all communities in the region by making effective investments maximizing resource potential in the future.
- Maintain existing investments by being realistic about financial capacity prioritizing accordingly and evaluating the full cost of alternatives and recommendations.
- Make the system safer for all users, building redundancy into critical network links as emergency safeguards.
- Support interdependence of transportation resources and facilities, integrating non-motorized transportation designs into transportation solutions.
- Build multimodal strategies into transportation solutions providing barrier-free accessibility strategies for youth, elders, those with disabilities, low income, and those with limited English language skills.
- Make investments that add lasting value to our communities, minimizing impacts on air, water quality, and natural habitat and resources.

Insights

Discussions at each meeting and comments submitted during the review process underscore shared concerns and highlight the region's diversity.

Focus on system resiliency

The region relies on a fragile transportation system and there is little or no plan in place to increase resiliency or system redundancy. Many areas have only a single route for ingress and egress. Consider the role the region's many small ports and public launch facilities might play in emergency access and response in the event of a major disaster. Also consider potential standards for new infrastructure development that enhance overall community resiliency.

Rural intercity public transportation provides critical connections and should be increased

Build on existing partnerships and innovative services to create more frequent and reliable connections between the rural destinations people are traveling between. Expand Sunday service, at least during peak festival and biking season, recognizing the region cannot attract more tourists arriving by bus and ferry for weekend activities if they can't get home by those same means on Sunday.

Active transportation offers untapped opportunities for economic vitality

People come to the Olympic and Kitsap peninsulas to enjoy active recreation which directly supports the essential tourism economy, creating incentives to expand biking and walking opportunities and the ability to arrive and depart without needing a car. Harnessing this opportunity supports other aims. Efforts to complete the Olympic Discovery Trail, expand the network built on that trail, and increase multimodal access to and from the national park and forest support many regional objectives including economic vitality.

The plan is silent on climate change and reducing greenhouse gas emissions

The plan does not explicitly mention climate change nor does it describe efforts to reduce greenhouse gas emissions and growth in per capita vehicle miles traveled. Climate change considerations entail a stronger focus on active transportation, intercity transit and passenger-only ferry connections, demand management, and electric vehicle infrastructure as well as pragmatic pursuit of system resilience and adaption measures.

Inherent frictions between freight mobility and walkable places call for innovative strategies

Truck freight underpins the region's economic lifeline, but when highways bisect urban centers it also conflicts with other mobility goals like walkability and creating people-oriented urban spaces. Conflicts between reliable and efficient freight mobility and walkable, people-centric downtown environment require innovative strategies to resolve, ranging from designated routes and reconsideration of one-way couplets to street design and land use strategies.

Travel reliability on the Hood Canal Bridge affects the entire region.

Congestion on the east side of the Hood Canal Bridge and extensive delays when the Bridge is opened for marine traffic create impacts felt all the way to Port Angeles and beyond, generating travel time delays for the region's freight shippers and dampening the region's tourism economy. What happens in Kitsap County matters to the rest of the region's economic health, especially in terms of the Hood Canal Bridge and central Puget Sound ferry service.

A 21st century plan should address electric vehicle infrastructure and new mobility options

While most of the region is highly rural, that is no reason the long-range regional plan shouldn't speak to the role of electric vehicles (EV) and their supporting infrastructure. The EV infrastructure model will be different in a rural region than in a metropolitan area, and the regional planning process is the right process to describe what it looks like. Similarly, with new mobility options like ride-share companies (Lyft, Uber) and other emerging travel options, it is appropriate for PRTPO to explore the future role of these in meeting regional mobility needs.

Conscious effort needed to ensure equitable access to opportunity in the future

Equitable access to transportation services and the opportunities that access affords can be eroded without a vigilant focus. This quickly encompasses issues ranging from housing affordability to broadband access throughout the region. Without explicit consideration, the divide between those with means and those without will increase in the Peninsula region as transportation becomes less affordable for more people.

Regional planning and coordination makes sense

Though most people were not familiar with PRTPO specifically, the concept of regional collaboration and partnership resonated with people, who also expressed interest in learning more and having more opportunity to engage in regional planning. Partnerships and collaboration to get things done just makes sense.

Create more meaningful opportunities for community engagement

It is hard to expect people to know how to participate and provide informed input to regional planning processes if they are not engaged on a regular basis. Regional transportation planning underpins things people care about – quality of life, access to jobs and health care and affordable housing, environmental health, a strong economy. It should be easier for people to learn about PRTPO and its work. There can be more opportunities for people to participate in the regional transportation planning process and contribute to a thriving region.

Next Steps

Big ideas emerging from public review of the draft RTP 2040 are just that – big ideas. They are big ideas that merit more deliberate discussion about their implications and regional opportunities, and the potential role that PRTPO can play in shaping a strategic direction.

In early 2020, PRTPO will undertake work to develop a strategic direction for the Peninsula Region with near term and longer-term priorities. That process begins with big ideas including those generated by the public in its review of the regional plan.

Near-term priorities will inform PRTPO's Unified Planning Work Program and support for local agency grants and partnership opportunities. Work on longer-term priorities will proceed as resources and opportunities allow. Both near- and long-term priorities will inform the required biennial plan review and a rewrite of the next regional transportation plan, which may get underway as early as 2021.

Record of Comments

Comments were accepted in person at the public meetings, in writing, and via email. One comment was received via Kitsap Transit's Facebook page.

All comments received are presented verbatim as they were received. They are followed by media coverage received in conjunction with the public engagement process.

In addition to the following comments submitted by email or directly at the meetings, one comment came in through Kitsap Transit's Facebook page:

"We need a better way to move about the Peninsula other than by car or transit bus. It would be great if a conversation about a train or other form of rail system was included in the conversation." [John Garrison]

PENINSULA RTPO

Serving the communities of the Clallam-Jefferson-Kitsap-Mason County Region

Tu. 9/3/2019
4:30

YOUR PERSPECTIVE ON REGIONAL MOBILITY ISSUES

WHAT DO YOU THINK?

Mobility – the ability to get from here to there and back again – is critically important to so many of our broader regional objectives like economic vitality, community livability, and environmental health. The region's transportation system will face big challenges in the next couple of decades. These challenges that will test the resilience of the region and its communities, and the ability of our transportation system to support our broader objectives.

- Deferred preservation leads to system deterioration and makes it more vulnerable to failures, but there isn't enough money to keep up with preservation needs.
- Uneven economic opportunities push people to commute ever further to earn a living, straining household expenses and increasing demand for new mobility services.
- Extreme weather events and earthquakes will undermine our infrastructure, disrupt services, and possibly displace some existing homes and businesses.
- Deployment of new transportation technologies will change how we think about mobility and access to services, but those opportunities won't be equally available to all communities.

These are just some of the things we're thinking about. What do **you** think we should be considering as we look ahead to 2040 and beyond? Please take a few minutes to share your ideas about the issues and opportunities you think merit a regional approach and the challenges we face. We want to know what you think. *Thank you!!*

- continued improvement in Access from P.A. to ferry terminals (Kingston / Bainbridge) that do NOT involve use of passenger car (ie Bus, Rapid Rans etc)
- improved bike lanes + finishing Discovery Trail to Forks/LaPush on all Hwys
- ? Electric ferry: P.A – Port Townsend – Edmonds ? (passenger only to save weight ?)
- Electric Car Charging Stations around complete olympic Hwy loop

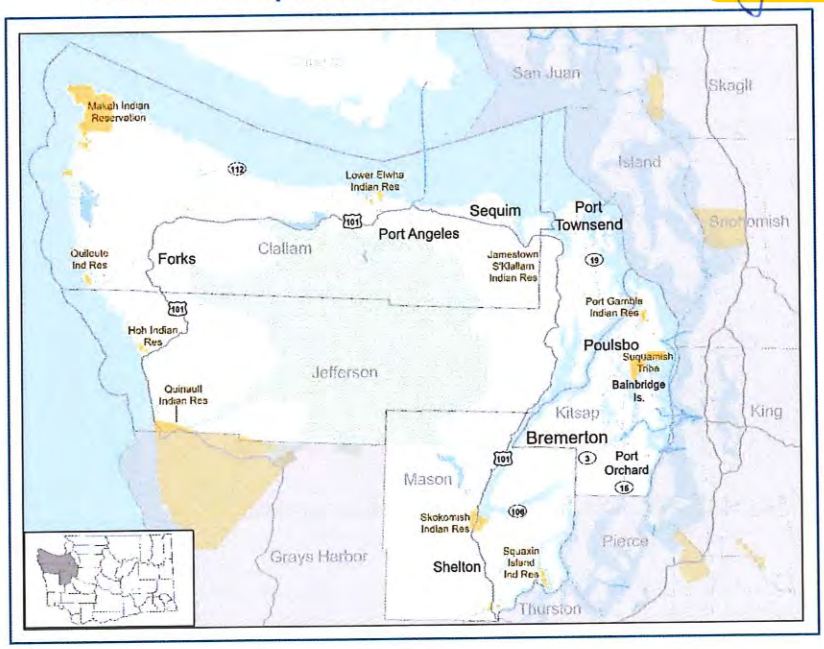








Reference Map of the Peninsula RTPO Region



May we keep you informed about upcoming news and events? Please print your name and email address if you'd like to get occasional updates from PRTPO.

Name _____

Email _____

PENINSULA RTPO

YOUR PERSPECTIVE ON REGIONAL MOBILITY ISSUES

WHAT DO YOU THINK?

Mobility – the ability to get from here to there and back again – is critically important to so many of our broader regional objectives like economic vitality, community livability, and environmental health. The region's transportation system will face big challenges in the next couple of decades. These challenges that will test the resilience of the region and its communities, and the ability of our transportation system to support our broader objectives.

- Deferred preservation leads to system deterioration and makes it more vulnerable to failures, but there isn't enough money to keep up with preservation needs.
- Uneven economic opportunities push people to commute ever further to earn a living, straining household expenses and increasing demand for new mobility services.
- Extreme weather events and earthquakes will undermine our infrastructure, disrupt services, and possibly displace some existing homes and businesses.
- Deployment of new transportation technologies will change how we think about mobility and access to services, but those opportunities won't be equally available to all communities.

These are just some of the things we're thinking about. What do **you** think we should be considering as we look ahead to 2040 and beyond? Please take a few minutes to share your ideas about the issues and opportunities you think merit a regional approach and the challenges we face. We want to know what you think. *Thank you!!*

Truck route or cross town route through Port Angeles east toward Sequim. Morse Creek/Golf Course Rd is only route between Sequim and Port Angeles. Increase redundeey in transportation network.

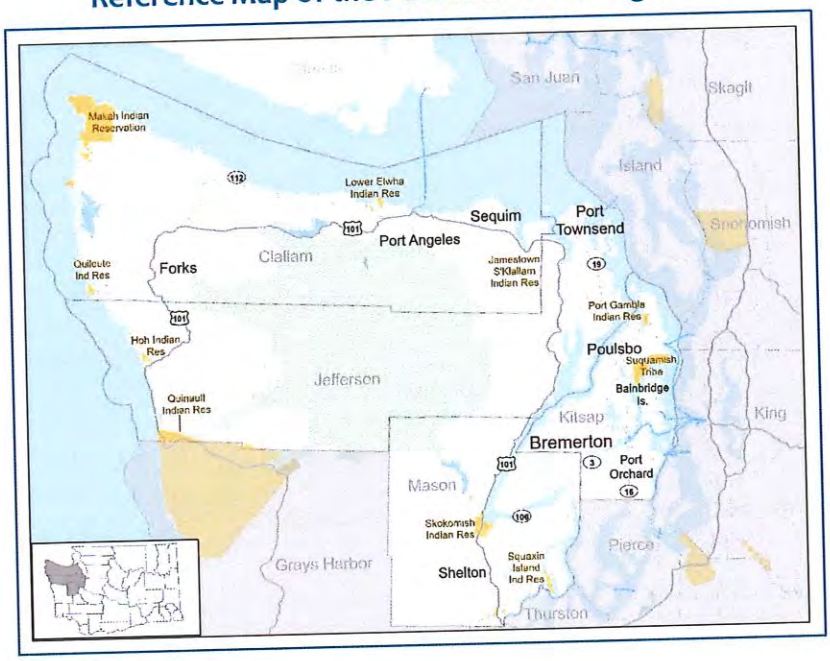








Reference Map of the Peninsula RTPO Region



May we keep you informed about upcoming news and events? Please print your name and email address if you'd like to get occasional updates from PRTPO.

Name _____

Email _____

PENINSULA RTPO

YOUR PERSPECTIVE ON REGIONAL MOBILITY ISSUES

WHAT DO YOU THINK?

Mobility – the ability to get from here to there and back again – is critically important to so many of our broader regional objectives like economic vitality, community livability, and environmental health. The region's transportation system will face big challenges in the next couple of decades. These challenges that will test the resilience of the region and its communities, and the ability of our transportation system to support our broader objectives.

- Deferred preservation leads to system deterioration and makes it more vulnerable to failures, but there isn't enough money to keep up with preservation needs.
- Uneven economic opportunities push people to commute ever further to earn a living, straining household expenses and increasing demand for new mobility services.
- Extreme weather events and earthquakes will undermine our infrastructure, disrupt services, and possibly displace some existing homes and businesses.
- Deployment of new transportation technologies will change how we think about mobility and access to services, but those opportunities won't be equally available to all communities.

These are just some of the things we're thinking about. What do **you** think we should be considering as we look ahead to 2040 and beyond? Please take a few minutes to share your ideas about the issues and opportunities you think merit a regional approach and the challenges we face. We want to know what you think. *Thank you!!*

Place paragraph on climate change adjunct in next plan

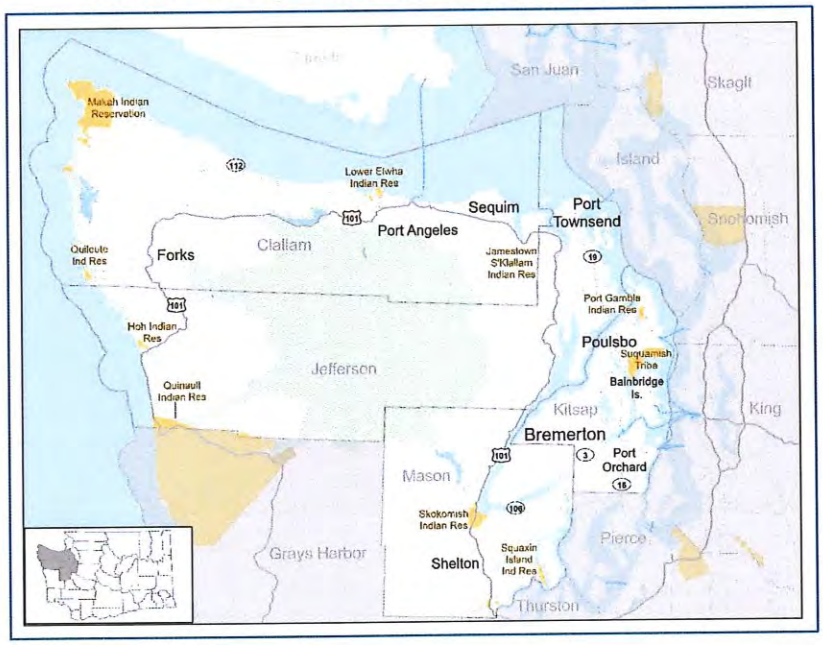








Reference Map of the Peninsula RTPO Region



May we keep you informed about upcoming news and events? Please print your name and email address if you'd like to get occasional updates from PRTPO.

Name _____

Email _____

Thera Black

From: Edward Coviello <EdwardC@KitsapTransit.com>
Sent: Tuesday, September 10, 2019 8:52 AM
To: 'edavidt Tk'
Subject: RE: Peninsula Regional Transportation Plan 2040

Good morning Dave,

We have recorded your concerns. We will brief our Executive Board in September and make our best efforts to incorporate this into the current Plan.

I do appreciate the time you have taken to construct the email below. Your comments are a measure that will influence not only this version of the Plan but future versions as well.

Ed

Edward Coviello, AICP
Kitsap Transit
60 Washington Ave, Suite 200
Bremerton WA, 98337
360-824-4919

From: edavidt Tk [mailto:edavidt@gmail.com]
Sent: Saturday, September 07, 2019 9:37 AM
To: Edward Coviello
Subject: Peninsula Regional Transportation Plan 2040

Dear Edward,

Thanks so much for the Open House in Port Townsend last week. It was great to meet everyone and get a chance to get updated on your work. Subsequent to the Open House, I reviewed your draft plan 2040. I did not read the entire draft in detail, so I may have missed something. However, I want to offer some feedback. Thanks for reading.

The first thing I noticed that the document lacked an emphasis on "data driven decision making." That I see that some data was referenced in the document in terms of planning. And that data helped shape some of the conceptual framework of the document. But what I did not see was a mandate, or at least a strong encouragement that data be a driving force in day to day, month to month, and year to year decision making. This data would include traffic studies (flow and frequency data), as well as surveys. Survey data goes way beyond just surveying transit users because one obvious goal is to get current non users out of their vehicles and onto transit, bicycles and other alternatives. And good survey data is very difficult to obtain. But it is not impossible, and it will go a long way in transforming any system involving human services into a more useful and productive system. Traffic data will help planners re think routes, and be able to offer incentives to move more people out of their cars. Finally, carbon emission data analysis would offer a clear path to decisions that reduce carbon emissions.

Secondly, I noticed a complete lack of any discussion whatsoever on carbon reduction. Carbon dioxide (and its connection to transportation) is the fundamental challenge for our region, the nation and the planet, at the moment. Yet, it is not even mentioned in this document.

One page 1, under a graphic, I found the following text:

"The primary objective of the Peninsula RTPO is to facilitate cooperative decision-making by the agencies within the region in order to bring about a coordinated and comprehensive transportation planning process. It seeks to ensure that all local plans are coordinated and consistent with the regional plan. This is accomplished through the participation of all jurisdictions in the technical analysis and policy approvals of the plan."

My alternative would be " The primary objective of the Peninsula RTPO is to facilitate cooperative decision-making by the agencies within the region in order to prioritize carbon reductions as part of the transportation planning process. It seeks to ensure that all local plans similarly focus on carbon reduction and are coordinated and consistent with the regional plan. This is accomplished through the participation of all jurisdictions in the technical analysis and policy approvals of the plan."

On page 3, the first bullet should address climate change and carbon reduction.

On page 5, the first point should be "address carbon reductions."

Referenced bullets are part of the RCW and WAC language.

The statement on Page 8: "The transportation system in the region efficiently and safely connects people and goods with places, offering choices, and ensuring accessibility. This vision emphasizes a long-term quality of life by promoting economic growth, recreational resources, community services, active transport, and public transit. " should be replaced with "The transportation system in the region efficiently and safely connects people and goods with places, offering choices, and ensuring accessibility with low carbon alternatives. This vision emphasizes a healthy outlook for our region and the planet, and long-term quality of life by promoting economic growth, recreational resources, community services, active transport, and public transit. "

I could go on. In short, the entire plan needs to be re written with carbon reduction as the core and over riding theme. The current focus of the plan sounds like a "compliance" documents. In the meantime, the most fundamental threat to humanity, and the world's biota, climate breakdown, is at hand. Transportation in Jefferson County contributes at least 39% of the carbon here, and this plan does not even mention climate or CO2.

Please consider re writing this document with an emphasis on reducing carbon as the primary focus. We cannot afford to wait until after 2014 to bring carbon reductions and climate breakdown into our regional plan.

Thanks so much.

Dave Thielk
611 Rose Street
Port Townsend, WA 98368
360-301-6005

Thera Black

From: Edward Coviello <EdwardC@KitsapTransit.com>
Sent: Thursday, September 12, 2019 2:39 PM
To: 'Scott Walker'
Subject: RE: PRTPO 20 year plan

Good afternoon Scott,

Thank you for taking the time to review the draft RTP and suggest improvements. We will log your comments for our Board to review. Please do not hesitate to add to your comments between now and October.

Sincerely,
Ed

From: Scott Walker [mailto:walkers@olympus.net]
Sent: Tuesday, September 10, 2019 8:44 PM
To: Edward Coviello
Cc: Ariel Speser; Scott Walker; Marion Huxtable; Richard Dandridge; Gerald Braude; Lys Burden; Gordon Neilson; samantha.CivicCoCreate@gmail.com; Cindy Jayne; Hank Walker; Mike Kaill; Hendrick Taatgen; Becci Kimball; Dave Thielk; Richard Stockment; Arthur Rochester; William Dentzel; Sonja Hammar; Martin Byron; MARGARET LEE; Joe Finn
Subject: PRTPO 20 year plan

Hi Edward,

The plan looks very good on paper with its inclusion, finally after many years without, of active transportation goals. Funding those goals is always the crux. It's somewhat of a zero sum equation: the more we fund for motor vehicle transportation facilities, the less convenient, safe, and inviting active modes become. Much of the document is taken up by motor vehicle facility planning, though there is the possibility of instead investing deeply in active transportation and transit. Plus, we know now that congestion relief and safety improvements for motor vehicles results in more motor vehicle use. Thus, it would appear this plan does little to nothing to reduce vmt as required by

RCW 47.01.440: Adoption of statewide goals to reduce annual VMT,

which is the only way to reduce the 40% of GHG emissions from transportation sources and ultimately address the looming climate chaos.

Otherwise, as a document, it's very good looking.

Scott G. Walker

Thera Black

From: Edward Coviello <EdwardC@KitsapTransit.com>
Sent: Friday, August 30, 2019 9:10 AM
To: 'Fran Mason'
Subject: RE: 2040 Regional Transportation Plan Open House

Categories: PRTPO

Good morning Fran,

Thank you for reaching out to us. I will document your concerns.

I'll keep you posted as to the status of your comments in the coming months.

We plan to brief our Executive Board in September of all the comments received. Keep an eye on our website for the meeting agendas at: https://prtpo.kitsaptransit.com/meetings.htm

Sincerely,

Ed

Edward Coviello, AICP
Kitsap Transit
60 Washington Ave, Suite 200
Bremerton WA, 98337
360-824-4919

From: Fran Mason [mailto:piptrade@yahoo.com]
Sent: Thursday, August 29, 2019 5:55 PM
To: Edward Coviello
Subject: Fw: 2040 Regional Transportation Plan Open House

Hello Edward -
The email below are comments I wanted to voice. My last paragraph addresses comments on this in particular issue from the draft:
"The long-term expectation for this regional active transportation system is that it will provide a practical alternative to a road based trip thereby reducing vehicles miles traveled and promoting public health. Peninsula Regional Transportation Planning Organization
Active travel is
further enhanced within the region through transit and park-and-ride facilities at convenient intervals along the state highway system that facilitate and expedite a seamless and convenient change of mode between walking, bicycling, transit, and auto."

My comment:
"Lastly we need COST-EFFECTIVE shuttles to trail heads. I have been advocating for this since I moved here. Perhaps the Elwha Tribe could partner with Clallam Transit to provide a shuttle to Salt Creek, Spruce Railroad, and other trails that the bus does not reach. Currently Jamestown partners with CTS to provide a shuttle to Jamestown Campus, the same could be done with the Elwha (if pick up was at their store it would boost

business). This may also boost the tourist economy. Other regions that offer shuttles have found it very popular - in fact many have had to increase trips to accommodate passengers! This is probably a seasonal suggestion for the peninsula."

Thank you,
Fran Mason

----- Forwarded Message -----
From: Fran Mason <piptrade@yahoo.com>
To: "LSWawrin@cityofpa.us" <LSWawrin@cityofpa.us>
Sent: Thursday, August 29, 2019, 5:34:43 PM PDT
Subject: Re: 2040 Regional Transportation Plan Open House Flyer

Hello Lindsey-

I received this email from Olympic Climate Action - alas, I will not be able to attend this meeting - I would need to leave at 5:00 to connect with the bus for home.
I am hoping you will voice my concerns for me!

First did you receive the letter from the last Clallam Transit meeting asking for later bus service? Kevin (manager) received the original and I gave a copy to Mark Ozias who was chairman of the transit board. It was signed by nearly 200 people in this area and I think it needs to be addressed - I do have a copy if needed, but hopefully Mark or Kevin still have that letter.

Second we need to boost bus ridership in the area and that could be accomplished by offering incentives. Transit companies (or city councils!) could partner with local businesses to offer discounts or such - or free dessert, free popcorn - if person shows proof of riding the bus. Bus drivers could hand a slip to passengers.
For example many people from Highland Commons eat at the cafeteria at Olympic Medical Center - the bus picks up at Melody Lane and stops at the Medical Center. A 10% discount may incentivise people to leave their car at home and ride the bus.

Lastly we need COST-EFFECTIVE shuttles to trail heads. I have been advocating for this since I moved here. Perhaps the Elwha Tribe could partner with Clallam Transit to provide a shuttle to Salt Creek, Spruce Railroad, and other trails that the bus does not reach. Currently Jamestown partners with CTS to provide a shuttle to Jamestown Campus, the same could be done with the Elwha (if pick up was at their store it would boost business). This may also boost the tourist economy. Other regions that offer shuttles have found it very popular - in fact many have had to increase trips to accommodate passengers! This is probably a seasonal suggestion for the peninsula.

Thank you - I hope you bring attention to these issues at the meeting!

One less car-

Fran Mason

On Thursday, August 29, 2019, 12:02:13 AM PDT, OlyClimate <olyclimate@olyclimate.org> wrote:

From: **Lindsey Schromen-Wawrin** <LSWawrin@cityofpa.us>

Next Tuesday in Port Angeles and Wednesday in Port Townsend is an open house for the Peninsula Transportation Plan (for both the Olympic Peninsula and Kitsap Peninsula). This is the big picture long term plan for how transportation (all transportation, not just buses) will work on the peninsulas, so it is a great place for people to come and voice the need for more greenhouse gas emission mitigation measures in our transportation system (which second to our forestry practices is the largest source of CO2 on the Olympic Peninsula).

Note that these meeting times are likely bus-accessible.

Please spread the word about them.

Thank you,

Lindsey Schromen-Wawrin
Port Angeles City Council
(360) 406-4321

NOTICE: This email and any attachments may be
subject to disclosure as a public record under
the Public Records Act, RCW Chapter 42.56.

The Draft RTP is posted on the PRTPO website.
https://prtpo.kitsaptransit.com/default.htm
<https://prtpo.kitsaptransit.com/default.htm>

Edward Coviello, AICP
Kitsap Transit
60 Washington Ave, Suite 200
Bremerton WA, 98337
360-824-4919

NOTICE: This email and any attachments may be subject to disclosure as a public record under the Public Records Act, RCW Chapter 42.56

Edward Coviello

From: CindyJ <cindyj911@yahoo.com>
Sent: Friday, September 13, 2019 2:33 PM
To: Edward Coviello
Subject: 2040 Regional Transportation Plan Comments

Ed,

Thank you for soliciting comments on the draft 2040 Regional Transportation Plan. After reviewing the plan, I have a few comments.

It is great that the four county region works collaboratively on planning for the long term for transportation. However, I was surprised that the plan does not mention the large role that transportation has in generating greenhouse gases in the regional area, nor the threat of climate change to the regional transportation system. Jefferson County did a greenhouse gas inventory based on 2005 data a while ago, and transportation was 39% of the carbon footprint. That was at a time when Puget Sound Energy provided electricity to most of the county, which had a higher greenhouse gas footprint than the BPA electricity that is now supplied. It is likely that the percent of greenhouse gases from transportation is even higher now.

The increased urgency of reducing greenhouse gases worldwide is a well established fact, and was most recently described in the latest Intergovernmental Panel on Climate Change reports. And it certainly is acknowledged by our governor. There is work going on across this regional area regarding climate change, including with the Jefferson County / Port Townsend Climate Action Committee, in Clallam County, etc. It is time to call a spade a spade and include climate change language in the Regional Transportation Plan, and note the large role transportation has in the opportunity to reduce our regional carbon footprint.

Similarly, the risks of climate change to this regional transportation plan are considerable, and I strongly recommend that any long term plan of regional transportation include this in the analysis. WSDOT has studied the impacts of climate change on the state highway system, and that is a good starting point. There is also a Planning for Climate Change on the North Olympic Peninsula report that identified additional secondary roads that were vulnerable to climate impacts. I am one of the co-authors on that study.

A broader greenhouse gas view in this transportation plan would likely lead to more consideration of electric vehicles as one strategy for helping reduce greenhouse gases across the region, both for individual vehicles as well as fleets, buses, etc. Incentives and charging stations for these could be considered in this plan. WSDOT's effort to electrify our ferry system could also be mentioned. And the climate view increases the need for active transportation to be well integrated into our regional transportation system.

I also believe that a review of the latest software technology regarding ridesharing, and promoting it across the region, should be considered as a way to reduce Single Occupancy Vehicle (SOV) trips. With the number of people driving to the ferry terminals from the region, a good rideshare app could help pair drivers and passengers in real time to reduce Single Occupancy Vehicle trips.

Thank you for considering this input.
Cindy Jayne

(Current chair of the Jefferson County / Port Townsend Climate Action Committee, and member of Local 20/20 Climate Action, but these comments are my own.)

Edward Coviello

From: Rebecca Kimball <rebeccajkimball@gmail.com>
Sent: Saturday, September 14, 2019 12:09 PM
To: Edward Coviello; chris.davis@gov.wa.gov
Subject: Peninsula Regional Transportation Plan 2040

Dear Edward,

I attended the recent PRTPO Open House in Port Townsend, where it was helpful to have the opportunity to speak with DOT representatives and ask questions.

As a nurse practitioner, my primary interest in transportation is fueled by a desire to improve public health.

Considering that the destruction of our climate is the greatest threat to public health and that transportation is responsible for 42% of Washington state's GHG emissions and over half of that is from " road gasoline use", I expected to see GHG reduction strategies as one of the plan's goals. However, there was no real mention of the impact of transportation on climate destruction at all, only oblique references to promoting environmental health.

Although increasing the transportation modes of walking, biking and transit would most significantly reduce GHG emissions and improve public health, and are referred to several times in the plan, the funding to accomplish the desired changes is almost completely lacking. Not funding transportation for modes other than cars seems particularly odd for Washington state as governor Inslee stated in June 2019 " *I will make defeating climate change the number one priority of my administration."*

We have a very short amount of time to reverse the effects of man made climate destruction. We know that promoting electric cars is not enough and that we must make every change possible.

I strongly encourage you rewrite this plan to make GHG reduction and public health improvement its first priority.

Respectfully,

Rebecca Kimball ARNP

Thera Black

From: Edward Coviello <EdwardC@KitsapTransit.com>
Sent: Monday, October 14, 2019 3:14 PM
To: 'MARGARET LEE'
Cc: Thera Black
Subject: RE: PRTPO 20 year plan

Hi Margaret

Thank you for letting us know about the concerns below. I do apologize for the late response. We will summarize the comments received and brief our Board on October 18th. We have already discussed the need to develop a strategic vision for the PRTPO and the critical topic of Climate Change will likely be brought up in this effort.

Sincerely,
Ed

Edward Coviello, AICP
Transportation & Land Use Planner
Kitsap Transit
60 Washington Ave, Suite 200
Bremerton WA, 98337
360-824-4919

From: MARGARET LEE [mailto:ptmlee@olypen.com]
Sent: Sunday, October 6, 2019 5:05 PM
To: Edward Coviello
Subject: PRTPO 20 year plan

Edward,

We spoke briefly at the open house held here in in Port Townsend by our Peninsula Regional Transportation Planning Organization during which I encouraged you to add your voice to those of us who believe attention must be given to Climate Change in the Plan. Of course, you are an employee, so your opportunity to express yourself forcefully on that matter may be limited. Mine are not.

I was very disappointed that the Plan I received that day had nothing to say on the subject of Climate Change, not one word, even though one of the introductory **Purpose**s is to: "Ensure affected parties *understand issues related to choices, impacts and timing* by fostering on-going and inclusive community involvement and education".

I wonder who chose *not* to "educate" the affected parties on this vital issue and how it pertains to the work before you. Before us.

Though the Plan devotes attention to "…issues of economic and community development…", it does not endorse any actions which are needed *now* as we face destructive weather and global extinctions. As one example it says, "Maintain existing investments by being realistic about financial capacity prioritizing accordingly, and evaluating the full cost of alternatives and recommendations". Did anyone evaluate the "full cost" of just maintaining the status quo?

Clallam, Jefferson, Kitsap and Mason counties could act together on the purchase of electric buses and elicit cooperation from our electric utilities for the robust charging facilities which would be needed. The Plan timidly mentions "… regional energy efficiency…" (Goal 9, Item e).

Certainly, *cooperatively,* the PPRTO could bring pressure to bear on the Washington State Legislature and the Department of Transportation to provide much more funding to public transit agencies in our counties rather than for highways! Our Region could set an example for other Regions in the State.

Enlist transit riders and provide buses for a trip to Olympia to promote a transportation budge favorable to bus travel. I'd go.

We don't have to reinvent the transit wheel; transit systems throughout the world are facing the challenge of climate change and coming up with constructive solutions.

I strongly encourage you to include in this Plan details *how* our Peninsula Regional Transportation Planning Organization intend to address their role in this effort.

Respectfully,

Bus Patron Margaret Lee
809 Gaines Street
Port Townsend, WA 98368

Public Comment on the 2040 Draft Regional Transportation Plan
From Marion Huxtable
704 Lawrence Street
Port Townsend
mhuxtable@olympus.net

Thank you for this opportunity to comment on the draft plan for 2040.

I have been a resident of Port Townsend in Jefferson County since 2003. Since then I have been involved in transportation planning with various groups such as the City's Non Motorized Transportation Advisory Board, The Walkable and Livable Communities Board, The Transportation Lab, the Highway 19/20 local planning group, Disability Awareness Starts Here (DASH) and the County's Greenhouse Gas Inventory team.

I have reviewed the 2040 Draft Plan. I find that the Plan does not reflect the reality of our changing world, changes in our region, and how we in this region must adapt our transportation in response to these changes. Our Transportation Plan must be an integral part of an overall plan for life in 2040, and focused on much more than transportation. Our population will increase in the near future, there will be more people over the age of 60, more air pollution, more health problems related to lifestyle and environmental stress, and a changed climate due to burning fossil fuels. Transportation must and will change in response. The Plan must call for a new and creative approach that takes account of these issues. Planning now for innovative transportation can improve lifestyle in the region, rather than worsen it from our own lack of foresight.

In Jefferson County's 2005 and 2018 Inventories of Greenhouse Gas Emissions transportation was the largest source of emissions. It accounted for 39% of the total in 2005; it will be a larger percentage in the 2018 Inventory to be published next year. "Vehicle Miles Traveled" in this county increases every year. This means that not only are greenhouse gas emissions rising steadily but air pollution, traffic, noise, environmental problems, accidents and associated health problems are rising. The Transportation Plan can do more to reduce each of these problems by coordinating mobility planning with every other plan in the system for a greater combined effect.

In planning for 2040 we have the opportunity to view transportation as part of a community plan working towards the goals of improved health and sustainability, recognizing that improving health entails changing lifestyles and that society's survival depends on conserving our resources. A community that is healthy and sustainable prioritizes social justice, with increased environmental protection and an economy that benefits all people.

Priorities should be:

- Eliminate dependence on fossil fuels
- Improve air quality
- Prioritize quality of life in the region
- Promote health and safety with active lifestyles
- Enable people to get around easily in healthy and sustainable ways
- Reduce Vehicle Miles Traveled in singly occupied motorized vehicles

There is much research available on creating livable communities with transportation plans that include such goals. Even though there is room for creative ideas specifically for the Olympic Peninsula, the PRTPO does not need to reinvent a complete plan, but can consider what progressive communities and regions elsewhere are doing. The plan must include radical changes in walkability, bikability, transit, vehicles that do not use fossil fuel, infrastructure, parking, land use, public spaces, delivery of goods and services, effective services for management of demand and much more.

Children born in 2019 will be young adults in 2040 living in a world that has lost many of the cherished natural resources that today's elders enjoyed when we were young. Fossil fuel based transportation has been a major contributor to resource loss and environmental degradation. I believe that your transportation planning can and must be based on fundamental and far-reaching innovations that will slow this loss, so that tomorrow's children will not suffer from an impoverished environment and lifestyle due to our lack of fore-thought.

I am one of many who are asking you to drastically change your 2040 Plan. Recognize the need for deep change and plan creatively for the most advanced transportation plan ever. The region will benefit and become one of the best places in the US to live.

Open houses to share draft transportation plan

Meetings in Port Angeles, Port Townsend slated for this week

By Peninsula Daily News

Sunday, September 1, 2019 1:26pm | NEWS | CLALLAM COUNTY | JEFFERSON COUNTY

The Peninsula Regional Transportation Planning Organization will conduct open houses in Port Angeles and Port Townsend this week to kick off the public comment period on its draft Regional Transportation Plan 2040.

The Port Angeles open house will be from 4:30 p.m. to 6:30 p.m. Tuesday at the Port Angeles Library, 2210 S. Peabody St.

The Port Townsend open house is set from 4:30 p.m. to 6:30 p.m. Wednesday at the Port Townsend Public Library, 1220 Lawrence St.

The public is welcome to drop in to discuss with officials transportation issues and opportunities facing the region.

The Peninsula Regional Transportation Planning Organization covers Clallam, Jefferson, Mason and Kitsap counties. It is an association of cities, towns, counties, ports, tribes, transit agencies and major employers that work together to develop transportation plans to meet the region's future economic and population growth.

The long-range policy plan is an update of a 2035 plan. It offers strategies to maintain and improve the region's transportation system.

Comment will be accepted until noon Oct. 18.

Comments can be submitted by mail or email to Edward Coviello, Kitsap Transit, 60 Washington Ave., Suite 200, Bremerton, WA 98337 or edwardc@kitsaptransit.com.

To see the draft plan online, go to prtpo.kitsaptransit.com/default.htm. It also is available at Port Angeles and Port Townsend public li

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In Chapter 6, after a rundown of available services and routes through the four-county area, the draft plan lists areas in which strategies are being developed. On the North Olympic Peninsula, these include work on state Highways 19, 20, 116, 110, 112 and 113.

Meetings also are set this week in Bremerton and Shelton.

For more information, email Coviello, Kitsap Transit's transportation and land use planner, or call him at 360-824-4919.

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Traffic crosses the Hood Canal Bridge along state Highway 104 on Wednesday evening. The Peninsula Regional Transportation Planning Organization is examining all modes of transit in its 2040 draft plan, which is open for public comment through Oct. 18. (Brian McLean/Peninsula Daily News)

Transportation plan prioritizes four-county region

Group recommends projects to align needs

By Brian McLean

Friday, September 6, 2019 1:26pm | NEWS | JEFFERSON COUNTY

PORT TOWNSEND — It's been a year of transition for the Peninsula Regional Transportation Planning Organization, a group with representatives from four counties that identifies project priorities and works with state officials to get them funded.

The organization (PRTPO) became fully independent, breaking away from the state Department of Transportation to create its own vision of how to improve the North Olympic Peninsula, said board member David Sullivan, one of three Jefferson County commissioners.

It also hired Thera Black, a transportation planning expert, a coordinator.

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“She’s super experienced,” said Annette Nesse, the chair of the organization who represents the Jamestown S’Klallam Tribe. “She’s spent her whole career in transportation in some way, shape or form.”

The PRTPO held an open house Wednesday night at the Charles Pink House at the Port Townsend Public Library on its regional transportation draft plan for 2040, a public process that’s open for comment until noon Oct. 18.

Its goal is to gather input from stakeholders in Jefferson, Clallam, Kitsap and Mason counties to develop transportation policies and recommend solutions to address a variety of needs.

“We’re here to discuss what are those strategies, initiatives and plans people want to talk about, because the future isn’t going to look like it does today,” Black said.

Posterboards propped up on tables depicted major highways from Shelton to Forks. The plan not only aims to improve those roads, it factors in connections with transit, ferries and aviation along with pedestrian and bicycle needs. It includes county roadways, public and active transportation in addition to truck freight, rail and marine systems.

“It’s really been inclusive,” Sullivan said. “It’s a collaborative process of trying to determine what the highest priorities are.”

The top level focuses on economic vitality, with Jefferson County infrastructure such as state highways 19, 20 and 116 on the list, particularly as it relates to state ferry connections.

Preservation, safety, mobility, environmental concerns and stewardship also are among the regional strategies.

Prior to this year, a Department of Transportation staff member worked with the PRTPO. Now the organization is self-governed, said Tammi Rubert, the general manager for the Jefferson Transit Authority, which acts as the fiscal agent for the PRTPO.

“I think this group is really dedicated to making this work as [illegible]” Rubert said.

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Rick Jahnke of Port Townsend suggested Jefferson Transit restore its Sunday service to connect regional residents to area festivals, and also to reduce dependence on driving.

Rubert said she appreciated the comment and added the agency is in the process of establishing a direct route for the Kingston-Edmonds fast ferry.

“It would be a very large, substantial service,” she said.

At the same time, the agency has its eyes on Initiative 976, Tim Eyman’s push to limit motor vehicle taxes and fees.

Rubert said 34 percent of her agency’s budget comes from grant funding that would be directly impacted should the initiative pass.

The regional plan includes a breakdown of three major sources of funding, which include the 10-year transportation package approved by the state Legislature in 2003, the Transportation Partnership Act in 2005 and the 2015 Connection Washington Act.

With those funds, a comprehensive list of projects overseen by cities, counties, tribes and state agencies was approved.

Upcoming projects in Jefferson County include roundabouts at state Highway 20 and Discovery Road, and a second one at the intersection of Highway 20 and Kearney Street. Both are scheduled for construction in 2022.

Roundabouts also are planned in 2022 on state Highway 104 at Paradise Bay and Shine roads, and at state highways 104 and 19.

Fish barrier removals at Harlow and Fisher creeks are underway this year.

The plan also has a list of planned priorities that currently are unfunded. Many Jefferson Transit projects and those within the city of Port Townsend have requests with matching local funds.

Sullivan said the plan has largely remained intact from its 2035 version.

“We’re updating it right now, but things haven’t changed dr
the state level,” he said.

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The plan is available online at prtpo.kitsap transit.com/default.htm. Written comments can be sent by email to Edward Coviello, Kitsap Transit transportation land use planner, at edwardc@ kitsaptransit.com.

Jefferson County Managing Editor Brian McLean can be reached at 360-385-2335, ext. 6, or at bmclean@peninsuladailynews.com.

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APPENDIX C: TECHNICAL INTERSECTION ANALYSIS REPORTS

In 2017, PRTPO commissioned WSDOT to complete operational analyses for a number of intersections on key state routes around the region. Appendix C documents that analysis with these completed intersection reports.

Peninsula Regional Transportation Planning Organization

SR 3/Grapeview Loop Road South

Intersection Operational Analysis



Prepared by

WSDOT
Washington State Department of Transportation
Olympic Region Planning

July 2017

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Introduction:

This operational analysis was prepared at the special request of the local jurisdiction and funded by the Peninsula Regional Transportation Planning Organization. Those intersections identified as operating below the Washington State Department of Transportation's policy for what is considered acceptable traffic operation level of service (LOS) will need to compete for funding with other intersections around the state based on the expected performance outcome for the proposed improvements.

SR 3 is part of the National Highway System and designated as a Highway of Statewide Significance. SR 3 is classified by the Freight & Goods Transportation System as a T-3 freight route, carrying 2.02 million tons of freight annually, with 550 trucks using the corridor on a daily basis in 2015. The average daily traffic volumes in the corridor range between 7,400 to 7,600 vehicle per day in 2014, with higher volumes occurring closer to Bremerton. This corridor has also been identified as a SR 3 Defense Industrial Corridor near Bremerton.

The intersection of SR 3 and Grapeview Loop Road South is located in Mason County. This rural principal arterial features one twelve-foot lane in each direction with 4-foot roadway shoulders. The posted speed limit at this location is 55 mph with a rolling terrain that may cause trucks to slow down.

Methodology

Traffic Operations Model

The Highway Capacity Software 2010 was used to analyze the unsignalized intersection of SR 3/Mason-Benson Road. The turning movement counts from the minor street that experiences the worst delay defines the level of service (LOS) for the intersection. LOS is based on the seconds per vehicle. The LOS criteria for automobiles at a two-way stopped controlled intersection as defined in the Highway Capacity Manual 2010 is as follows:

Highway Capacity Manual Exhibit 19-1 Two-way Stopped Controlled Intersection LOS Criteria

Control Delay (seconds/vehicle)	**LOS by Volume-to-Capacity Ratio** **Volume-to-Capacity ≤ 1.0**
0-10	A
>10-15	B
>15-25	C
>25-35	D
>35-50	E
>50	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major street approaches or for the intersection as a whole.

The Synchro 8/SimTraffic software and the Highway Capacity Software 2010 were used to determine the traffic queues at the intersection.

Traffic Volumes

In March 2017, WSDOT staff performed 12-hour turning movement manual counts at all legs of the SR 3/Grapeview Loop Road South intersection.

Analysis

The intersection analysis applies a seasonal factor of 1.09 percent to the weekday traffic volumes collected. The seasonal factor adjusts the volumes to reflect the yearly average volume, and are only applied to the major approaches. The LOS and the delay in seconds for the SR 3/Grapeview Loop Road South intersection are depicted in the table below.

Figure 2: Level of Service (Delay, Seconds)

LOCATION	AM	MID-DAY	PM
SR 3/Grapeview Loop Road South	B (12.3)	B (11.6)	B (14.2)

Figure 2 portrays the traffic operation LOS at the SR 3/Grapeview Loop Road South intersection. During the morning hours between 6 to 10 a.m., the intersection delay is designated an LOS B with an average delay of 12.3 seconds, meaning that motorists would wait on average 12.3 seconds at the intersection before they could proceed. Mid-Day during the hours of 11 a.m. and 2 p.m., motorists would wait on average 11.6 seconds. During the evening hours, between 2 p.m. to 6 p.m., motorists would be delayed at the intersection 14.2 seconds before they could proceed.

The Washington State Department of Transportation's policy for what is considered a minimal acceptable traffic operation LOS at this location is a LOS C designation for rural highways.

Summary

The analysis depicts the SR 3/Grapeview Loop Road South intersection operating above the target level of LOS C during the morning, mid-day, and evening hours. As mentioned in the introduction, improvements must compete for funding based upon expected performance outcome. This location may or may not compete well with other intersections statewide.

Appendix

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: AM
Intersection: SR 3/Grapeview Lp Rd
Jurisdiction: Mason Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 3/Grapeview Lp Rd
East/West Street: Grapeview Lp Rd
North/South Street: SR 3
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		258	27	9	205	
Peak-Hour Factor, PHF		0.93	0.93	0.93	0.93	
Hourly Flow Rate, HFR		277	29	9	220	
Percent Heavy Vehicles		--	--	13	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	35		11			
Peak Hour Factor, PHF	0.93		0.93			
Hourly Flow Rate, HFR	37		11			
Percent Heavy Vehicles	6		10			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		9		48				
C(m) (vph)		1195		538				
v/c		0.01		0.09				
95% queue length		0.02		0.29				
Control Delay		8.0		12.3				
LOS		A		B				
Approach Delay				12.3				
Approach LOS				B				

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: Mid-day
Intersection: SR 3/Grapeview Lp Rd
Jurisdiction: Mason Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 3/Grapeview Lp Rd
East/West Street: Grapeview Lp Rd
North/South Street: SR 3
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		203	20	9	238	
Peak-Hour Factor, PHF		0.94	0.94	0.94	0.94	
Hourly Flow Rate, HFR		215	21	9	253	
Percent Heavy Vehicles		--	--	0	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	24		9			
Peak Hour Factor, PHF	0.94		0.94			
Hourly Flow Rate, HFR	25		9			
Percent Heavy Vehicles	4		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		9		34				
C(m) (vph)		1343		580				
v/c		0.01		0.06				
95% queue length		0.02		0.19				
Control Delay		7.7		11.6				
LOS		A		B				
Approach Delay				11.6				
Approach LOS				B				

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: PM
Intersection: SR 3/Grapeview Lp Rd
Jurisdiction: Mason Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 3/Grapeview Lp Rd
East/West Street: Grapeview Lp Rd
North/South Street: SR 3
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		274	31	29	387	
Peak-Hour Factor, PHF		0.98	0.98	0.98	0.98	
Hourly Flow Rate, HFR		279	31	29	394	
Percent Heavy Vehicles		--	--	4	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	21		9			
Peak Hour Factor, PHF	0.98		0.98			
Hourly Flow Rate, HFR	21		9			
Percent Heavy Vehicles	14		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

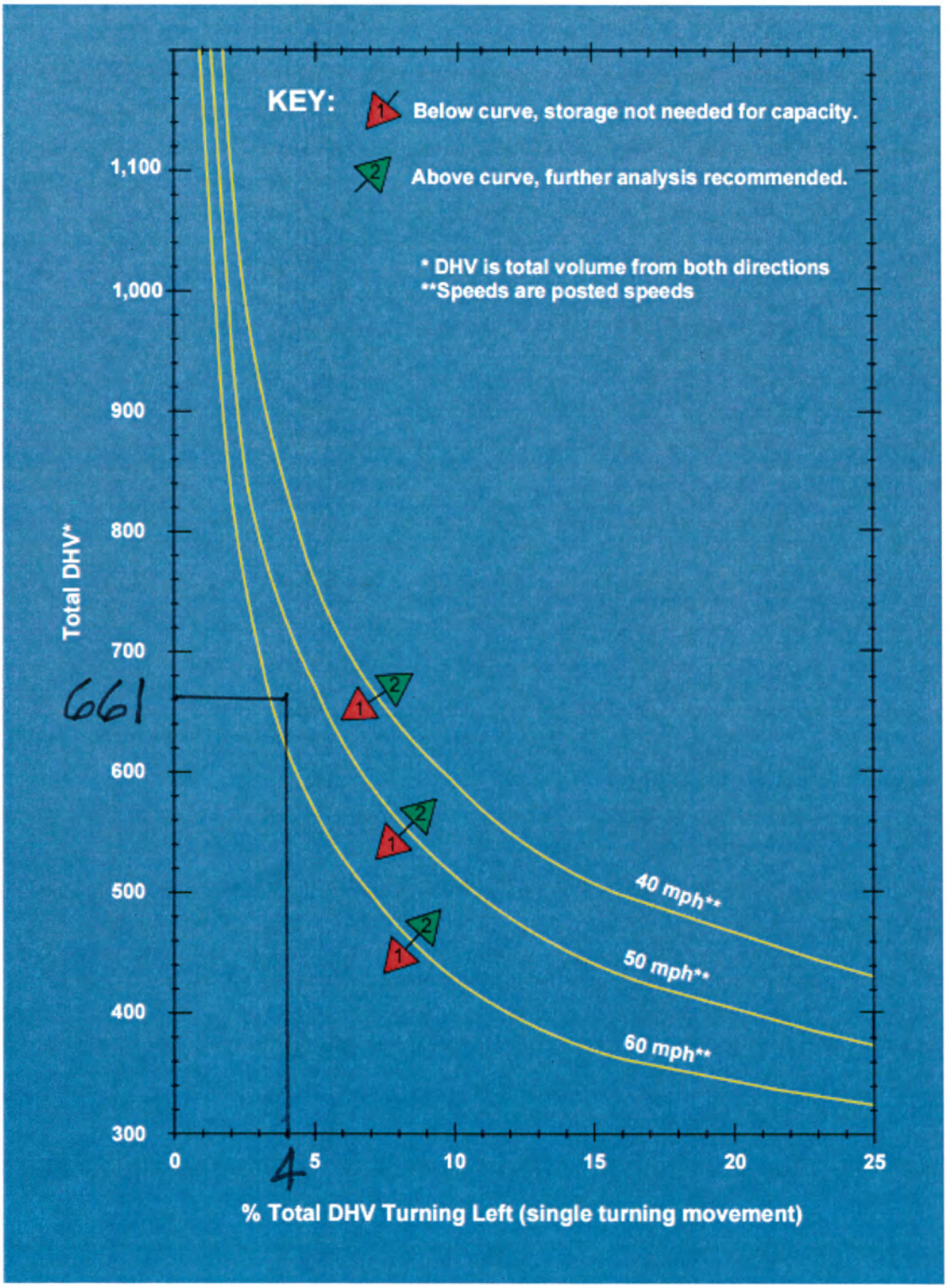
Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		29		30				
C(m) (vph)		1239		422				
v/c		0.02		0.07				
95% queue length		0.07		0.23				
Control Delay		8.0		14.2				
LOS		A		B				
Approach Delay				14.2				
Approach LOS				B				

SR 3/Grapeview Loop Rd S
MP 14.75

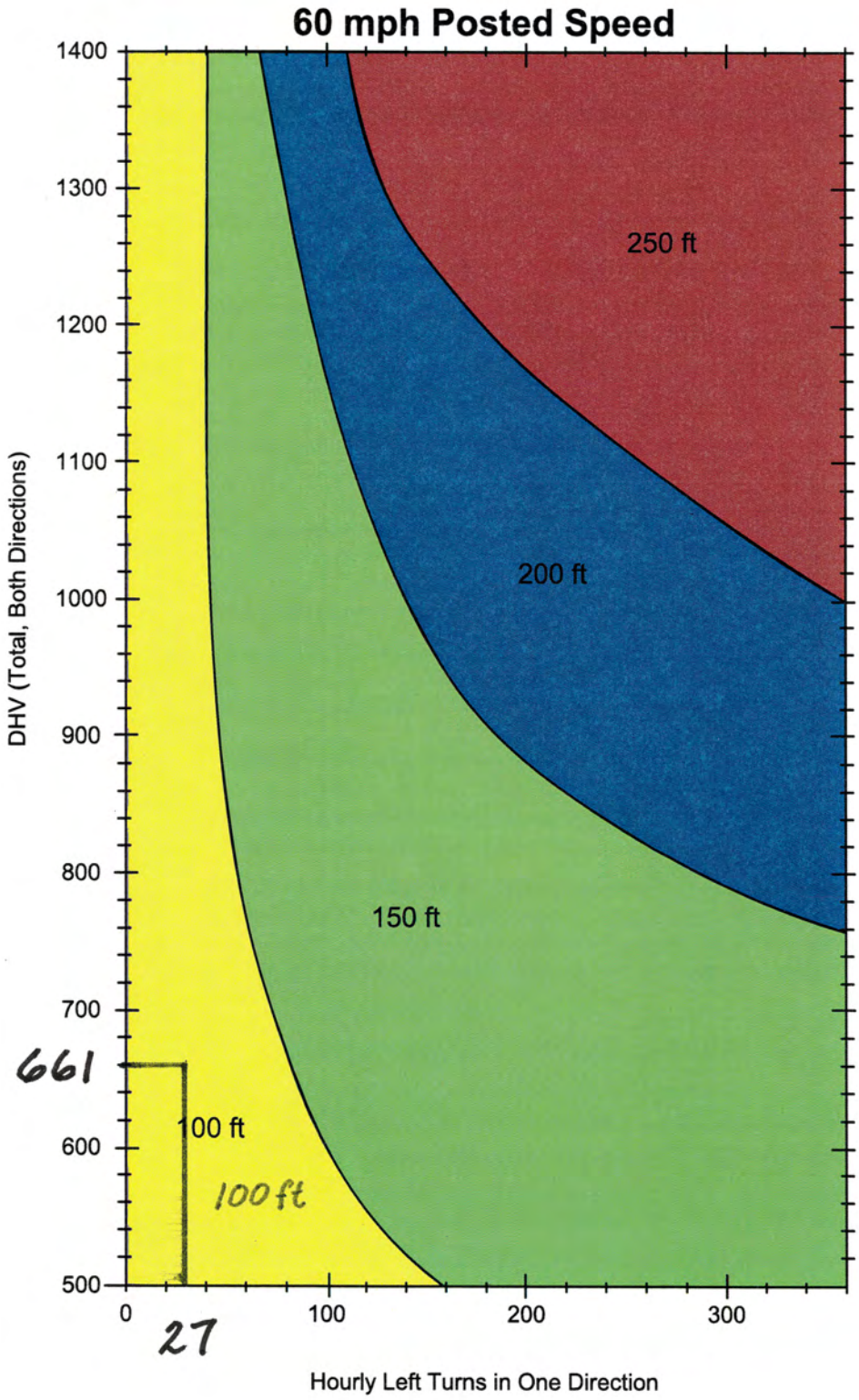
55 mph

Exhibit 1310-7a Left-Turn Storage Guidelines: Two-Lane, Unsignalized



SR 3 / GRAPEVEW LP RDS
MP 14.75

Exhibit 1310-8c Left-Turn Storage Length: Two-Lane, Unsignalized (60 mph)



STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/4/2017
TIME: 12:55:08
PAGE: 1

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3377 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 10:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												62	8.47		732
THIS LEG NORTH															
NORTH TO SOUTH	649	3	22	7		2	6	18			2	60		96.86	709
NORTH TO EAST	21	1	1									2		3.14	23
NORTH TO WEST															
SOUTH APPROACH												80	8.72		917
SOUTH TO NORTH	788	2	32	13		5	11	10				73		93.89	861
THIS LEG SOUTH															
SOUTH TO EAST	49	3	2	2								7		6.11	56
SOUTH TO WEST															
EAST APPROACH												8	4.35		184
EAST TO NORTH	62	1	1	1								3		35.33	65
EAST TO SOUTH	114	3	1		1							5		64.67	119
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1833
														PCT SPLIT OUT/IN	
NORTH TOTAL	1520	7	56	21		7	17	28			2	138		44/56	1658
PERCENTAGE	91.68	0.42	3.38	1.27		0.42	1.03	1.69			0.12	8.32			
SOUTH TOTAL	1600	11	57	22	1	7	17	28			2	145		53/47	1745
PERCENTAGE	91.69	0.63	3.27	1.26	0.06	0.40	0.97	1.60			0.11	8.31			
EAST TOTAL	246	8	5	3	1							17		70/30	263
PERCENTAGE	93.54	3.04	1.90	1.14	0.38							6.46			
WEST TOTAL															
PERCENTAGE															
															3666

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	84	5.07	52	3.14	2	0.12	138	8.32	0.9409
SOUTH TOTAL	91	5.21	52	2.98	2	0.11	145	8.31	0.9429
EAST TOTAL	17	6.46					17	6.46	0.9905
WEST TOTAL									

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3377 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 07:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												14	8.70		161
THIS LEG NORTH															
NORTH TO SOUTH	145	1	5	1			2	2			2	13		98.14	158
NORTH TO EAST	2	1										1		1.86	3
NORTH TO WEST															
SOUTH APPROACH												12	5.48		219
SOUTH TO NORTH	204		7	1			2	2				12		98.63	216
THIS LEG SOUTH															
SOUTH TO EAST	3													1.37	3
SOUTH TO WEST															
EAST APPROACH															34
EAST TO NORTH	17													50.00	17
EAST TO SOUTH	17													50.00	17
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															414
														PCT SPLIT OUT/IN	
NORTH TOTAL	368	2	12	2		4	4		2			26		41/59	394
PERCENTAGE	93.40	0.51	3.05	0.51		1.02	1.02		0.51			6.60			
SOUTH TOTAL	369	1	12	2		4	4		2			25		56/44	394
PERCENTAGE	93.65	0.25	3.05	0.51		1.02	1.02		0.51			6.35			
EAST TOTAL	39	1										1		85/15	40
PERCENTAGE	97.50	2.50										2.50			
WEST TOTAL															
PERCENTAGE															
															828

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3377 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												15	8.29		181
THIS LEG NORTH															
NORTH TO SOUTH	163	1	5	1			2	6				15		98.34	178
NORTH TO EAST	3													1.66	3
NORTH TO WEST															
SOUTH APPROACH												29	11.65		249
SOUTH TO NORTH	210	2	12	4		2	2	2				24		93.98	234
THIS LEG SOUTH															
SOUTH TO EAST	10	2	1	2								5		6.02	15
SOUTH TO WEST															
EAST APPROACH												2	3.64		55
EAST TO NORTH	19	1										1		36.36	20
EAST TO SOUTH	34	1										1		63.64	35
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															485
														PCT SPLIT OUT/IN	
NORTH TOTAL	395	4	17	5		2	4	8				40		42/58	435
PERCENTAGE	90.80	0.92	3.91	1.15		0.46	0.92	1.84				9.20			
SOUTH TOTAL	417	6	18	7		2	4	8				45		54/46	462
PERCENTAGE	90.26	1.30	3.90	1.52		0.43	0.87	1.73				9.74			
EAST TOTAL	66	4	1	2								7		75/25	73
PERCENTAGE	90.41	5.48	1.37	2.74								9.59			
WEST TOTAL															
PERCENTAGE															
															970

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3377 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:00 - 09:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												16	8.04		199
THIS LEG NORTH															
NORTH TO SOUTH	175		7			2	1	6				16		95.98	191
NORTH TO EAST	8													4.02	8
NORTH TO WEST															
SOUTH APPROACH												19	8.52		223
SOUTH TO NORTH	190		5	4		3	2	3				17		92.83	207
THIS LEG SOUTH															
SOUTH TO EAST	14	1	1									2		7.17	16
SOUTH TO WEST															
EAST APPROACH												2	3.57		56
EAST TO NORTH	15													26.79	15
EAST TO SOUTH	39	2										2		73.21	41
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															478
														PCT SPLIT OUT/IN	
NORTH TOTAL	388		12	4		5	3	9				33		47/53	421
PERCENTAGE	92.16		2.85	0.95		1.19	0.71	2.14				7.84			
SOUTH TOTAL	418	3	13	4		5	3	9				37		49/51	455
PERCENTAGE	91.87	0.66	2.86	0.88		1.10	0.66	1.98				8.13			
EAST TOTAL	76	3	1									4		70/30	80
PERCENTAGE	95.00	3.75	1.25									5.00			
WEST TOTAL															
PERCENTAGE															
															956

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3377 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												17	8.90		191
THIS LEG NORTH															
NORTH TO SOUTH	166	1	5	5			1	4				16		95.29	182
NORTH TO EAST	8		1									1		4.71	9
NORTH TO WEST															
SOUTH APPROACH												20	8.85		226
SOUTH TO NORTH	184		8	4			5	3				20		90.27	204
THIS LEG SOUTH															
SOUTH TO EAST	22													9.73	22
SOUTH TO WEST															
EAST APPROACH												4	10.26		39
EAST TO NORTH	11		1	1								2		33.33	13
EAST TO SOUTH	24		1		1							2		66.67	26
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															456
														PCT SPLIT OUT/IN	
NORTH TOTAL	369	1	15	10			6	7				39		47/53	408
PERCENTAGE	90.44	0.25	3.68	2.45			1.47	1.72				9.56			
SOUTH TOTAL	396	1	14	9	1		6	7				38		52/48	434
PERCENTAGE	91.24	0.23	3.23	2.07	0.23		1.38	1.61				8.76			
EAST TOTAL	65		3	1	1							5		56/44	70
PERCENTAGE	92.86		4.29	1.43	1.43							7.14			
WEST TOTAL															
PERCENTAGE															
															912

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3377 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:15 - 08:15
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												20	10.10		198
THIS LEG NORTH															
NORTH TO SOUTH	175		8	1			2	9				20		98.48	195
NORTH TO EAST	3													1.52	3
NORTH TO WEST															
SOUTH APPROACH												21	8.57		245
SOUTH TO NORTH	214	2	6	3		3	3	2				19		95.10	233
THIS LEG SOUTH															
SOUTH TO EAST	10	1	1									2		4.90	12
SOUTH TO WEST															
EAST APPROACH												2	4.17		48
EAST TO NORTH	14	1										1		31.25	15
EAST TO SOUTH	32	1										1		68.75	33
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															491
														PCT SPLIT OUT/IN	
NORTH TOTAL	406	3	14	4		3	5	11				40		44/56	446
PERCENTAGE	91.03	0.67	3.14	0.90		0.67	1.12	2.47				8.97			
SOUTH TOTAL	431	4	15	4		3	5	11				42		52/48	473
PERCENTAGE	91.12	0.85	3.17	0.85		0.63	1.06	2.33				8.88			
EAST TOTAL	59	3	1									4		76/24	63
PERCENTAGE	93.65	4.76	1.59									6.35			
WEST TOTAL															
PERCENTAGE															
															982

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3377 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:30 - 09:30
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												12	6.12		196
THIS LEG NORTH															
NORTH TO SOUTH	177		3	3		1	1	3				11		95.92	188
NORTH TO EAST	7		1									1		4.08	8
NORTH TO WEST															
SOUTH APPROACH												26	9.92		262
SOUTH TO NORTH	212		9	5		1	5	5				25		90.46	237
THIS LEG SOUTH															
SOUTH TO EAST	24		1									1		9.54	25
SOUTH TO WEST															
EAST APPROACH												3	6.52		46
EAST TO NORTH	10			1								1		23.91	11
EAST TO SOUTH	33	1			1							2		76.09	35
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															504
														PCT SPLIT OUT/IN	
NORTH TOTAL	406		13	9		2	6	8				38		44/56	444
PERCENTAGE	91.44		2.93	2.03		0.45	1.35	1.80				8.56			
SOUTH TOTAL	446	1	13	8	1	2	6	8				39		54/46	485
PERCENTAGE	91.96	0.21	2.68	1.65	0.21	0.41	1.24	1.65				8.04			
EAST TOTAL	74	1	2	1	1							5		58/42	79
PERCENTAGE	93.67	1.27	2.53	1.27	1.27							6.33			
WEST TOTAL															
PERCENTAGE															
															1008

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3377 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:15 - 09:15
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												11	5.85		188
THIS LEG NORTH															
NORTH TO SOUTH	170		5	2		2		2				11		96.28	181
NORTH TO EAST	7													3.72	7
NORTH TO WEST															
SOUTH APPROACH												22	9.09		242
SOUTH TO NORTH	199		6	4		2	4	4				20		90.50	219
THIS LEG SOUTH															
SOUTH TO EAST	21	1	1									2		9.50	23
SOUTH TO WEST															
EAST APPROACH												3	5.77		52
EAST TO NORTH	11			1								1		23.08	12
EAST TO SOUTH	38	2										2		76.92	40
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															482
														PCT SPLIT OUT/IN	
NORTH TOTAL	387		11	7		4	4	6				32		45/55	419
PERCENTAGE	92.36		2.63	1.67		0.95	0.95	1.43				7.64			
SOUTH TOTAL	428	3	12	6		4	4	6				35		52/48	463
PERCENTAGE	92.44	0.65	2.59	1.30		0.86	0.86	1.30				7.56			
EAST TOTAL	77	3	1	1								5		63/37	82
PERCENTAGE	93.90	3.66	1.22	1.22								6.10			
WEST TOTAL															
PERCENTAGE															
															964

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3377 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:30 - 09:30
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												12	6.12		196
THIS LEG NORTH															
NORTH TO SOUTH	177		3	3		1	1	3				11		95.92	188
NORTH TO EAST	7		1									1		4.08	8
NORTH TO WEST															
SOUTH APPROACH												26	9.92		262
SOUTH TO NORTH	212		9	5		1	5	5				25		90.46	237
THIS LEG SOUTH															
SOUTH TO EAST	24		1									1		9.54	25
SOUTH TO WEST															
EAST APPROACH												3	6.52		46
EAST TO NORTH	10			1								1		23.91	11
EAST TO SOUTH	33	1			1							2		76.09	35
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															504
														PCT SPLIT OUT/IN	
NORTH TOTAL	406		13	9		2	6	8				38		44/56	444
PERCENTAGE	91.44		2.93	2.03		0.45	1.35	1.80				8.56			
SOUTH TOTAL	446	1	13	8	1	2	6	8				39		54/46	485
PERCENTAGE	91.96	0.21	2.68	1.65	0.21	0.41	1.24	1.65				8.04			
EAST TOTAL	74	1	2	1	1							5		58/42	79
PERCENTAGE	93.67	1.27	2.53	1.27	1.27							6.33			
WEST TOTAL															
PERCENTAGE															
															1008

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	22	4.95	16	3.60			38	8.56	0.9337
SOUTH TOTAL	23	4.74	16	3.30			39	8.04	0.9381
EAST TOTAL	5	6.33					5	6.33	0.9813
WEST TOTAL									

PEAK HOUR FACTOR 0.933 113 135 123 133 504

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

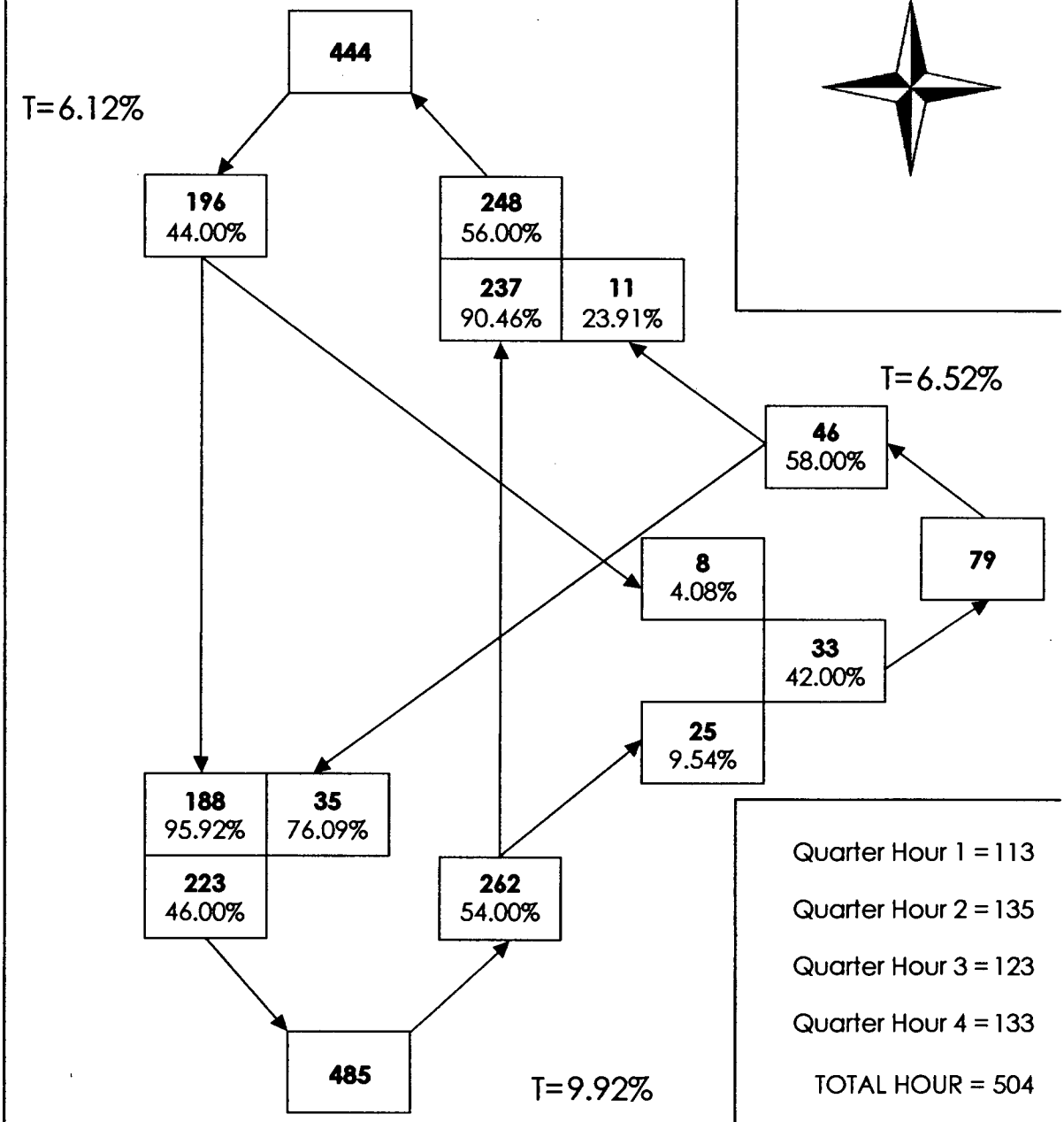
(Block Diagram)

Date: 3/30/2017
Time Period: 08:30 - 09:30

SR: 003 MP: 014.75 Off Sys. ID: Count ID: 17-006

Location: SR 3 & GRAPEVIEW LOOP RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 113

Quarter Hour 2 = 135

Quarter Hour 3 = 123

Quarter Hour 4 = 133

TOTAL HOUR = 504

PEAK HOUR FACTOR = 0.933

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

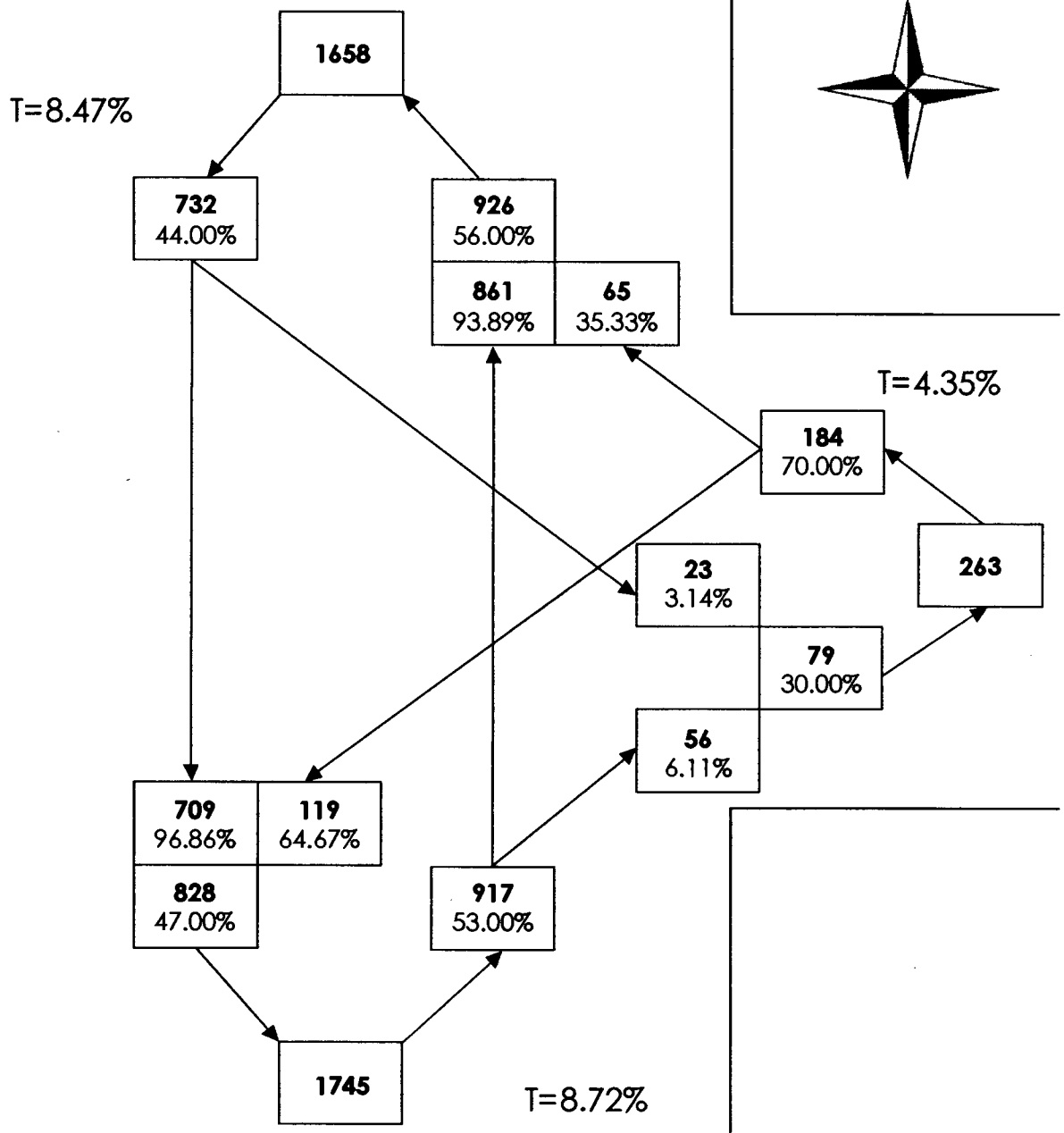
(Block Diagram)

Date: 3/30/2017
Time Period: 06:00 - 10:00

SR: 003 MP: 014.75 Off Sys. ID: Count ID: 17-006

Location: SR 3 & GRAPEVIEW LOOP RD

ENTIRE COUNT VOLUMES



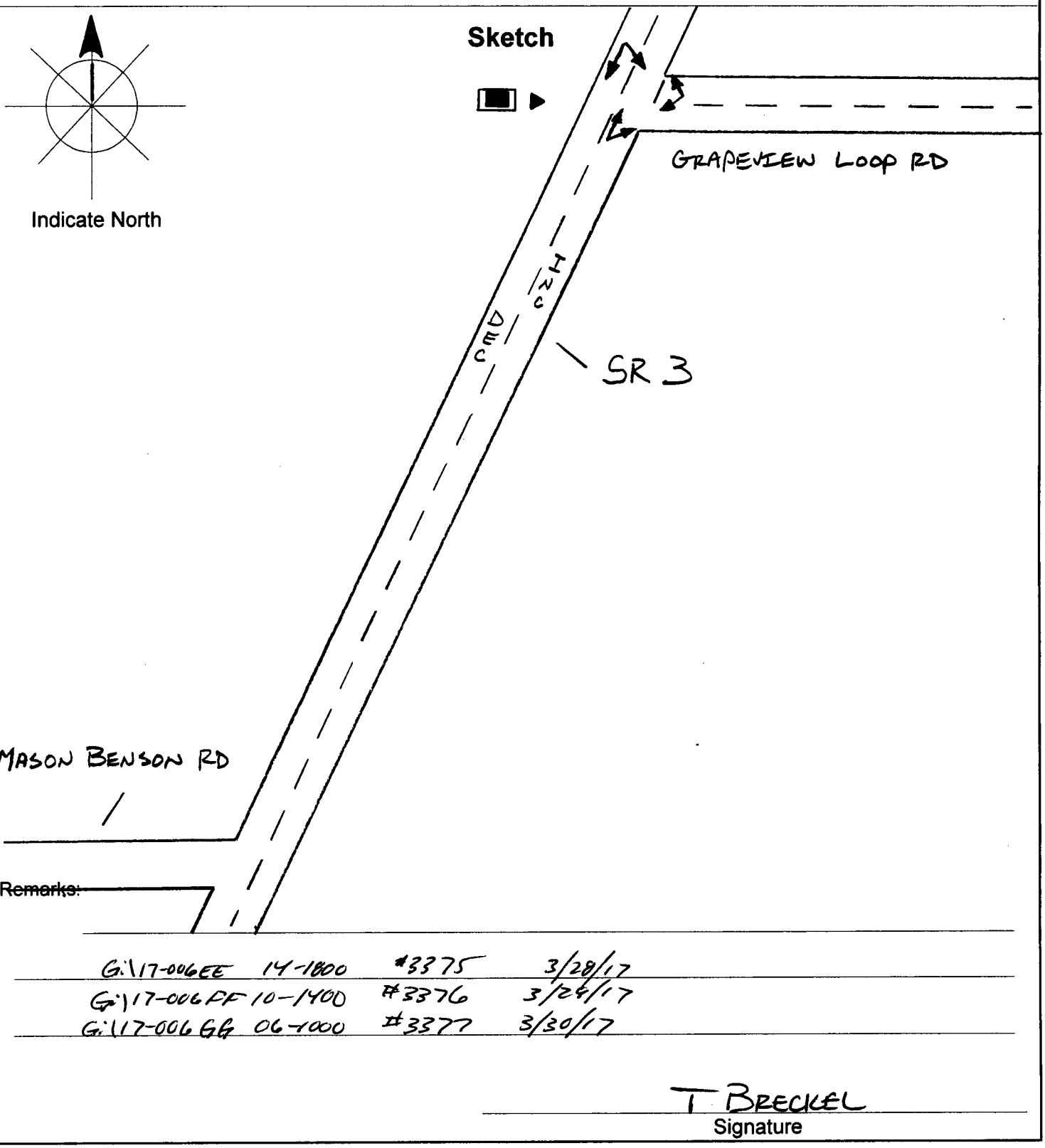
#2901
ID 3375, 3376, 3377

Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
3	14 ● 75		SP# 17-006	3/28/2017

Station Location
JCT SR 3 & GRAPEVIEW LOOP RD



Remarks:

G:\17-006EE	14-1800	#3375	3/28/17
G:\17-006FF	10-1400	#3376	3/24/17
G:\17-006GG	06-1000	#3377	3/30/17

T BRECKEL
Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/4/2017
TIME: 12:56:05
PAGE: 1

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3376 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 14:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												92	11.34		811
THIS LEG NORTH															
NORTH TO SOUTH	682	2	36	7		5	12	23			4	89		95.07	771
NORTH TO EAST	37	1	1	1								3		4.93	40
NORTH TO WEST															
SOUTH APPROACH												83	10.75		772
SOUTH TO NORTH	619	2	29	10		5	11	24				81		90.67	700
THIS LEG SOUTH															
SOUTH TO EAST	70	1	1									2		9.33	72
SOUTH TO WEST															
EAST APPROACH												13	8.12		160
EAST TO NORTH	54	1		1								2		35.00	56
EAST TO SOUTH	93	2	6	1		2						11		65.00	104
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1743
														PCT SPLIT OUT/IN	
NORTH TOTAL	1392	6	66	19		10	23	47			4	175		52/48	1567
PERCENTAGE	88.83	0.38	4.21	1.21		0.64	1.47	3.00			0.26	11.17			
SOUTH TOTAL	1464	7	72	18		12	23	47			4	183		47/53	1647
PERCENTAGE	88.89	0.43	4.37	1.09		0.73	1.40	2.85			0.24	11.11			
EAST TOTAL	254	5	8	3		2						18		59/41	272
PERCENTAGE	93.38	1.84	2.94	1.10		0.74						6.62			
WEST TOTAL															
PERCENTAGE															
															3486

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	91	5.81	80	5.11	4	0.26	175	11.17	0.9084
SOUTH TOTAL	97	5.89	82	4.98	4	0.24	183	11.11	0.9117
EAST TOTAL	16	5.88	2	0.74			18	6.62	0.9872
WEST TOTAL									

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3376 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 11:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												20	10.10		198
THIS LEG NORTH															
NORTH TO SOUTH	171		8	1		2	4	4				19		95.96	190
NORTH TO EAST	7			1								1		4.04	8
NORTH TO WEST															
SOUTH APPROACH												21	12.43		169
SOUTH TO NORTH	139	1	5	3		2	2	7				20		94.08	159
THIS LEG SOUTH															
SOUTH TO EAST	9	1										1		5.92	10
SOUTH TO WEST															
EAST APPROACH												3	9.38		32
EAST TO NORTH	10			1								1		34.38	11
EAST TO SOUTH	19	1	1									2		65.62	21
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															399
														PCT SPLIT OUT/IN	
NORTH TOTAL	327	1	13	6		4	6	11				41		54/46	368
PERCENTAGE	88.86	0.27	3.53	1.63		1.09	1.63	2.99				11.14			
SOUTH TOTAL	338	3	14	4		4	6	11				42		44/56	380
PERCENTAGE	88.95	0.79	3.68	1.05		1.05	1.58	2.89				11.05			
EAST TOTAL	45	2	1	2								5		64/36	50
PERCENTAGE	90.00	4.00	2.00	4.00								10.00			
WEST TOTAL															
PERCENTAGE															
															798

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3376 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:00 - 12:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												24	12.18		197
THIS LEG NORTH															
NORTH TO SOUTH	159	1	5	1		1	2	10			2	22		91.88	181
NORTH TO EAST	14	1	1									2		8.12	16
NORTH TO WEST															
SOUTH APPROACH												21	10.99		191
SOUTH TO NORTH	143		8	4		1	1	6				20		85.34	163
THIS LEG SOUTH															
SOUTH TO EAST	27		1									1		14.66	28
SOUTH TO WEST															
EAST APPROACH												5	10.00		50
EAST TO NORTH	20													40.00	20
EAST TO SOUTH	25		2	1		2						5		60.00	30
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															438
														PCT SPLIT OUT/IN	
NORTH TOTAL	336	2	14	5		2	3	16			2	44		52/48	380
PERCENTAGE	88.42	0.53	3.68	1.32		0.53	0.79	4.21			0.53	11.58			
SOUTH TOTAL	354	1	16	6		4	3	16			2	48		48/52	402
PERCENTAGE	88.06	0.25	3.98	1.49		1.00	0.75	3.98			0.50	11.94			
EAST TOTAL	86	1	4	1		2						8		53/47	94
PERCENTAGE	91.49	1.06	4.26	1.06		2.13						8.51			
WEST TOTAL															
PERCENTAGE															
															876

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3376 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												18	8.49		212
THIS LEG NORTH															
NORTH TO SOUTH	188	1	8	2			3	4				18		97.17	206
NORTH TO EAST	6													2.83	6
NORTH TO WEST															
SOUTH APPROACH												20	10.00		200
SOUTH TO NORTH	163	1	7	1		1	5	5				20		91.50	183
THIS LEG SOUTH															
SOUTH TO EAST	17													8.50	17
SOUTH TO WEST															
EAST APPROACH												2	4.76		42
EAST TO NORTH	14	1										1		35.71	15
EAST TO SOUTH	26		1									1		64.29	27
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															454
														PCT SPLIT OUT/IN	
NORTH TOTAL	371	3	15	3		1	8	9				39		52/48	410
PERCENTAGE	90.49	0.73	3.66	0.73		0.24	1.95	2.20				9.51			
SOUTH TOTAL	394	2	16	3		1	8	9				39		46/54	433
PERCENTAGE	90.99	0.46	3.70	0.69		0.23	1.85	2.08				9.01			
EAST TOTAL	63	1	1									2		65/35	65
PERCENTAGE	96.92	1.54	1.54									3.08			
WEST TOTAL															
PERCENTAGE															
															908

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3376 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												30	14.71		204
THIS LEG NORTH															
NORTH TO SOUTH	164		15	3		2	3	5			2	30		95.10	194
NORTH TO EAST	10													4.90	10
NORTH TO WEST															
SOUTH APPROACH												21	9.91		212
SOUTH TO NORTH	174		9	2		1	3	6				21		91.98	195
THIS LEG SOUTH															
SOUTH TO EAST	17													8.02	17
SOUTH TO WEST															
EAST APPROACH												3	8.33		36
EAST TO NORTH	10													27.78	10
EAST TO SOUTH	23	1	2									3		72.22	26
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															452
														PCT SPLIT OUT/IN	
NORTH TOTAL	358		24	5		3	6	11			2	51		50/50	409
PERCENTAGE	87.53		5.87	1.22		0.73	1.47	2.69			0.49	12.47			
SOUTH TOTAL	378	1	26	5		3	6	11			2	54		49/51	432
PERCENTAGE	87.50	0.23	6.02	1.16		0.69	1.39	2.55			0.46	12.50			
EAST TOTAL	60	1	2									3		57/43	63
PERCENTAGE	95.24	1.59	3.17									4.76			
WEST TOTAL															
PERCENTAGE															
															904

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3376 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:15 - 13:15
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												24	10.62		226
THIS LEG NORTH															
NORTH TO SOUTH	194		11	3		1	3	6				24		96.46	218
NORTH TO EAST	8													3.54	8
NORTH TO WEST															
SOUTH APPROACH												24	11.76		204
SOUTH TO NORTH	162	1	11	2		1	6	3				24		91.18	186
THIS LEG SOUTH															
SOUTH TO EAST	18													8.82	18
SOUTH TO WEST															
EAST APPROACH												1	3.03		33
EAST TO NORTH	9													27.27	9
EAST TO SOUTH	23		1									1		72.73	24
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															463
														PCT SPLIT OUT/IN	
NORTH TOTAL	373	1	22	5		2	9	9				48		54/46	421
PERCENTAGE	88.60	0.24	5.23	1.19		0.48	2.14	2.14				11.40			
SOUTH TOTAL	397	1	23	5		2	9	9				49		46/54	446
PERCENTAGE	89.01	0.22	5.16	1.12		0.45	2.02	2.02				10.99			
EAST TOTAL	58		1									1		56/44	59
PERCENTAGE	98.31		1.69									1.69			
WEST TOTAL															
PERCENTAGE															
															926

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3376 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:15 - 13:15
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												24	10.62		226
THIS LEG NORTH															
NORTH TO SOUTH	194		11	3		1	3	6				24		96.46	218
NORTH TO EAST	8													3.54	8
NORTH TO WEST															
SOUTH APPROACH												24	11.76		204
SOUTH TO NORTH	162	1	11	2		1	6	3				24		91.18	186
THIS LEG SOUTH															
SOUTH TO EAST	18													8.82	18
SOUTH TO WEST															
EAST APPROACH												1	3.03		33
EAST TO NORTH	9													27.27	9
EAST TO SOUTH	23		1									1		72.73	24
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															463
														PCT SPLIT OUT/IN	
NORTH TOTAL	373	1	22	5		2	9	9				48		54/46	421
PERCENTAGE	88.60	0.24	5.23	1.19		0.48	2.14	2.14				11.40			
SOUTH TOTAL	397	1	23	5		2	9	9				49		46/54	446
PERCENTAGE	89.01	0.22	5.16	1.12		0.45	2.02	2.02				10.99			
EAST TOTAL	58		1									1		56/44	59
PERCENTAGE	98.31		1.69									1.69			
WEST TOTAL															
PERCENTAGE															
															926

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3376 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:00 - 12:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												24	12.18		197
THIS LEG NORTH															
NORTH TO SOUTH	159	1	5	1		1	2	10			2	22		91.88	181
NORTH TO EAST	14	1	1									2		8.12	16
NORTH TO WEST															
SOUTH APPROACH												21	10.99		191
SOUTH TO NORTH	143		8	4		1	1	6				20		85.34	163
THIS LEG SOUTH															
SOUTH TO EAST	27		1									1		14.66	28
SOUTH TO WEST															
EAST APPROACH												5	10.00		50
EAST TO NORTH	20													40.00	20
EAST TO SOUTH	25		2	1		2						5		60.00	30
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															438
														PCT SPLIT OUT/IN	
NORTH TOTAL	336	2	14	5		2	3	16			2	44		52/48	380
PERCENTAGE	88.42	0.53	3.68	1.32		0.53	0.79	4.21			0.53	11.58			
SOUTH TOTAL	354	1	16	6		4	3	16			2	48		48/52	402
PERCENTAGE	88.06	0.25	3.98	1.49		1.00	0.75	3.98			0.50	11.94			
EAST TOTAL	86	1	4	1		2						8		53/47	94
PERCENTAGE	91.49	1.06	4.26	1.06		2.13						8.51			
WEST TOTAL															
PERCENTAGE															
															876

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3376 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:15 - 13:15
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												24	10.62		226
THIS LEG NORTH															
NORTH TO SOUTH	194		11	3		1	3	6				24		96.46	218
NORTH TO EAST	8													3.54	8
NORTH TO WEST															
SOUTH APPROACH												24	11.76		204
SOUTH TO NORTH	162	1	11	2		1	6	3				24		91.18	186
THIS LEG SOUTH															
SOUTH TO EAST	18													8.82	18
SOUTH TO WEST															
EAST APPROACH												1	3.03		33
EAST TO NORTH	9													27.27	9
EAST TO SOUTH	23		1									1		72.73	24
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															463
														PCT SPLIT OUT/IN	
NORTH TOTAL	373	1	22	5		2	9	9				48		54/46	421
PERCENTAGE	88.60	0.24	5.23	1.19		0.48	2.14	2.14				11.40			
SOUTH TOTAL	397	1	23	5		2	9	9				49		46/54	446
PERCENTAGE	89.01	0.22	5.16	1.12		0.45	2.02	2.02				10.99			
EAST TOTAL	58		1									1		56/44	59
PERCENTAGE	98.31		1.69									1.69			
WEST TOTAL															
PERCENTAGE															
															926

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	28	6.65	20	4.75			48	11.40	0.9212
SOUTH TOTAL	29	6.50	20	4.48			49	10.99	0.9253
EAST TOTAL	1	1.69					1	1.69	1.0000
WEST TOTAL									

PEAK HOUR FACTOR 0.941 113 123 114 113 463

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

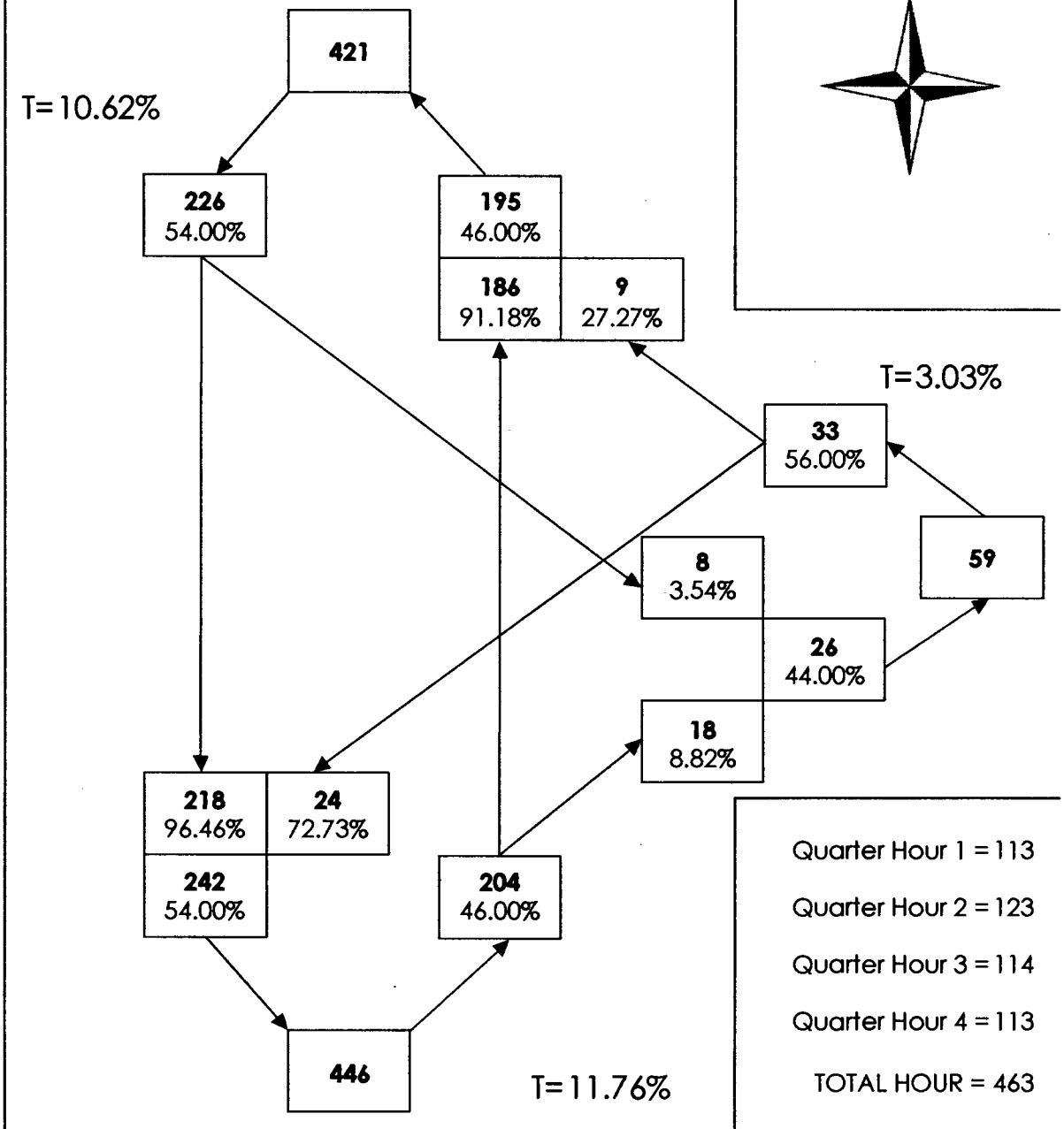
(Block Diagram)

Date: 3/29/2017
Time Period: 12:15 - 13:15

SR: 003 MP: 014.75 Off Sys. ID: Count ID: 17-006

Location: SR 3 & GRAPEVIEW LOOP RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

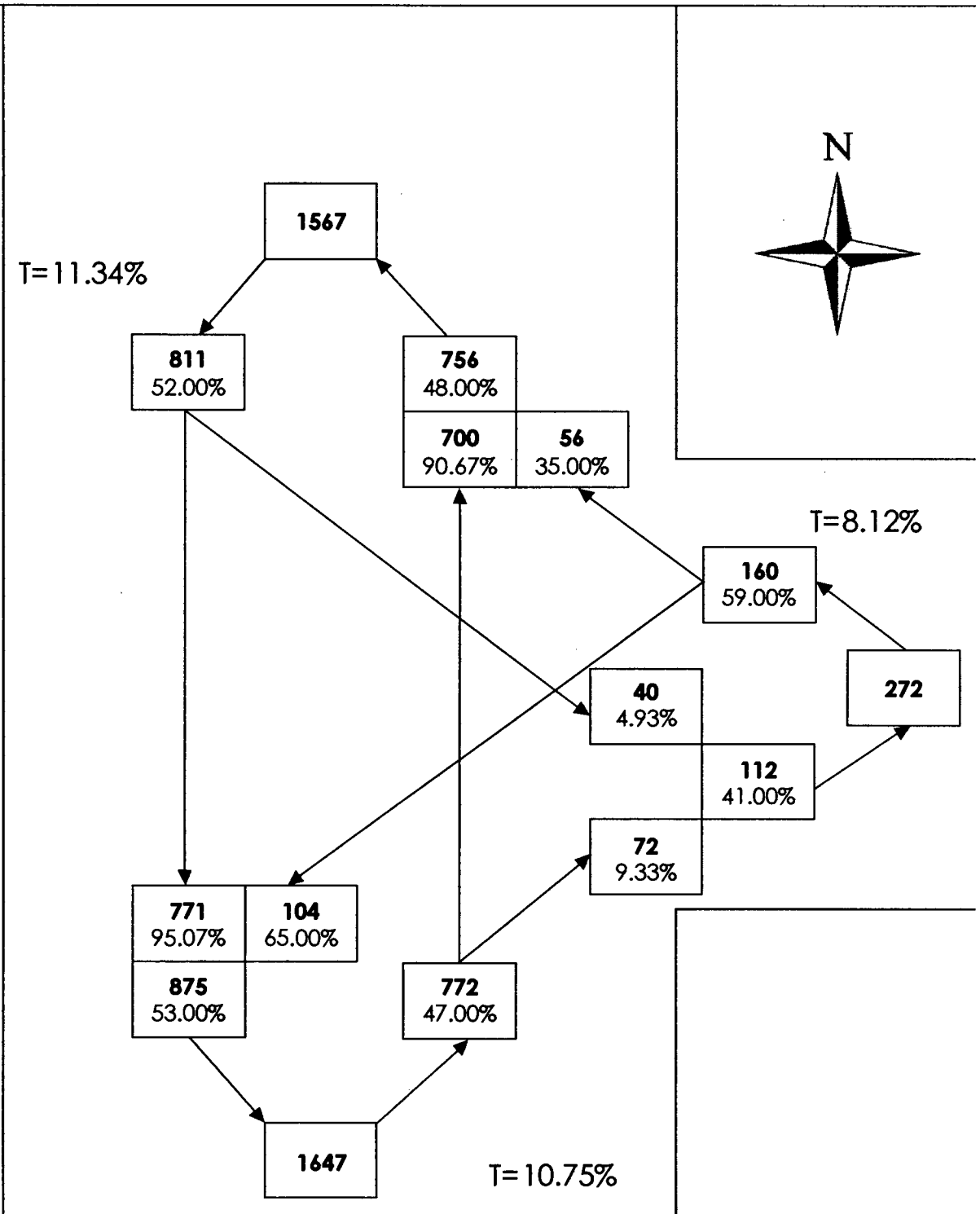
(Block Diagram)

Date: 3/29/2017
Time Period: 10:00 - 14:00

SR: 003 MP: 014.75 Off Sys. ID: Count ID: 17-006

Location: SR 3 & GRAPEVIEW LOOP RD

ENTIRE COUNT VOLUMES



#2901
ID 3375, 3376, 3377

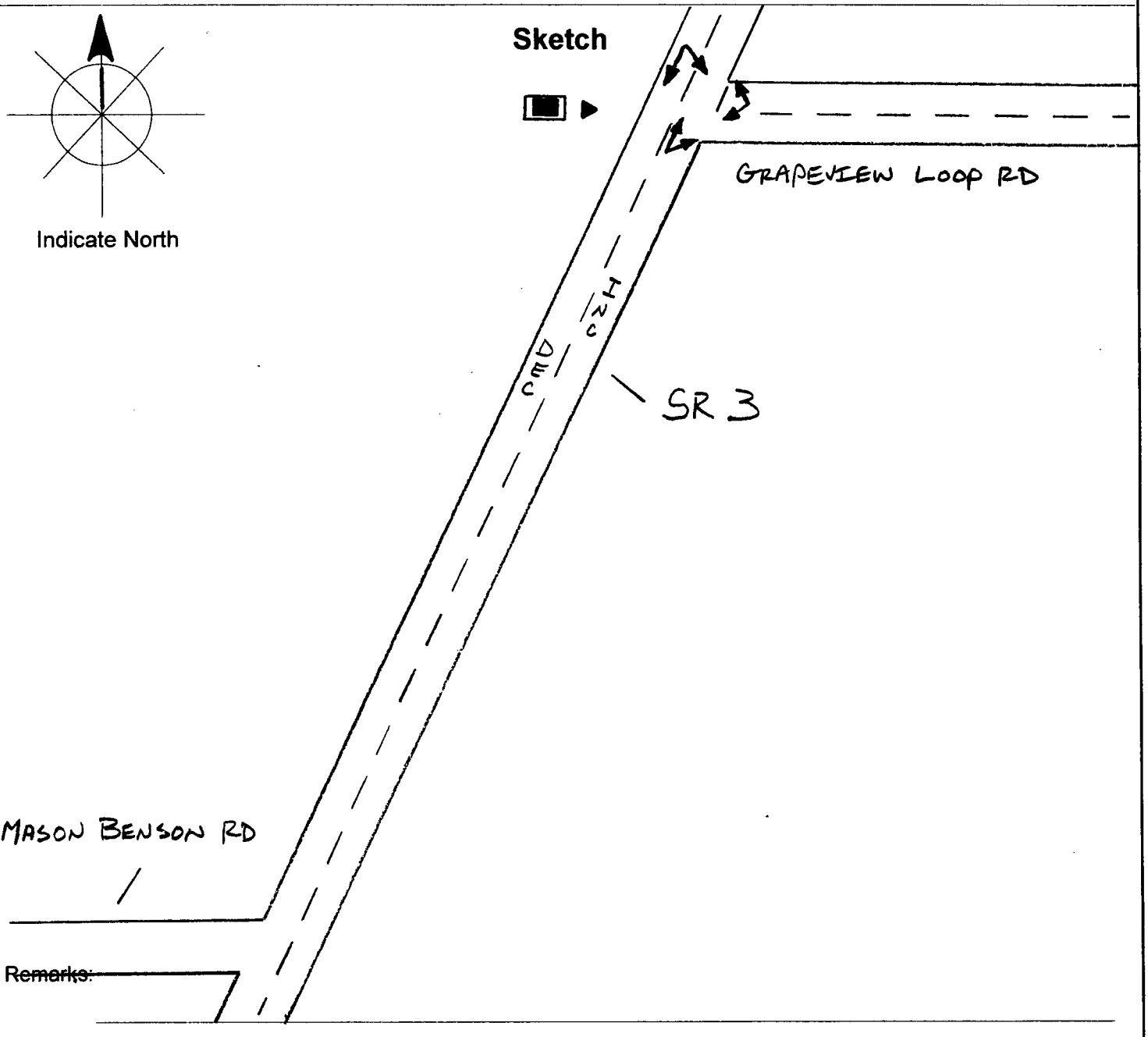
Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
3	14 ● 75		SP# 17-006	3/28/2017

Station Location
JCT SR 3 & GRAPEVIEW LOOP RD

Sketch



Remarks:

G:\17-006EE	14-1800	#3375	3/28/17
G:\17-006FF	10-1400	#3376	3/24/17
G:\17-006GG	06-1000	#3377	3/30/17

T BRECKEL
Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/4/2017
TIME: 12:56:50
PAGE: 1

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3375 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 18:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												63	5.11		1233
THIS LEG NORTH															
NORTH TO SOUTH	1106	4	25	5	1	4	9	11			1	60		94.57	1166
NORTH TO EAST	64	2	1									3		5.43	67
NORTH TO WEST															
SOUTH APPROACH												63	6.39		986
SOUTH TO NORTH	817	2	24	10		3	6	10			1	56		88.54	873
THIS LEG SOUTH															
SOUTH TO EAST	106	3	2	1	1							7		11.46	113
SOUTH TO WEST															
EAST APPROACH												10	7.63		131
EAST TO NORTH	39	1	1									2		31.30	41
EAST TO SOUTH	82	3	4	1								8		68.70	90
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															2350
														PCT SPLIT OUT/IN	
NORTH TOTAL	2026	9	51	15	1	7	15	21			2	121		57/43	2147
PERCENTAGE	94.36	0.42	2.38	0.70	0.05	0.33	0.70	0.98			0.09	5.64			
SOUTH TOTAL	2111	12	55	17	2	7	15	21			2	131		44/56	2242
PERCENTAGE	94.16	0.54	2.45	0.76	0.09	0.31	0.67	0.94			0.09	5.84			
EAST TOTAL	291	9	8	2	1							20		42/58	311
PERCENTAGE	93.57	2.89	2.57	0.64	0.32							6.43			
WEST TOTAL															
PERCENTAGE															
															4700

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	76	3.54	43	2.00	2	0.09	121	5.64	0.9619
SOUTH TOTAL	86	3.84	43	1.92	2	0.09	131	5.84	0.9626
EAST TOTAL	20	6.43					20	6.43	0.9936
WEST TOTAL									

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3375 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 15:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												21	8.30		253
THIS LEG NORTH															
NORTH TO SOUTH	218		8		1		5	6			1	21		94.47	239
NORTH TO EAST	14													5.53	14
NORTH TO WEST															
SOUTH APPROACH												22	9.73		226
SOUTH TO NORTH	182		7	5		1	2	4				19		88.94	201
THIS LEG SOUTH															
SOUTH TO EAST	22	1	1		1							3		11.06	25
SOUTH TO WEST															
EAST APPROACH												1	3.03		33
EAST TO NORTH	14													42.42	14
EAST TO SOUTH	18		1									1		57.58	19
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															512
														PCT SPLIT OUT/IN	
NORTH TOTAL	428		15	5	1	1	7	10			1	40		54/46	468
PERCENTAGE	91.45		3.21	1.07	0.21	0.21	1.50	2.14			0.21	8.55			
SOUTH TOTAL	440	1	17	5	2	1	7	10			1	44		47/53	484
PERCENTAGE	90.91	0.21	3.51	1.03	0.41	0.21	1.45	2.07			0.21	9.09			
EAST TOTAL	68	1	2		1							4		46/54	72
PERCENTAGE	94.44	1.39	2.78		1.39							5.56			
WEST TOTAL															
PERCENTAGE															
															1024

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3375 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 15:00 - 16:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												17	5.54		307
THIS LEG NORTH															
NORTH TO SOUTH	276	1	3	3		3	2	3				15		94.79	291
NORTH TO EAST	14	1	1									2		5.21	16
NORTH TO WEST															
SOUTH APPROACH												17	7.11		239
SOUTH TO NORTH	193	2	6	1		2		4				15		87.03	208
THIS LEG SOUTH															
SOUTH TO EAST	29	1	1									2		12.97	31
SOUTH TO WEST															
EAST APPROACH												4	10.53		38
EAST TO NORTH	11	1	1									2		34.21	13
EAST TO SOUTH	23	1	1									2		65.79	25
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															584
														PCT SPLIT OUT/IN	
NORTH TOTAL	494	5	11	4		5	2	7				34		58/42	528
PERCENTAGE	93.56	0.95	2.08	0.76		0.95	0.38	1.33				6.44			
SOUTH TOTAL	521	5	11	4		5	2	7				34		43/57	555
PERCENTAGE	93.87	0.90	1.98	0.72		0.90	0.36	1.26				6.13			
EAST TOTAL	77	4	4									8		45/55	85
PERCENTAGE	90.59	4.71	4.71									9.41			
WEST TOTAL															
PERCENTAGE															
															1168

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3375 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:00 - 17:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												12	3.33		360
THIS LEG NORTH															
NORTH TO SOUTH	329		7	2		1		2				12		94.72	341
NORTH TO EAST	19													5.28	19
NORTH TO WEST															
SOUTH APPROACH												17	6.14		277
SOUTH TO NORTH	231		8	2			3	2			1	16		89.17	247
THIS LEG SOUTH															
SOUTH TO EAST	29			1								1		10.83	30
SOUTH TO WEST															
EAST APPROACH												4	13.33		30
EAST TO NORTH	11													36.67	11
EAST TO SOUTH	15	1	2	1								4		63.33	19
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															667
														PCT SPLIT OUT/IN	
NORTH TOTAL	590		15	4		1	3	4			1	28		58/42	618
PERCENTAGE	95.47		2.43	0.65		0.16	0.49	0.65			0.16	4.53			
SOUTH TOTAL	604	1	17	6		1	3	4			1	33		43/57	637
PERCENTAGE	94.82	0.16	2.67	0.94		0.16	0.47	0.63			0.16	5.18			
EAST TOTAL	74	1	2	2								5		38/62	79
PERCENTAGE	93.67	1.27	2.53	2.53								6.33			
WEST TOTAL															
PERCENTAGE															
															1334

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3375 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 17:00 - 18:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												13	4.15		313
THIS LEG NORTH															
NORTH TO SOUTH	283	3	7				2					12		94.25	295
NORTH TO EAST	17	1										1		5.75	18
NORTH TO WEST															
SOUTH APPROACH												7	2.87		244
SOUTH TO NORTH	211		3	2			1					6		88.93	217
THIS LEG SOUTH															
SOUTH TO EAST	26	1										1		11.07	27
SOUTH TO WEST															
EAST APPROACH												1	3.33		30
EAST TO NORTH	3													10.00	3
EAST TO SOUTH	26	1										1		90.00	27
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															587
														PCT SPLIT OUT/IN	
NORTH TOTAL	514	4	10	2			3					19		59/41	533
PERCENTAGE	96.44	0.75	1.88	0.38			0.56					3.56			
SOUTH TOTAL	546	5	10	2			3					20		43/57	566
PERCENTAGE	96.47	0.88	1.77	0.35			0.53					3.53			
EAST TOTAL	72	3										3		40/60	75
PERCENTAGE	96.00	4.00										4.00			
WEST TOTAL															
PERCENTAGE															
															1174

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3375 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												16	4.19		382
THIS LEG NORTH															
NORTH TO SOUTH	340	2	8	2		1		2				15		92.93	355
NORTH TO EAST	26	1										1		7.07	27
NORTH TO WEST															
SOUTH APPROACH												17	6.09		279
SOUTH TO NORTH	236		7	3			2	2			1	15		89.96	251
THIS LEG SOUTH															
SOUTH TO EAST	26	1		1								2		10.04	28
SOUTH TO WEST															
EAST APPROACH												3	10.00		30
EAST TO NORTH	9													30.00	9
EAST TO SOUTH	18		2	1								3		70.00	21
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															691
														PCT SPLIT OUT/IN	
NORTH TOTAL	611	3	15	5		1	2	4			1	31		60/40	642
PERCENTAGE	95.17	0.47	2.34	0.78		0.16	0.31	0.62			0.16	4.83			
SOUTH TOTAL	620	3	17	7		1	2	4			1	35		43/57	655
PERCENTAGE	94.66	0.46	2.60	1.07		0.15	0.31	0.61			0.15	5.34			
EAST TOTAL	79	2	2	2								6		35/65	85
PERCENTAGE	92.94	2.35	2.35	2.35								7.06			
WEST TOTAL															
PERCENTAGE															
															1382

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3375 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												16	4.19		382
THIS LEG NORTH															
NORTH TO SOUTH	340	2	8	2		1		2				15		92.93	355
NORTH TO EAST	26	1										1		7.07	27
NORTH TO WEST															
SOUTH APPROACH												17	6.09		279
SOUTH TO NORTH	236		7	3			2	2			1	15		89.96	251
THIS LEG SOUTH															
SOUTH TO EAST	26	1		1								2		10.04	28
SOUTH TO WEST															
EAST APPROACH												3	10.00		30
EAST TO NORTH	9													30.00	9
EAST TO SOUTH	18		2	1								3		70.00	21
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															691
														PCT SPLIT OUT/IN	
NORTH TOTAL	611	3	15	5		1	2	4			1	31		60/40	642
PERCENTAGE	95.17	0.47	2.34	0.78		0.16	0.31	0.62			0.16	4.83			
SOUTH TOTAL	620	3	17	7		1	2	4			1	35		43/57	655
PERCENTAGE	94.66	0.46	2.60	1.07		0.15	0.31	0.61			0.15	5.34			
EAST TOTAL	79	2	2	2								6		35/65	85
PERCENTAGE	92.94	2.35	2.35	2.35								7.06			
WEST TOTAL															
PERCENTAGE															
															1382

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3375 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 15:00 - 16:00
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												17	5.54		307
THIS LEG NORTH															
NORTH TO SOUTH	276	1	3	3		3	2	3				15		94.79	291
NORTH TO EAST	14	1	1									2		5.21	16
NORTH TO WEST															
SOUTH APPROACH												17	7.11		239
SOUTH TO NORTH	193	2	6	1		2		4				15		87.03	208
THIS LEG SOUTH															
SOUTH TO EAST	29	1	1									2		12.97	31
SOUTH TO WEST															
EAST APPROACH												4	10.53		38
EAST TO NORTH	11	1	1									2		34.21	13
EAST TO SOUTH	23	1	1									2		65.79	25
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															584
														PCT SPLIT OUT/IN	
NORTH TOTAL	494	5	11	4		5	2	7				34		58/42	528
PERCENTAGE	93.56	0.95	2.08	0.76		0.95	0.38	1.33				6.44			
SOUTH TOTAL	521	5	11	4		5	2	7				34		43/57	555
PERCENTAGE	93.87	0.90	1.98	0.72		0.90	0.36	1.26				6.13			
EAST TOTAL	77	4	4									8		45/55	85
PERCENTAGE	90.59	4.71	4.71									9.41			
WEST TOTAL															
PERCENTAGE															
															1168

SR 003 MP 014.75 OFF SYS ID COUNTER NUM 3375 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 3 & GRAPEVIEW LOOP RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												16	4.19		382
THIS LEG NORTH															
NORTH TO SOUTH	340	2	8	2		1		2				15		92.93	355
NORTH TO EAST	26	1										1		7.07	27
NORTH TO WEST															
SOUTH APPROACH												17	6.09		279
SOUTH TO NORTH	236		7	3			2	2			1	15		89.96	251
THIS LEG SOUTH															
SOUTH TO EAST	26	1		1								2		10.04	28
SOUTH TO WEST															
EAST APPROACH												3	10.00		30
EAST TO NORTH	9													30.00	9
EAST TO SOUTH	18		2	1								3		70.00	21
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															691
														PCT SPLIT OUT/IN	
NORTH TOTAL	611	3	15	5		1	2	4			1	31		60/40	642
PERCENTAGE	95.17	0.47	2.34	0.78		0.16	0.31	0.62			0.16	4.83			
SOUTH TOTAL	620	3	17	7		1	2	4			1	35		43/57	655
PERCENTAGE	94.66	0.46	2.60	1.07		0.15	0.31	0.61			0.15	5.34			
EAST TOTAL	79	2	2	2								6		35/65	85
PERCENTAGE	92.94	2.35	2.35	2.35								7.06			
WEST TOTAL															
PERCENTAGE															
															1382

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	23	3.58	7	1.09	1	0.16	31	4.83	0.9742
SOUTH TOTAL	27	4.12	7	1.07	1	0.15	35	5.34	0.9732
EAST TOTAL	6	7.06					6	7.06	0.9883
WEST TOTAL									

PEAK HOUR FACTOR	0.982	171	176	175	169	691

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

(Block Diagram)

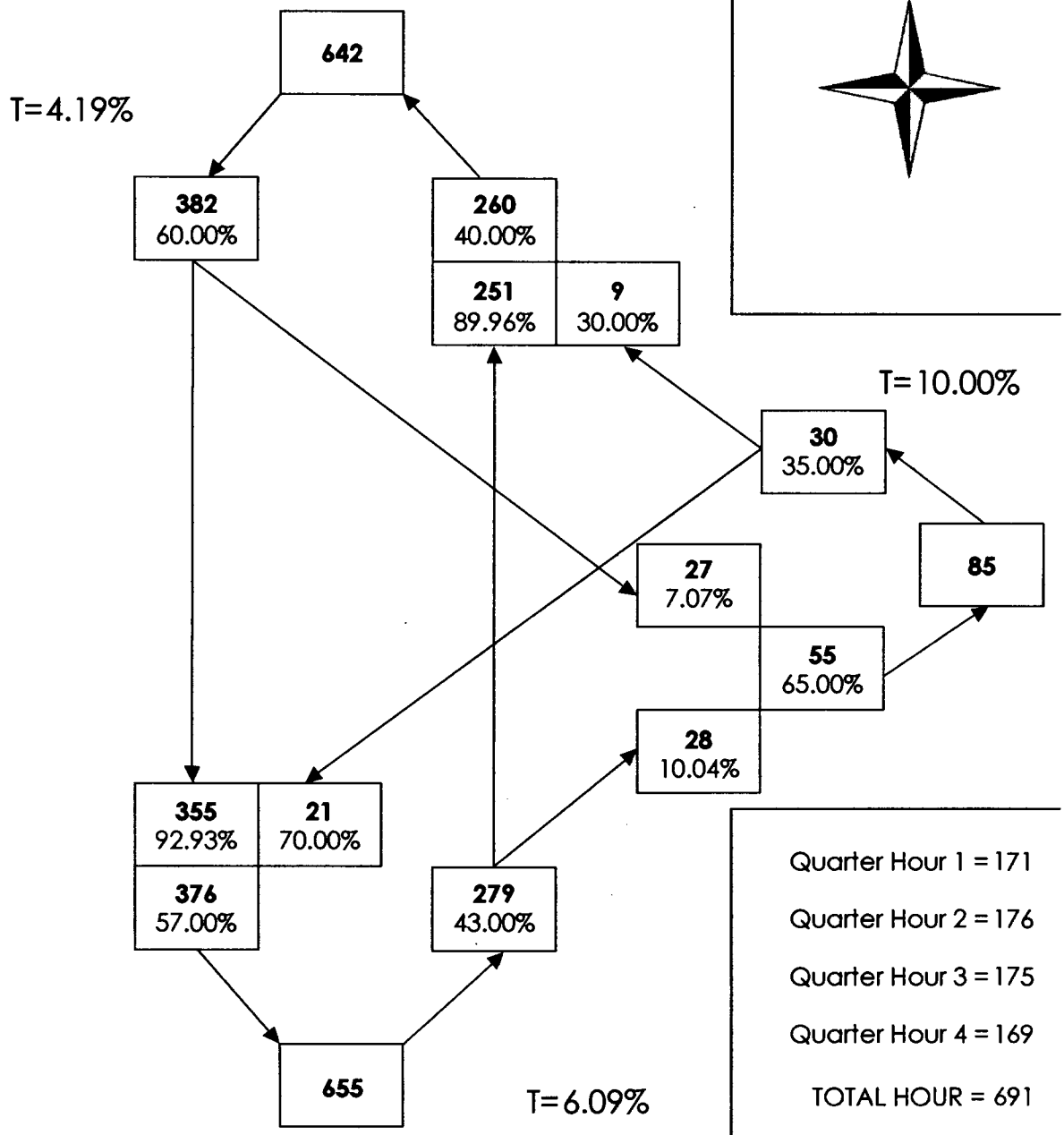
Date: 3/28/2017

Time Period: 16:15 - 17:15

SR: 003 MP: 014.75 Off Sys. ID: Count ID: 17-006

Location: SR 3 & GRAPEVIEW LOOP RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 171

Quarter Hour 2 = 176

Quarter Hour 3 = 175

Quarter Hour 4 = 169

TOTAL HOUR = 691

PEAK HOUR FACTOR = 0.982

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

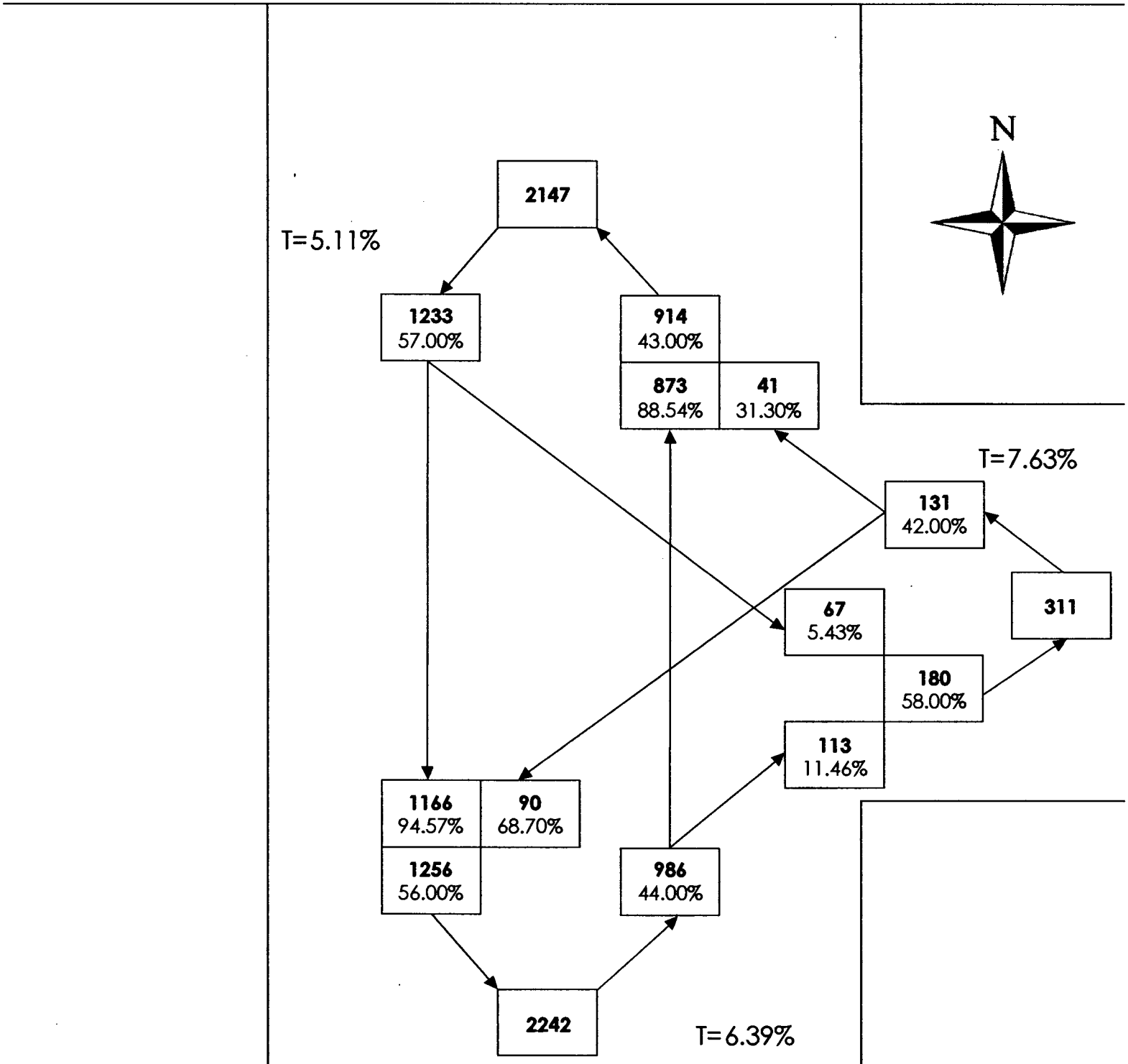
(Block Diagram)

Date: 3/28/2017
Time Period: 14:00 - 18:00

SR: 003 MP: 014.75 Off Sys. ID: Count ID: 17-006

Location: SR 3 & GRAPEVIEW LOOP RD

ENTIRE COUNT VOLUMES



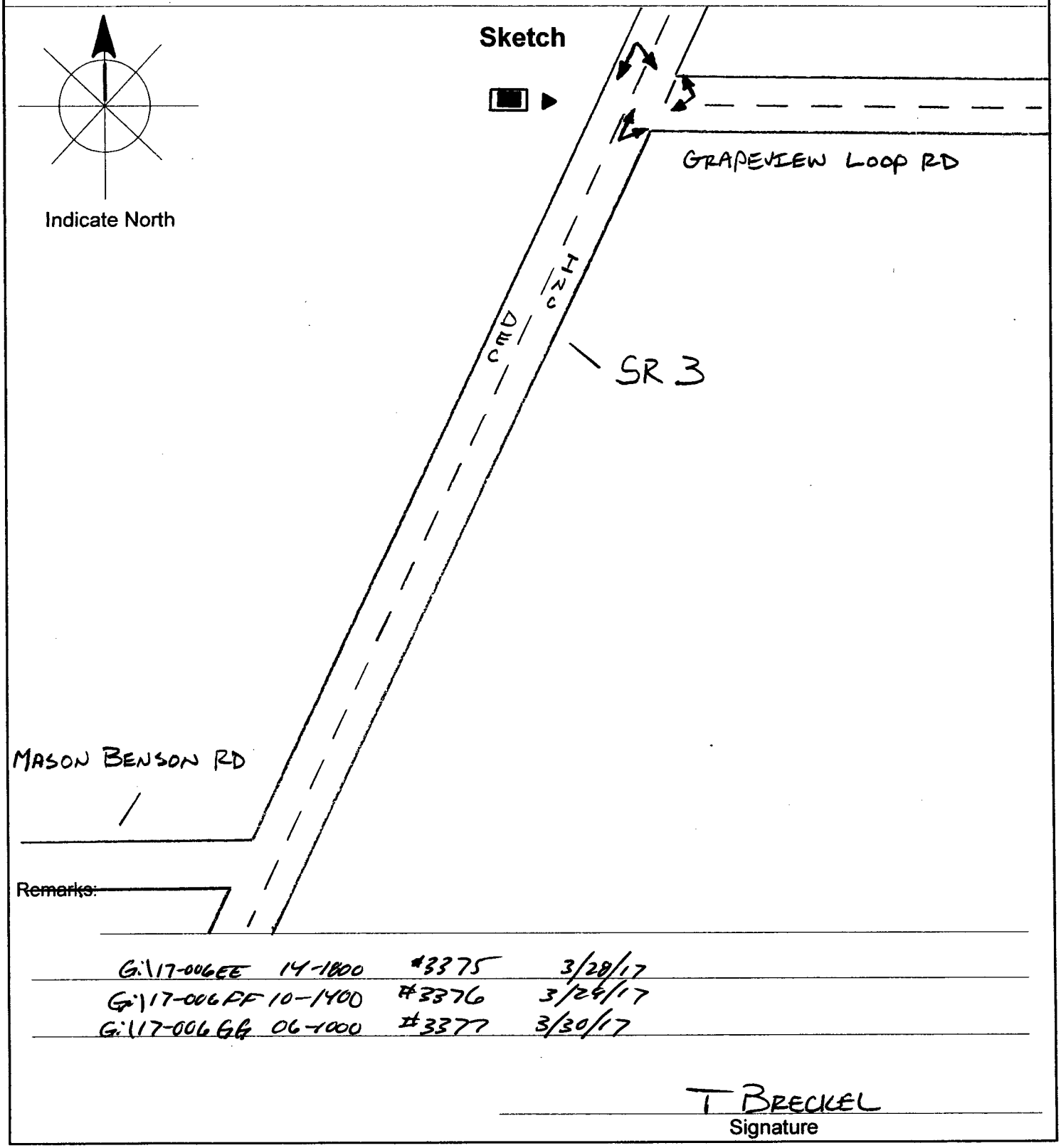
#2901
ID 3375, 3376, 3377

Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
3	14 ● 75		SP# 17-006	3/28/2017

Station Location
JCT SR 3 & GRAPEVIEW LOOP RD



Remarks:

G:\17-006EE 14-1800 #3375 3/28/17
G:\17-006FF 10-1400 #3376 3/24/17
G:\17-006GG 06-1000 #3377 3/30/17

T BRECKEL
Signature

DOT Form 324-005 EF
Revised 2/2007

Peninsula Regional Transportation Planning Organization

SR 3/Lakeland Drive

Intersection Operational Analysis



Prepared by

WSDOT
Washington State Department of Transportation
Olympic Region Planning

July 2017

Title VI Notice to the Public

It is the Washington State Department of Transportation's (WSDOT) policy to assure that no person shall, on the grounds of race, color, national origin or sex, as provided by Title VI of the Civil Rights Act of 1964, be excluded from participation in, be denied the benefits of, or be otherwise discriminated against under any of its federally funded programs and activities. Any person who believes his/her Title VI protection has been violated, may file a complaint with WSDOT's Office of Equal Opportunity (OEO). For additional information regarding Title VI complaint procedures and/or information regarding our non-discrimination obligations, please contact OEO's Title VI Coordinator at 360-705-7082.

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This material can be made available in an alternate format by emailing the Office of Equal Opportunity at wsdotada@wsdot.wa.govor by calling toll free, 855-362-4232. Persons who are deaf or hard of hearing may make a request by calling the Washington State Relay at 711.

Introduction:

This operational analysis was prepared at the special request of the local jurisdiction and funded by the Peninsula Regional Transportation Planning Organization. Those intersections identified as operating below the Washington State Department of Transportation's policy for what is considered acceptable traffic operation level of service (LOS) will need to compete for funding with other intersections around the state based on the expected performance outcome for the proposed improvements.

SR 3 is part of the National Highway System and designated as a Highway of Statewide Significance. SR 3 is classified by the Freight & Goods Transportation System as a T-3 freight route, carrying 2.02 million tons of freight annually, with 550 trucks using the corridor on a daily basis in 2015. The average daily traffic volumes in the corridor range between 9,500 to 11,000 vehicle per day in 2016, in the community of Allyn. This corridor has also been identified as a SR 3 Defense Industrial Corridor near Bremerton.

The intersection of SR 3 and Lakeland Drive is located in Mason County. This rural principal arterial features one eleven-foot lane in each direction with 5-foot roadway shoulders. The posted speed limit at this location is 35 mph with a rolling terrain that may cause trucks to slow down.

Methodology

Traffic Operations Model

The Highway Capacity Software 2010 was used to analyze the unsignalized intersection of SR 3/Lakeland Drive. The turning movement counts from the minor street that experiences the worst delay defines the level of service (LOS) for the intersection. LOS is based on the seconds per vehicle. The LOS criteria for automobiles at a two-way stopped controlled intersection as defined in the Highway Capacity Manual 2010 is as follows:

Highway Capacity Manual Exhibit 19-1 Two-way Stopped Controlled Intersection LOS Criteria

Control Delay (seconds/vehicle)	**LOS by Volume-to-Capacity Ratio** **Volume-to-Capacity ≤ 1.0**
0-10	A
>10-15	B
>15-25	C
>25-35	D
>35-50	E
>50	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major street approaches or for the intersection as a whole.

The Synchro 8/SimTraffic software and the Highway Capacity Software 2010 were used to determine the traffic queues at the intersection.

Traffic Volumes

In March 2017, WSDOT staff performed 12-hour turning movement manual counts at all legs of the SR 3/Lakeland Drive intersection.

Analysis

The intersection analysis applies a seasonal factor of 1.09 percent to the weekday traffic volumes collected. The seasonal factor adjusts the volumes to reflect the yearly average volume, and are only applied to the major approaches. The LOS and the delay in seconds for the SR 3/Lakeland Drive intersection are depicted in the table below.

Figure 2: Level of Service (Delay, Seconds)

LOCATION	AM	MID-DAY	PM
SR 3/Lakeland Drive	C (18.5)	C (18.3)	D (27.5)

Figure 2 portrays the traffic operation LOS at the SR 3/Lakeland Drive intersection. During the morning hours between 6 to 10 a.m., the intersection delay is designated an LOS C with an average delay of 18.5 seconds, meaning that motorists would wait on average 18.5 seconds at the intersection before they could proceed. Mid-Day during the hours of 11 a.m. and 2 p.m., motorists would wait on average 18.3 seconds. During the evening hours, between 2 p.m. to 6 p.m., motorists would be delayed at the intersection 27.5 seconds before they could proceed.

The Washington State Department of Transportation's policy for what is considered a minimal acceptable traffic operation LOS at this location is a LOS C designation for rural highways.

Summary

The analysis depicts the SR 3/Lakeland Drive intersection operating at the target level of LOS C during the morning, and mid-day hours. However, during the evening commute the LOS falls below the target LOS C to a LOS D. As mentioned in the introduction, improvements must compete for funding based upon expected performance outcome. The location may or may not compete well with other intersections statewide.

Appendix

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: AM
Intersection: SR 3/Lakeland Dr
Jurisdiction: Mason Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 3/Lakeland Dr
East/West Street: Lakeland Dr
North/South Street: SR 3
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	16	396	0	0	282	46
Peak-Hour Factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Hourly Flow Rate, HFR	17	425	0	0	303	49
Percent Heavy Vehicles	7	--	--	0	--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	1	0	59	0	17
Peak Hour Factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Hourly Flow Rate, HFR	0	1	0	63	0	18
Percent Heavy Vehicles	0	0	0	2	0	12
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes	0	1	1	0	1	0
Configuration		LT	R		LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR	LT		R		LTR	
v (vph)	17	0	1		0		81	
C(m) (vph)	1180	1145	310		634		347	
v/c	0.01	0.00	0.00		0.00		0.23	
95% queue length	0.04	0.00	0.01		0.00		0.89	
Control Delay	8.1	8.1	16.7		10.7		18.5	
LOS	A	A	C		B		C	
Approach Delay				16.7			18.5	
Approach LOS				C			C	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: Mid-day
Intersection: SR 3/Lakeland Dr
Jurisdiction: Mason Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 3/Lakeland Dr
East/West Street: Lakeland Dr
North/South Street: SR 3
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	15	318	8	2	329	58
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR	15	331	8	2	342	60
Percent Heavy Vehicles	21	--	--	2	--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	3	1	6	60	2	11
Peak Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR	3	1	6	62	2	11
Percent Heavy Vehicles	0	0	50	5	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes	0	1	1	0	1	0
Configuration		LT	R		LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR	LT		R		LTR	
v (vph)	15	2	4		6		75	
C(m) (vph)	1061	1220	321		610		345	
v/c	0.01	0.00	0.01		0.01		0.22	
95% queue length	0.04	0.00	0.04		0.03		0.81	
Control Delay	8.4	8.0	16.4		11.0		18.3	
LOS	A	A	C		B		C	
Approach Delay				13.1			18.3	
Approach LOS				B			C	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: PM
Intersection: SR 3/Lakeland Dr
Jurisdiction: Mason Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 3/Lakeland Dr
East/West Street: Lakeland Dr
North/South Street: SR 3
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	29	336	7	3	535	109
Peak-Hour Factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Hourly Flow Rate, HFR	29	342	7	3	545	111
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	3	7	6	47	3	14
Peak Hour Factor, PHF	0.98	0.98	0.98	0.90	0.98	0.98
Hourly Flow Rate, HFR	3	7	6	52	3	14
Percent Heavy Vehicles	0	0	0	6	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes	0	1	1	0	1	0
Configuration		LT	R		LTR	

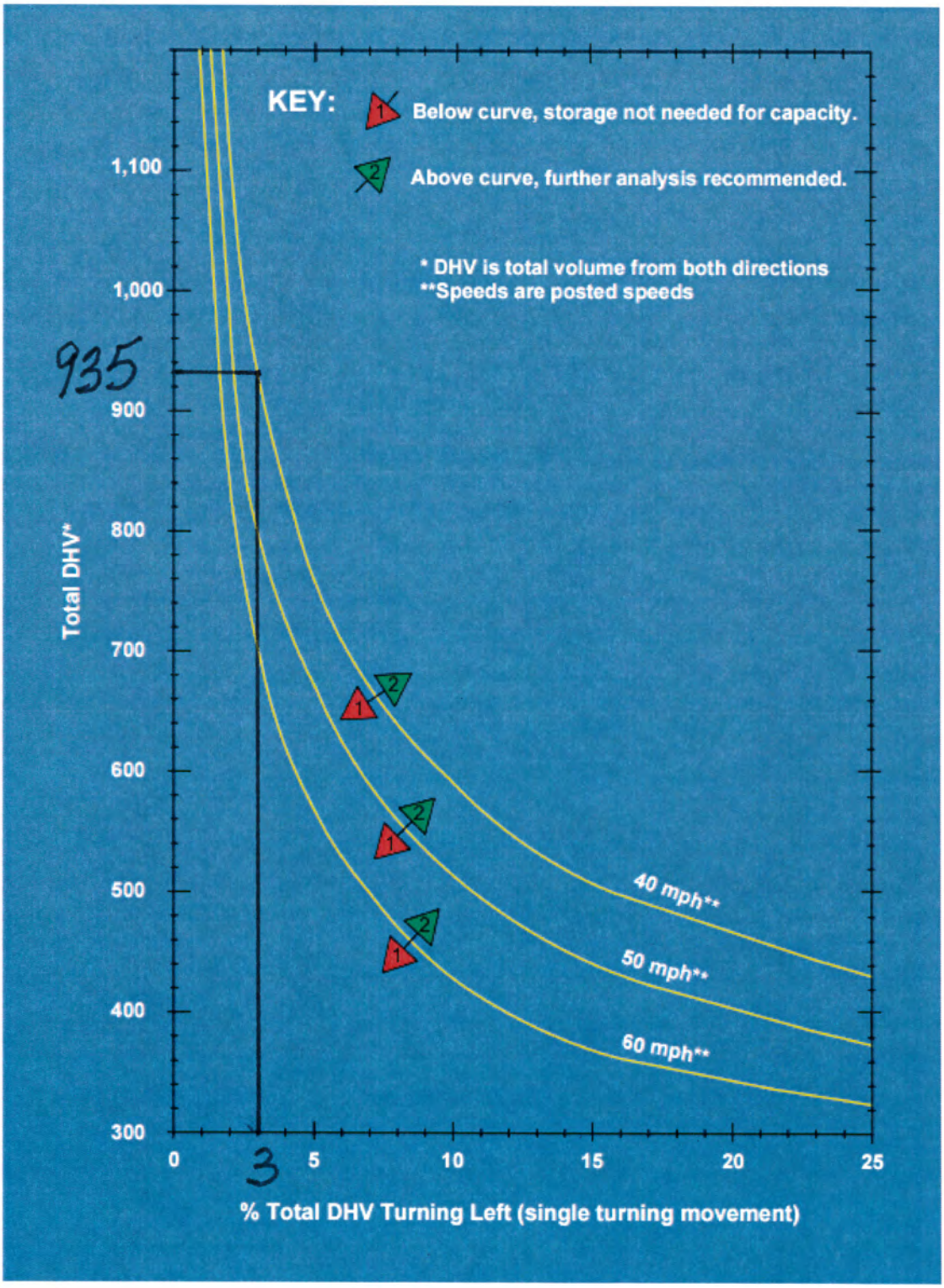
Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR	LT		R		LTR	
v (vph)	29	3	10		6		69	
C(m) (vph)	941	1221	210		702		228	
v/c	0.03	0.00	0.05		0.01		0.30	
95% queue length	0.10	0.01	0.15		0.03		1.23	
Control Delay	8.9	8.0	23.0		10.2		27.5	
LOS	A	A	C		B		D	
Approach Delay				18.2			27.5	
Approach LOS				C			D	

SR 3/Lakeland Dr
MP 20.93

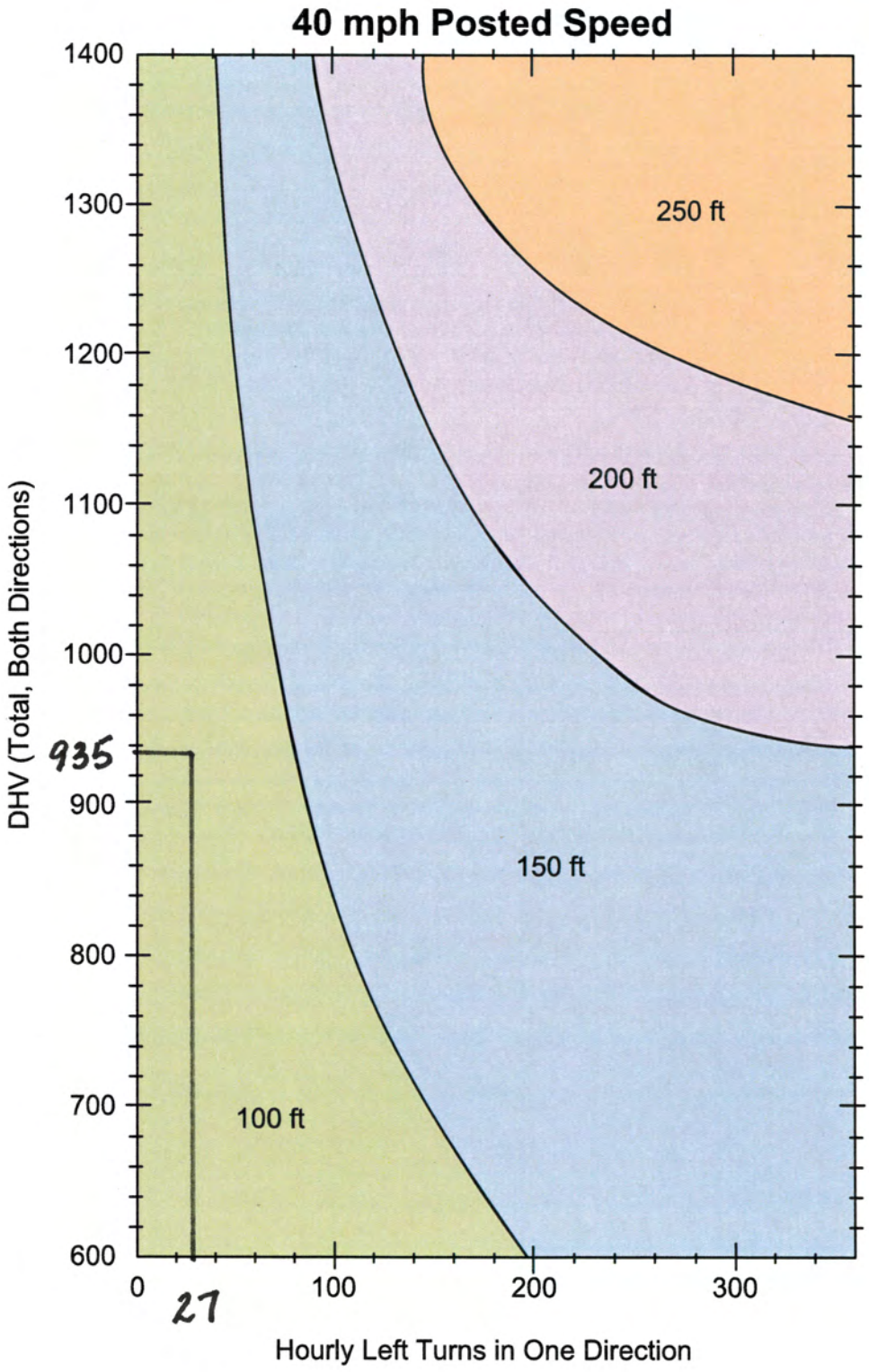
35 mph

Exhibit 1310-7a Left-Turn Storage Guidelines: Two-Lane, Unsignalized



SR 3 / LAKELAND DR
MP 20.93

Exhibit 1310-8a Left-Turn Storage Length: Two-Lane, Unsignalized (40mph)



STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4993 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 10:00
LOCATION SR 3 & LAKELAD DR & E EVANS RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												96	9.94		966
THIS LEG NORTH															
NORTH TO SOUTH	787	10	36	6	2	3	7	21				85		90.27	872
NORTH TO EAST	1													0.10	1
NORTH TO WEST	82	4	2	3		1	1					11		9.63	93
SOUTH APPROACH												95	6.96		1365
SOUTH TO NORTH	1242	8	42	14		7	12	10				93		97.80	1335
THIS LEG SOUTH															
SOUTH TO EAST	1													0.07	1
SOUTH TO WEST	27	2										2		2.12	29
EAST APPROACH															3
EAST TO NORTH	2													66.67	2
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	1													33.33	1
WEST APPROACH												9	3.19		282
WEST TO NORTH	227	2	2	2								6		82.62	233
WEST TO SOUTH	45	1		2								3		17.02	48
WEST TO EAST	1													0.35	1
THIS LEG WEST															
															2616
														PCT SPLIT OUT/IN	
NORTH TOTAL	2341	24	82	25	2	11	20	31				195		38/62	2536
PERCENTAGE	92.31	0.95	3.23	0.99	0.08	0.43	0.79	1.22				7.69			
SOUTH TOTAL	2102	21	78	22	2	10	19	31				183		60/40	2285
PERCENTAGE	91.99	0.92	3.41	0.96	0.09	0.44	0.83	1.36				8.01			
EAST TOTAL	6													50/50	6
PERCENTAGE	100.00														
WEST TOTAL	383	9	4	7		1	1					22		70/30	405
PERCENTAGE	94.57	2.22	0.99	1.73		0.25	0.25					5.43			
															5232

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	133	5.24	62	2.44			195	7.69	0.9557
SOUTH TOTAL	123	5.38	60	2.63			183	8.01	0.9526
EAST TOTAL									1.0000
WEST TOTAL	20	4.94	2	0.49			22	5.43	0.9854

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4993 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 07:00
LOCATION SR 3 & LAKELAD DR & E EVANS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												19	10.38		183
THIS LEG NORTH															
NORTH TO SOUTH	158	3	6	1			2	7				19		96.72	177
NORTH TO EAST															
NORTH TO WEST	6													3.28	6
SOUTH APPROACH												17	5.43		313
SOUTH TO NORTH	293	1	8	1		1	3	3				17		99.04	310
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	3													0.96	3
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	1.72		58
WEST TO NORTH	49		1									1		86.21	50
WEST TO SOUTH	7													12.07	7
WEST TO EAST	1													1.72	1
THIS LEG WEST															
															554
														PCT SPLIT OUT/IN	
NORTH TOTAL	506	4	15	2		1	5	10				37		34/66	543
PERCENTAGE	93.19	0.74	2.76	0.37		0.18	0.92	1.84				6.81			
SOUTH TOTAL	461	4	14	2		1	5	10				36		63/37	497
PERCENTAGE	92.76	0.80	2.82	0.40		0.20	1.01	2.01				7.24			
EAST TOTAL	1													100	1
PERCENTAGE	100.00														
WEST TOTAL	66		1									1		87/13	67
PERCENTAGE	98.51		1.49									1.49			
															1108

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4993 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 3 & LAKELAD DR & E EVANS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												25	11.26		222
THIS LEG NORTH															
NORTH TO SOUTH	183	3	11	1			2	5				22		92.34	205
NORTH TO EAST															
NORTH TO WEST	14	2					1					3		7.66	17
SOUTH APPROACH												30	8.11		370
SOUTH TO NORTH	336	5	16	3		2	1	2				29		98.65	365
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	4	1										1		1.35	5
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												2	2.41		83
WEST TO NORTH	67	1		1								2		83.13	69
WEST TO SOUTH	14													16.87	14
WEST TO EAST															
THIS LEG WEST															
															675
														PCT SPLIT OUT/IN	
NORTH TOTAL	600	11	27	5		2	4	7				56		34/66	656
PERCENTAGE	91.46	1.68	4.12	0.76		0.30	0.61	1.07				8.54			
SOUTH TOTAL	537	9	27	4		2	3	7				52		63/37	589
PERCENTAGE	91.17	1.53	4.58	0.68		0.34	0.51	1.19				8.83			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	99	4		1			1					6		79/21	105
PERCENTAGE	94.29	3.81		0.95			0.95					5.71			
															1350

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4993 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:00 - 09:00
LOCATION SR 3 & LAKELAD DR & E EVANS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												26	9.74		267
THIS LEG NORTH															
NORTH TO SOUTH	210	2	10			3	1	4				20		86.14	230
NORTH TO EAST															
NORTH TO WEST	31	2	1	3								6		13.86	37
SOUTH APPROACH												23	6.89		334
SOUTH TO NORTH	302	1	8	5		3	3	2				22		97.01	324
THIS LEG SOUTH															
SOUTH TO EAST	1													0.30	1
SOUTH TO WEST	8	1										1		2.69	9
EAST APPROACH															1
EAST TO NORTH	1													100.00	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												4	6.67		60
WEST TO NORTH	44		1	1								2		76.67	46
WEST TO SOUTH	12	1		1								2		23.33	14
WEST TO EAST															
THIS LEG WEST															
															662
														PCT SPLIT OUT/IN	
NORTH TOTAL	588	5	20	9		6	4	6				50		42/58	638
PERCENTAGE	92.16	0.78	3.13	1.41		0.94	0.63	0.94				7.84			
SOUTH TOTAL	533	5	18	6		6	4	6				45		58/42	578
PERCENTAGE	92.21	0.87	3.11	1.04		1.04	0.69	1.04				7.79			
EAST TOTAL	2													50/50	2
PERCENTAGE	100.00														
WEST TOTAL	95	4	2	5								11		57/43	106
PERCENTAGE	89.62	3.77	1.89	4.72								10.38			
															1324

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4993 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 3 & LAKELAD DR & E EVANS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												26	8.84		294
THIS LEG NORTH															
NORTH TO SOUTH	236	2	9	4	2		2	5				24		88.44	260
NORTH TO EAST	1													0.34	1
NORTH TO WEST	31		1			1						2		11.22	33
SOUTH APPROACH												25	7.18		348
SOUTH TO NORTH	311	1	10	5		1	5	3				25		96.55	336
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	12													3.45	12
EAST APPROACH															2
EAST TO NORTH	1													50.00	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	1													50.00	1
WEST APPROACH												2	2.47		81
WEST TO NORTH	67	1										1		83.95	68
WEST TO SOUTH	12			1								1		16.05	13
WEST TO EAST															
THIS LEG WEST															
															725
														PCT SPLIT OUT/IN	
NORTH TOTAL	647	4	20	9	2	2	7	8				52		42/58	699
PERCENTAGE	92.56	0.57	2.86	1.29	0.29	0.29	1.00	1.14				7.44			
SOUTH TOTAL	571	3	19	10	2	1	7	8				50		56/44	621
PERCENTAGE	91.95	0.48	3.06	1.61	0.32	0.16	1.13	1.29				8.05			
EAST TOTAL	3													67/33	3
PERCENTAGE	100.00														
WEST TOTAL	123	1	1	1		1						4		64/36	127
PERCENTAGE	96.85	0.79	0.79	0.79		0.79						3.15			
															1450

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4993 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:45 - 09:45
LOCATION SR 3 & LAKELAD DR & E EVANS RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												30	9.97		301
THIS LEG NORTH															
NORTH TO SOUTH	234	1	11	4	2	1	2	4				25		86.05	259
NORTH TO EAST															
NORTH TO WEST	37	2	1	1		1						5		13.95	42
SOUTH APPROACH												28	7.41		378
SOUTH TO NORTH	336	1	11	7			5	3				27		96.03	363
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	14	1										1		3.97	15
EAST APPROACH															1
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	1													100.00	1
WEST APPROACH												3	3.95		76
WEST TO NORTH	58	1										1		77.63	59
WEST TO SOUTH	15	1		1								2		22.37	17
WEST TO EAST															
THIS LEG WEST															
															756
														PCT SPLIT OUT/IN	
NORTH TOTAL	665	5	23	12	2	2	7	7				58		42/58	723
PERCENTAGE	91.98	0.69	3.18	1.66	0.28	0.28	0.97	0.97				8.02			
SOUTH TOTAL	599	4	22	12	2	1	7	7				55		58/42	654
PERCENTAGE	91.59	0.61	3.36	1.83	0.31	0.15	1.07	1.07				8.41			
EAST TOTAL	1													100/0	1
PERCENTAGE	100.00														
WEST TOTAL	125	5	1	2		1						9		57/43	134
PERCENTAGE	93.28	3.73	0.75	1.49		0.75						6.72			
															1512

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4993 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:45 - 09:45
LOCATION SR 3 & LAKELAD DR & E EVANS RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												30	9.97		301
THIS LEG NORTH															
NORTH TO SOUTH	234	1	11	4	2	1	2	4				25		86.05	259
NORTH TO EAST															
NORTH TO WEST	37	2	1	1		1						5		13.95	42
SOUTH APPROACH												28	7.41		378
SOUTH TO NORTH	336	1	11	7			5	3				27		96.03	363
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	14	1										1		3.97	15
EAST APPROACH															1
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	1													100.00	1
WEST APPROACH												3	3.95		76
WEST TO NORTH	58	1										1		77.63	59
WEST TO SOUTH	15	1		1								2		22.37	17
WEST TO EAST															
THIS LEG WEST															
															756
														PCT SPLIT OUT/IN	
NORTH TOTAL	665	5	23	12	2	2	7	7				58		42/58	723
PERCENTAGE	91.98	0.69	3.18	1.66	0.28	0.28	0.97	0.97				8.02			
SOUTH TOTAL	599	4	22	12	2	1	7	7				55		58/42	654
PERCENTAGE	91.59	0.61	3.36	1.83	0.31	0.15	1.07	1.07				8.41			
EAST TOTAL	1													100/0	1
PERCENTAGE	100.00														
WEST TOTAL	125	5	1	2		1						9		57/43	134
PERCENTAGE	93.28	3.73	0.75	1.49		0.75						6.72			
															1512

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4993 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 3 & LAKELAD DR & E EVANS RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												26	8.84		294
THIS LEG NORTH															
NORTH TO SOUTH	236	2	9	4	2		2	5				24		88.44	260
NORTH TO EAST	1													0.34	1
NORTH TO WEST	31		1			1						2		11.22	33
SOUTH APPROACH												25	7.18		348
SOUTH TO NORTH	311	1	10	5		1	5	3				25		96.55	336
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	12													3.45	12
EAST APPROACH															2
EAST TO NORTH	1													50.00	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	1													50.00	1
WEST APPROACH												2	2.47		81
WEST TO NORTH	67	1										1		83.95	68
WEST TO SOUTH	12			1								1		16.05	13
WEST TO EAST															
THIS LEG WEST															
															725
														PCT SPLIT OUT/IN	
NORTH TOTAL	647	4	20	9	2	2	7	8				52		42/58	699
PERCENTAGE	92.56	0.57	2.86	1.29	0.29	0.29	1.00	1.14				7.44			
SOUTH TOTAL	571	3	19	10	2	1	7	8				50		56/44	621
PERCENTAGE	91.95	0.48	3.06	1.61	0.32	0.16	1.13	1.29				8.05			
EAST TOTAL	3													67/33	3
PERCENTAGE	100.00														
WEST TOTAL	123	1	1	1		1						4		64/36	127
PERCENTAGE	96.85	0.79	0.79	0.79		0.79						3.15			
															1450

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4993 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:30 - 09:30
LOCATION SR 3 & LAKELAD DR & E EVANS RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												24	8.66		277
THIS LEG NORTH															
NORTH TO SOUTH	213	2	8	2	2	1	1	2				18		83.39	231
NORTH TO EAST															
NORTH TO WEST	40	2	2	1		1						6		16.61	46
SOUTH APPROACH												32	8.14		393
SOUTH TO NORTH	348	2	11	5		2	7	4				31		96.44	379
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	13	1										1		3.56	14
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												4	5.41		74
WEST TO NORTH	55	1		1								2		77.03	57
WEST TO SOUTH	15	1		1								2		22.97	17
WEST TO EAST															
THIS LEG WEST															
															744
														PCT SPLIT OUT/IN	
NORTH TOTAL	656	7	21	9	2	4	8	6				57		39/61	713
PERCENTAGE	92.01	0.98	2.95	1.26	0.28	0.56	1.12	0.84				7.99			
SOUTH TOTAL	589	6	19	8	2	3	8	6				52		61/39	641
PERCENTAGE	91.89	0.94	2.96	1.25	0.31	0.47	1.25	0.94				8.11			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	123	5	2	3		1						11		55/45	134
PERCENTAGE	91.79	3.73	1.49	2.24		0.75						8.21			
															1488

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4993 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:45 - 09:45
LOCATION SR 3 & LAKELAD DR & E EVANS RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												30	9.97		301
THIS LEG NORTH															
NORTH TO SOUTH	234	1	11	4	2	1	2	4				25		86.05	259
NORTH TO EAST															
NORTH TO WEST	37	2	1	1		1						5		13.95	42
SOUTH APPROACH												28	7.41		378
SOUTH TO NORTH	336	1	11	7			5	3				27		96.03	363
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	14	1										1		3.97	15
EAST APPROACH															1
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	1													100.00	1
WEST APPROACH												3	3.95		76
WEST TO NORTH	58	1										1		77.63	59
WEST TO SOUTH	15	1		1								2		22.37	17
WEST TO EAST															
THIS LEG WEST															
															756
														PCT SPLIT OUT/IN	
NORTH TOTAL	665	5	23	12	2	2	7	7				58		42/58	723
PERCENTAGE	91.98	0.69	3.18	1.66	0.28	0.28	0.97	0.97				8.02			
SOUTH TOTAL	599	4	22	12	2	1	7	7				55		58/42	654
PERCENTAGE	91.59	0.61	3.36	1.83	0.31	0.15	1.07	1.07				8.41			
EAST TOTAL	1													100/0	1
PERCENTAGE	100.00														
WEST TOTAL	125	5	1	2		1						9		57/43	134
PERCENTAGE	93.28	3.73	0.75	1.49		0.75						6.72			
															1512

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	42	5.81	16	2.21			58	8.02	0.9544
SOUTH TOTAL	40	6.12	15	2.29			55	8.41	0.9512
EAST TOTAL									1.0000
WEST TOTAL	8	5.97	1	0.75			9	6.72	0.9852

PEAK HOUR FACTOR 0.931 186 203 183 184 756

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

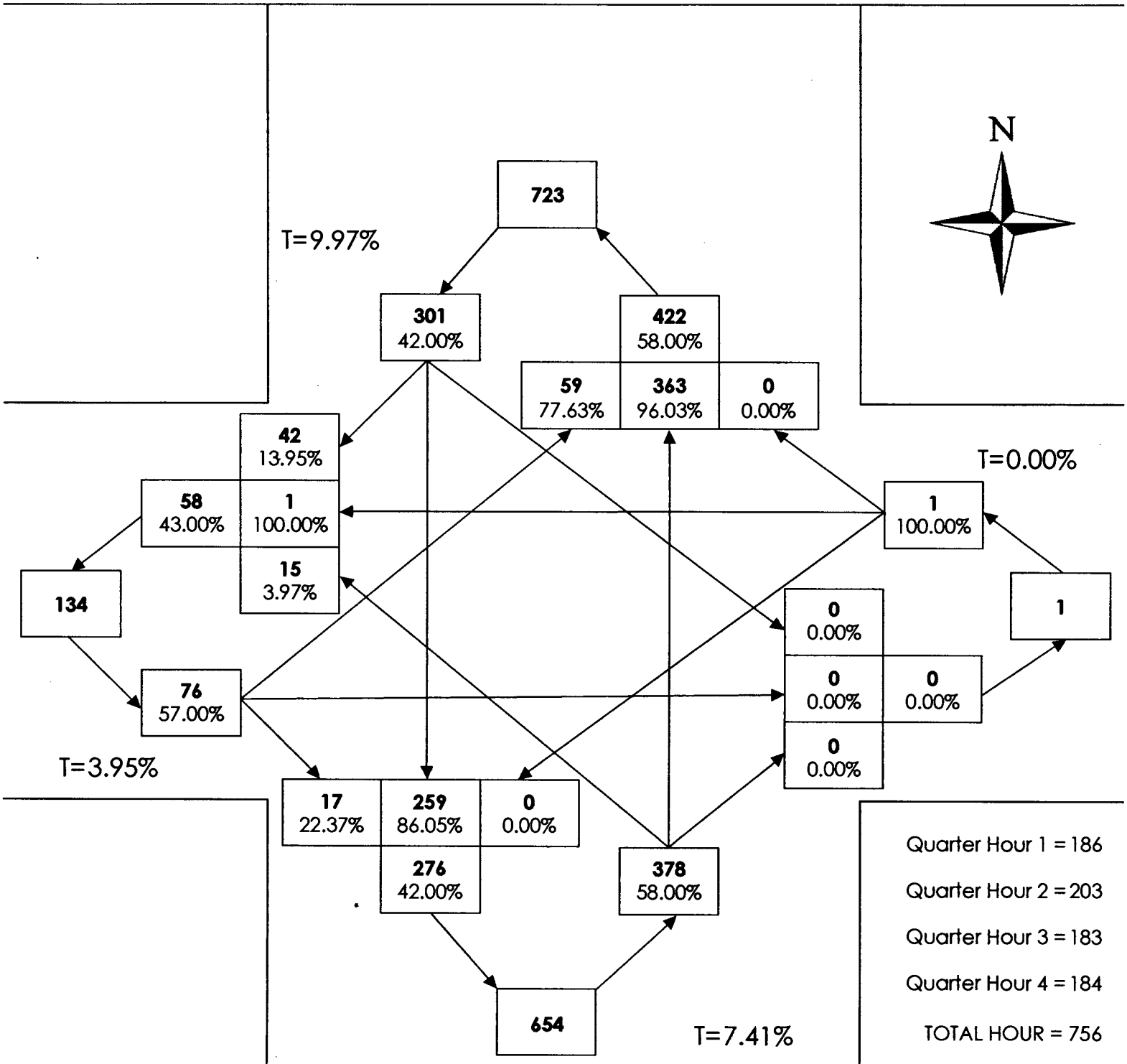
Vehicle Volume Summary
(Block Diagram)

Date: 3/30/2017
Time Period: 08:45 - 09:45

SR: 003 MP: 020.93 Off Sys. ID: Count ID: 17-006

Location: SR 3 & LAKELAD DR & E EVANS RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 186

Quarter Hour 2 = 203

Quarter Hour 3 = 183

Quarter Hour 4 = 184

TOTAL HOUR = 756

PEAK HOUR FACTOR = 0.931

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

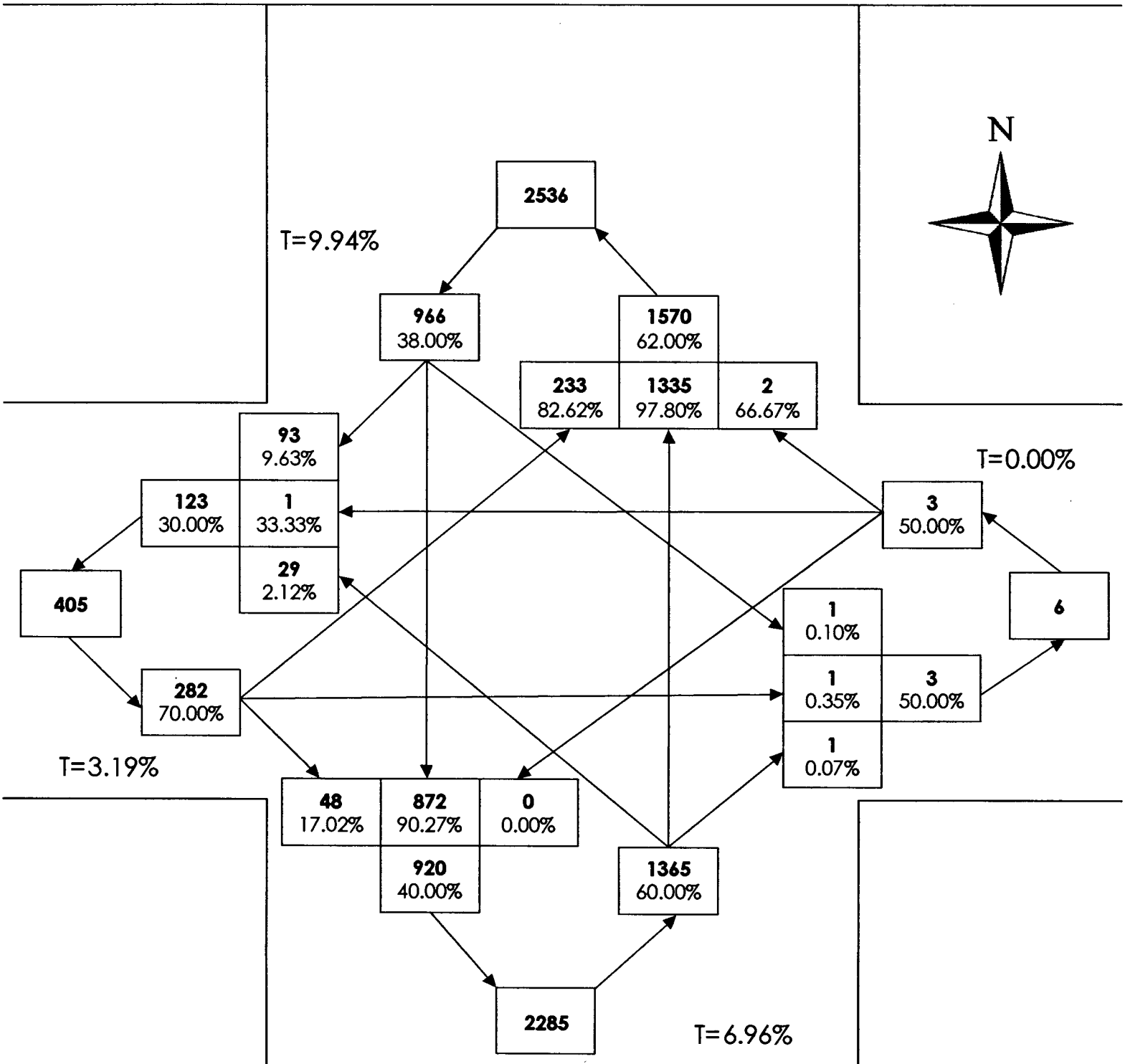
(Block Diagram)

Date: 3/30/2017
Time Period: 06:00 - 10:00

SR: 003 MP: 020.93 Off Sys. ID: Count ID: 17-006

Location: SR 3 & LAKELAD DR & E EVANS RD

ENTIRE COUNT VOLUMES



CB# 1143 ID's 4991 4992 4993

17-006

Washington State Department of Transportation

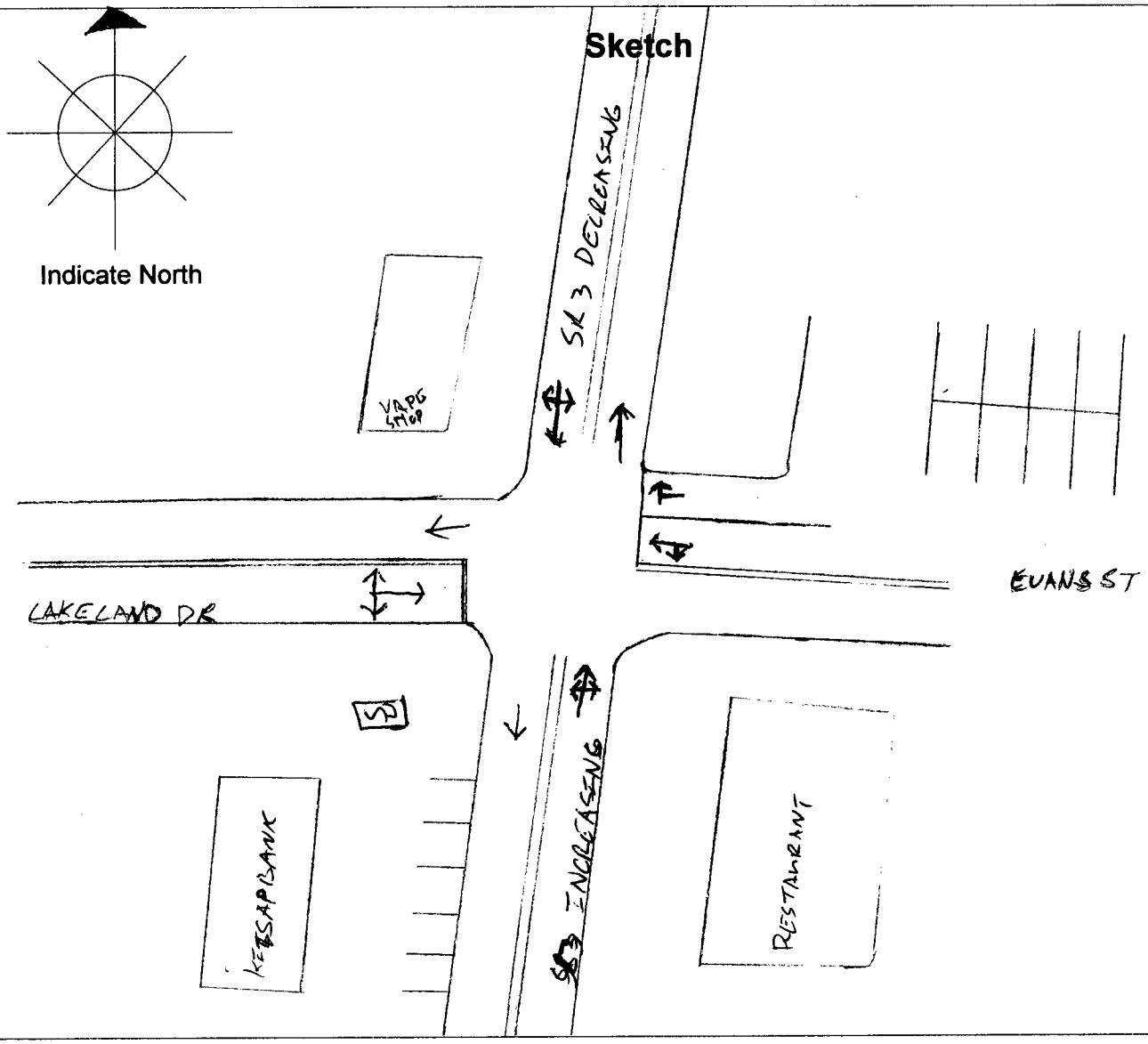
Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
003	20 ● 93		17-006	3/28-3/29-3/30

Station Location

JCT OF SR 003 & LAKELAND DR

Sketch



Remarks: G:\17-006V 14-1800 # 4991 3/28/17

G:\17-006W 10-1400 #4992 3/29/17

G:\17-006X 06-1000 #4993 3/30/17

Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/4/2017
TIME: 13:03:24
PAGE: 1

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4992 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 14:00
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												109	8.27		1318
THIS LEG NORTH															
NORTH TO SOUTH	1004	8	41	7		6	12	26			2	102		83.92	1106
NORTH TO EAST	10		1			1						2		0.91	12
NORTH TO WEST	195	2	3									5		15.17	200
SOUTH APPROACH												95	8.19		1160
SOUTH TO NORTH	1002	7	31	12		5	11	22			1	89		94.05	1091
THIS LEG SOUTH															
SOUTH TO EAST	12		2			1						3		1.29	15
SOUTH TO WEST	51	1	1				1					3		4.66	54
EAST APPROACH												3	18.75		16
EAST TO NORTH	5		2			1						3		50.00	8
EAST TO SOUTH	6													37.50	6
THIS LEG EAST															
EAST TO WEST	2													12.50	2
WEST APPROACH												11	4.33		254
WEST TO NORTH	184	1	4				2					7		75.20	191
WEST TO SOUTH	57	2	1	1								4		24.02	61
WEST TO EAST	2													0.79	2
THIS LEG WEST															
															2748
														PCT SPLIT OUT/IN	
NORTH TOTAL	2400	18	82	19		13	25	48			3	208		51/49	2608
PERCENTAGE	92.02	0.69	3.14	0.73		0.50	0.96	1.84			0.12	7.98			
SOUTH TOTAL	2132	18	76	20		12	24	48			3	201		50/50	2333
PERCENTAGE	91.38	0.77	3.26	0.86		0.51	1.03	2.06			0.13	8.62			
EAST TOTAL	37		5			3						8		36/64	45
PERCENTAGE	82.22		11.1			6.67						17.78			
WEST TOTAL	491	6	9	1			3					19		50/50	510
PERCENTAGE	96.27	1.18	1.76	0.20			0.59					3.73			
															5496

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	119	4.56	86	3.30	3	0.12	208	7.98	0.9410
SOUTH TOTAL	114	4.89	84	3.60	3	0.13	201	8.62	0.9352
EAST TOTAL	5	11.11	3	6.67			8	17.78	0.9375
WEST TOTAL	16	3.14	3	0.59			19	3.73	0.9902

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4992 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 11:00
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												19	6.55		290
THIS LEG NORTH															
NORTH TO SOUTH	231	1	6	2		2	4	3			1	19		86.21	250
NORTH TO EAST	1													0.34	1
NORTH TO WEST	39													13.45	39
SOUTH APPROACH												20	7.52		266
SOUTH TO NORTH	234	1	5	4			2	7			1	20		95.49	254
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	12													4.51	12
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	1.79		56
WEST TO NORTH	43		1									1		78.57	44
WEST TO SOUTH	12													21.43	12
WEST TO EAST															
THIS LEG WEST															
															612
														PCT SPLIT OUT/IN	
NORTH TOTAL	548	2	12	6		2	6	10			2	40		49/51	588
PERCENTAGE	93.20	0.34	2.04	1.02		0.34	1.02	1.70			0.34	6.80			
SOUTH TOTAL	489	2	11	6		2	6	10			2	39		50/50	528
PERCENTAGE	92.61	0.38	2.08	1.14		0.38	1.14	1.89			0.38	7.39			
EAST TOTAL	1													100	1
PERCENTAGE	100.00														
WEST TOTAL	106		1									1		52/48	107
PERCENTAGE	99.07		0.93									0.93			
															1224

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4992 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:00 - 12:00
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												33	10.06		328
THIS LEG NORTH															
NORTH TO SOUTH	241	6	8	1		1	3	11				30		82.62	271
NORTH TO EAST	3					1						1		1.22	4
NORTH TO WEST	51		2									2		16.16	53
SOUTH APPROACH												22	7.56		291
SOUTH TO NORTH	258	2	5	4		2	2	4				19		95.19	277
THIS LEG SOUTH															
SOUTH TO EAST	2		1									1		1.03	3
SOUTH TO WEST	9	1	1									2		3.78	11
EAST APPROACH												1	100.00		1
EAST TO NORTH			1									1		100.00	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												2	3.23		62
WEST TO NORTH	48						1					1		79.03	49
WEST TO SOUTH	12		1									1		20.97	13
WEST TO EAST															
THIS LEG WEST															
															682
														PCT SPLIT OUT/IN	
NORTH TOTAL	601	8	16	5		4	6	15				54		50/50	655
PERCENTAGE	91.76	1.22	2.44	0.76		0.61	0.92	2.29				8.24			
SOUTH TOTAL	522	9	16	5		3	5	15				53		51/49	575
PERCENTAGE	90.78	1.57	2.78	0.87		0.52	0.87	2.61				9.22			
EAST TOTAL	5		2			1						3		12/88	8
PERCENTAGE	62.50		25.0			12.5						37.50			
WEST TOTAL	120	1	4				1					6		49/51	126
PERCENTAGE	95.24	0.79	3.17				0.79					4.76			
															1364

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4992 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												24	6.90		348
THIS LEG NORTH															
NORTH TO SOUTH	272		11	2		1	3	6				23		84.77	295
NORTH TO EAST	2													0.57	2
NORTH TO WEST	50		1									1		14.66	51
SOUTH APPROACH												26	8.39		310
SOUTH TO NORTH	269	2	9	2			4	6				23		94.19	292
THIS LEG SOUTH															
SOUTH TO EAST	4		1			1						2		1.94	6
SOUTH TO WEST	11						1					1		3.87	12
EAST APPROACH												2	20.00		10
EAST TO NORTH	3		1			1						2		50.00	5
EAST TO SOUTH	4													40.00	4
THIS LEG EAST															
EAST TO WEST	1													10.00	1
WEST APPROACH												5	6.41		78
WEST TO NORTH	57	1	3									4		78.21	61
WEST TO SOUTH	14			1								1		19.23	15
WEST TO EAST	2													2.56	2
THIS LEG WEST															
															746
														PCT SPLIT OUT/IN	
NORTH TOTAL	653	3	25	4		2	7	12				53		49/51	706
PERCENTAGE	92.49	0.42	3.54	0.57		0.28	0.99	1.70				7.51			
SOUTH TOTAL	574	2	21	5		2	8	12				50		50/50	624
PERCENTAGE	91.99	0.32	3.37	0.80		0.32	1.28	1.92				8.01			
EAST TOTAL	16		2			2						4		50/50	20
PERCENTAGE	80.00		10.0			10.0						20.00			
WEST TOTAL	135	1	4	1			1					7		55/45	142
PERCENTAGE	95.07	0.70	2.82	0.70			0.70					4.93			
															1492

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4992 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												33	9.38		352
THIS LEG NORTH															
NORTH TO SOUTH	260	1	16	2		2	2	6			1	30		82.39	290
NORTH TO EAST	4		1									1		1.42	5
NORTH TO WEST	55	2										2		16.19	57
SOUTH APPROACH												27	9.22		293
SOUTH TO NORTH	241	2	12	2		3	3	5				27		91.47	268
THIS LEG SOUTH															
SOUTH TO EAST	6													2.05	6
SOUTH TO WEST	19													6.48	19
EAST APPROACH															5
EAST TO NORTH	2													40.00	2
EAST TO SOUTH	2													40.00	2
THIS LEG EAST															
EAST TO WEST	1													20.00	1
WEST APPROACH												3	5.17		58
WEST TO NORTH	36						1					1		63.79	37
WEST TO SOUTH	19	2										2		36.21	21
WEST TO EAST															
THIS LEG WEST															
															708
														PCT SPLIT OUT/IN	
NORTH TOTAL	598	5	29	4		5	6	11			1	61		53/47	659
PERCENTAGE	90.74	0.76	4.40	0.61		0.76	0.91	1.67			0.15	9.26			
SOUTH TOTAL	547	5	28	4		5	5	11			1	59		48/52	606
PERCENTAGE	90.26	0.83	4.62	0.66		0.83	0.83	1.82			0.17	9.74			
EAST TOTAL	15		1									1		31/69	16
PERCENTAGE	93.75		6.25									6.25			
WEST TOTAL	130	4					1					5		43/57	135
PERCENTAGE	96.30	2.96					0.74					3.70			
															1416

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4992 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:45 - 12:45
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												22	6.16		357
THIS LEG NORTH															
NORTH TO SOUTH	281	3	11	1		1		5				21		84.59	302
NORTH TO EAST	2													0.56	2
NORTH TO WEST	52		1									1		14.85	53
SOUTH APPROACH												31	9.90		313
SOUTH TO NORTH	267	2	7	4			4	8				25		93.29	292
THIS LEG SOUTH															
SOUTH TO EAST	4		2			1						3		2.24	7
SOUTH TO WEST	11	1	1				1					3		4.47	14
EAST APPROACH												3	30.00		10
EAST TO NORTH	3		2			1						3		60.00	6
EAST TO SOUTH	3													30.00	3
THIS LEG EAST															
EAST TO WEST	1													10.00	1
WEST APPROACH												3	4.11		73
WEST TO NORTH	57	1	2									3		82.19	60
WEST TO SOUTH	11													15.07	11
WEST TO EAST	2													2.74	2
THIS LEG WEST															
															753
														PCT SPLIT OUT/IN	
NORTH TOTAL	662	6	23	5		2	4	13				53		50/50	715
PERCENTAGE	92.59	0.84	3.22	0.70		0.28	0.56	1.82				7.41			
SOUTH TOTAL	577	6	21	5		2	5	13				52		50/50	629
PERCENTAGE	91.73	0.95	3.34	0.79		0.32	0.79	2.07				8.27			
EAST TOTAL	15		4			2						6		48/52	21
PERCENTAGE	71.43		19.0			9.52						28.57			
WEST TOTAL	134	2	4				1					7		52/48	141
PERCENTAGE	95.04	1.42	2.84				0.71					4.96			
															1506

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4992 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:45 - 12:45
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												22	6.16		357
THIS LEG NORTH															
NORTH TO SOUTH	281	3	11	1		1		5				21		84.59	302
NORTH TO EAST	2													0.56	2
NORTH TO WEST	52		1									1		14.85	53
SOUTH APPROACH												31	9.90		313
SOUTH TO NORTH	267	2	7	4			4	8				25		93.29	292
THIS LEG SOUTH															
SOUTH TO EAST	4		2			1						3		2.24	7
SOUTH TO WEST	11	1	1				1					3		4.47	14
EAST APPROACH												3	30.00		10
EAST TO NORTH	3		2			1						3		60.00	6
EAST TO SOUTH	3													30.00	3
THIS LEG EAST															
EAST TO WEST	1													10.00	1
WEST APPROACH												3	4.11		73
WEST TO NORTH	57	1	2									3		82.19	60
WEST TO SOUTH	11													15.07	11
WEST TO EAST	2													2.74	2
THIS LEG WEST															
															753
														PCT SPLIT OUT/IN	
NORTH TOTAL	662	6	23	5		2	4	13				53		50/50	715
PERCENTAGE	92.59	0.84	3.22	0.70		0.28	0.56	1.82				7.41			
SOUTH TOTAL	577	6	21	5		2	5	13				52		50/50	629
PERCENTAGE	91.73	0.95	3.34	0.79		0.32	0.79	2.07				8.27			
EAST TOTAL	15		4			2						6		48/52	21
PERCENTAGE	71.43		19.0			9.52						28.57			
WEST TOTAL	134	2	4				1					7		52/48	141
PERCENTAGE	95.04	1.42	2.84				0.71					4.96			
															1506

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4992 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:45 - 12:45
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												22	6.16		357
THIS LEG NORTH															
NORTH TO SOUTH	281	3	11	1		1		5				21		84.59	302
NORTH TO EAST	2													0.56	2
NORTH TO WEST	52		1									1		14.85	53
SOUTH APPROACH												31	9.90		313
SOUTH TO NORTH	267	2	7	4			4	8				25		93.29	292
THIS LEG SOUTH															
SOUTH TO EAST	4		2			1						3		2.24	7
SOUTH TO WEST	11	1	1				1					3		4.47	14
EAST APPROACH												3	30.00		10
EAST TO NORTH	3		2			1						3		60.00	6
EAST TO SOUTH	3													30.00	3
THIS LEG EAST															
EAST TO WEST	1													10.00	1
WEST APPROACH												3	4.11		73
WEST TO NORTH	57	1	2									3		82.19	60
WEST TO SOUTH	11													15.07	11
WEST TO EAST	2													2.74	2
THIS LEG WEST															
															753
														PCT SPLIT OUT/IN	
NORTH TOTAL	662	6	23	5		2	4	13				53		50/50	715
PERCENTAGE	92.59	0.84	3.22	0.70		0.28	0.56	1.82				7.41			
SOUTH TOTAL	577	6	21	5		2	5	13				52		50/50	629
PERCENTAGE	91.73	0.95	3.34	0.79		0.32	0.79	2.07				8.27			
EAST TOTAL	15		4			2						6		48/52	21
PERCENTAGE	71.43		19.0			9.52						28.57			
WEST TOTAL	134	2	4				1					7		52/48	141
PERCENTAGE	95.04	1.42	2.84				0.71					4.96			
															1506

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4992 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												24	6.90		348
THIS LEG NORTH															
NORTH TO SOUTH	272		11	2		1	3	6				23		84.77	295
NORTH TO EAST	2													0.57	2
NORTH TO WEST	50		1									1		14.66	51
SOUTH APPROACH												26	8.39		310
SOUTH TO NORTH	269	2	9	2			4	6				23		94.19	292
THIS LEG SOUTH															
SOUTH TO EAST	4		1			1						2		1.94	6
SOUTH TO WEST	11						1					1		3.87	12
EAST APPROACH												2	20.00		10
EAST TO NORTH	3		1			1						2		50.00	5
EAST TO SOUTH	4													40.00	4
THIS LEG EAST															
EAST TO WEST	1													10.00	1
WEST APPROACH												5	6.41		78
WEST TO NORTH	57	1	3									4		78.21	61
WEST TO SOUTH	14			1								1		19.23	15
WEST TO EAST	2													2.56	2
THIS LEG WEST															
															746
														PCT SPLIT OUT/IN	
NORTH TOTAL	653	3	25	4		2	7	12				53		49/51	706
PERCENTAGE	92.49	0.42	3.54	0.57		0.28	0.99	1.70				7.51			
SOUTH TOTAL	574	2	21	5		2	8	12				50		50/50	624
PERCENTAGE	91.99	0.32	3.37	0.80		0.32	1.28	1.92				8.01			
EAST TOTAL	16		2			2						4		50/50	20
PERCENTAGE	80.00		10.0			10.0						20.00			
WEST TOTAL	135	1	4	1			1					7		55/45	142
PERCENTAGE	95.07	0.70	2.82	0.70			0.70					4.93			
															1492

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4992 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:45 - 12:45
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												22	6.16		357
THIS LEG NORTH															
NORTH TO SOUTH	281	3	11	1		1		5				21		84.59	302
NORTH TO EAST	2													0.56	2
NORTH TO WEST	52		1									1		14.85	53
SOUTH APPROACH												31	9.90		313
SOUTH TO NORTH	267	2	7	4			4	8				25		93.29	292
THIS LEG SOUTH															
SOUTH TO EAST	4		2			1						3		2.24	7
SOUTH TO WEST	11	1	1				1					3		4.47	14
EAST APPROACH												3	30.00		10
EAST TO NORTH	3		2			1						3		60.00	6
EAST TO SOUTH	3													30.00	3
THIS LEG EAST															
EAST TO WEST	1													10.00	1
WEST APPROACH												3	4.11		73
WEST TO NORTH	57	1	2									3		82.19	60
WEST TO SOUTH	11													15.07	11
WEST TO EAST	2													2.74	2
THIS LEG WEST															
															753
														PCT SPLIT OUT/IN	
NORTH TOTAL	662	6	23	5		2	4	13				53		50/50	715
PERCENTAGE	92.59	0.84	3.22	0.70		0.28	0.56	1.82				7.41			
SOUTH TOTAL	577	6	21	5		2	5	13				52		50/50	629
PERCENTAGE	91.73	0.95	3.34	0.79		0.32	0.79	2.07				8.27			
EAST TOTAL	15		4			2						6		48/52	21
PERCENTAGE	71.43		19.0			9.52						28.57			
WEST TOTAL	134	2	4				1					7		52/48	141
PERCENTAGE	95.04	1.42	2.84				0.71					4.96			
															1506

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	34	4.76	19	2.66			53	7.41	0.9514
SOUTH TOTAL	32	5.09	20	3.18			52	8.27	0.9430
EAST TOTAL	4	19.05	2	9.52			6	28.57	0.9130
WEST TOTAL	6	4.26	1	0.71			7	4.96	0.9894

PEAK HOUR FACTOR 0.960 183 196 188 186 753

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

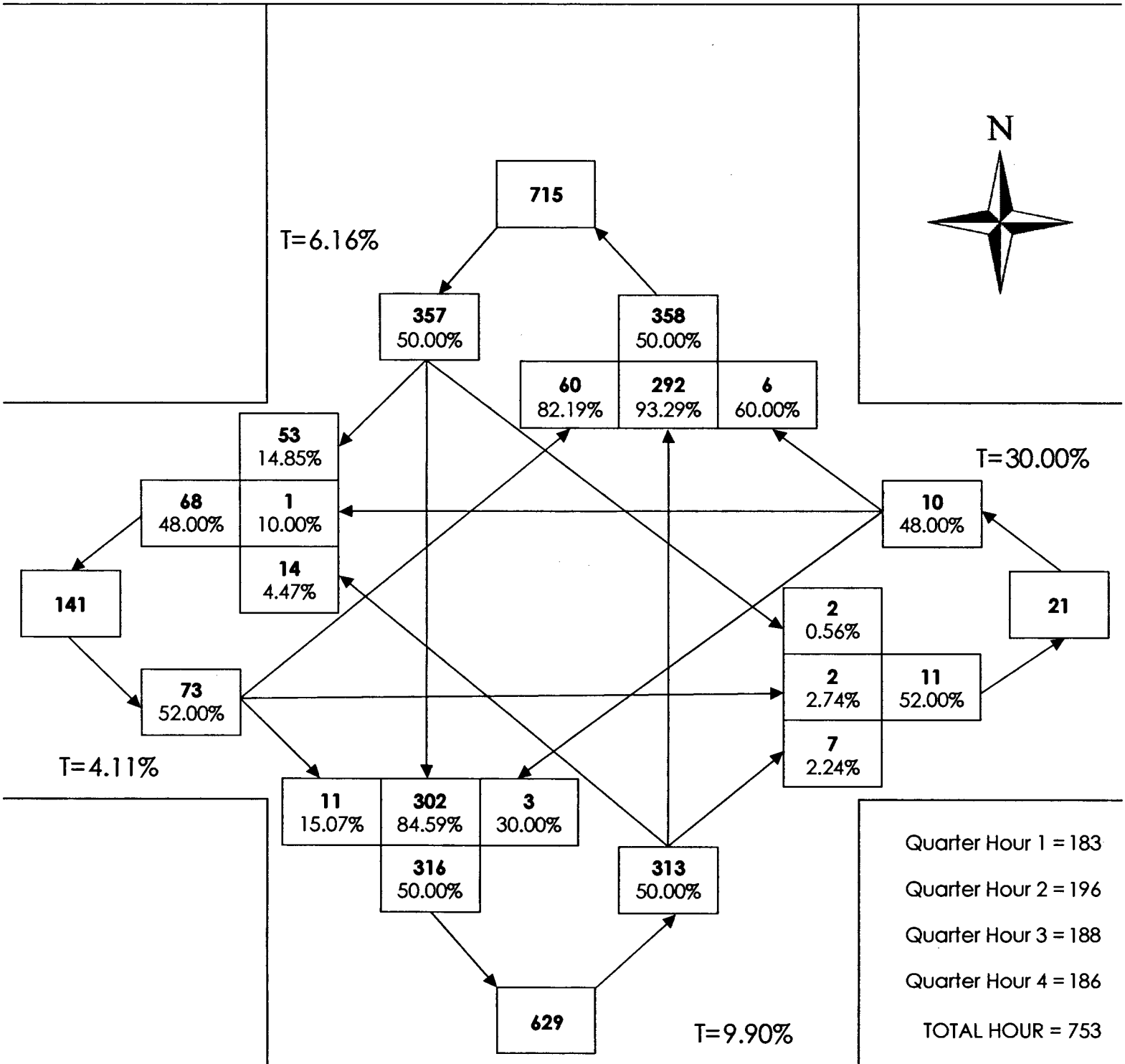
Vehicle Volume Summary
(Block Diagram)

Date: 3/29/2017
Time Period: 11:45 - 12:45

SR: 003 MP: 020.93 Off Sys. ID: Count ID: 17-006

Location: SR 3 & LAKELAND DR & E EVANS RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 183

Quarter Hour 2 = 196

Quarter Hour 3 = 188

Quarter Hour 4 = 186

TOTAL HOUR = 753

PEAK HOUR FACTOR = 0.960

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

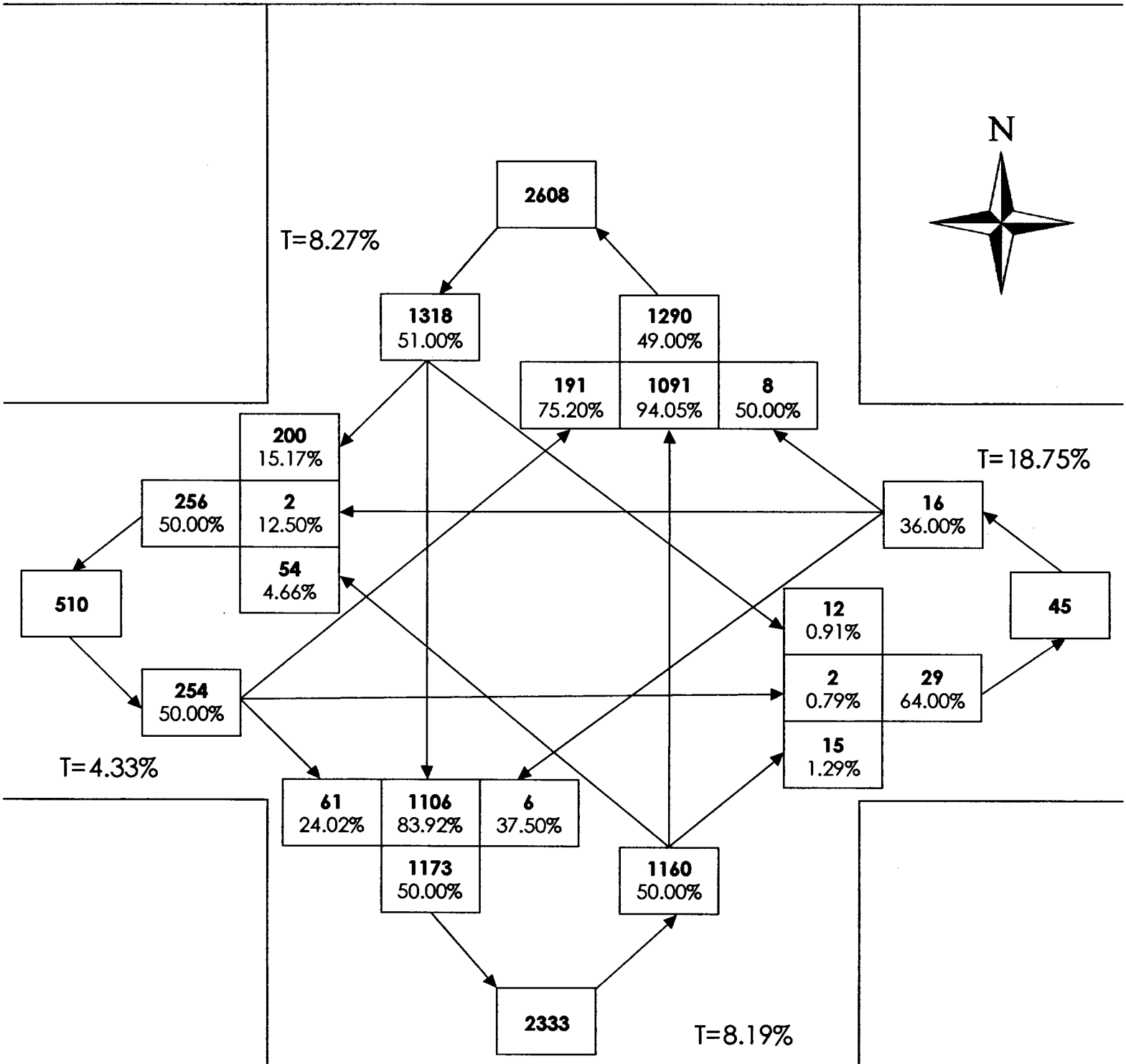
(Block Diagram)

Date: 3/29/2017
Time Period: 10:00 - 14:00

SR: 003 MP: 020.93 Off Sys. ID: Count ID: 17-006

Location: SR 3 & LAKELAND DR & E EVANS RD

ENTIRE COUNT VOLUMES



CB# 1143 ID's 4991 4992 4993

17-006

Washington State Department of Transportation

Traffic Station Sketch

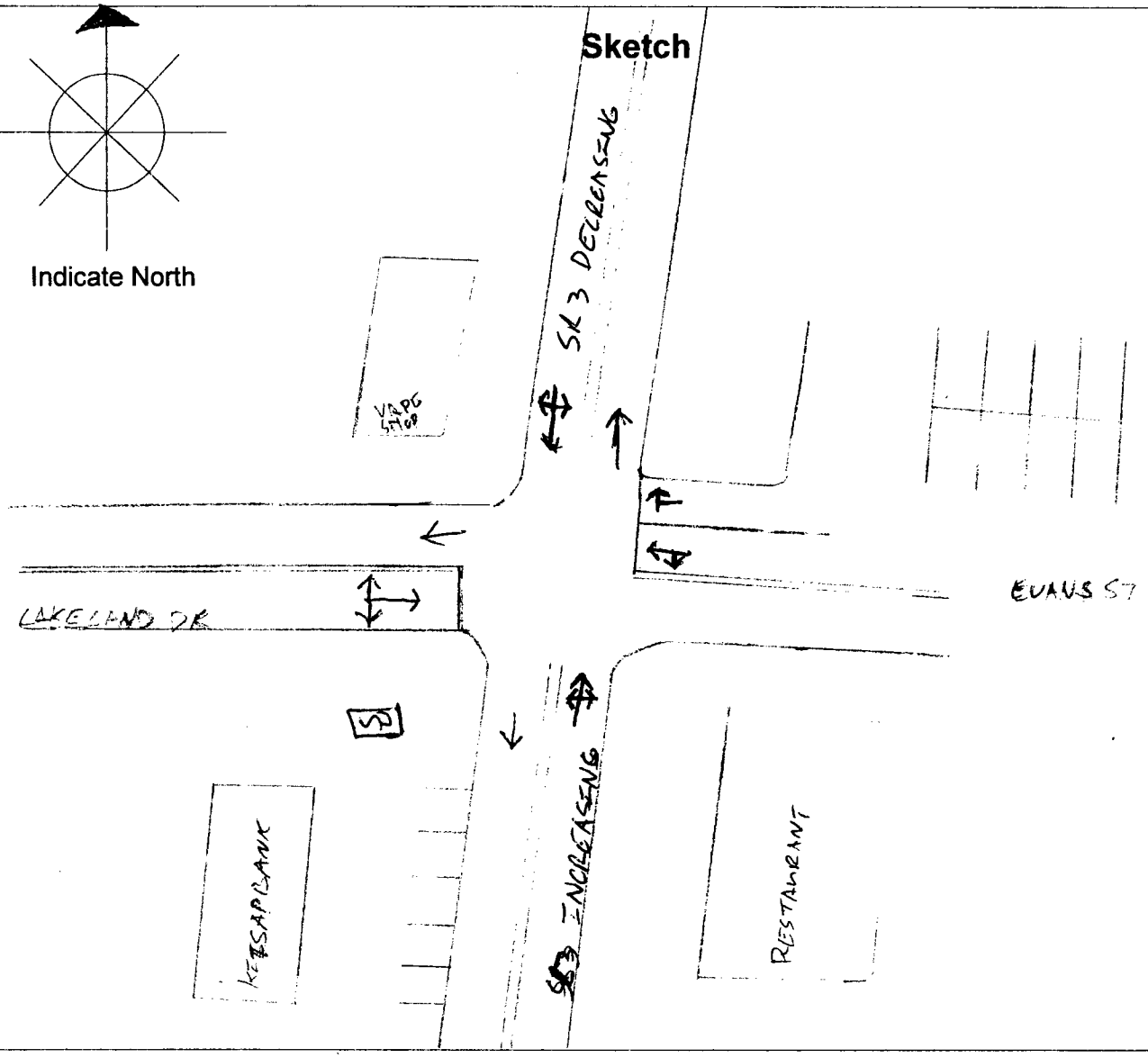
SR #	MP	OSID	Count ID	Date
003	20 ● 93		17-006	3/28-3/29-3/30

Station Location

JCT OF SR 003 & LAKELAND DR

Indicate North

Sketch



Remarks: G:\17-006V 14-1000 # 4991 3/28/17

G:\17-006W 10-1400 #4992 3/29/17

G:\17-006X 06-1000 #4993 3/30/17

Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4991 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 18:00
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												75	3.64		2058
THIS LEG NORTH															
NORTH TO SOUTH	1628	13	27	5		4	10	11				70		82.51	1698
NORTH TO EAST	8													0.39	8
NORTH TO WEST	347		5									5		17.10	352
SOUTH APPROACH												75	6.00		1251
SOUTH TO NORTH	1094	7	35	10		3	5	12			1	73		93.29	1167
THIS LEG SOUTH															
SOUTH TO EAST	13													1.04	13
SOUTH TO WEST	69	1				1						2		5.68	71
EAST APPROACH															26
EAST TO NORTH	8													30.77	8
EAST TO SOUTH	8													30.77	8
THIS LEG EAST															
EAST TO WEST	10													38.46	10
WEST APPROACH												9	3.75		240
WEST TO NORTH	176	1	5			1						7		76.25	183
WEST TO SOUTH	52		2									2		22.50	54
WEST TO EAST	3													1.25	3
THIS LEG WEST															
															3575
														PCT SPLIT OUT/IN	
NORTH TOTAL	3261	21	72	15		8	15	23			1	155		60/40	3416
PERCENTAGE	95.46	0.61	2.11	0.44		0.23	0.44	0.67			0.03	4.54			
SOUTH TOTAL	2864	21	64	15		8	15	23			1	147		42/58	3011
PERCENTAGE	95.12	0.70	2.13	0.50		0.27	0.50	0.76			0.03	4.88			
EAST TOTAL	50													52/48	50
PERCENTAGE	100.00														
WEST TOTAL	657	2	12			2						16		36/64	673
PERCENTAGE	97.62	0.30	1.78			0.30						2.38			
															7150

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	108	3.16	46	1.35	1	0.03	155	4.54	0.9753
SOUTH TOTAL	100	3.32	46	1.53	1	0.03	147	4.88	0.9720
EAST TOTAL									1.0000
WEST TOTAL	14	2.08	2	0.30			16	2.38	0.9970

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4991 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 15:00
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												24	5.56		432
THIS LEG NORTH															
NORTH TO SOUTH	342	1	8	1		1	6	6				23		84.49	365
NORTH TO EAST	1													0.23	1
NORTH TO WEST	65		1									1		15.28	66
SOUTH APPROACH												27	8.63		313
SOUTH TO NORTH	276	2	12	4		2	1	6				27		96.81	303
THIS LEG SOUTH															
SOUTH TO EAST	1													0.32	1
SOUTH TO WEST	9													2.88	9
EAST APPROACH															3
EAST TO NORTH	1													33.33	1
EAST TO SOUTH	1													33.33	1
THIS LEG EAST															
EAST TO WEST	1													33.33	1
WEST APPROACH												4	5.88		68
WEST TO NORTH	50		3									3		77.94	53
WEST TO SOUTH	14		1									1		22.06	15
WEST TO EAST															
THIS LEG WEST															
															816
														PCT SPLIT OUT/IN	
NORTH TOTAL	735	3	24	5		3	7	12				54		55/45	789
PERCENTAGE	93.16	0.38	3.04	0.63		0.38	0.89	1.52				6.84			
SOUTH TOTAL	643	3	21	5		3	7	12				51		45/55	694
PERCENTAGE	92.65	0.43	3.03	0.72		0.43	1.01	1.73				7.35			
EAST TOTAL	5													60/40	5
PERCENTAGE	100.00														
WEST TOTAL	139		5									5		47/53	144
PERCENTAGE	96.53		3.47									3.47			
															1632

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4991 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 15:00 - 16:00
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												21	4.29		490
THIS LEG NORTH															
NORTH TO SOUTH	387	7	2	2		3	2	3				19		82.86	406
NORTH TO EAST	1													0.20	1
NORTH TO WEST	81		2									2		16.94	83
SOUTH APPROACH												18	6.10		295
SOUTH TO NORTH	261	3	7	1		1	1	4				17		94.24	278
THIS LEG SOUTH															
SOUTH TO EAST	2													0.68	2
SOUTH TO WEST	14	1										1		5.08	15
EAST APPROACH															4
EAST TO NORTH	1													25.00	1
EAST TO SOUTH	2													50.00	2
THIS LEG EAST															
EAST TO WEST	1													25.00	1
WEST APPROACH												1	1.72		58
WEST TO NORTH	45	1										1		79.31	46
WEST TO SOUTH	12													20.69	12
WEST TO EAST															
THIS LEG WEST															
															847
														PCT SPLIT OUT/IN	
NORTH TOTAL	776	11	11	3		4	3	7				39		60/40	815
PERCENTAGE	95.21	1.35	1.35	0.37		0.49	0.37	0.86				4.79			
SOUTH TOTAL	678	11	9	3		4	3	7				37		41/59	715
PERCENTAGE	94.83	1.54	1.26	0.42		0.56	0.42	0.98				5.17			
EAST TOTAL	7													57/43	7
PERCENTAGE	100.00														
WEST TOTAL	153	2	2									4		37/63	157
PERCENTAGE	97.45	1.27	1.27									2.55			
															1694

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4991 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:00 - 17:00
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												15	2.57		583
THIS LEG NORTH															
NORTH TO SOUTH	475	3	7	2				2				14		83.88	489
NORTH TO EAST	2													0.34	2
NORTH TO WEST	91		1									1		15.78	92
SOUTH APPROACH												23	6.73		342
SOUTH TO NORTH	295	1	12	3			3	2			1	22		92.69	317
THIS LEG SOUTH															
SOUTH TO EAST	2													0.58	2
SOUTH TO WEST	22					1						1		6.73	23
EAST APPROACH															12
EAST TO NORTH	2													16.67	2
EAST TO SOUTH	2													16.67	2
THIS LEG EAST															
EAST TO WEST	8													66.67	8
WEST APPROACH												3	4.92		61
WEST TO NORTH	43		1			1						2		73.77	45
WEST TO SOUTH	14		1									1		24.59	15
WEST TO EAST	1													1.64	1
THIS LEG WEST															
															998
														PCT SPLIT OUT/IN	
NORTH TOTAL	908	4	21	5		1	3	4			1	39		62/38	947
PERCENTAGE	95.88	0.42	2.22	0.53		0.11	0.32	0.42			0.11	4.12			
SOUTH TOTAL	810	4	20	5		1	3	4			1	38		40/60	848
PERCENTAGE	95.52	0.47	2.36	0.59		0.12	0.35	0.47			0.12	4.48			
EAST TOTAL	17													71/29	17
PERCENTAGE	100.00														
WEST TOTAL	179		3			2						5		33/67	184
PERCENTAGE	97.28		1.63			1.09						2.72			
															1996

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4991 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 17:00 - 18:00
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												15	2.71		553
THIS LEG NORTH															
NORTH TO SOUTH	424	2	10				2					14		79.20	438
NORTH TO EAST	4													0.72	4
NORTH TO WEST	110		1									1		20.07	111
SOUTH APPROACH												7	2.33		301
SOUTH TO NORTH	262	1	4	2								7		89.37	269
THIS LEG SOUTH															
SOUTH TO EAST	8													2.66	8
SOUTH TO WEST	24													7.97	24
EAST APPROACH															7
EAST TO NORTH	4													57.14	4
EAST TO SOUTH	3													42.86	3
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	1.89		53
WEST TO NORTH	38		1									1		73.58	39
WEST TO SOUTH	12													22.64	12
WEST TO EAST	2													3.77	2
THIS LEG WEST															
															914
														PCT SPLIT OUT/IN	
NORTH TOTAL	842	3	16	2			2					23		64/36	865
PERCENTAGE	97.34	0.35	1.85	0.23			0.23					2.66			
SOUTH TOTAL	733	3	14	2			2					21		40/60	754
PERCENTAGE	97.21	0.40	1.86	0.27			0.27					2.79			
EAST TOTAL	21													33/67	21
PERCENTAGE	100.00														
WEST TOTAL	186		2									2		28/72	188
PERCENTAGE	98.94		1.06									1.06			
															1828

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4991 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:30 - 17:30
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												19	3.20		594
THIS LEG NORTH															
NORTH TO SOUTH	473	4	10	1			2	1				18		82.66	491
NORTH TO EAST	3													0.51	3
NORTH TO WEST	99		1									1		16.84	100
SOUTH APPROACH												15	4.40		341
SOUTH TO NORTH	293	1	8	2			2	1			1	15		90.32	308
THIS LEG SOUTH															
SOUTH TO EAST	6													1.76	6
SOUTH TO WEST	27													7.92	27
EAST APPROACH															16
EAST TO NORTH	6													37.50	6
EAST TO SOUTH	3													18.75	3
THIS LEG EAST															
EAST TO WEST	7													43.75	7
WEST APPROACH												3	4.69		64
WEST TO NORTH	44		2			1						3		73.44	47
WEST TO SOUTH	14													21.88	14
WEST TO EAST	3													4.69	3
THIS LEG WEST															
															1015
														PCT SPLIT OUT/IN	
NORTH TOTAL	918	5	21	3		1	4	2			1	37		62/38	955
PERCENTAGE	96.13	0.52	2.20	0.31		0.10	0.42	0.21			0.10	3.87			
SOUTH TOTAL	816	5	18	3			4	2			1	33		40/60	849
PERCENTAGE	96.11	0.59	2.12	0.35			0.47	0.24			0.12	3.89			
EAST TOTAL	28													57/43	28
PERCENTAGE	100.00														
WEST TOTAL	194		3			1						4		32/68	198
PERCENTAGE	97.98		1.52			0.51						2.02			
															2030

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4991 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:30 - 17:30
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												19	3.20		594
THIS LEG NORTH															
NORTH TO SOUTH	473	4	10	1			2	1				18		82.66	491
NORTH TO EAST	3													0.51	3
NORTH TO WEST	99		1									1		16.84	100
SOUTH APPROACH												15	4.40		341
SOUTH TO NORTH	293	1	8	2			2	1			1	15		90.32	308
THIS LEG SOUTH															
SOUTH TO EAST	6													1.76	6
SOUTH TO WEST	27													7.92	27
EAST APPROACH															16
EAST TO NORTH	6													37.50	6
EAST TO SOUTH	3													18.75	3
THIS LEG EAST															
EAST TO WEST	7													43.75	7
WEST APPROACH												3	4.69		64
WEST TO NORTH	44		2			1						3		73.44	47
WEST TO SOUTH	14													21.88	14
WEST TO EAST	3													4.69	3
THIS LEG WEST															
															1015
														PCT SPLIT OUT/IN	
NORTH TOTAL	918	5	21	3		1	4	2			1	37		62/38	955
PERCENTAGE	96.13	0.52	2.20	0.31		0.10	0.42	0.21			0.10	3.87			
SOUTH TOTAL	816	5	18	3			4	2			1	33		40/60	849
PERCENTAGE	96.11	0.59	2.12	0.35			0.47	0.24			0.12	3.89			
EAST TOTAL	28													57/43	28
PERCENTAGE	100.00														
WEST TOTAL	194		3			1						4		32/68	198
PERCENTAGE	97.98		1.52			0.51						2.02			
															2030

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4991 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:30 - 17:30
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												19	3.20		594
THIS LEG NORTH															
NORTH TO SOUTH	473	4	10	1			2	1				18		82.66	491
NORTH TO EAST	3													0.51	3
NORTH TO WEST	99		1									1		16.84	100
SOUTH APPROACH												15	4.40		341
SOUTH TO NORTH	293	1	8	2			2	1			1	15		90.32	308
THIS LEG SOUTH															
SOUTH TO EAST	6													1.76	6
SOUTH TO WEST	27													7.92	27
EAST APPROACH															16
EAST TO NORTH	6													37.50	6
EAST TO SOUTH	3													18.75	3
THIS LEG EAST															
EAST TO WEST	7													43.75	7
WEST APPROACH												3	4.69		64
WEST TO NORTH	44		2			1						3		73.44	47
WEST TO SOUTH	14													21.88	14
WEST TO EAST	3													4.69	3
THIS LEG WEST															
															1015
														PCT SPLIT OUT/IN	
NORTH TOTAL	918	5	21	3		1	4	2			1	37		62/38	955
PERCENTAGE	96.13	0.52	2.20	0.31		0.10	0.42	0.21			0.10	3.87			
SOUTH TOTAL	816	5	18	3			4	2			1	33		40/60	849
PERCENTAGE	96.11	0.59	2.12	0.35			0.47	0.24			0.12	3.89			
EAST TOTAL	28													57/43	28
PERCENTAGE	100.00														
WEST TOTAL	194		3			1						4		32/68	198
PERCENTAGE	97.98		1.52			0.51						2.02			
															2030

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4991 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:45 - 17:45
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												19	3.38		562
THIS LEG NORTH															
NORTH TO SOUTH	427	4	10	1			2					17		79.00	444
NORTH TO EAST	1													0.18	1
NORTH TO WEST	115		2									2		20.82	117
SOUTH APPROACH												11	3.41		323
SOUTH TO NORTH	278	1	7	1			1	1				11		89.47	289
THIS LEG SOUTH															
SOUTH TO EAST	7													2.17	7
SOUTH TO WEST	27													8.36	27
EAST APPROACH															12
EAST TO NORTH	4													33.33	4
EAST TO SOUTH	3													25.00	3
THIS LEG EAST															
EAST TO WEST	5													41.67	5
WEST APPROACH												1	1.61		62
WEST TO NORTH	45		1									1		74.19	46
WEST TO SOUTH	13													20.97	13
WEST TO EAST	3													4.84	3
THIS LEG WEST															
															959
														PCT SPLIT OUT/IN	
NORTH TOTAL	870	5	20	2			3	1				31		62/38	901
PERCENTAGE	96.56	0.55	2.22	0.22			0.33	0.11				3.44			
SOUTH TOTAL	755	5	17	2			3	1				28		41/59	783
PERCENTAGE	96.42	0.64	2.17	0.26			0.38	0.13				3.58			
EAST TOTAL	23													52/48	23
PERCENTAGE	100.00														
WEST TOTAL	208		3									3		29/71	211
PERCENTAGE	98.58		1.42									1.42			
															1918

SR 003 MP 020.93 OFF SYS ID COUNTER NUM 4991 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:30 - 17:30
LOCATION SR 3 & LAKELAND DR & E EVANS RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												19	3.20		594
THIS LEG NORTH															
NORTH TO SOUTH	473	4	10	1			2	1				18		82.66	491
NORTH TO EAST	3													0.51	3
NORTH TO WEST	99		1									1		16.84	100
SOUTH APPROACH												15	4.40		341
SOUTH TO NORTH	293	1	8	2			2	1			1	15		90.32	308
THIS LEG SOUTH															
SOUTH TO EAST	6													1.76	6
SOUTH TO WEST	27													7.92	27
EAST APPROACH															16
EAST TO NORTH	6													37.50	6
EAST TO SOUTH	3													18.75	3
THIS LEG EAST															
EAST TO WEST	7													43.75	7
WEST APPROACH												3	4.69		64
WEST TO NORTH	44		2			1						3		73.44	47
WEST TO SOUTH	14													21.88	14
WEST TO EAST	3													4.69	3
THIS LEG WEST															
															1015
														PCT SPLIT OUT/IN	
NORTH TOTAL	918	5	21	3		1	4	2			1	37		62/38	955
PERCENTAGE	96.13	0.52	2.20	0.31		0.10	0.42	0.21			0.10	3.87			
SOUTH TOTAL	816	5	18	3			4	2			1	33		40/60	849
PERCENTAGE	96.11	0.59	2.12	0.35			0.47	0.24			0.12	3.89			
EAST TOTAL	28													57/43	28
PERCENTAGE	100.00														
WEST TOTAL	194		3			1						4		32/68	198
PERCENTAGE	97.98		1.52			0.51						2.02			
															2030

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	29	3.04	7	0.73	1	0.10	37	3.87	0.9845
SOUTH TOTAL	26	3.06	6	0.71	1	0.12	33	3.89	0.9837
EAST TOTAL									1.0000
WEST TOTAL	3	1.52	1	0.51			4	2.02	0.9949

PEAK HOUR FACTOR 0.984 252 258 257 248 1015

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

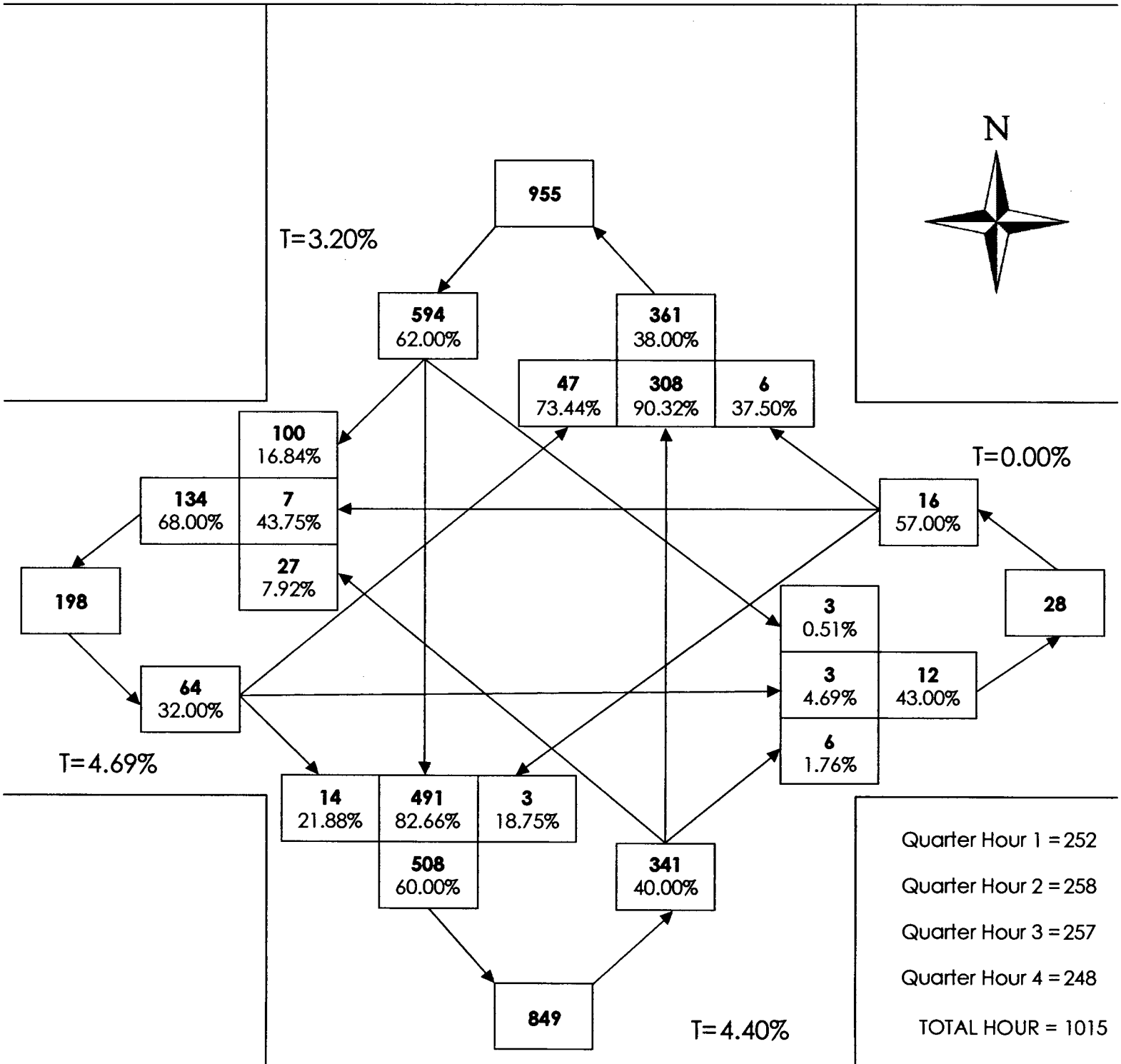
(Block Diagram)

Date: 3/28/2017
Time Period: 16:30 - 17:30

SR: 003 MP: 020.93 Off Sys. ID: Count ID: 17-006

Location: SR 3 & LAKELAND DR & E EVANS RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 252

Quarter Hour 2 = 258

Quarter Hour 3 = 257

Quarter Hour 4 = 248

TOTAL HOUR = 1015

PEAK HOUR FACTOR = 0.984

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

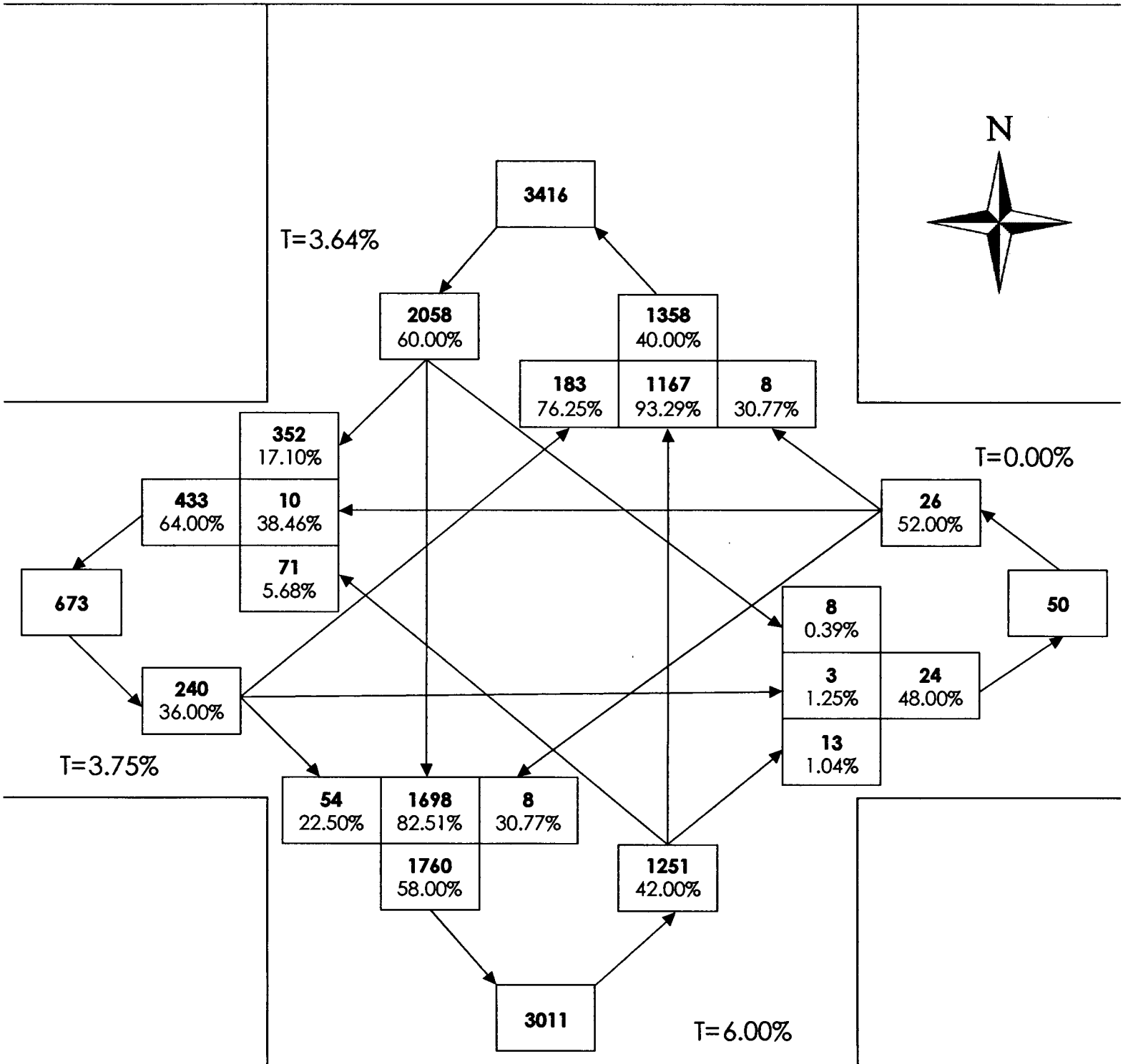
(Block Diagram)

Date: 3/28/2017
Time Period: 14:00 - 18:00

SR: 003 MP: 020.93 Off Sys. ID: Count ID: 17-006

Location: SR 3 & LAKELAND DR & E EVANS RD

ENTIRE COUNT VOLUMES



CB# 1143 ID's 4991 4992 4993

17-006

Washington State Department of Transportation

Traffic Station Sketch

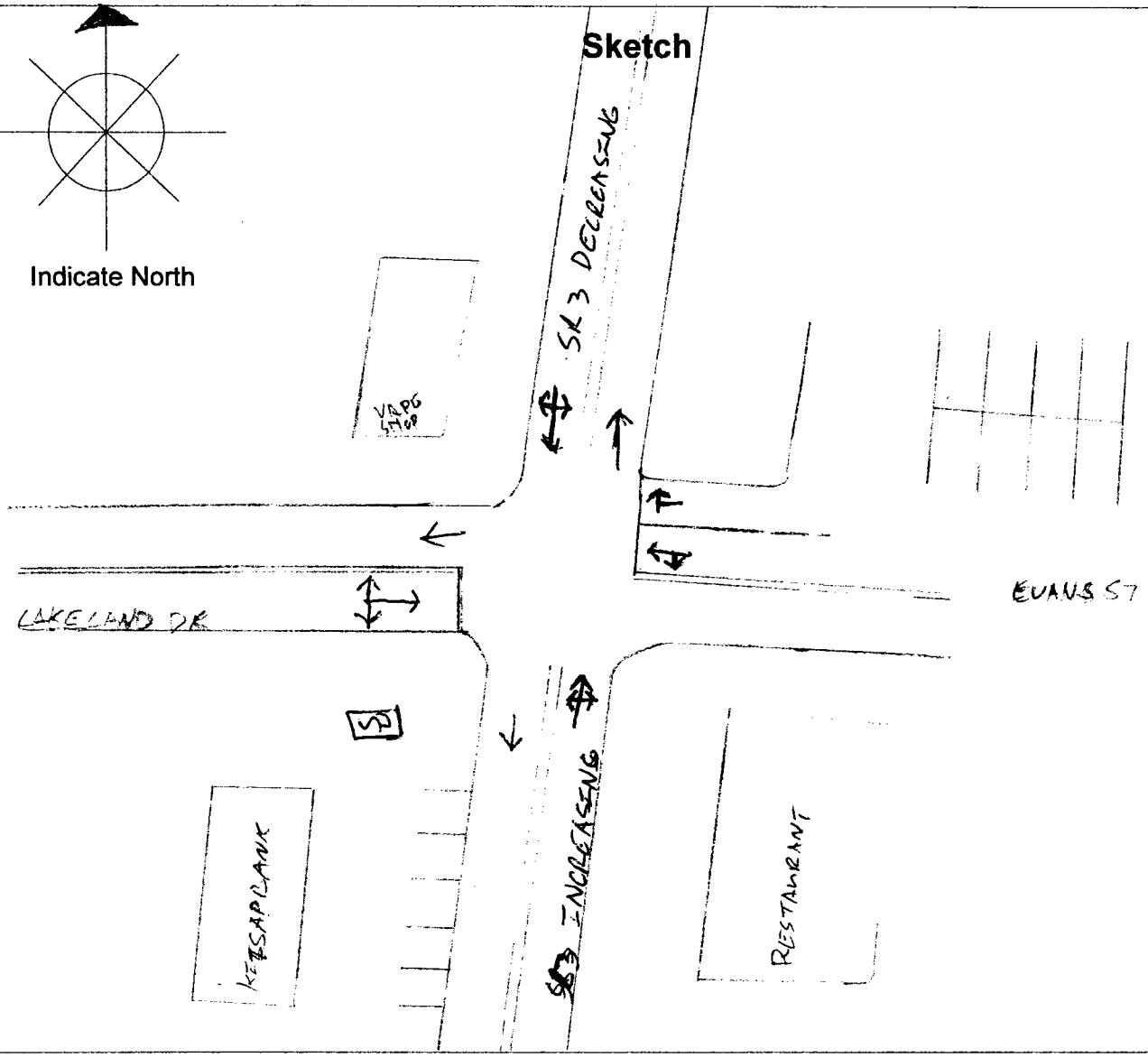
SR #	MP	OSID	Count ID	Date
003	20 ● 93		17-006	3/28-3/29-3/30

Station Location

JCT OF SR 003 & LAKELAND DR

Indicate North

Sketch



Remarks: G:\17-006V 14-1800 # 4991 3/28/17

G:\17-006W 10-1400 #4992 3/28/17

G:\17-006X 06-1000 #4993 3/30/17

Signature

DOT Form 324-005 EF
Revised 2/2007

Peninsula Regional Transportation Planning Organization

SR 3/Mason-Benson Road

Intersection Operational Analysis



Prepared by

WSDOT
Washington State Department of Transportation
Olympic Region Planning

July 2017

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Introduction:

This operational analysis was prepared at the special request of the local jurisdiction and funded by the Peninsula Regional Transportation Planning Organization. Those intersections identified as operating below the Washington State Department of Transportation's policy for what is considered acceptable traffic operation level of service (LOS) will need to compete for funding with other intersections around the state based on the expected performance outcome for the proposed improvements.

SR 3 is part of the National Highway System and designated as a Highway of Statewide Significance. SR 3 is classified by the Freight & Goods Transportation System as a T-3 freight route, carrying 2.02 million tons of freight annually, with 550 trucks using the corridor on a daily basis in 2015. The average daily traffic volumes in the corridor range between 7,400 to 7,600 vehicle per day in 2016, between Pickering Road and Grapeview Loop Road. This corridor has also been identified as a SR 3 Defense Industrial Corridor near Bremerton.

The intersection of SR 3 and Mason-Benson Road is located in Mason County. This rural principal arterial features one eleven-foot lane in each direction with three-foot roadway shoulders. The posted speed limit at this location is 55 mph with a rolling terrain that may cause trucks to slow down.

Methodology

Traffic Operations Model

The Highway Capacity Software 2010 was used to analyze the unsignalized intersection of SR 3/Mason-Benson Road. The turning movement counts from the minor street that experiences the worst delay defines the level of service (LOS) for the intersection. LOS is based on the seconds per vehicle. The LOS criteria for automobiles at a two-way stopped controlled intersection as defined in the Highway Capacity Manual 2010 is as follows:

Highway Capacity Manual Exhibit 19-1 Two-way Stopped Controlled Intersection LOS Criteria

Control Delay (seconds/vehicle)	**LOS by Volume-to-Capacity Ratio** **Volume-to-Capacity ≤ 1.0**
0-10	A
>10-15	B
>15-25	C
>25-35	D
>35-50	E
>50	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major street approaches or for the intersection as a whole.

The Synchro 8/SimTraffic software and the Highway Capacity Software 2010 were used to determine the traffic queues at the intersection.

Traffic Volumes

In March 2017, WSDOT staff performed 12-hour turning movement manual counts at all legs of the SR 3/Mason-Benson Road intersection.

Analysis

The intersection analysis applies a seasonal factor of 1.09 percent to the weekday traffic volumes collected. The seasonal factor adjusts the volumes to reflect the yearly average volume, and are only applied to the major approaches. The LOS and the delay in seconds for the SR 3/Mason-Benson Road intersection are depicted in the table below.

Figure 2: Level of Service (Delay, Seconds)

LOCATION	AM	MID-DAY	PM
SR 3/Mason-Benson Road	B (11.5)	B (11.5)	B (12.8)

Figure 2 portrays the traffic operation LOS at the SR 3/Mason-Benson Road intersection. During the morning hours between 6 to 10 a.m., the intersection delay is designated a LOS B with an average delay of 11.5 seconds, meaning that motorists would wait on average 11.5 seconds at the intersection before they could proceed. Mid-Day during the hours of 11 a.m. and 2 p.m., motorists would wait on average 11.5 seconds. During the evening hours, between 2 p.m. to 6 p.m., motorists would be delayed at the intersection 12.8 seconds before they could proceed.

The Washington State Department of Transportation’s policy for what is considered a minimal acceptable traffic operation LOS at this location is a LOS C designation for rural highways.

Summary

The analysis depicts the SR 3/Mason-Benson Road intersection operating above the target level of LOS C during the morning, mid-day and evening hours. As mentioned in the introduction, improvements must compete for funding based upon expected performance outcome.

Appendix

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: WEJ
Agency/Co.: WSDOT
Date Performed: 5/2/2017
Analysis Time Period: AM
Intersection: SR 3/Mason Benson Rd
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2017
Project ID: Mason County
East/West Street: Mason Benson Rd
North/South Street: SR 3
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	15	243			201	0
Peak-Hour Factor, PHF	0.98	0.98			0.98	0.98
Hourly Flow Rate, HFR	15	247			205	0
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				40		21
Peak Hour Factor, PHF				0.98		0.98
Hourly Flow Rate, HFR				40		21
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	15						61	
C(m) (vph)	1378						617	
v/c	0.01						0.10	
95% queue length	0.03						0.33	
Control Delay	7.6						11.5	
LOS	A						B	
Approach Delay							11.5	
Approach LOS							B	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: WEJ
Agency/Co.: WSDOT
Date Performed: 5/2/2017
Analysis Time Period: Mid-Day
Intersection: SR 3/Mason Benson Rd
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2017
Project ID: Mason County
East/West Street: Mason Benson Rd
North/South Street: SR 3
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	5	195			258	11
Peak-Hour Factor, PHF	0.96	0.96			0.96	0.96
Hourly Flow Rate, HFR	5	203			268	11
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				23		8
Peak Hour Factor, PHF				0.96		0.96
Hourly Flow Rate, HFR				23		8
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	5						31	
C(m) (vph)	1295						586	
v/c	0.00						0.05	
95% queue length	0.01						0.17	
Control Delay	7.8						11.5	
LOS	A						B	
Approach Delay							11.5	
Approach LOS							B	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: WEJ
Agency/Co.: WSDOT
Date Performed: 5/2/2017
Analysis Time Period: PM
Intersection: SR 3/Mason Benson Rd
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2017
Project ID: Mason County
East/West Street: Mason Benson Rd
North/South Street: SR 3
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	12	293			365	38
Peak-Hour Factor, PHF	0.94	0.94			0.94	0.94
Hourly Flow Rate, HFR	12	311			388	40
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				15		17
Peak Hour Factor, PHF				0.94		0.94
Hourly Flow Rate, HFR				15		18
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

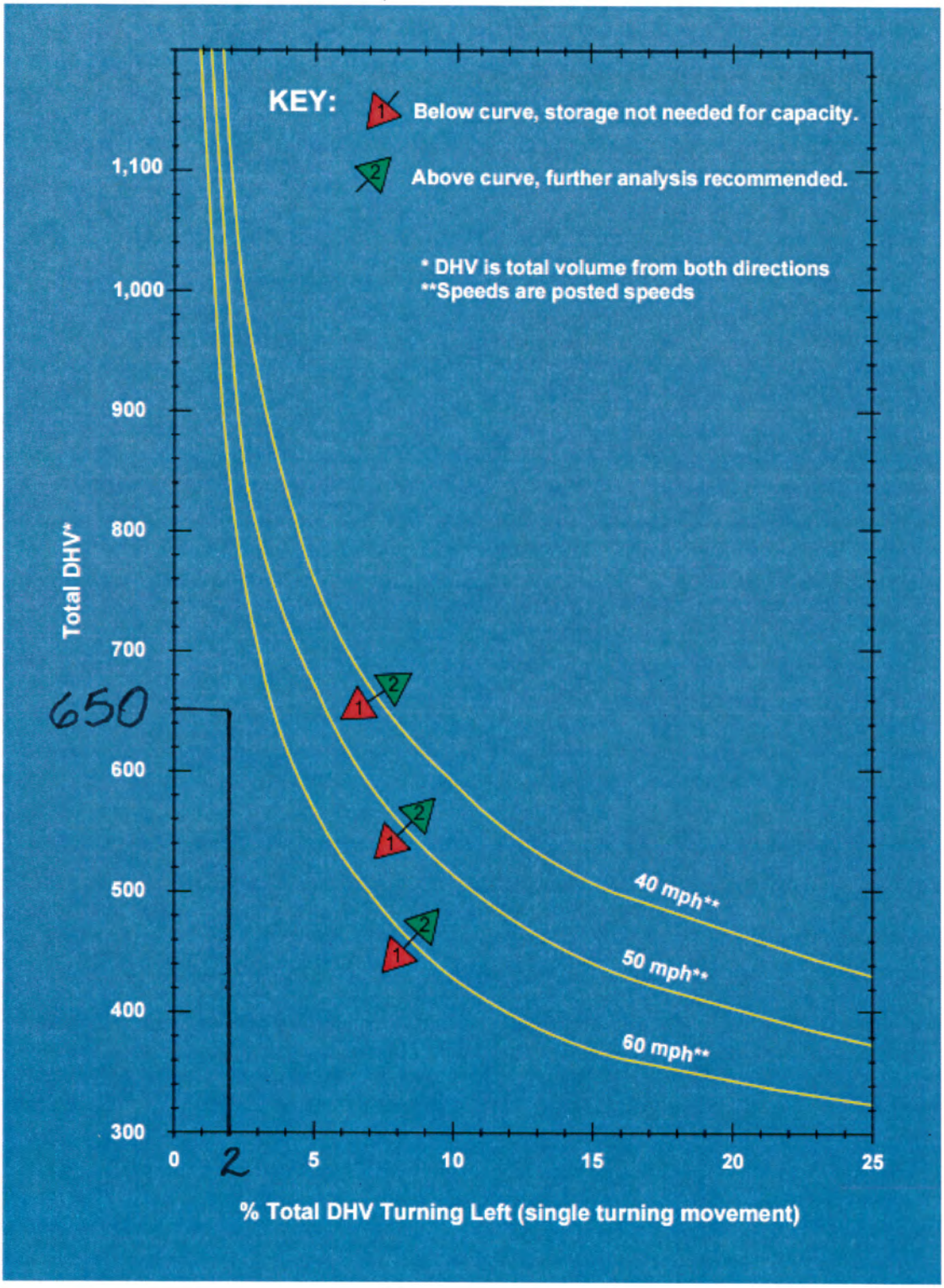
Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	12						33	
C(m) (vph)	1142						492	
v/c	0.01						0.07	
95% queue length	0.03						0.21	
Control Delay	8.2						12.8	
LOS	A						B	
Approach Delay							12.8	
Approach LOS							B	

SR 3/Mason Benson Rd
MP 14.24

55mph

Exhibit 1310-7a Left-Turn Storage Guidelines: Two-Lane, Unsignalized



STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/4/2017
TIME: 12:58:13
PAGE: 1

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1744 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 10:00
LOCATION SR 3 & MASON-BENSON RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												66	7.97		828
THIS LEG NORTH															
NORTH TO SOUTH	684	5	22	7	1	3	7	13		1	5	64		90.34	748
NORTH TO EAST															
NORTH TO WEST	78	1	1									2		9.66	80
SOUTH APPROACH												87	10.32		843
SOUTH TO NORTH	704	3	38	14		5	9	9	1	2		81		93.12	785
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	52	1	3	1	1							6		6.88	58
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												8	4.62		173
WEST TO NORTH	114	1	1	1								3		67.63	117
WEST TO SOUTH	51	2	2	1								5		32.37	56
WEST TO EAST															
THIS LEG WEST															
															1844
														PCT SPLIT OUT/IN	
NORTH TOTAL	1580	10	62	22	1	8	16	22	1	3	5	150		48/52	1730
PERCENTAGE	91.33	0.58	3.58	1.27	0.06	0.46	0.92	1.27	0.06	0.17	0.29	8.67			
SOUTH TOTAL	1491	11	65	23	2	8	16	22	1	3	5	156		51/49	1647
PERCENTAGE	90.53	0.67	3.95	1.40	0.12	0.49	0.97	1.34	0.06	0.18	0.30	9.47			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	295	5	7	3	1							16		56/44	311
PERCENTAGE	94.86	1.61	2.25	0.96	0.32							5.14			
															3688

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	95	5.49	46	2.66	9	0.52	150	8.67	0.9412
SOUTH TOTAL	101	6.13	46	2.79	9	0.55	156	9.47	0.9376
EAST TOTAL									
WEST TOTAL	16	5.14					16	5.14	0.9920

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1744 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 07:00
LOCATION SR 3 & MASON-BENSON RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												14	7.95		176
THIS LEG NORTH															
NORTH TO SOUTH	156	1	6	1			2	4				14		96.59	170
NORTH TO EAST															
NORTH TO WEST	6													3.41	6
SOUTH APPROACH												14	7.22		194
SOUTH TO NORTH	176		6	2			3	2				13		97.42	189
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	4	1										1		2.58	5
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	2.78		36
WEST TO NORTH	27													75.00	27
WEST TO SOUTH	8			1								1		25.00	9
WEST TO EAST															
THIS LEG WEST															
															406
														PCT SPLIT OUT/IN	
NORTH TOTAL	365	1	12	3			5	6				27		45/55	392
PERCENTAGE	93.11	0.26	3.06	0.77			1.28	1.53				6.89			
SOUTH TOTAL	344	2	12	4			5	6				29		52/48	373
PERCENTAGE	92.23	0.54	3.22	1.07			1.34	1.61				7.77			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	45	1		1								2		77/23	47
PERCENTAGE	95.74	2.13		2.13								4.26			
															812

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1744 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 3 & MASON-BENSON RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												16	7.51		213
THIS LEG NORTH															
NORTH TO SOUTH	179	2	4	1		1	2	4			2	16		91.55	195
NORTH TO EAST															
NORTH TO WEST	18													8.45	18
SOUTH APPROACH												29	12.72		228
SOUTH TO NORTH	180	2	15	4		2	2	1		1		27		90.79	207
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	19		1	1								2		9.21	21
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												4	8.33		48
WEST TO NORTH	33	1		1								2		72.92	35
WEST TO SOUTH	11	2										2		27.08	13
WEST TO EAST															
THIS LEG WEST															
															489
														PCT SPLIT OUT/IN	
NORTH TOTAL	410	5	19	6		3	4	5		1	2	45		47/53	455
PERCENTAGE	90.11	1.10	4.18	1.32		0.66	0.88	1.10		0.22	0.44	9.89			
SOUTH TOTAL	389	6	20	6		3	4	5		1	2	47		52/48	436
PERCENTAGE	89.22	1.38	4.59	1.38		0.69	0.92	1.15		0.23	0.46	10.78			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	81	3	1	2								6		55/45	87
PERCENTAGE	93.10	3.45	1.15	2.30								6.90			
															978

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1744 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:00 - 09:00
LOCATION SR 3 & MASON-BENSON RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												17	7.62		223
THIS LEG NORTH															
NORTH TO SOUTH	174	1	5			2	1	5		1		15		84.75	189
NORTH TO EAST															
NORTH TO WEST	32	1	1									2		15.25	34
SOUTH APPROACH												24	10.71		224
SOUTH TO NORTH	176	1	10	4		3	1	3	1			23		88.84	199
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	24		1									1		11.16	25
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	2.04		49
WEST TO NORTH	29													59.18	29
WEST TO SOUTH	19		1									1		40.82	20
WEST TO EAST															
THIS LEG WEST															
															496
														PCT SPLIT OUT/IN	
NORTH TOTAL	411	3	16	4		5	2	8	1	1		40		49/51	451
PERCENTAGE	91.13	0.67	3.55	0.89		1.11	0.44	1.77	0.22	0.22		8.87			
SOUTH TOTAL	393	2	17	4		5	2	8	1	1		40		52/48	433
PERCENTAGE	90.76	0.46	3.93	0.92		1.15	0.46	1.85	0.23	0.23		9.24			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	104	1	3									4		45/55	108
PERCENTAGE	96.30	0.93	2.78									3.70			
															992

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1744 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 3 & MASON-BENSON RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												19	8.80		216
THIS LEG NORTH															
NORTH TO SOUTH	175	1	7	5	1		2				3	19		89.81	194
NORTH TO EAST															
NORTH TO WEST	22													10.19	22
SOUTH APPROACH												20	10.15		197
SOUTH TO NORTH	172		7	4			3	3		1		18		96.45	190
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	5		1		1							2		3.55	7
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												2	5.00		40
WEST TO NORTH	25		1									1		65.00	26
WEST TO SOUTH	13		1									1		35.00	14
WEST TO EAST															
THIS LEG WEST															
															453
														PCT SPLIT OUT/IN	
NORTH TOTAL	394	1	15	9	1		5	3		1	3	38		50/50	432
PERCENTAGE	91.20	0.23	3.47	2.08	0.23		1.16	0.69		0.23	0.69	8.80			
SOUTH TOTAL	365	1	16	9	2		5	3		1	3	40		49/51	405
PERCENTAGE	90.12	0.25	3.95	2.22	0.49		1.23	0.74		0.25	0.74	9.88			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	65		3		1							4		58/42	69
PERCENTAGE	94.20		4.35		1.45							5.80			
															906

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1744 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:30 - 09:30
LOCATION SR 3 & MASON-BENSON RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												13	5.99		217
THIS LEG NORTH															
NORTH TO SOUTH	171	1	4	3	1		1	1			2	13		84.79	184
NORTH TO EAST															
NORTH TO WEST	33													15.21	33
SOUTH APPROACH												27	11.39		237
SOUTH TO NORTH	197		11	5		1	3	5	1			26		94.09	223
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	13		1									1		5.91	14
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												2	3.28		61
WEST TO NORTH	39		1									1		65.57	40
WEST TO SOUTH	20		1									1		34.43	21
WEST TO EAST															
THIS LEG WEST															
															515
														PCT SPLIT OUT/IN	
NORTH TOTAL	440	1	16	8	1	1	4	6	1		2	40		45/55	480
PERCENTAGE	91.67	0.21	3.33	1.67	0.21	0.21	0.83	1.25	0.21		0.42	8.33			
SOUTH TOTAL	401	1	17	8	1	1	4	6	1		2	41		54/46	442
PERCENTAGE	90.72	0.23	3.85	1.81	0.23	0.23	0.90	1.36	0.23		0.45	9.28			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	105		3									3		56/44	108
PERCENTAGE	97.22		2.78									2.78			
															1030

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1744 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:15 - 08:15
LOCATION SR 3 & MASON-BENSON RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												20	8.81		227
THIS LEG NORTH															
NORTH TO SOUTH	188	1	6	1			2	7		1	1	19		91.19	207
NORTH TO EAST															
NORTH TO WEST	19		1									1		8.81	20
SOUTH APPROACH												23	10.00		230
SOUTH TO NORTH	190	1	10	3		3	3	1		1		22		92.17	212
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	17		1									1		7.83	18
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												2	5.41		37
WEST TO NORTH	25	1										1		70.27	26
WEST TO SOUTH	10	1										1		29.73	11
WEST TO EAST															
THIS LEG WEST															
															494
														PCT SPLIT OUT/IN	
NORTH TOTAL	422	3	17	4		3	5	8		2	1	43		49/51	465
PERCENTAGE	90.75	0.65	3.66	0.86		0.65	1.08	1.72		0.43	0.22	9.25			
SOUTH TOTAL	405	3	17	4		3	5	8		2	1	43		51/49	448
PERCENTAGE	90.40	0.67	3.79	0.89		0.67	1.12	1.79		0.45	0.22	9.60			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	71	2	2									4		49/51	75
PERCENTAGE	94.67	2.67	2.67									5.33			
															988

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1744 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:15 - 09:15
LOCATION SR 3 & MASON-BENSON RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												13	5.88		221
THIS LEG NORTH															
NORTH TO SOUTH	171	1	5	2		2		1			1	12		82.81	183
NORTH TO EAST															
NORTH TO WEST	37	1										1		17.19	38
SOUTH APPROACH												25	11.01		227
SOUTH TO NORTH	181	1	10	4		2	2	4	1			24		90.31	205
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	21		1									1		9.69	22
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												2	3.33		60
WEST TO NORTH	36													60.00	36
WEST TO SOUTH	22		2									2		40.00	24
WEST TO EAST															
THIS LEG WEST															
															508
														PCT SPLIT OUT/IN	
NORTH TOTAL	425	3	15	6		4	2	5	1		1	37		48/52	462
PERCENTAGE	91.99	0.65	3.25	1.30		0.87	0.43	1.08	0.22		0.22	8.01			
SOUTH TOTAL	395	2	18	6		4	2	5	1		1	39		52/48	434
PERCENTAGE	91.01	0.46	4.15	1.38		0.92	0.46	1.15	0.23		0.23	8.99			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	116	1	3									4		50/50	120
PERCENTAGE	96.67	0.83	2.50									3.33			
															1016

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1744 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:30 - 09:30
LOCATION SR 3 & MASON-BENSON RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												13	5.99		217
THIS LEG NORTH															
NORTH TO SOUTH	171	1	4	3	1		1	1			2	13		84.79	184
NORTH TO EAST															
NORTH TO WEST	33													15.21	33
SOUTH APPROACH												27	11.39		237
SOUTH TO NORTH	197		11	5		1	3	5	1			26		94.09	223
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	13		1									1		5.91	14
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												2	3.28		61
WEST TO NORTH	39		1									1		65.57	40
WEST TO SOUTH	20		1									1		34.43	21
WEST TO EAST															
THIS LEG WEST															
															515
														PCT SPLIT OUT/IN	
NORTH TOTAL	440	1	16	8	1	1	4	6	1		2	40		45/55	480
PERCENTAGE	91.67	0.21	3.33	1.67	0.21	0.21	0.83	1.25	0.21		0.42	8.33			
SOUTH TOTAL	401	1	17	8	1	1	4	6	1		2	41		54/46	442
PERCENTAGE	90.72	0.23	3.85	1.81	0.23	0.23	0.90	1.36	0.23		0.45	9.28			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	105		3									3		56/44	108
PERCENTAGE	97.22		2.78									2.78			
															1030

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	26	5.42	11	2.29	3	0.62	40	8.33	0.9402
SOUTH TOTAL	27	6.11	11	2.49	3	0.68	41	9.28	0.9354
EAST TOTAL									
WEST TOTAL	3	2.78					3	2.78	1.0000

PEAK HOUR FACTOR	0.975	129	132	127	127	515

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

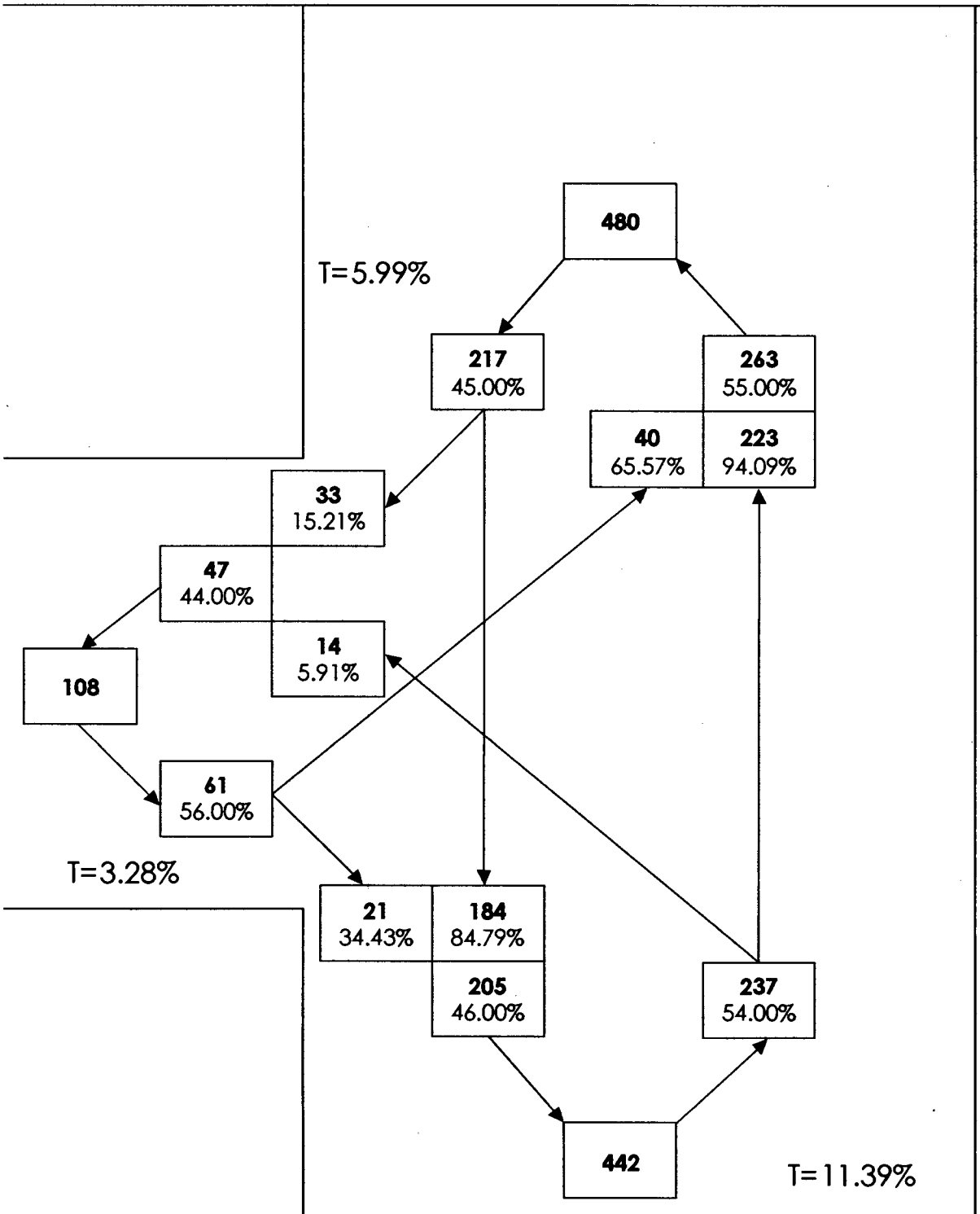
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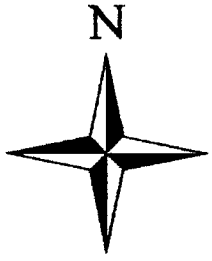
Date: 3/30/2017
Time Period: 08:30 - 09:30

SR: 003 MP: 014.24 Off Sys. ID: Count ID: 17-006

Location: SR 3 & MASON-BENSON RD

INTERSECTIONAL PEAK HOUR AND VOLUMES





Quarter Hour 1 = 129

Quarter Hour 2 = 132

Quarter Hour 3 = 127

Quarter Hour 4 = 127

TOTAL HOUR = 515

PEAK HOUR FACTOR = 0.975

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

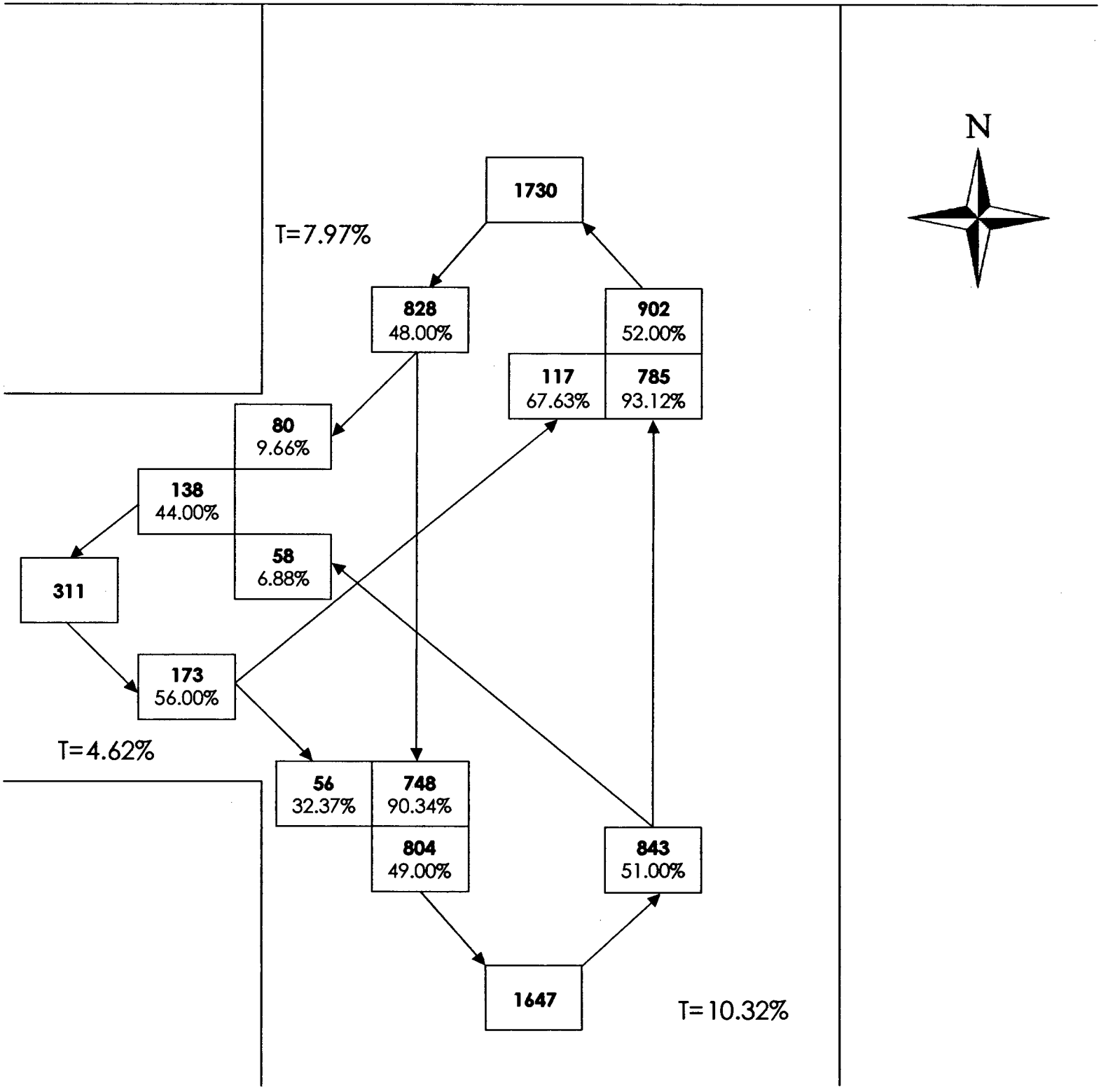
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Date: 3/30/2017
Time Period: 06:00 - 10:00

SR: 003 MP: 014.24 Off Sys. ID: Count ID: 17-006

Location: SR 3 & MASON-BENSON RD

ENTIRE COUNT VOLUMES



CB# 2898

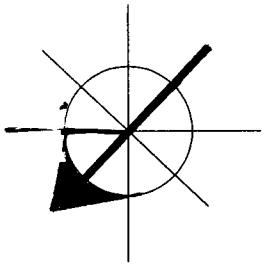
Washington State Department of Transportation

Traffic Station Sketch

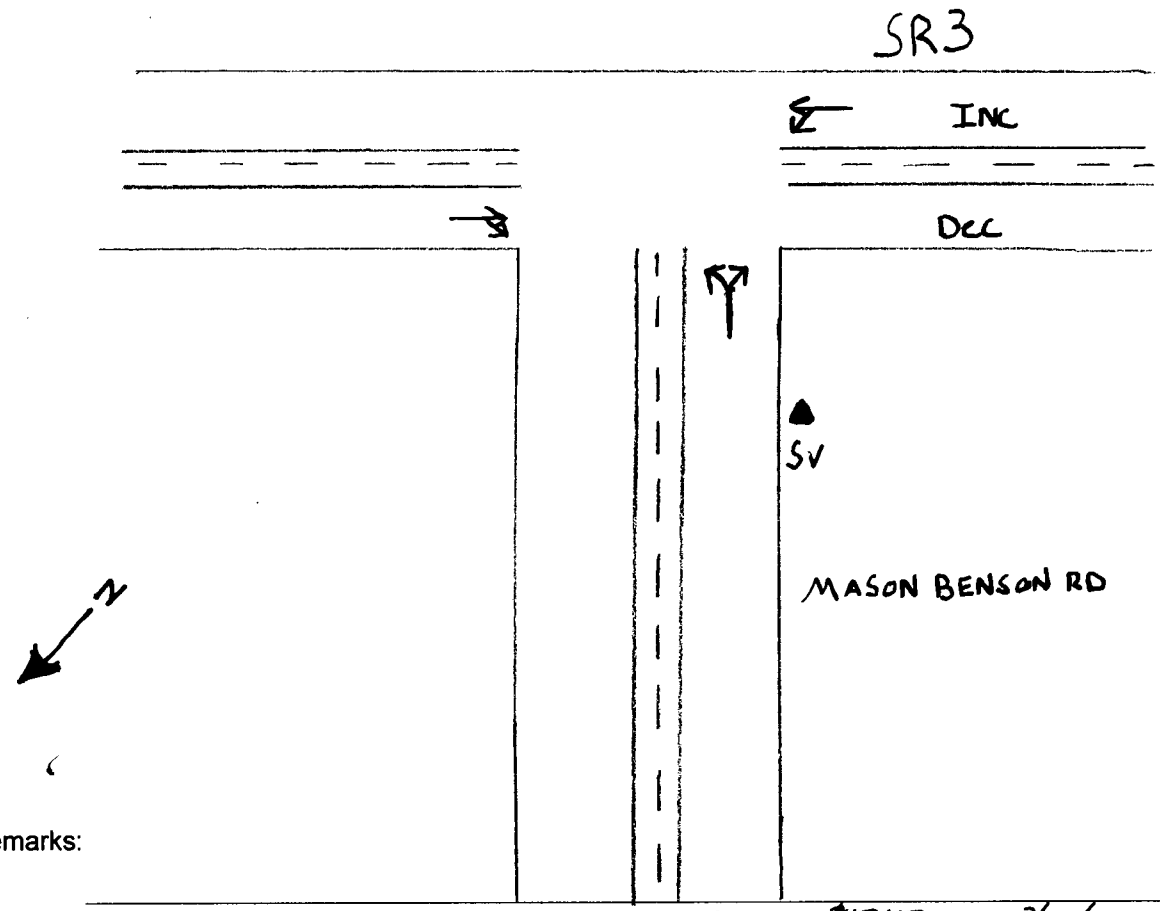
SR #	MP	OSID	Count ID	Date
3	14 ● 24		17-006	3/31/2017

Station Location
JCT SR 3 AND MASON BENSON RD

Sketch



Indicate North



Remarks:

ID# 1742	1400-1800	G:\17-006 HH	14-1800	#1742	3/28/17
1743	1000-1400	G:\17-006 II	10-1400	#1743	3/29/17
1744	0600-1000	G:\17-006 JJ	06-1000	#1744	3/30/17

Caleb Cotten
Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/4/2017
TIME: 12:59:25
PAGE: 1

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1743 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 14:00
LOCATION SR 3 & MASON-BENSON RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												102	11.68		873
THIS LEG NORTH															
NORTH TO SOUTH	711	3	40	8		7	15	23			2	98		92.67	809
NORTH TO EAST															
NORTH TO WEST	60	1	3									4		7.33	64
SOUTH APPROACH												85	11.69		727
SOUTH TO NORTH	613	2	28	10		6	11	23			1	81		95.46	694
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	29	1	3									4		4.54	33
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												6	5.66		106
WEST TO NORTH	66		2									2		64.15	68
WEST TO SOUTH	34		2			1		1				4		35.85	38
WEST TO EAST															
THIS LEG WEST															
															1706
														PCT SPLIT OUT/IN	
NORTH TOTAL	1450	6	73	18		13	26	46			3	185		53/47	1635
PERCENTAGE	88.69	0.37	4.46	1.10		0.80	1.59	2.81			0.18	11.31			
SOUTH TOTAL	1387	6	73	18		14	26	47			3	187		46/54	1574
PERCENTAGE	88.12	0.38	4.64	1.14		0.89	1.65	2.99			0.19	11.88			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	189	2	10			1		1				14		52/48	203
PERCENTAGE	93.10	0.99	4.93			0.49		0.49				6.90			
															3412

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	97	5.93	85	5.20	3	0.18	185	11.31	0.9106
SOUTH TOTAL	97	6.16	87	5.53	3	0.19	187	11.88	0.9058
EAST TOTAL									
WEST TOTAL	12	5.91	2	0.99			14	6.90	0.9854

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1743 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 11:00
LOCATION SR 3 & MASON-BENSON RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												21	10.24		205
THIS LEG NORTH															
NORTH TO SOUTH	176	1	9	1		1	5	4				21		96.10	197
NORTH TO EAST															
NORTH TO WEST	8													3.90	8
SOUTH APPROACH												22	13.66		161
SOUTH TO NORTH	131	1	4	4		2	2	6			1	20		93.79	151
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	8		2									2		6.21	10
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	4.17		24
WEST TO NORTH	16													66.67	16
WEST TO SOUTH	7							1				1		33.33	8
WEST TO EAST															
THIS LEG WEST															
															390
														PCT SPLIT OUT/IN	
NORTH TOTAL	331	2	13	5		3	7	10			1	41		55/45	372
PERCENTAGE	88.98	0.54	3.49	1.34		0.81	1.88	2.69			0.27	11.02			
SOUTH TOTAL	322	2	15	5		3	7	11			1	44		44/56	366
PERCENTAGE	87.98	0.55	4.10	1.37		0.82	1.91	3.01			0.27	12.02			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	39		2					1				3		57/43	42
PERCENTAGE	92.86		4.76					2.38				7.14			
															780

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1743 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:00 - 12:00
LOCATION SR 3 & MASON-BENSON RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												28	13.46		208
THIS LEG NORTH															
NORTH TO SOUTH	158		8	2		4	4	9			1	28		89.42	186
NORTH TO EAST															
NORTH TO WEST	22													10.58	22
SOUTH APPROACH												20	10.99		182
SOUTH TO NORTH	155		9	3		1	1	6				20		96.15	175
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	7													3.85	7
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												3	12.00		25
WEST TO NORTH	15		1									1		64.00	16
WEST TO SOUTH	7		1			1						2		36.00	9
WEST TO EAST															
THIS LEG WEST															
															415
														PCT SPLIT OUT/IN	
NORTH TOTAL	350		18	5		5	5	15			1	49		52/48	399
PERCENTAGE	87.72		4.51	1.25		1.25	1.25	3.76			0.25	12.28			
SOUTH TOTAL	327		18	5		6	5	15			1	50		48/52	377
PERCENTAGE	86.74		4.77	1.33		1.59	1.33	3.98			0.27	13.26			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	51		2			1						3		46/54	54
PERCENTAGE	94.44		3.70			1.85						5.56			
															830

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1743 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 3 & MASON-BENSON RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												20	8.33		240
THIS LEG NORTH															
NORTH TO SOUTH	207	1	8	2			3	4				18		93.75	225
NORTH TO EAST															
NORTH TO WEST	13	1	1									2		6.25	15
SOUTH APPROACH												21	11.48		183
SOUTH TO NORTH	156	1	8	1		1	5	5				21		96.72	177
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	6													3.28	6
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															28
WEST TO NORTH	21													75.00	21
WEST TO SOUTH	7													25.00	7
WEST TO EAST															
THIS LEG WEST															
															451
														PCT SPLIT OUT/IN	
NORTH TOTAL	397	3	17	3		1	8	9				41		55/45	438
PERCENTAGE	90.64	0.68	3.88	0.68		0.23	1.83	2.05				9.36			
SOUTH TOTAL	376	2	16	3		1	8	9				39		44/56	415
PERCENTAGE	90.60	0.48	3.86	0.72		0.24	1.93	2.17				9.40			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	47	1	1									2		57/43	49
PERCENTAGE	95.92	2.04	2.04									4.08			
															902

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1743 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 3 & MASON-BENSON RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												33	15.00		220
THIS LEG NORTH															
NORTH TO SOUTH	170	1	15	3		2	3	6			1	31		91.36	201
NORTH TO EAST															
NORTH TO WEST	17		2									2		8.64	19
SOUTH APPROACH												22	10.95		201
SOUTH TO NORTH	171		7	2		2	3	6				20		95.02	191
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	8	1	1									2		4.98	10
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												2	6.90		29
WEST TO NORTH	14		1									1		51.72	15
WEST TO SOUTH	13		1									1		48.28	14
WEST TO EAST															
THIS LEG WEST															
															450
														PCT SPLIT OUT/IN	
NORTH TOTAL	372	1	25	5		4	6	12			1	54		52/48	426
PERCENTAGE	87.32	0.23	5.87	1.17		0.94	1.41	2.82			0.23	12.68			
SOUTH TOTAL	362	2	24	5		4	6	12			1	54		48/52	416
PERCENTAGE	87.02	0.48	5.77	1.20		0.96	1.44	2.88			0.24	12.98			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	52	1	5									6		50/50	58
PERCENTAGE	89.66	1.72	8.62									10.34			
															900

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1743 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:15 - 13:15
LOCATION SR 3 & MASON-BENSON RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												24	9.72		247
THIS LEG NORTH															
NORTH TO SOUTH	214		10	3		1	3	6				23		95.95	237
NORTH TO EAST															
NORTH TO WEST	9		1									1		4.05	10
SOUTH APPROACH												23	12.50		184
SOUTH TO NORTH	156	1	10	2		1	6	3				23		97.28	179
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	5													2.72	5
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															31
WEST TO NORTH	23													74.19	23
WEST TO SOUTH	8													25.81	8
WEST TO EAST															
THIS LEG WEST															
															462
														PCT SPLIT OUT/IN	
NORTH TOTAL	402	1	21	5		2	9	9				47		55/45	449
PERCENTAGE	89.53	0.22	4.68	1.11		0.45	2.00	2.00				10.47			
SOUTH TOTAL	383	1	20	5		2	9	9				46		43/57	429
PERCENTAGE	89.28	0.23	4.66	1.17		0.47	2.10	2.10				10.72			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	45		1									1		67/33	46
PERCENTAGE	97.83		2.17									2.17			
															924

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1743 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:15 - 13:15
LOCATION SR 3 & MASON-BENSON RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												24	9.72		247
THIS LEG NORTH															
NORTH TO SOUTH	214		10	3		1	3	6				23		95.95	237
NORTH TO EAST															
NORTH TO WEST	9		1									1		4.05	10
SOUTH APPROACH												23	12.50		184
SOUTH TO NORTH	156	1	10	2		1	6	3				23		97.28	179
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	5													2.72	5
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															31
WEST TO NORTH	23													74.19	23
WEST TO SOUTH	8													25.81	8
WEST TO EAST															
THIS LEG WEST															
															462
														PCT SPLIT OUT/IN	
NORTH TOTAL	402	1	21	5		2	9	9				47		55/45	449
PERCENTAGE	89.53	0.22	4.68	1.11		0.45	2.00	2.00				10.47			
SOUTH TOTAL	383	1	20	5		2	9	9				46		43/57	429
PERCENTAGE	89.28	0.23	4.66	1.17		0.47	2.10	2.10				10.72			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	45		1									1		67/33	46
PERCENTAGE	97.83		2.17									2.17			
															924

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1743 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 3 & MASON-BENSON RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												33	15.00		220
THIS LEG NORTH															
NORTH TO SOUTH	170	1	15	3		2	3	6			1	31		91.36	201
NORTH TO EAST															
NORTH TO WEST	17		2									2		8.64	19
SOUTH APPROACH												22	10.95		201
SOUTH TO NORTH	171		7	2		2	3	6				20		95.02	191
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	8	1	1									2		4.98	10
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												2	6.90		29
WEST TO NORTH	14		1									1		51.72	15
WEST TO SOUTH	13		1									1		48.28	14
WEST TO EAST															
THIS LEG WEST															
															450
														PCT SPLIT OUT/IN	
NORTH TOTAL	372	1	25	5		4	6	12			1	54		52/48	426
PERCENTAGE	87.32	0.23	5.87	1.17		0.94	1.41	2.82			0.23	12.68			
SOUTH TOTAL	362	2	24	5		4	6	12			1	54		48/52	416
PERCENTAGE	87.02	0.48	5.77	1.20		0.96	1.44	2.88			0.24	12.98			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	52	1	5									6		50/50	58
PERCENTAGE	89.66	1.72	8.62									10.34			
															900

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1743 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:15 - 13:15
LOCATION SR 3 & MASON-BENSON RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												24	9.72		247
THIS LEG NORTH															
NORTH TO SOUTH	214		10	3		1	3	6				23		95.95	237
NORTH TO EAST															
NORTH TO WEST	9		1									1		4.05	10
SOUTH APPROACH												23	12.50		184
SOUTH TO NORTH	156	1	10	2		1	6	3				23		97.28	179
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	5													2.72	5
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															31
WEST TO NORTH	23													74.19	23
WEST TO SOUTH	8													25.81	8
WEST TO EAST															
THIS LEG WEST															
															462
														PCT SPLIT OUT/IN	
NORTH TOTAL	402	1	21	5		2	9	9				47		55/45	449
PERCENTAGE	89.53	0.22	4.68	1.11		0.45	2.00	2.00				10.47			
SOUTH TOTAL	383	1	20	5		2	9	9				46		43/57	429
PERCENTAGE	89.28	0.23	4.66	1.17		0.47	2.10	2.10				10.72			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	45		1									1		67/33	46
PERCENTAGE	97.83		2.17									2.17			
															924

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	27	6.01	20	4.45			47	10.47	0.9257
SOUTH TOTAL	26	6.06	20	4.66			46	10.72	0.9225
EAST TOTAL									
WEST TOTAL	1	2.17					1	2.17	1.0000

PEAK HOUR FACTOR 0.955 112 121 119 110 462

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

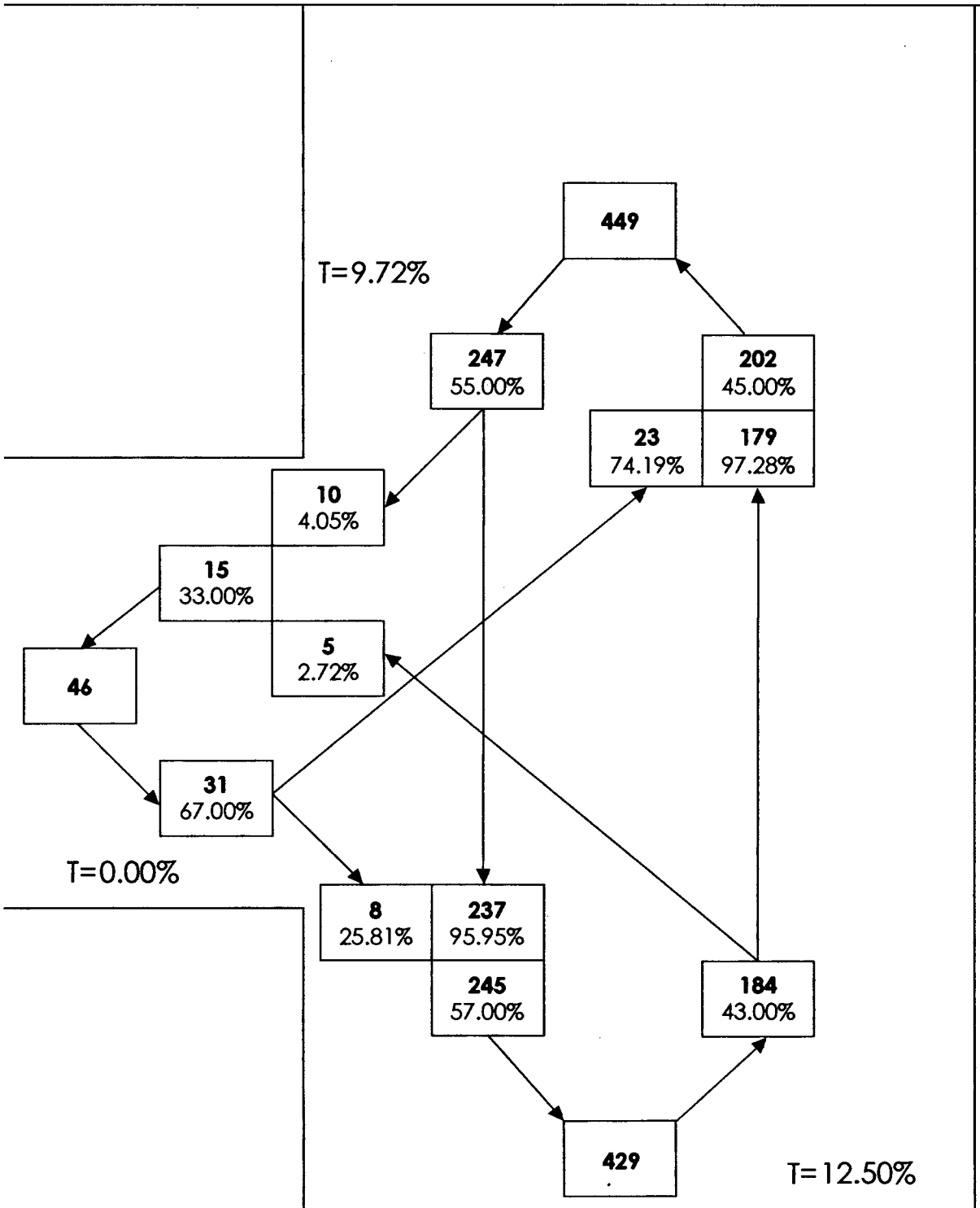
(Block Diagram)

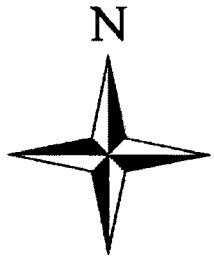
Date: 3/29/2017
Time Period: 12:15 - 13:15

SR: 003 MP: 014.24 Off Sys. ID: Count ID: 17-006

Location: SR 3 & MASON-BENSON RD

INTERSECTIONAL PEAK HOUR AND VOLUMES





Quarter Hour 1 = 112

Quarter Hour 2 = 121

Quarter Hour 3 = 119

Quarter Hour 4 = 110

TOTAL HOUR = 462

PEAK HOUR FACTOR = 0.955

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

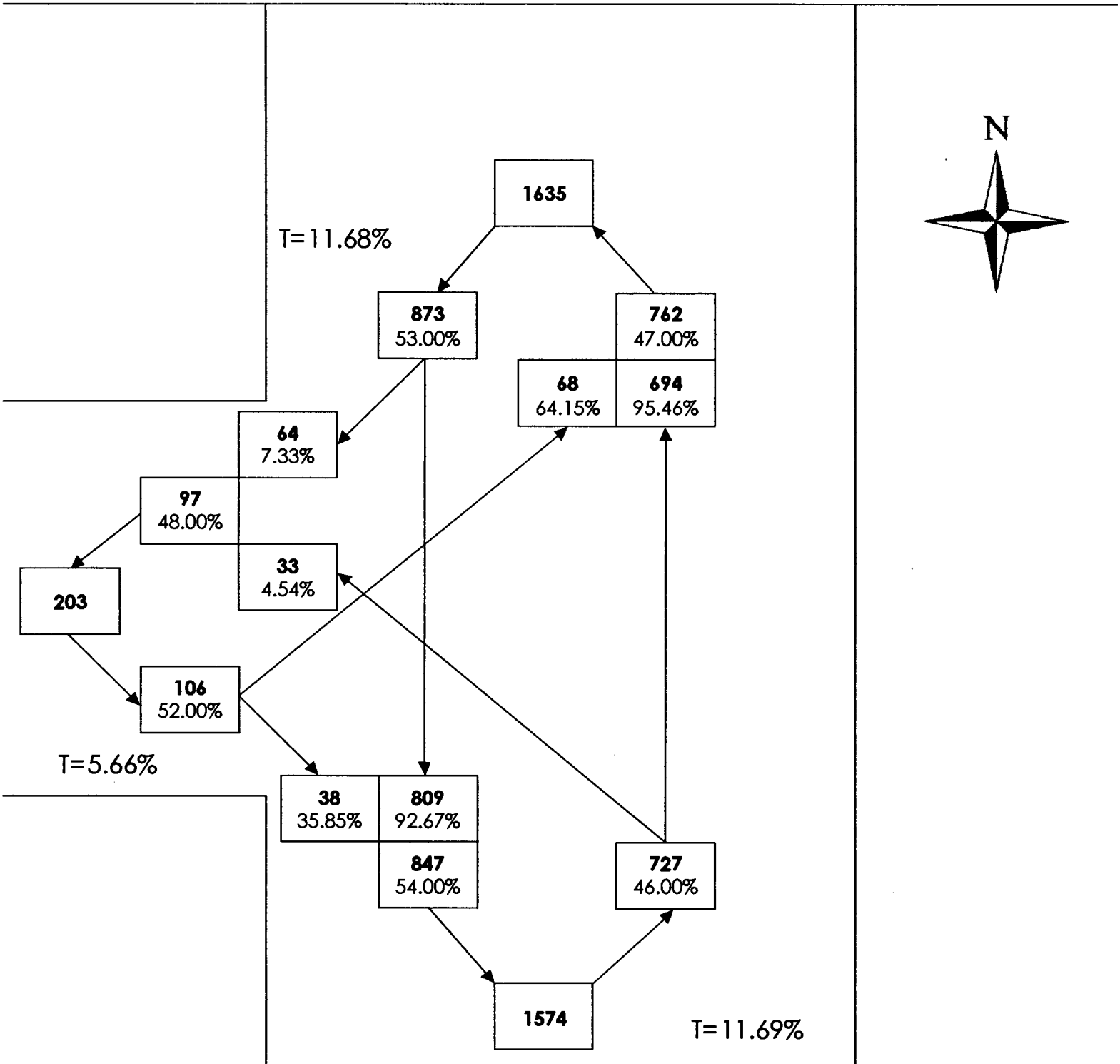
(Block Diagram)

Date: 3/29/2017
Time Period: 10:00 - 14:00

SR: 003 MP: 014.24 Off Sys. ID: Count ID: 17-006

Location: SR 3 & MASON-BENSON RD

ENTIRE COUNT VOLUMES



CB# 2898

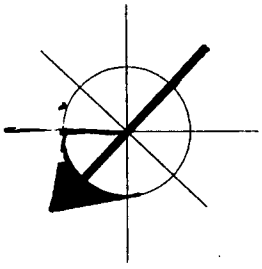
Washington State Department of Transportation

Traffic Station Sketch

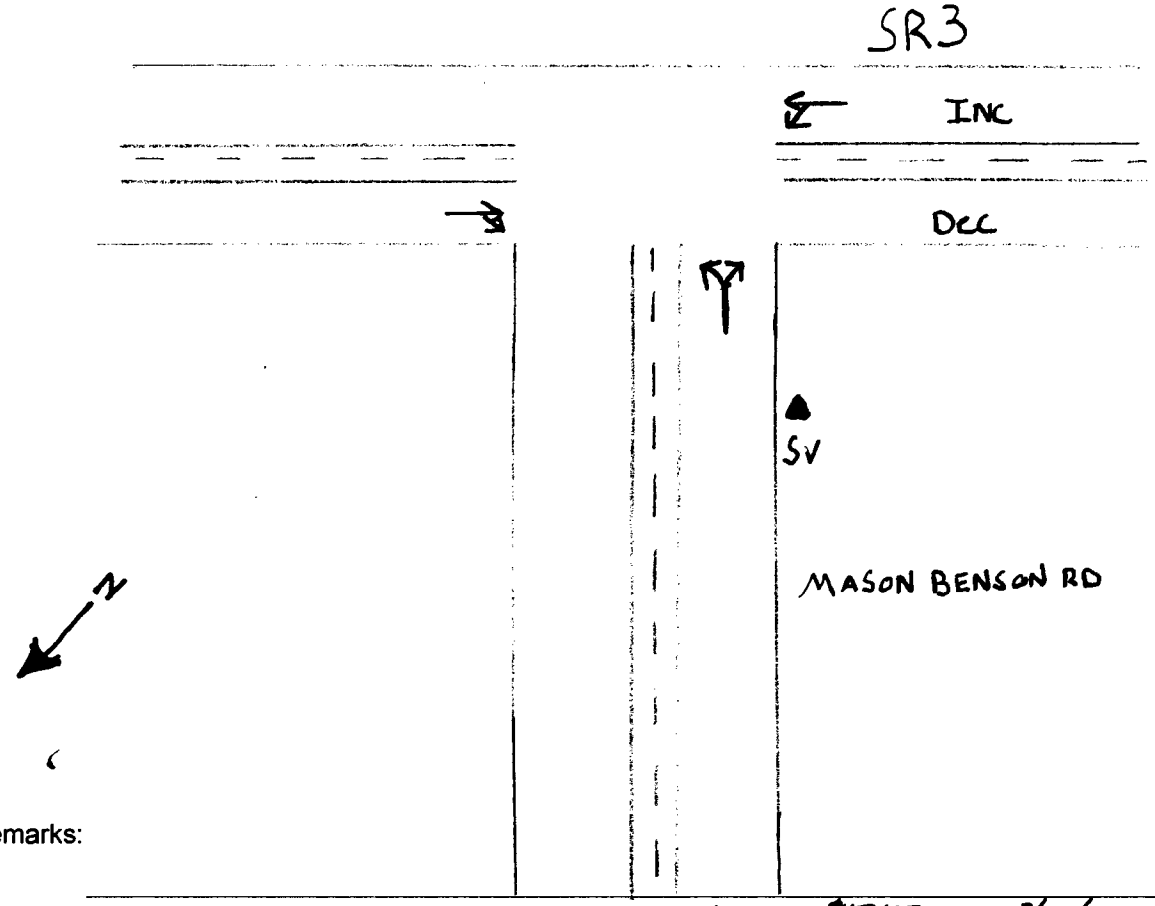
SR #	MP	OSID	Count ID	Date
3	14 ● 24		17-006	3/31/2017

Station Location
JCT SR 3 AND MASON BENSON RD

Sketch



Indicate North



Remarks:

ID# 1742	1400-1800	G:\17-006 HH	14-1800	#1742	3/28/17
1743	1000-1400	G:\17-006 II	10-1400	#1743	3/29/17
1744	0600-1000	G:\17-006 JJ	06-1000	#1744	3/30/17

Caleb Cotter
Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/4/2017
TIME: 13:00:28
PAGE: 1

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1742 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 18:00
LOCATION SR 3 & MASON-BENSON RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												68	5.41		1258
THIS LEG NORTH															
NORTH TO SOUTH	1075	5	26	6		5	11	9			1	63		90.46	1138
NORTH TO EAST															
NORTH TO WEST	115	2	2					1				5		9.54	120
SOUTH APPROACH												59	6.13		962
SOUTH TO NORTH	847	3	22	10	1	3	6	10		1		56		93.87	903
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	56	2	1									3		6.13	59
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												13	9.35		139
WEST TO NORTH	73	2	3									5		56.12	78
WEST TO SOUTH	53	3	4			1						8		43.88	61
WEST TO EAST															
THIS LEG WEST															
															2359
														PCT SPLIT OUT/IN	
NORTH TOTAL	2110	12	53	16	1	8	17	20		1	1	129		56/44	2239
PERCENTAGE	94.24	0.54	2.37	0.71	0.04	0.36	0.76	0.89		0.04	0.04	5.76			
SOUTH TOTAL	2031	13	53	16	1	9	17	19		1	1	130		45/55	2161
PERCENTAGE	93.98	0.60	2.45	0.74	0.05	0.42	0.79	0.88		0.05	0.05	6.02			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	297	9	10			1		1				21		44/56	318
PERCENTAGE	93.40	2.83	3.14			0.31		0.31				6.60			
															4718

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	82	3.66	45	2.01	2	0.09	129	5.76	0.9625
SOUTH TOTAL	83	3.84	45	2.08	2	0.09	130	6.02	0.9617
EAST TOTAL									
WEST TOTAL	19	5.97	2	0.63			21	6.60	0.9906

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1742 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 15:00
LOCATION SR 3 & MASON-BENSON RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												21	8.33		252
THIS LEG NORTH															
NORTH TO SOUTH	202		6	1			6	5			1	19		87.70	221
NORTH TO EAST															
NORTH TO WEST	29		2									2		12.30	31
SOUTH APPROACH												18	8.87		203
SOUTH TO NORTH	172	1	5	4	1	1	1	4				17		93.10	189
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	13	1										1		6.90	14
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												4	14.81		27
WEST TO NORTH	15		2									2		62.96	17
WEST TO SOUTH	8	1	1									2		37.04	10
WEST TO EAST															
THIS LEG WEST															
															482
														PCT SPLIT OUT/IN	
NORTH TOTAL	418	1	15	5	1	1	7	9			1	40		55/45	458
PERCENTAGE	91.27	0.22	3.28	1.09	0.22	0.22	1.53	1.97			0.22	8.73			
SOUTH TOTAL	395	3	12	5	1	1	7	9			1	39		47/53	434
PERCENTAGE	91.01	0.69	2.76	1.15	0.23	0.23	1.61	2.07			0.23	8.99			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	65	2	5									7		38/62	72
PERCENTAGE	90.28	2.78	6.94									9.72			
															964

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1742 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 15:00 - 16:00
LOCATION SR 3 & MASON-BENSON RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												17	5.40		315
THIS LEG NORTH															
NORTH TO SOUTH	276	1	4	2		3	3	2				15		92.38	291
NORTH TO EAST															
NORTH TO WEST	22	1						1				2		7.62	24
SOUTH APPROACH												15	6.41		234
SOUTH TO NORTH	200	1	6	1		1	1	4				14		91.45	214
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	19	1										1		8.55	20
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												8	13.79		58
WEST TO NORTH	27	2	1									3		51.72	30
WEST TO SOUTH	23	1	3			1						5		48.28	28
WEST TO EAST															
THIS LEG WEST															
															607
														PCT SPLIT OUT/IN	
NORTH TOTAL	525	5	11	3		4	4	7				34		56/44	559
PERCENTAGE	93.92	0.89	1.97	0.54		0.72	0.72	1.25				6.08			
SOUTH TOTAL	518	4	13	3		5	4	6				35		42/58	553
PERCENTAGE	93.67	0.72	2.35	0.54		0.90	0.72	1.08				6.33			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	91	5	4			1		1				11		57/43	102
PERCENTAGE	89.22	4.90	3.92			0.98		0.98				10.78			
															1214

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1742 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:00 - 17:00
LOCATION SR 3 & MASON-BENSON RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												20	5.36		373
THIS LEG NORTH															
NORTH TO SOUTH	325		12	3		2		2				19		92.23	344
NORTH TO EAST															
NORTH TO WEST	28	1										1		7.77	29
SOUTH APPROACH												19	7.09		268
SOUTH TO NORTH	242		8	3		1	3	2		1		18		97.01	260
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	7		1									1		2.99	8
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															32
WEST TO NORTH	18													56.25	18
WEST TO SOUTH	14													43.75	14
WEST TO EAST															
THIS LEG WEST															
															673
														PCT SPLIT OUT/IN	
NORTH TOTAL	613	1	20	6		3	3	4	1			38		57/43	651
PERCENTAGE	94.16	0.15	3.07	0.92		0.46	0.46	0.61	0.15			5.84			
SOUTH TOTAL	588		21	6		3	3	4	1			38		43/57	626
PERCENTAGE	93.93		3.35	0.96		0.48	0.48	0.64	0.16			6.07			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	67	1	1									2		46/54	69
PERCENTAGE	97.10	1.45	1.45									2.90			
															1346

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1742 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 17:00 - 18:00
LOCATION SR 3 & MASON-BENSON RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												10	3.14		318
THIS LEG NORTH															
NORTH TO SOUTH	272	4	4				2					10		88.68	282
NORTH TO EAST															
NORTH TO WEST	36													11.32	36
SOUTH APPROACH												7	2.72		257
SOUTH TO NORTH	233	1	3	2			1					7		93.39	240
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	17													6.61	17
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	4.55		22
WEST TO NORTH	13													59.09	13
WEST TO SOUTH	8	1										1		40.91	9
WEST TO EAST															
THIS LEG WEST															
															597
														PCT SPLIT OUT/IN	
NORTH TOTAL	554	5	7	2			3					17		56/44	571
PERCENTAGE	97.02	0.88	1.23	0.35			0.53					2.98			
SOUTH TOTAL	530	6	7	2			3					18		47/53	548
PERCENTAGE	96.72	1.09	1.28	0.36			0.55					3.28			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	74	1										1		29/71	75
PERCENTAGE	98.67	1.33										1.33			
															1194

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1742 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 3 & MASON-BENSON RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												20	5.41		370
THIS LEG NORTH															
NORTH TO SOUTH	315	2	12	3		1		2				20		90.54	335
NORTH TO EAST															
NORTH TO WEST	35													9.46	35
SOUTH APPROACH												18	6.43		280
SOUTH TO NORTH	252	1	7	4			2	2		1		17		96.07	269
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	10		1									1		3.93	11
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															32
WEST TO NORTH	15													46.88	15
WEST TO SOUTH	17													53.12	17
WEST TO EAST															
THIS LEG WEST															
															682
														PCT SPLIT OUT/IN	
NORTH TOTAL	617	3	19	7		1	2	4		1		37		57/43	654
PERCENTAGE	94.34	0.46	2.91	1.07		0.15	0.31	0.61		0.15		5.66			
SOUTH TOTAL	594	3	20	7		1	2	4		1		38		44/56	632
PERCENTAGE	93.99	0.47	3.16	1.11		0.16	0.32	0.63		0.16		6.01			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	77		1									1		41/59	78
PERCENTAGE	98.72		1.28									1.28			
															1364

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1742 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 3 & MASON-BENSON RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												20	5.41		370
THIS LEG NORTH															
NORTH TO SOUTH	315	2	12	3		1		2				20		90.54	335
NORTH TO EAST															
NORTH TO WEST	35													9.46	35
SOUTH APPROACH												18	6.43		280
SOUTH TO NORTH	252	1	7	4			2	2		1		17		96.07	269
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	10		1									1		3.93	11
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															32
WEST TO NORTH	15													46.88	15
WEST TO SOUTH	17													53.12	17
WEST TO EAST															
THIS LEG WEST															
															682
														PCT SPLIT OUT/IN	
NORTH TOTAL	617	3	19	7		1	2	4		1		37		57/43	654
PERCENTAGE	94.34	0.46	2.91	1.07		0.15	0.31	0.61		0.15		5.66			
SOUTH TOTAL	594	3	20	7		1	2	4		1		38		44/56	632
PERCENTAGE	93.99	0.47	3.16	1.11		0.16	0.32	0.63		0.16		6.01			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	77		1									1		41/59	78
PERCENTAGE	98.72		1.28									1.28			
															1364

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1742 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:30 - 15:30
LOCATION SR 3 & MASON-BENSON RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												16	5.84		274
THIS LEG NORTH															
NORTH TO SOUTH	229		5	1		1	4	3				14		88.69	243
NORTH TO EAST															
NORTH TO WEST	29	1						1				2		11.31	31
SOUTH APPROACH												11	4.91		224
SOUTH TO NORTH	188		1	3	1		1	4				10		88.39	198
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	25	1										1		11.61	26
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												10	17.86		56
WEST TO NORTH	25	2	2									4		51.79	29
WEST TO SOUTH	21	2	4									6		48.21	27
WEST TO EAST															
THIS LEG WEST															
															554
														PCT SPLIT OUT/IN	
NORTH TOTAL	471	3	8	4	1	1	5	8				30		55/45	501
PERCENTAGE	94.01	0.60	1.60	0.80	0.20	0.20	1.00	1.60				5.99			
SOUTH TOTAL	463	3	10	4	1	1	5	7				31		45/55	494
PERCENTAGE	93.72	0.61	2.02	0.81	0.20	0.20	1.01	1.42				6.28			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	100	6	6					1				13		50/50	113
PERCENTAGE	88.50	5.31	5.31					0.88				11.50			
															1108

SR 003 MP 014.24 OFF SYS ID COUNTER NUM 1742 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 3 & MASON-BENSON RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												20	5.41		370
THIS LEG NORTH															
NORTH TO SOUTH	315	2	12	3		1		2				20		90.54	335
NORTH TO EAST															
NORTH TO WEST	35													9.46	35
SOUTH APPROACH												18	6.43		280
SOUTH TO NORTH	252	1	7	4			2	2		1		17		96.07	269
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	10		1									1		3.93	11
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															32
WEST TO NORTH	15													46.88	15
WEST TO SOUTH	17													53.12	17
WEST TO EAST															
THIS LEG WEST															
															682
														PCT SPLIT OUT/IN	
NORTH TOTAL	617	3	19	7		1	2	4		1		37		57/43	654
PERCENTAGE	94.34	0.46	2.91	1.07		0.15	0.31	0.61		0.15		5.66			
SOUTH TOTAL	594	3	20	7		1	2	4		1		38		44/56	632
PERCENTAGE	93.99	0.47	3.16	1.11		0.16	0.32	0.63		0.16		6.01			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	77		1									1		41/59	78
PERCENTAGE	98.72		1.28									1.28			
															1364

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	29	4.43	7	1.07	1	0.15	37	5.66	0.9739
SOUTH TOTAL	30	4.75	7	1.11	1	0.16	38	6.01	0.9730
EAST TOTAL									
WEST TOTAL	1	1.28					1	1.28	1.0000

PEAK HOUR FACTOR	0.937	159	182	182	159	682

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

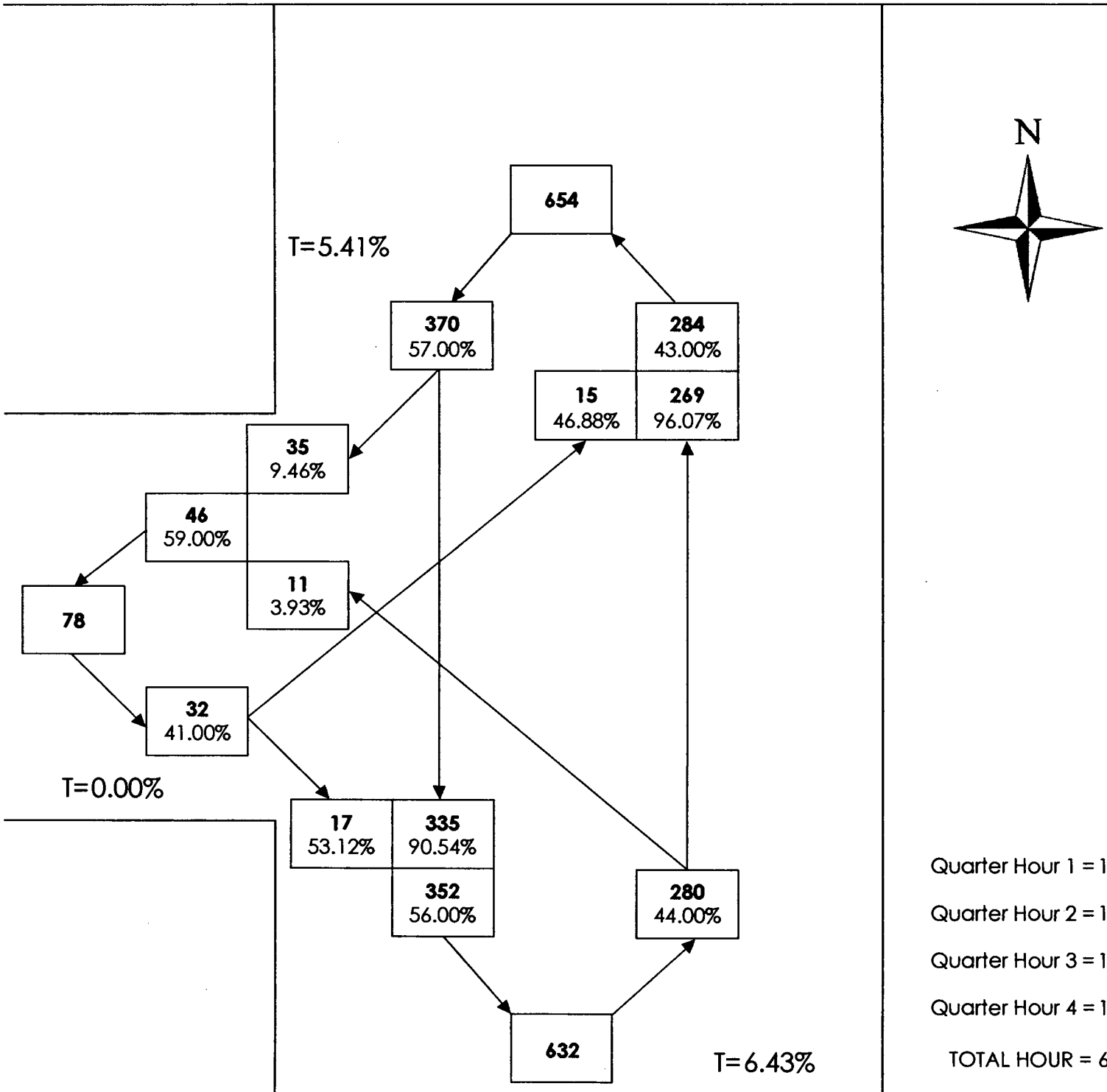
(Block Diagram)

Date: 3/28/2017
Time Period: 16:15 - 17:15

SR: 003 MP: 014.24 Off Sys. ID: Count ID: 17-006

Location: SR 3 & MASON-BENSON RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 159

Quarter Hour 2 = 182

Quarter Hour 3 = 182

Quarter Hour 4 = 159

TOTAL HOUR = 682

PEAK HOUR FACTOR = 0.937

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

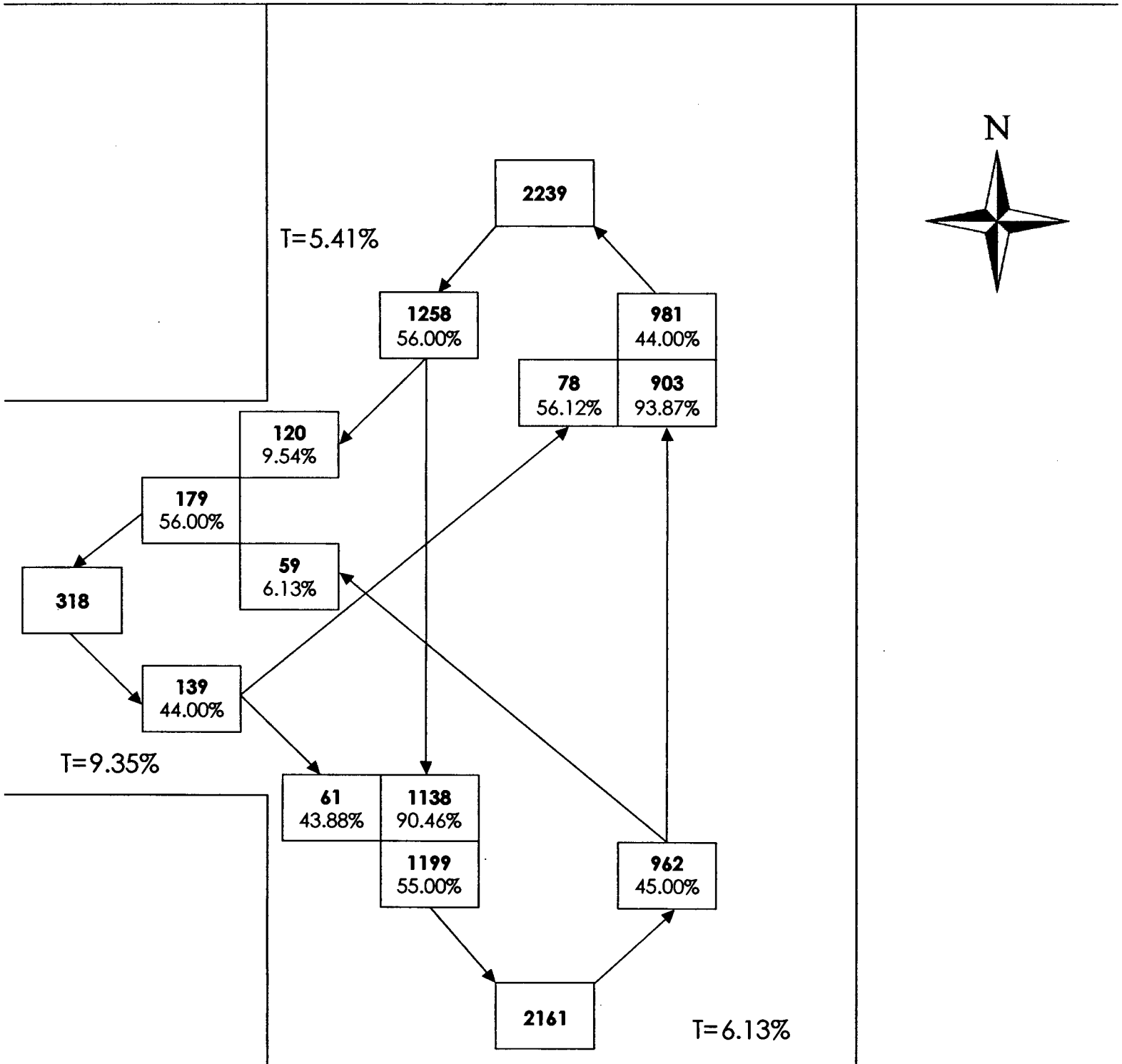
(Block Diagram)

Date: 3/28/2017
Time Period: 14:00 - 18:00

SR: 003 MP: 014.24 Off Sys. ID: Count ID: 17-006

Location: SR 3 & MASON-BENSON RD

ENTIRE COUNT VOLUMES



CB# 2898

Washington State Department of Transportation

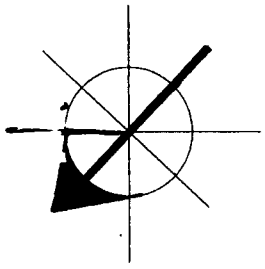
Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
3	14 ● 24		17-006	3/31/2017

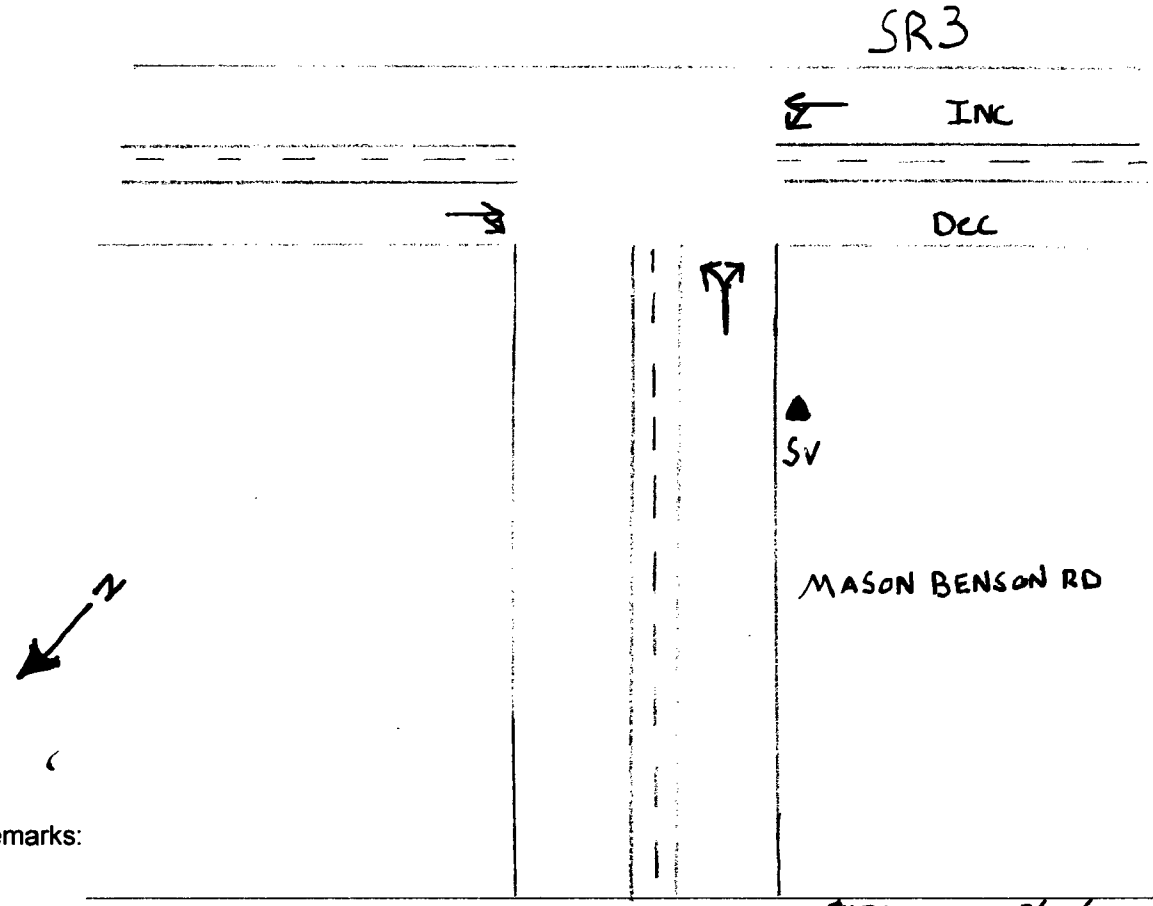
Station Location

JCT SR 3 AND MASON BENSON RD

Sketch



Indicate North



Remarks:

ID# 1742	1400-1800	G:\17-006 HH	14-1800	#1742	3/28/17
1743	1000-1400	G:\17-006 II	10-1400	#1743	3/29/17
1744	0600-1000	G:\17-006 JJ	06-1000	#1744	3/30/17

Caleb Cutter

Signature

DOT Form 324-005 EF
Revised 2/2007

Peninsula Regional Transportation Planning Organization

SR 300/Sand Hill Road

Intersection Operational Analysis



Prepared by

WSDOT
Washington State Department of Transportation
Olympic Region Planning

July 2017

Title VI Notice to the Public

It is the Washington State Department of Transportation's (WSDOT) policy to assure that no person shall, on the grounds of race, color, national origin or sex, as provided by Title VI of the Civil Rights Act of 1964, be excluded from participation in, be denied the benefits of, or be otherwise discriminated against under any of its federally funded programs and activities. Any person who believes his/her Title VI protection has been violated, may file a complaint with WSDOT's Office of Equal Opportunity (OEO). For additional information regarding Title VI complaint procedures and/or information regarding our non-discrimination obligations, please contact OEO's Title VI Coordinator at 360-705-7082.

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This material can be made available in an alternate format by emailing the Office of Equal Opportunity at wsdotada@wsdot.wa.govor by calling toll free, 855-362-4232. Persons who are deaf or hard of hearing may make a request by calling the Washington State Relay at 711.

Introduction:

This operational analysis was prepared at the special request of the local jurisdiction and funded by the Peninsula Regional Transportation Planning Organization. Those intersections identified as operating below the Washington State Department of Transportation's policy for what is considered acceptable traffic operation level of service (LOS) will need to compete for funding with other intersections around the state based on the expected performance outcome for the proposed improvements.

SR 300 begins at the Belfair State Park boundary and ends at the junction of SR 3 in Belfair. The community of Tahuya connects with SR 300 via Belfair-Tahuya Road and North Shore Road. Tahuya is located west of SR 300 and north of Hood Canal. In addition to Belfair State Park, SR 300 passes by Beards Cove Beach Park and provides a link to Mission Creek Corrections Center for Women, Mission Creek Youth Camp, and Sand Hill Park via the SR 300/Sand Hill intersection. Land use along the corridor is primarily residential with a mix of commercial and residential beginning as you enter Belfair's urban growth area

SR 300 is a Highway of Regional Significance (non-HSS). The freight classification for SR 300 is T-3. It carried 0.67 million in annual tonnage with 280 annual average daily trucks (3.6%) in year 2015. The annual average daily traffic volumes on SR 300 range from a low of 6,100 at the Belfair State Park boundary to a high of 12,000 between Sand Hill Road and Old Belfair Highway in year 2016. The intersection of SR 300 and Sand Hill Road is designated as a rural collector route features one eleven-foot lane in each direction with 3-foot roadway shoulders. The posted speed limit at this location is 45 mph with a level terrain.

Methodology

Traffic Operations Model

The Highway Capacity Software 2010 was used to analyze the unsignalized intersection of SR 3/Lakeland Drive. The turning movement counts from the minor street that experiences the worst delay defines the level of service (LOS) for the intersection. LOS is based on the seconds per vehicle. The LOS criteria for automobiles at a two-way stopped controlled intersection as defined in the Highway Capacity Manual 2010 is as follows:

Highway Capacity Manual Exhibit 19-1 Two-way Stopped Controlled Intersection LOS Criteria

Control Delay (seconds/vehicle)	**LOS by Volume-to-Capacity Ratio Volume-to-Capacity ≤ 1.0**
0-10	A
>10-15	B
>15-25	C
>25-35	D
>35-50	E
>50	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major street approaches or for the intersection as a whole.

The Synchro 8/SimTraffic software and the Highway Capacity Software 2010 were used to determine the traffic queues at the intersection.

Traffic Volumes

In March 2017, WSDOT staff performed 12-hour turning movement manual counts at all legs of the SR 300/Sand Hill Road intersection.

Analysis

The intersection analysis applies a seasonal factor of 1.09 percent to the weekday traffic volumes collected. The seasonal factor adjusts the volumes to reflect the yearly average volume, and are only applied to the major approaches. The LOS and the delay in seconds for the SR 3/Sand Hill Road intersection are depicted in the table below.

Figure 2: Level of Service (Delay, Seconds)

LOCATION	AM	MID-DAY	PM
SR 3/Sand Hill Road	C (23.1)	C (15.3)	C (19.7)

Figure 2 portrays the traffic operation LOS at the SR 300/Sand Hill Road intersection. During the morning hours between 6 to 10 a.m., the intersection delay is designated an LOS C with an average delay of 23.1 seconds, meaning that motorists would wait on average 23.1 seconds at the intersection before they could proceed. Mid-Day during the hours of 11 a.m. and 2 p.m., motorists would wait on average 15.3 seconds. During the evening hours, between 2 p.m. to 6 p.m., motorists would be delayed at the intersection 19.7 seconds before they could proceed.

The Washington State Department of Transportation's policy for what is considered a minimal acceptable traffic operation LOS at this location is a LOS C designation for rural highways.

Summary

The analysis depicts the SR 300/Sand Hill Road intersection operating at the target level of LOS C during the morning, mid-day, and evening hours. As mentioned in the introduction, improvements must compete for funding based upon expected performance outcome. This location may or may not compete well with other intersections statewide.

Appendix

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/9/2017
Analysis Time Period: AM
Intersection: SR 300/Sand Hill Rd
Jurisdiction: Mason Co.
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 300/Sand Hill Rd
East/West Street: SR 300
North/South Street: Sand Hill Rd
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	35	303			158	117
Peak-Hour Factor, PHF	0.77	0.77			0.77	0.77
Hourly Flow Rate, HFR	45	393			205	151
Percent Heavy Vehicles	28	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						No
Lanes	0	1			1	1
Configuration		LT			T	R
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				143		13
Peak Hour Factor, PHF				0.77		0.77
Hourly Flow Rate, HFR				185		16
Percent Heavy Vehicles				12		8
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		/
Lanes				1		1
Configuration				L		R

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT					L		R
v (vph)	45					185		16
C(m) (vph)	1072					380		821
v/c	0.04					0.49		0.02
95% queue length	0.13					2.57		0.06
Control Delay	8.5					23.1		9.5
LOS	A					C		A
Approach Delay							22.0	
Approach LOS							C	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/9/2017
Analysis Time Period: Mid-day
Intersection: SR 300/Sand Hill Rd
Jurisdiction: Mason Co.
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 300/Sand Hill Rd
East/West Street: SR 300
North/South Street: Sand Hill Rd
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	19	252			237	144
Peak-Hour Factor, PHF	0.96	0.96			0.96	0.96
Hourly Flow Rate, HFR	19	262			246	150
Percent Heavy Vehicles	12	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						No
Lanes	0	1			1	1
Configuration		LT			T	R
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				130		24
Peak Hour Factor, PHF				0.96		0.96
Hourly Flow Rate, HFR				135		25
Percent Heavy Vehicles				6		33
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			/
Lanes				1		1
Configuration				L		R

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT					L		R
v (vph)	19					135		25
C(m) (vph)	1110					484		723
v/c	0.02					0.28		0.03
95% queue length	0.05					1.13		0.11
Control Delay	8.3					15.3		10.2
LOS	A					C		B
Approach Delay							14.5	
Approach LOS							B	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/9/2017
Analysis Time Period: PM
Intersection: SR 300/Sand Hill Rd
Jurisdiction: Mason Co.
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 300/Sand Hill Rd
East/West Street: SR 300
North/South Street: Sand Hill Rd
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	27	232			447	222
Peak-Hour Factor, PHF	0.97	0.97			0.97	0.97
Hourly Flow Rate, HFR	27	239			460	228
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						No
Lanes	0	1			1	1
Configuration		LT			T	R
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				122		15
Peak Hour Factor, PHF				0.97		0.97
Hourly Flow Rate, HFR				125		15
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		/
Lanes				1		1
Configuration				L		R

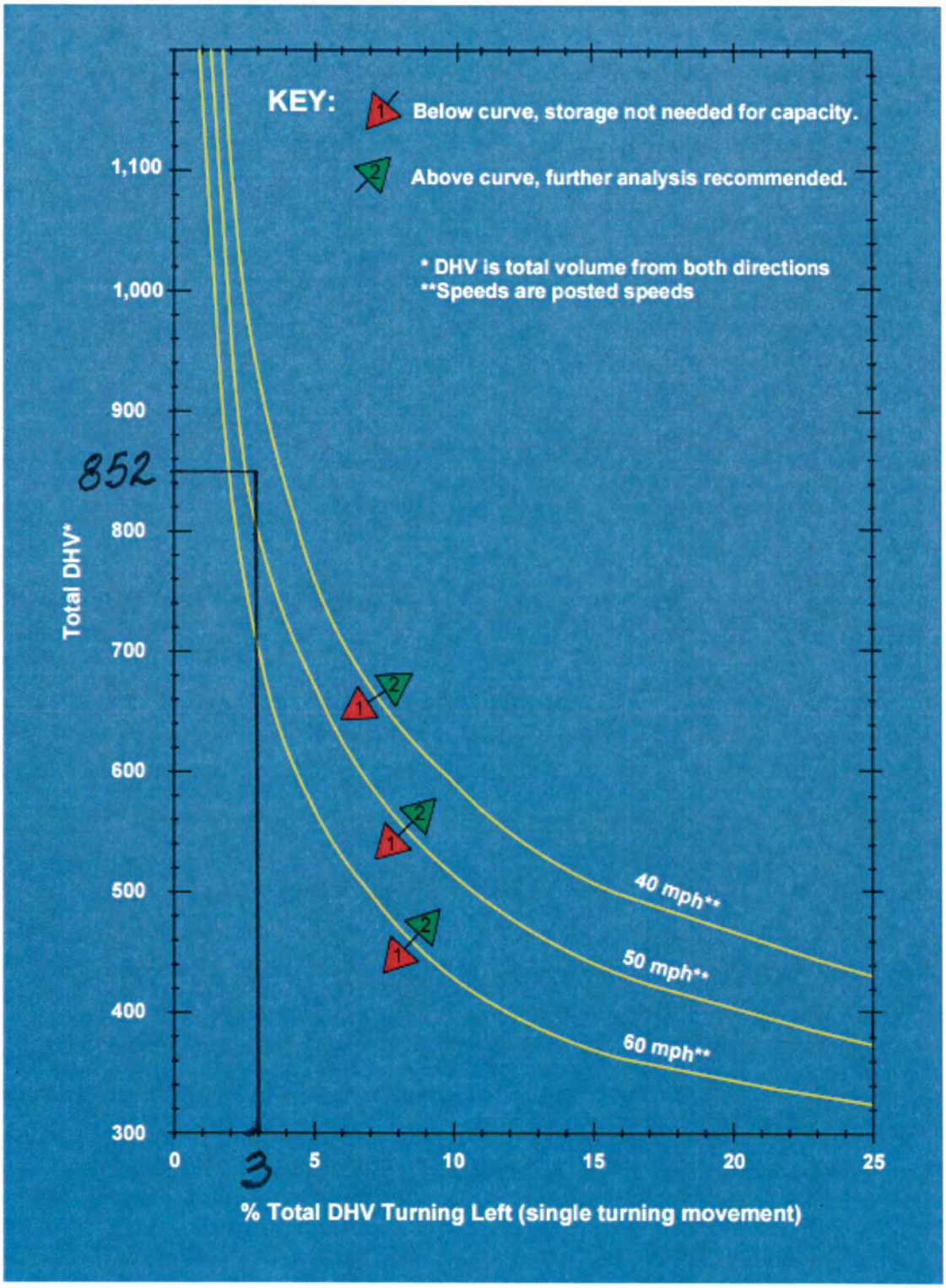
Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT					L		R
v (vph)	27					125		15
C(m) (vph)	916					369		605
v/c	0.03					0.34		0.02
95% queue length	0.09					1.47		0.08
Control Delay	9.0					19.7		11.1
LOS	A					C		B
Approach Delay							18.8	
Approach LOS							C	

SR 300/Sand Hill Rd
MP 2.27

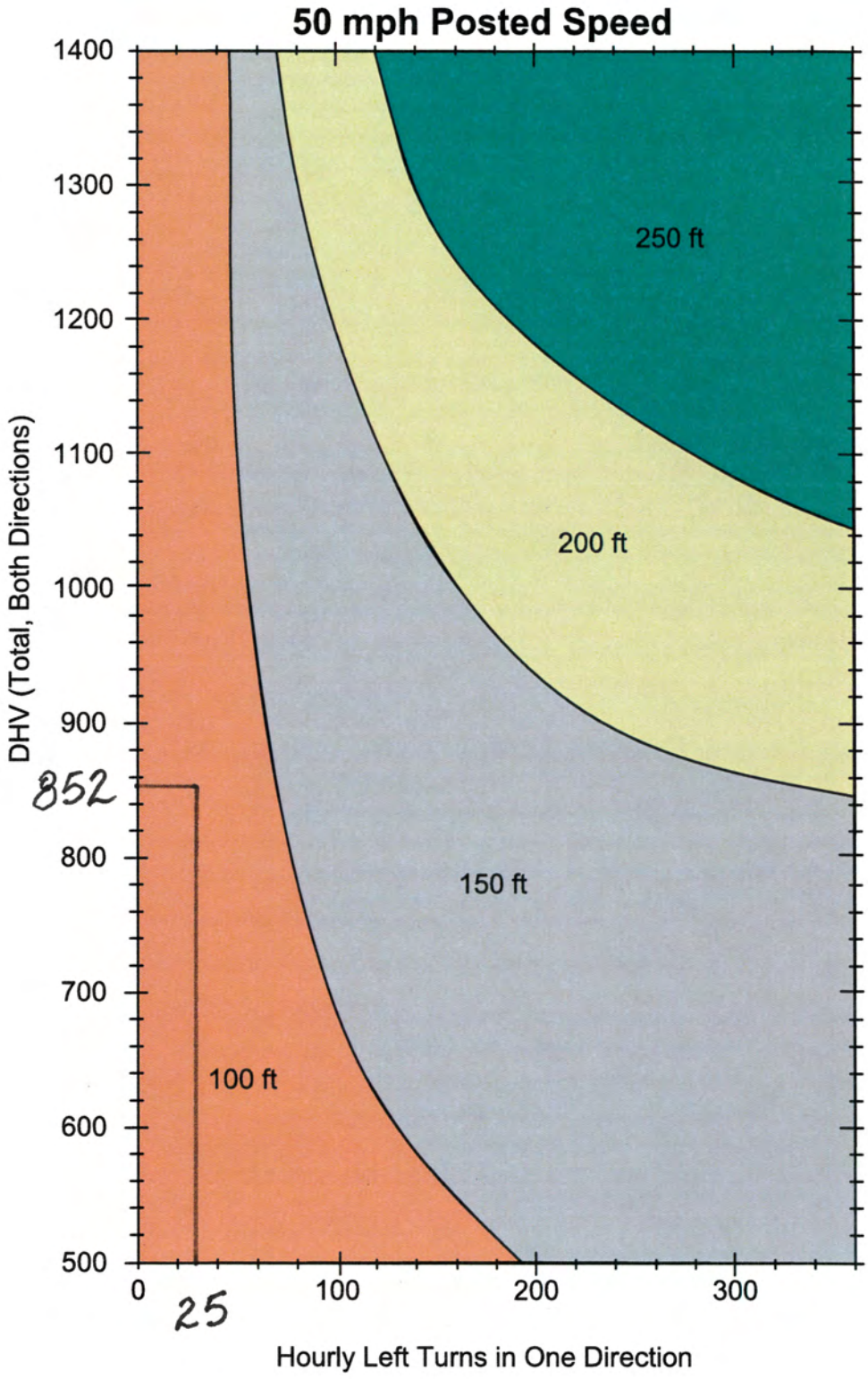
45 mph

Exhibit 1310-7a Left-Turn Storage Guidelines: Two-Lane, Unsignalized



SR 300 / Sand Hill Rd
MP 2.27

Exhibit 1310-8b Left-Turn Storage Length: Two-Lane, Unsignalized (50 mph)



VEHICLE VOLUME SUMMARY

Prepared By: *jmn*

State Route 300 MP 2.27 Count Date 3/30/17

Intersection Sand Hill Rd 85% Speed 45

Major Lanes 1 Minor Lanes 1

Seasonal Factor	1.09
Minor Leg 1 % Rt. Turns	0.00%
Minor Leg 2 % Rt. Turns	0.00%

TIME	MAJOR LEG EB	MAJOR LEG WB	MAJOR LEGS TOTAL	MINOR LEG 1 SB	SEASONAL FACTORS		MINOR LEG 2	SEASONAL FACTORS		Warrant #1 Cond. A 350 / 105	Warrant #1 Cond. B 525 / 53
00-0100	0	0	**0**	0	**0**		0	**0**			
01-0200	0	0	**0**	0	**0**		0	**0**			
02-0300	0	0	**0**	0	**0**		0	**0**			
03-0400	0	0	**0**	0	**0**		0	**0**			
04-0500	0	0	**0**	0	**0**		0	**0**			
05-0600	0	0	**0**	0	**0**		0	**0**			
06-0700	324	50	**408**	95	**104**		0	**0**			
07-0800	387	97	**528**	138	**150**		0	**0**		1	1
08-0900	246	127	**407**	97	**106**		0	**0**		1	
09-1000	310	145	**496**	143	**156**		0	**0**		1	
10-1100	257	167	**462**	69	**75**		0	**0**			
11-1200	258	186	**484**	92	**100**		0	**0**			
12-1300	266	205	**513**	111	**121**		0	**0**		1	
13-1400	241	224	**507**	120	**131**		0	**0**		1	
14-1500	265	243	**554**	109	**119**		0	**0**		1	1
15-1600	220	341	**611**	99	**108**		0	**0**		1	1
16-1700	228	409	**694**	102	**111**		0	**0**		1	1
17-1800	190	394	**637**	111	**121**		0	**0**		1	1
18-1900	0	0	**0**	0	**0**		0	**0**			
19-2000	0	0	**0**	0	**0**		0	**0**			
20-2100	0	0	**0**	0	**0**		0	**0**			
21-2200	0	0	**0**	0	**0**		0	**0**			
22-2300	0	0	**0**	0	**0**		0	**0**			
23-2400	0	0	**0**	0	**0**		0	**0**			
TOTAL	3192	2588	**6300**	1286	**1402**		0	**0**		*Total Hours* 9	*Total Hours* 5

V_m = 1210 V_s = 158

WSDOT OLYMPIC REGION TRAFFIC

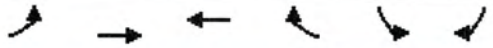
SIGNAL PRIORITY LIST

DATA SUMMARY SHEET

Map - SR 300/Sand Hill Rd AM Seasonal Factored
2017 AM Signalized sf



2017 AM signalized sf.syn



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	35	303	158	117	143	13
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1785	1776	1776	1696	1759
Adj Flow Rate, veh/h	45	394	205	152	186	17
Adj No. of Lanes	0	1	1	1	1	1
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	4	4	7	7	12	8
Cap, veh/h	186	920	1000	850	251	233
Arrive On Green	0.56	0.56	0.56	0.56	0.16	0.16
Sat Flow, veh/h	82	1635	1776	1509	1616	1495
Grp Volume(v), veh/h	439	0	205	152	186	17
Grp Sat Flow(s),veh/h/ln	1717	0	1776	1509	1616	1495
Q Serve(g_s), s	0.0	0.0	1.6	1.4	3.1	0.3
Cycle Q Clear(g_c), s	4.1	0.0	1.6	1.4	3.1	0.3
Prop In Lane	0.10			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	1106	0	1000	850	251	233
V/C Ratio(X)	0.40	0.00	0.21	0.18	0.74	0.07
Avail Cap(c_a), veh/h	1106	0	1000	850	909	842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	3.6	0.0	3.1	3.0	11.5	10.2
Incr Delay (d2), s/veh	1.1	0.0	0.5	0.5	4.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.9	0.7	1.6	0.1
LnGrp Delay(d),s/veh	4.7	0.0	3.5	3.5	15.7	10.4
LnGrp LOS	A		A	A	B	B
Approach Vol, veh/h		439	357		203	
Approach Delay, s/veh		4.7	3.5		15.2	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		20.0		8.4		20.0		
Change Period (Y+Rc), s		4.0		4.0		4.0		
Max Green Setting (Gmax), s		16.0		16.0		16.0		
Max Q Clear Time (g_c+I1), s		6.1		5.1		3.6		
Green Ext Time (p_c), s		3.3		0.4		3.8		

Intersection Summary	
HCM 2010 Ctrl Delay	6.4
HCM 2010 LOS	A

Intersection: 3: SR 300 & Sand Hill Rd

Movement	EB	WB	WB	SB	SB
Directions Served	LT	T	R	L	R
Maximum Queue (ft)	138	61	47	88	33
Average Queue (ft)	62	28	23	54	9
95th Queue (ft)	126	61	49	94	32
Link Distance (ft)	921	1013			1256
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			300	150	
Storage Blk Time (%)					
Queuing Penalty (veh)					

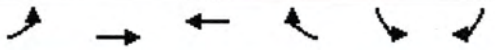
Network Summary

Network wide Queuing Penalty: 0

Map - SR 300/Sand Hill Rd Seasonal Factored
2017 PM Signalized



2017 PM signalized sf.syn



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	27	232	447	222	143	13
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1784	1776	1776	1696	1759
Adj Flow Rate, veh/h	28	239	461	229	147	13
Adj No. of Lanes	0	1	1	1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	7	7	12	8
Cap, veh/h	184	950	1040	884	196	182
Arrive On Green	0.59	0.59	0.59	0.59	0.12	0.12
Sat Flow, veh/h	65	1622	1776	1509	1616	1495
Grp Volume(v), veh/h	267	0	461	229	147	13
Grp Sat Flow(s),veh/h/ln	1687	0	1776	1509	1616	1495
Q Serve(g_s), s	0.0	0.0	4.0	2.0	2.4	0.2
Cycle Q Clear(g_c), s	2.0	0.0	4.0	2.0	2.4	0.2
Prop In Lane	0.10			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	1134	0	1040	884	196	182
V/C Ratio(X)	0.24	0.00	0.44	0.26	0.75	0.07
Avail Cap(c_a), veh/h	1134	0	1040	884	946	876
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	2.8	0.0	3.2	2.8	11.6	10.6
Incr Delay (d2), s/veh	0.5	0.0	1.4	0.7	5.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	2.3	1.0	1.4	0.1
LnGrp Delay(d),s/veh	3.2	0.0	4.5	3.5	17.2	10.8
LnGrp LOS	A		A	A	B	B
Approach Vol, veh/h		267	690		160	
Approach Delay, s/veh		3.2	4.2		16.7	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		20.0		7.3		20.0		
Change Period (Y+Rc), s		4.0		4.0		4.0		
Max Green Setting (Gmax), s		16.0		16.0		16.0		
Max Q Clear Time (g_c+I1), s		4.0		4.4		6.0		
Green Ext Time (p_c), s		4.4		0.3		4.0		

Intersection Summary	
HCM 2010 Ctrl Delay	5.8
HCM 2010 LOS	A

Intersection: 3: SR 300 & Sand Hill Rd

Movement	EB	WB	WB	SB	SB
Directions Served	LT	T	R	L	R
Maximum Queue (ft)	146	141	61	88	34
Average Queue (ft)	61	65	33	54	9
95th Queue (ft)	128	126	67	95	32
Link Distance (ft)	921	1013			1256
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			300	150	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0

MOVEMENT SUMMARY

Site: SR 300 & Sand Hill Rd Peninsula RTPO Study 2017 - all single lane approaches

SR 19/Sand Hill Rd
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
East: SR 300											
8	T1	205	7.0	0.319	4.5	LOS A	1.9	51.1	0.25	0.45	36.7
18	R2	152	7.0	0.319	4.6	LOS A	1.9	51.1	0.25	0.45	35.6
Approach		357	7.0	0.319	4.5	LOS A	1.9	51.1	0.25	0.45	36.2
North: Sand Hill Rd											
1	L2	186	12.0	0.218	10.9	LOS B	1.1	29.2	0.41	0.67	33.5
16	R2	17	8.0	0.218	5.5	LOS A	1.1	29.2	0.41	0.67	32.9
Approach		203	11.7	0.218	10.5	LOS B	1.1	29.2	0.41	0.67	33.5
West: SR 300											
7	L2	45	28.0	0.446	12.0	LOS B	2.9	75.4	0.51	0.58	34.6
4	T1	394	4.0	0.446	5.6	LOS A	2.9	75.4	0.51	0.58	35.6
Approach		439	6.5	0.446	6.2	LOS A	2.9	75.4	0.51	0.58	35.5
All Vehicles		999	7.7	0.446	6.5	LOS A	2.9	75.4	0.39	0.55	35.3

Level of Service (LOS) Method: Delay (HCM 2000).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 09:28:36
PAGE: 1

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5428 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 10:00
LOCATION SR 300 & SAND HILL RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												32	6.44		497
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	442	16	10			3	1	1				31		95.17	473
NORTH TO WEST	23		1									1		4.83	24
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												60	8.55		702
EAST TO NORTH	261	11	7			3	1					22		40.31	283
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	381	18	15	2	1	1	1					38		59.69	419
WEST APPROACH												53	4.18		1267
WEST TO NORTH	46	9						1				10		4.42	56
WEST TO SOUTH															
WEST TO EAST	1168	13	25	1		1		3				43		95.58	1211
THIS LEG WEST															
															2466
														PCT SPLIT OUT/IN	
NORTH TOTAL	772	36	18			6	2	2				64		59/41	836
PERCENTAGE	92.34	4.31	2.15			0.72	0.24	0.24				7.66			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	2252	58	57	3	1	8	3	4				134		29/71	2386
PERCENTAGE	94.38	2.43	2.39	0.13	0.04	0.34	0.13	0.17				5.62			
WEST TOTAL	1618	40	41	3	1	2	1	4				92		74/26	1710
PERCENTAGE	94.62	2.34	2.40	0.18	0.06	0.12	0.06	0.23				5.38			
TRUCK PERCENTAGE:															4932

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	54	6.46	10	1.20			64	7.66	0.9846
SOUTH TOTAL									
EAST TOTAL	119	4.99	15	0.63			134	5.62	0.9904
WEST TOTAL	85	4.97	7	0.41			92	5.38	0.9918

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5428 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 07:00
LOCATION SR 300 & SAND HILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												3	3.09		97
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	92	1	2									3		97.94	95
NORTH TO WEST	2													2.06	2
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												11	12.36		89
EAST TO NORTH	35	2	1				1					4		43.82	39
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	43	5	2									7		56.18	50
WEST APPROACH												5	1.54		324
WEST TO NORTH	4													1.23	4
WEST TO SOUTH															
WEST TO EAST	315		3					2				5		98.77	320
THIS LEG WEST															
															510
														PCT SPLIT OUT/IN	
NORTH TOTAL	133	3	3				1					7		69/31	140
PERCENTAGE	95.00	2.14	2.14				0.71					5.00			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	485	8	8				1	2				19		18/82	504
PERCENTAGE	96.23	1.59	1.59				0.20	0.40				3.77			
WEST TOTAL	364	5	5					2				12		86/14	376
PERCENTAGE	96.81	1.33	1.33					0.53				3.19			
															1020

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5428 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 300 & SAND HILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												8	5.56		144
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	130	2	3			2	1					8		95.83	138
NORTH TO WEST	6													4.17	6
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												10	6.85		146
EAST TO NORTH	46	3										3		33.56	49
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	90	5	1		1							7		66.44	97
WEST APPROACH												19	4.91		387
WEST TO NORTH	7	1										1		2.07	8
WEST TO SOUTH															
WEST TO EAST	361	10	8									18		97.93	379
THIS LEG WEST															
															677
														PCT SPLIT OUT/IN	
NORTH TOTAL	189	6	3			2	1					12		72/28	201
PERCENTAGE	94.03	2.99	1.49			1.00	0.50					5.97			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	627	20	12		1	2	1					36		22/78	663
PERCENTAGE	94.57	3.02	1.81		0.15	0.30	0.15					5.43			
WEST TOTAL	464	16	9		1							26		79/21	490
PERCENTAGE	94.69	3.27	1.84		0.20							5.31			
															1354

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5428 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:00 - 09:00
LOCATION SR 300 & SAND HILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												3	3.00		100
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	94		2			1						3		97.00	97
NORTH TO WEST	3													3.00	3
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												22	10.23		215
EAST TO NORTH	80	3	2			3						8		40.93	88
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	113	6	6	1		1						14		59.07	127
WEST APPROACH												8	3.25		246
WEST TO NORTH	12													4.88	12
WEST TO SOUTH															
WEST TO EAST	226	2	5			1						8		95.12	234
THIS LEG WEST															
															561
														PCT SPLIT OUT/IN	
NORTH TOTAL	189	3	4			4						11		50/50	200
PERCENTAGE	94.50	1.50	2.00			2.00						5.50			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	513	11	15	1		6						33		39/61	546
PERCENTAGE	93.96	2.01	2.75	0.18		1.10						6.04			
WEST TOTAL	354	8	11	1		2						22		65/35	376
PERCENTAGE	94.15	2.13	2.93	0.27		0.53						5.85			
															1122

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5428 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 300 & SAND HILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												18	11.54		156
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	126	13	3					1				17		91.67	143
NORTH TO WEST	12		1									1		8.33	13
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												17	6.75		252
EAST TO NORTH	100	3	4									7		42.46	107
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	135	2	6	1			1					10		57.54	145
WEST APPROACH												21	6.77		310
WEST TO NORTH	23	8						1				9		10.32	32
WEST TO SOUTH															
WEST TO EAST	266	1	9	1				1				12		89.68	278
THIS LEG WEST															
															718
														PCT SPLIT OUT/IN	
NORTH TOTAL	261	24	8					2				34		53/47	295
PERCENTAGE	88.47	8.14	2.71					0.68				11.53			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	627	19	22	2		1		2				46		37/63	673
PERCENTAGE	93.16	2.82	3.27	0.30		0.15		0.30				6.84			
WEST TOTAL	436	11	16	2		1		2				32		66/34	468
PERCENTAGE	93.16	2.35	3.42	0.43		0.21		0.43				6.84			
															1436

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5428 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 300 & SAND HILL RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												18	11.54		156
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	126	13	3					1				17		91.67	143
NORTH TO WEST	12		1									1		8.33	13
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												17	6.75		252
EAST TO NORTH	100	3	4									7		42.46	107
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	135	2	6	1			1					10		57.54	145
WEST APPROACH												21	6.77		310
WEST TO NORTH	23	8						1				9		10.32	32
WEST TO SOUTH															
WEST TO EAST	266	1	9	1				1				12		89.68	278
THIS LEG WEST															
															718
														PCT SPLIT OUT/IN	
NORTH TOTAL	261	24	8					2				34		53/47	295
PERCENTAGE	88.47	8.14	2.71					0.68				11.53			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	627	19	22	2		1		2				46		37/63	673
PERCENTAGE	93.16	2.82	3.27	0.30		0.15		0.30				6.84			
WEST TOTAL	436	11	16	2		1		2				32		66/34	468
PERCENTAGE	93.16	2.35	3.42	0.43		0.21		0.43				6.84			
															1436

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5428 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 300 & SAND HILL RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												18	11.54		156
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	126	13	3					1				17		91.67	143
NORTH TO WEST	12		1									1		8.33	13
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												17	6.75		252
EAST TO NORTH	100	3	4									7		42.46	107
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	135	2	6	1			1					10		57.54	145
WEST APPROACH												21	6.77		310
WEST TO NORTH	23	8						1				9		10.32	32
WEST TO SOUTH															
WEST TO EAST	266	1	9	1				1				12		89.68	278
THIS LEG WEST															
															718
														PCT SPLIT OUT/IN	
NORTH TOTAL	261	24	8					2				34		53/47	295
PERCENTAGE	88.47	8.14	2.71					0.68				11.53			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	627	19	22	2			1	2				46		37/63	673
PERCENTAGE	93.16	2.82	3.27	0.30			0.15	0.30				6.84			
WEST TOTAL	436	11	16	2			1	2				32		66/34	468
PERCENTAGE	93.16	2.35	3.42	0.43			0.21	0.43				6.84			
															1436

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5428 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 300 & SAND HILL RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												8	5.56		144
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	130	2	3			2	1					8		95.83	138
NORTH TO WEST	6													4.17	6
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												10	6.85		146
EAST TO NORTH	46	3										3		33.56	49
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	90	5	1		1							7		66.44	97
WEST APPROACH												19	4.91		387
WEST TO NORTH	7	1										1		2.07	8
WEST TO SOUTH															
WEST TO EAST	361	10	8									18		97.93	379
THIS LEG WEST															
															677
														PCT SPLIT OUT/IN	
NORTH TOTAL	189	6	3			2	1					12		72/28	201
PERCENTAGE	94.03	2.99	1.49			1.00	0.50					5.97			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	627	20	12		1	2	1					36		22/78	663
PERCENTAGE	94.57	3.02	1.81		0.15	0.30	0.15					5.43			
WEST TOTAL	464	16	9		1							26		79/21	490
PERCENTAGE	94.69	3.27	1.84		0.20							5.31			
															1354

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5428 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 300 & SAND HILL RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												18	11.54		156
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	126	13	3					1				17		91.67	143
NORTH TO WEST	12		1									1		8.33	13
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												17	6.75		252
EAST TO NORTH	100	3	4									7		42.46	107
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	135	2	6	1			1					10		57.54	145
WEST APPROACH												21	6.77		310
WEST TO NORTH	23	8						1				9		10.32	32
WEST TO SOUTH															
WEST TO EAST	266	1	9	1				1				12		89.68	278
THIS LEG WEST															
															718
														PCT SPLIT OUT/IN	
NORTH TOTAL	261	24	8					2				34		53/47	295
PERCENTAGE	88.47	8.14	2.71					0.68				11.53			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	627	19	22	2			1	2				46		37/63	673
PERCENTAGE	93.16	2.82	3.27	0.30			0.15	0.30				6.84			
WEST TOTAL	436	11	16	2			1	2				32		66/34	468
PERCENTAGE	93.16	2.35	3.42	0.43			0.21	0.43				6.84			
															1436

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	32	10.85	2	0.68			34	11.53	0.9866
SOUTH TOTAL									
EAST TOTAL	43	6.39	3	0.45			46	6.84	0.9904
WEST TOTAL	29	6.20	3	0.64			32	6.84	0.9863

PEAK HOUR FACTOR 0.774 144 232 184 158 718

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

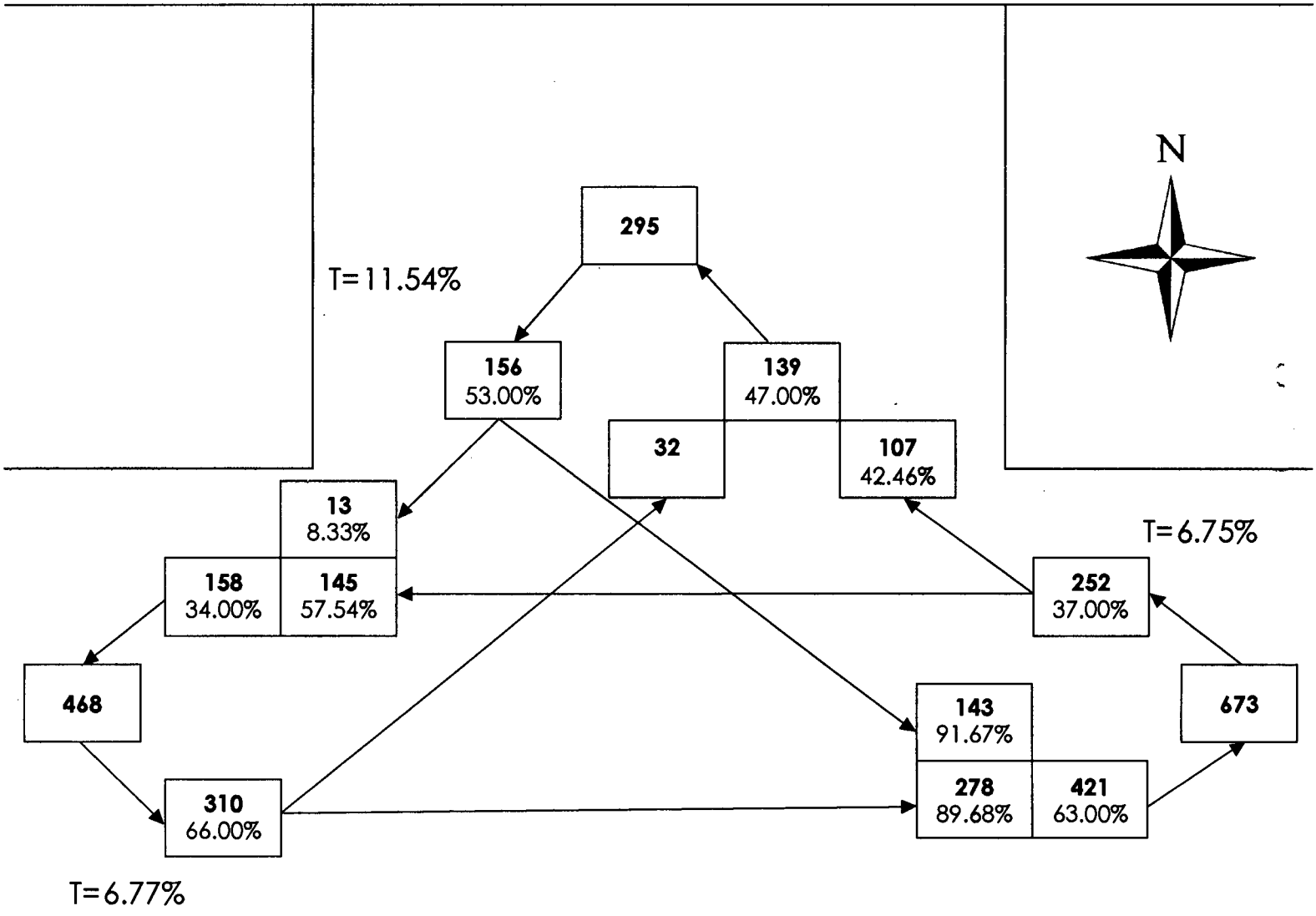
(Block Diagram)

Date: 3/30/2017
Time Period: 09:00 - 10:00

SR: 300 MP: 002.27 Off Sys. ID: Count ID: 17-006

Location: SR 300 & SAND HILL RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 144

Quarter Hour 2 = 232

Quarter Hour 3 = 184

Quarter Hour 4 = 158

TOTAL HOUR = 718

PEAK HOUR FACTOR = 0.774

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

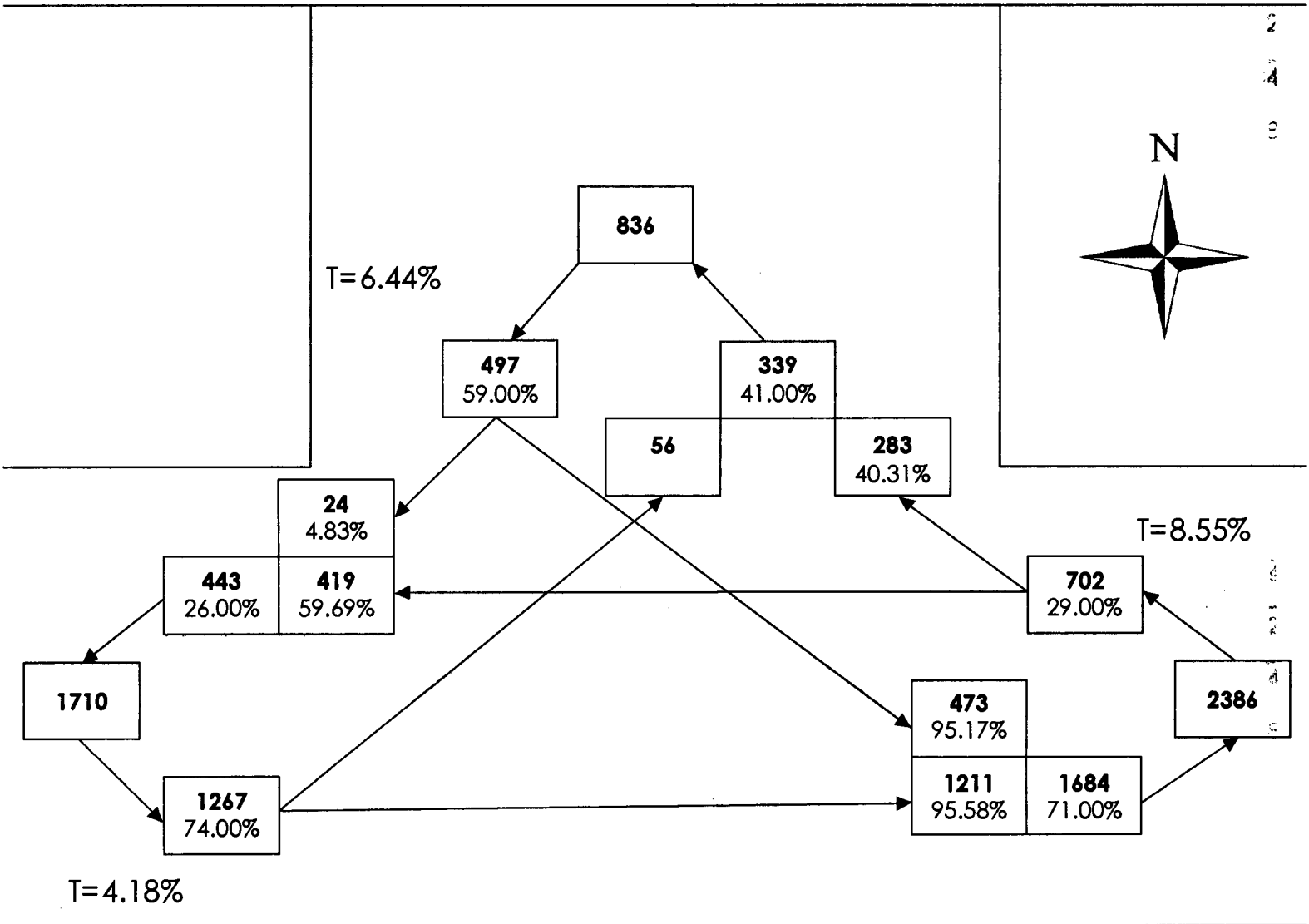
(Block Diagram)

Date: 3/30/2017
Time Period: 06:00 - 10:00

SR: 300 MP: 002.27 Off Sys. ID: Count ID: 17-006

Location: SR 300 & SAND HILL RD

ENTIRE COUNT VOLUMES



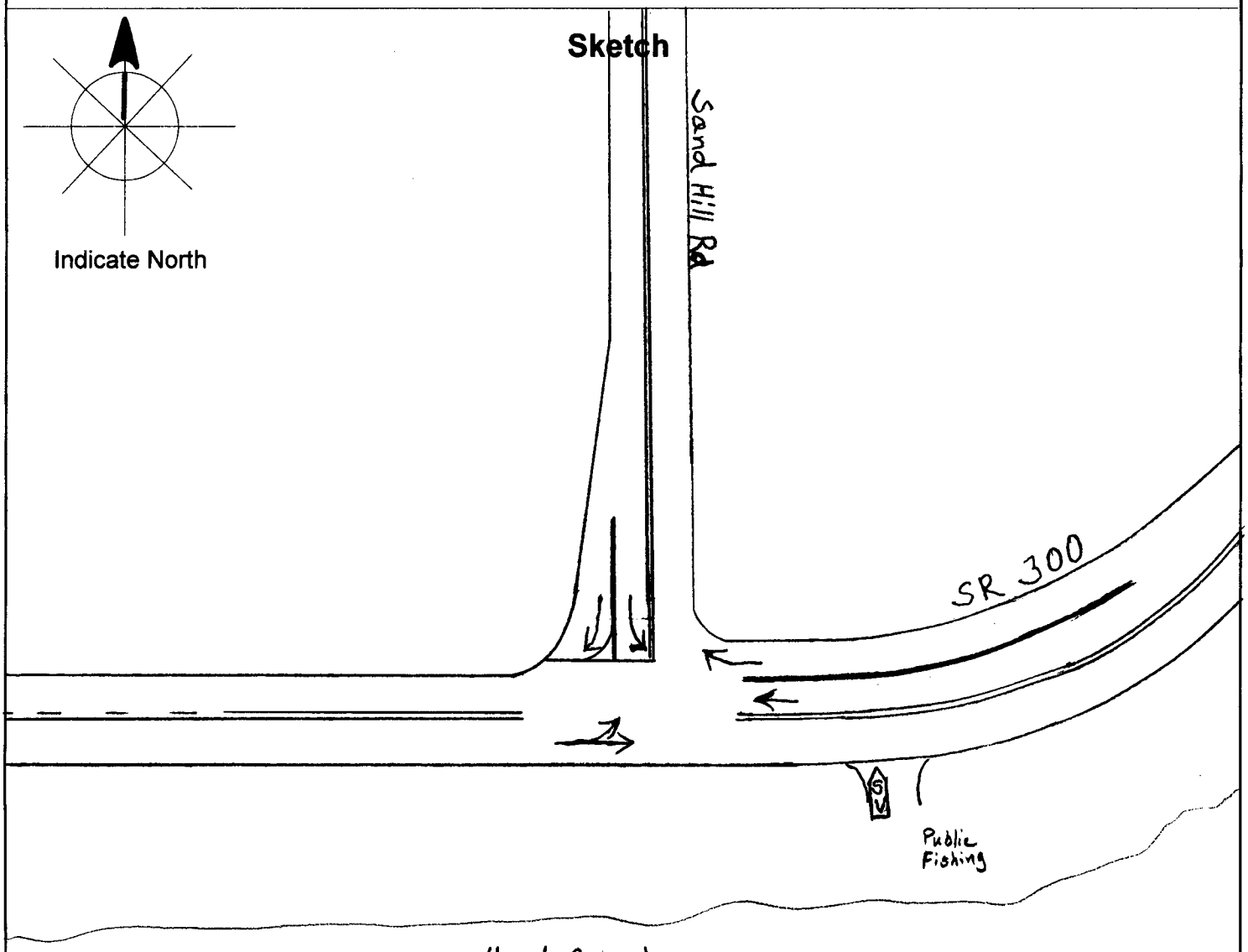
2897 5426 5427 5428

Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
300	2.27		17-006	3-28-17 14:00-18:00 3-29-17 10:00-14:00 3-30-17 6:00-10:00

Station Location: Jct SR300 and Sand Hill Rd



Remarks: G:\17-006 BB 14-1800 #5426 3/28/17

G:\17-006 CC 10-1400 #5427 3/29/17

G:\17-006 DD 06-1000 #5428 3/30/17

CP

Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 09:28:03
PAGE: 1

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5427 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 14:00
LOCATION SR 300 & SAND HILL RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												29	6.70		433
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	372	3	15	1		1						20		90.53	392
NORTH TO WEST	32	8	1									9		9.47	41
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												79	6.86		1152
EAST TO NORTH	338	16	13	1								30		31.94	368
EAST TO SOUTH															
THIS LEG EAST	2													0.17	2
EAST TO WEST	733	10	26	4		2	5	2				49		67.88	782
WEST APPROACH												75	7.34		1022
WEST TO NORTH	44	6	3									9		5.19	53
WEST TO SOUTH															
WEST TO EAST	903	24	28	3		2	2	5			2	66		94.81	969
THIS LEG WEST															
															2607
														PCT SPLIT OUT/IN	
NORTH TOTAL	786	33	32	2		1						68		51/49	854
PERCENTAGE	92.04	3.86	3.75	0.23		0.12						7.96			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	2348	53	82	9		5	7	7			2	165		46/54	2513
PERCENTAGE	93.43	2.11	3.26	0.36		0.20	0.28	0.28			0.08	6.57			
WEST TOTAL	1712	48	58	7		4	7	7			2	133		55/45	1845
PERCENTAGE	92.79	2.60	3.14	0.38		0.22	0.38	0.38			0.11	7.21			
															5212

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	67	7.85	1	0.12			68	7.96	0.9976
SOUTH TOTAL									
EAST TOTAL	144	5.73	19	0.76	2	0.08	165	6.57	0.9847
WEST TOTAL	113	6.12	18	0.98	2	0.11	133	7.21	0.9803

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5427 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 11:00
LOCATION SR 300 & SAND HILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												3	4.17		72
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	66		3									3		95.83	69
NORTH TO WEST	3													4.17	3
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												18	8.22		219
EAST TO NORTH	46	1	5									6		23.74	52
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	155	1	7	1			2	1				12		76.26	167
WEST APPROACH												7	2.72		257
WEST TO NORTH	10													3.89	10
WEST TO SOUTH															
WEST TO EAST	240	2	3	1				1				7		96.11	247
THIS LEG WEST															
															548
														PCT SPLIT OUT/IN	
NORTH TOTAL	125	1	8									9		54/46	134
PERCENTAGE	93.28	0.75	5.97									6.72			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	507	4	18	2		2		2				28		41/59	535
PERCENTAGE	94.77	0.75	3.36	0.37		0.37		0.37				5.23			
WEST TOTAL	408	3	10	2		2		2				19		60/40	427
PERCENTAGE	95.55	0.70	2.34	0.47		0.47		0.47				4.45			
															1096

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5427 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:00 - 12:00
LOCATION SR 300 & SAND HILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												6	6.06		99
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	87		4			1						5		92.93	92
NORTH TO WEST	6	1										1		7.07	7
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												26	9.77		266
EAST TO NORTH	73	5	2									7		30.08	80
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	167	7	7	1		1	2	1				19		69.92	186
WEST APPROACH												20	7.75		258
WEST TO NORTH	11		2									2		5.04	13
WEST TO SOUTH															
WEST TO EAST	227	2	12	1		1		1			1	18		94.96	245
THIS LEG WEST															
															623
														PCT SPLIT OUT/IN	
NORTH TOTAL	177	6	8			1						15		52/48	192
PERCENTAGE	92.19	3.12	4.17			0.52						7.81			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	554	14	25	2		3	2	2			1	49		44/56	603
PERCENTAGE	91.87	2.32	4.15	0.33		0.50	0.33	0.33			0.17	8.13			
WEST TOTAL	411	10	21	2		2	2	2			1	40		57/43	451
PERCENTAGE	91.13	2.22	4.66	0.44		0.44	0.44	0.44			0.22	8.87			
															1246

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5427 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 300 & SAND HILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												6	4.72		127
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	106	1	4									5		87.40	111
NORTH TO WEST	15	1										1		12.60	16
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												20	5.95		336
EAST TO NORTH	120	7	2									9		38.39	129
EAST TO SOUTH															
THIS LEG EAST	2													0.60	2
EAST TO WEST	194	2	6	2		1						11		61.01	205
WEST APPROACH												25	9.40		266
WEST TO NORTH	16	5	1									6		8.27	22
WEST TO SOUTH															
WEST TO EAST	225	8	6			1	1	3				19		91.73	244
THIS LEG WEST															
															729
														PCT SPLIT OUT/IN	
NORTH TOTAL	257	14	7									21		46/54	278
PERCENTAGE	92.45	5.04	2.52									7.55			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	647	18	18	2		2	1	3				44		49/51	691
PERCENTAGE	93.63	2.60	2.60	0.29		0.29	0.14	0.43				6.37			
WEST TOTAL	450	16	13	2		2	1	3				37		55/45	487
PERCENTAGE	92.40	3.29	2.67	0.41		0.41	0.21	0.62				7.60			
															1456

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5427 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 300 & SAND HILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												14	10.37		135
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	113	2	4	1								7		88.89	120
NORTH TO WEST	8	6	1									7		11.11	15
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												15	4.53		331
EAST TO NORTH	99	3	4	1								8		32.33	107
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	217		6				1					7		67.67	224
WEST APPROACH												23	9.54		241
WEST TO NORTH	7	1										1		3.32	8
WEST TO SOUTH															
WEST TO EAST	211	12	7	1			1				1	22		96.68	233
THIS LEG WEST															
															707
														PCT SPLIT OUT/IN	
NORTH TOTAL	227	12	9	2								23		54/46	250
PERCENTAGE	90.80	4.80	3.60	0.80								9.20			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	640	17	21	3			2				1	44		48/52	684
PERCENTAGE	93.57	2.49	3.07	0.44			0.29				0.15	6.43			
WEST TOTAL	443	19	14	1			2				1	37		50/50	480
PERCENTAGE	92.29	3.96	2.92	0.21			0.42				0.21	7.71			
															1414

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5427 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:30 - 13:30
LOCATION SR 300 & SAND HILL RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												16	10.39		154
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	122	3	5									8		84.42	130
NORTH TO WEST	16	7	1									8		15.58	24
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												19	5.44		349
EAST TO NORTH	124	5	2	1								8		37.82	132
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	206	2	7			1	1					11		62.18	217
WEST APPROACH												23	9.27		248
WEST TO NORTH	15	1	1									2		6.85	17
WEST TO SOUTH															
WEST TO EAST	210	11	6	1			2	1				21		93.15	231
THIS LEG WEST															
															751
														PCT SPLIT OUT/IN	
NORTH TOTAL	277	16	9	1								26		51/49	303
PERCENTAGE	91.42	5.28	2.97	0.33								8.58			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	662	21	20	2		1	3	1				48		49/51	710
PERCENTAGE	93.24	2.96	2.82	0.28		0.14	0.42	0.14				6.76			
WEST TOTAL	447	21	15	1		1	3	1				42		51/49	489
PERCENTAGE	91.41	4.29	3.07	0.20		0.20	0.61	0.20				8.59			
															1502

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5427 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:30 - 13:30
LOCATION SR 300 & SAND HILL RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												16	10.39		154
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	122	3	5									8		84.42	130
NORTH TO WEST	16	7	1									8		15.58	24
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												19	5.44		349
EAST TO NORTH	124	5	2	1								8		37.82	132
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	206	2	7			1	1					11		62.18	217
WEST APPROACH												23	9.27		248
WEST TO NORTH	15	1	1									2		6.85	17
WEST TO SOUTH															
WEST TO EAST	210	11	6	1			2	1				21		93.15	231
THIS LEG WEST															
															751
														PCT SPLIT OUT/IN	
NORTH TOTAL	277	16	9	1								26		51/49	303
PERCENTAGE	91.42	5.28	2.97	0.33								8.58			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	662	21	20	2		1	3	1				48		49/51	710
PERCENTAGE	93.24	2.96	2.82	0.28		0.14	0.42	0.14				6.76			
WEST TOTAL	447	21	15	1		1	3	1				42		51/49	489
PERCENTAGE	91.41	4.29	3.07	0.20		0.20	0.61	0.20				8.59			
															1502

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5427 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:30 - 12:30
LOCATION SR 300 & SAND HILL RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												7	6.67		105
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	88		5			1						6		89.52	94
NORTH TO WEST	10	1										1		10.48	11
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												29	9.54		304
EAST TO NORTH	90	7	2									9		32.57	99
EAST TO SOUTH															
THIS LEG EAST	2													0.66	2
EAST TO WEST	183	7	8	2		1	1	1				20		66.78	203
WEST APPROACH												28	9.62		291
WEST TO NORTH	12	5	1									6		6.19	18
WEST TO SOUTH															
WEST TO EAST	251	6	9	1		2		3			1	22		93.81	273
THIS LEG WEST															
															700
														PCT SPLIT OUT/IN	
NORTH TOTAL	200	13	8			1						22		47/53	222
PERCENTAGE	90.09	5.86	3.60			0.45						9.91			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	614	20	24	3		4	1	4			1	57		45/55	671
PERCENTAGE	91.51	2.98	3.58	0.45		0.60	0.15	0.60			0.15	8.49			
WEST TOTAL	456	19	18	3		3	1	4			1	49		58/42	505
PERCENTAGE	90.30	3.76	3.56	0.59		0.59	0.20	0.79			0.20	9.70			
															1398

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5427 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:30 - 13:30
LOCATION SR 300 & SAND HILL RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												16	10.39		154
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	122	3	5									8		84.42	130
NORTH TO WEST	16	7	1									8		15.58	24
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												19	5.44		349
EAST TO NORTH	124	5	2	1								8		37.82	132
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	206	2	7			1	1					11		62.18	217
WEST APPROACH												23	9.27		248
WEST TO NORTH	15	1	1									2		6.85	17
WEST TO SOUTH															
WEST TO EAST	210	11	6	1			2	1				21		93.15	231
THIS LEG WEST															
															751
														PCT SPLIT OUT/IN	
NORTH TOTAL	277	16	9	1								26		51/49	303
PERCENTAGE	91.42	5.28	2.97	0.33								8.58			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	662	21	20	2		1	3	1				48		49/51	710
PERCENTAGE	93.24	2.96	2.82	0.28		0.14	0.42	0.14				6.76			
WEST TOTAL	447	21	15	1		1	3	1				42		51/49	489
PERCENTAGE	91.41	4.29	3.07	0.20		0.20	0.61	0.20				8.59			
															1502

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	26	8.58					26	8.58	0.9983
SOUTH TOTAL									
EAST TOTAL	43	6.06	5	0.70			48	6.76	0.9881
WEST TOTAL	37	7.57	5	1.02			42	8.59	0.9839

PEAK HOUR FACTOR 0.963 187 195 186 183 751

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

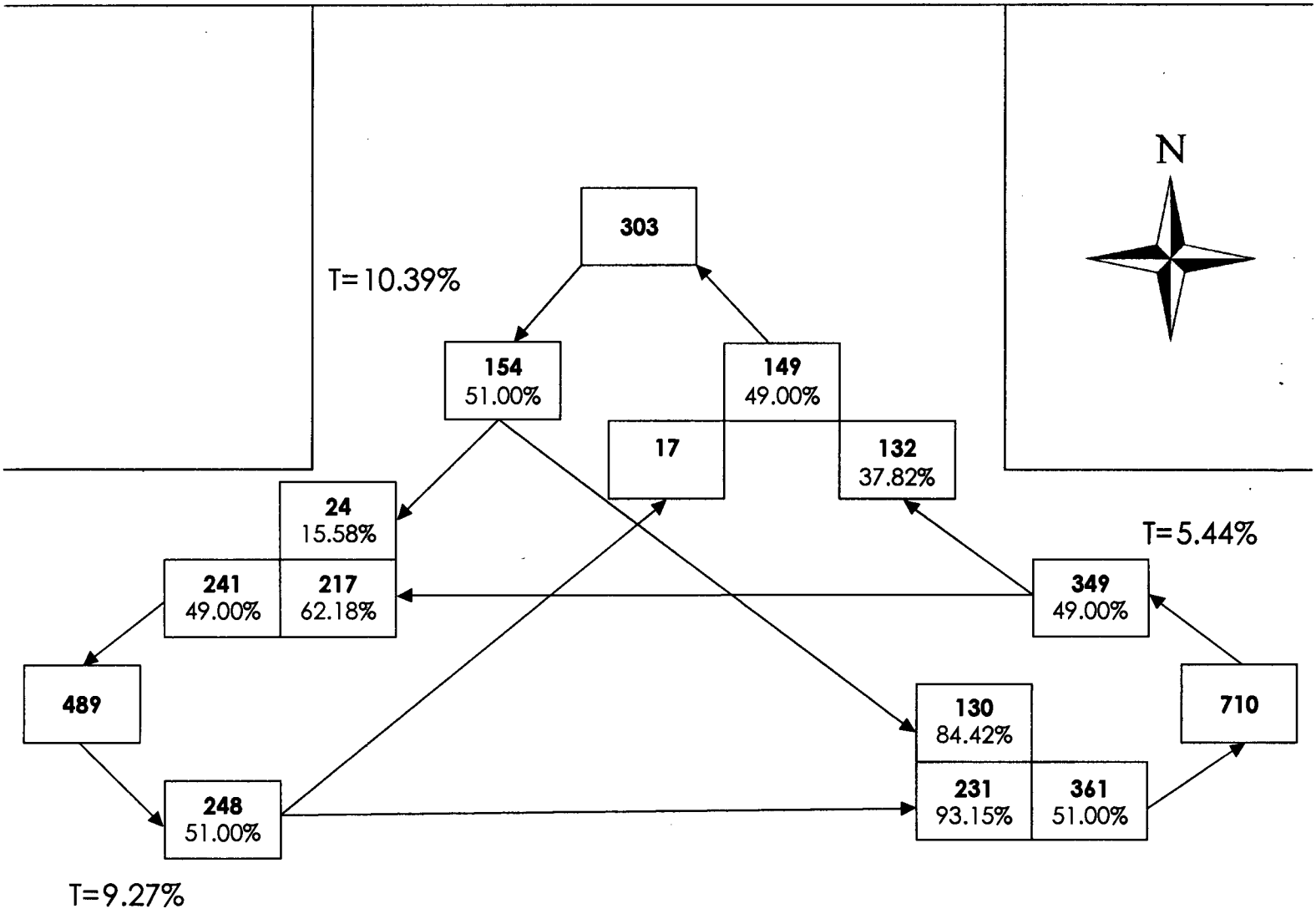
(Block Diagram)

Date: 3/29/2017
Time Period: 12:30 - 13:30

SR: 300 MP: 002.27 Off Sys. ID: Count ID: 17-006

Location: SR 300 & SAND HILL RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 187

Quarter Hour 2 = 195

Quarter Hour 3 = 186

Quarter Hour 4 = 183

TOTAL HOUR = 751

PEAK HOUR FACTOR = 0.963

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

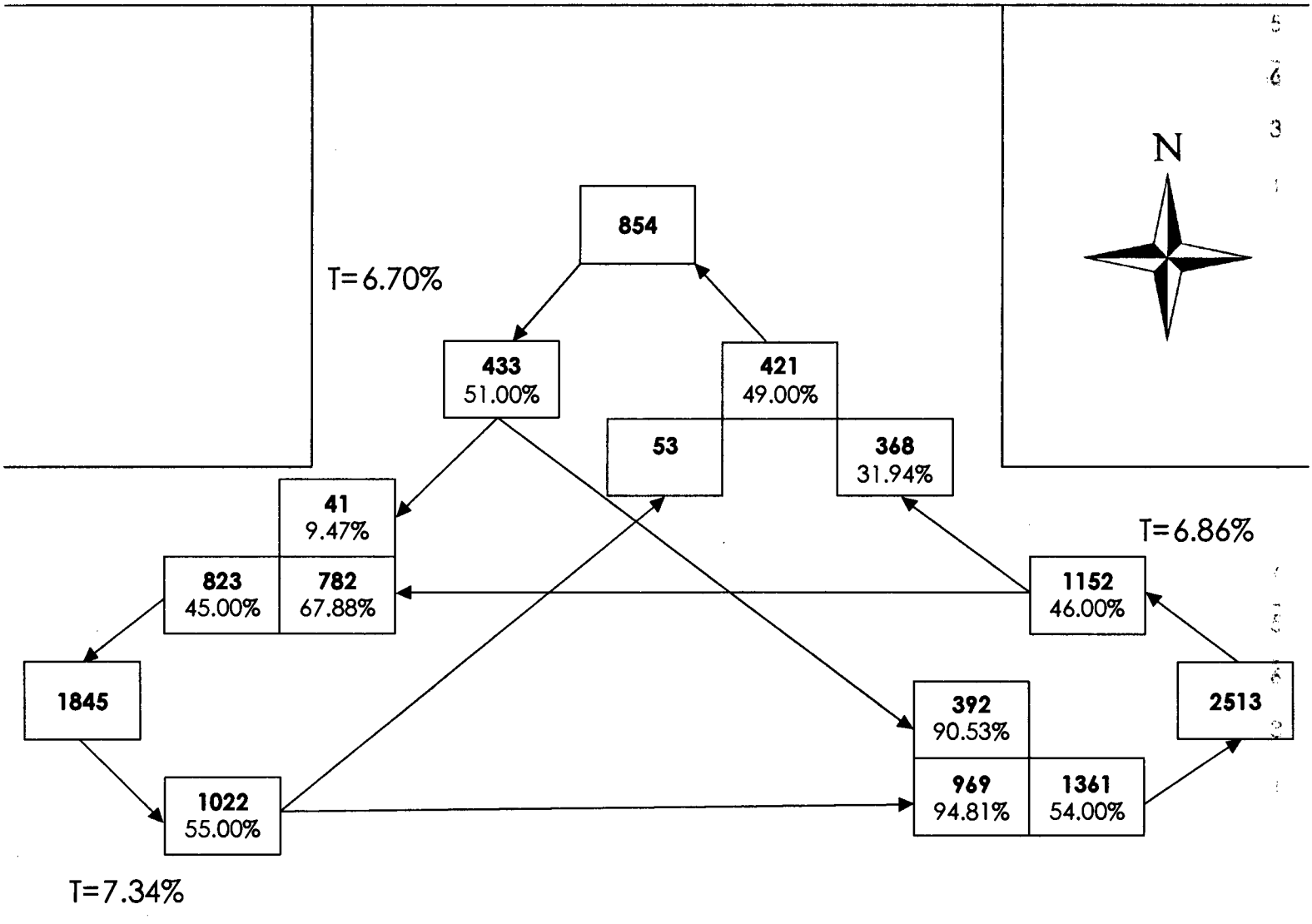
(Block Diagram)

Date: 3/29/2017
Time Period: 10:00 - 14:00

SR: 300 MP: 002.27 Off Sys. ID: Count ID: 17-006

Location: SR 300 & SAND HILL RD

ENTIRE COUNT VOLUMES



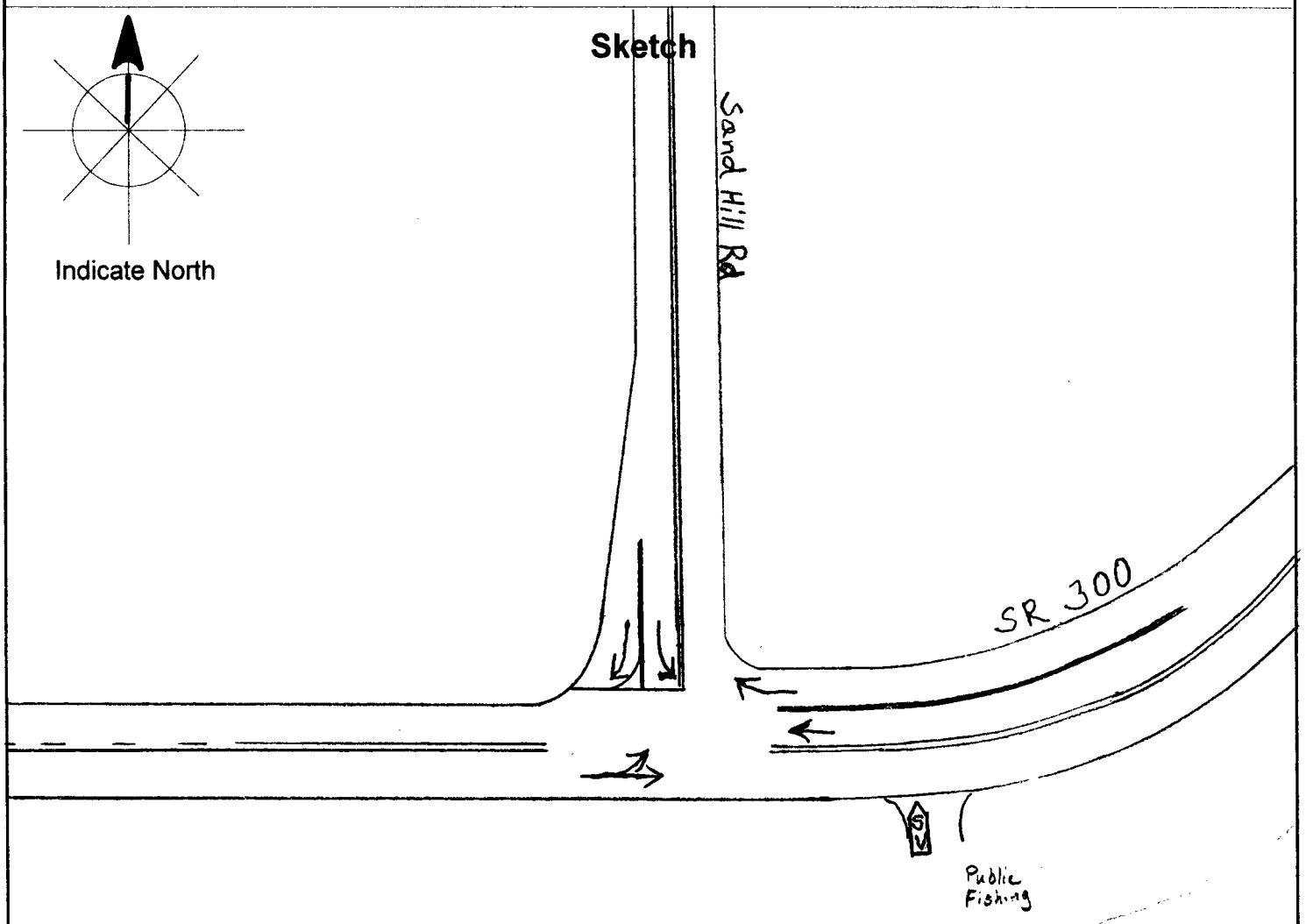
2897 5426 5427 5428

Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
300	2.27		17-006	3-28-17 14:00-18:00 3-29-17 10:00-14:00 3-30-17 6:00-10:00

Station Location: Jct SR300 and Sand Hill Rd



Remarks: G:\17-006 BB 14-1800 #5426 3/28/17

G:\17-006 CC 10-1400 #5427 3/29/17

G:\17-006 DD 06-1000 #5428 3/30/17

CP

Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5426 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 18:00
LOCATION SR 300 & SAND HILL RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												8	1.67		478
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	414	1	4	1		1						7		88.08	421
NORTH TO WEST	56	1										1		11.92	57
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												51	2.59		1968
EAST TO NORTH	559	8	9	2		3						22		29.52	581
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	1358	9	20									29		70.48	1387
WEST APPROACH												44	4.87		903
WEST TO NORTH	73		1	1								2		8.31	75
WEST TO SOUTH															
WEST TO EAST	786	20	19	1		1					1	42		91.69	828
THIS LEG WEST															
															3349
														PCT SPLIT OUT/IN	
NORTH TOTAL	1102	10	14	4		4						32		42/58	1134
PERCENTAGE	97.18	0.88	1.23	0.35		0.35						2.82			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	3117	38	52	4		5					1	100		61/39	3217
PERCENTAGE	96.89	1.18	1.62	0.12		0.16					0.03	3.11			
WEST TOTAL	2273	30	40	2		1					1	74		38/62	2347
PERCENTAGE	96.85	1.28	1.70	0.09		0.04					0.04	3.15			
															6698

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	28	2.47	4	0.35			32	2.82	0.9947
SOUTH TOTAL									
EAST TOTAL	94	2.92	5	0.16	1	0.03	100	3.11	0.9970
WEST TOTAL	72	3.07	1	0.04	1	0.04	74	3.15	0.9980

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5426 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 15:00
LOCATION SR 300 & SAND HILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												1	0.83		121
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	108		1									1		90.08	109
NORTH TO WEST	12													9.92	12
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												14	4.06		345
EAST TO NORTH	96	2	4									6		29.57	102
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	235	2	6									8		70.43	243
WEST APPROACH												13	4.91		265
WEST TO NORTH	21		1									1		8.30	22
WEST TO SOUTH															
WEST TO EAST	231	4	6			1					1	12		91.70	243
THIS LEG WEST															
															731
														PCT SPLIT OUT/IN	
NORTH TOTAL	237	2	6									8		49/51	245
PERCENTAGE	96.73	0.82	2.45									3.27			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	670	8	17			1					1	27		49/51	697
PERCENTAGE	96.13	1.15	2.44			0.14					0.14	3.87			
WEST TOTAL	499	6	13			1					1	21		51/49	520
PERCENTAGE	95.96	1.15	2.50			0.19					0.19	4.04			
															1462

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5426 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 15:00 - 16:00
LOCATION SR 300 & SAND HILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												7	6.14		114
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	93	1	3	1		1						6		86.84	99
NORTH TO WEST	14	1										1		13.16	15
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												15	3.26		460
EAST TO NORTH	112	3	2	1		1						7		25.87	119
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	333	6	2									8		74.13	341
WEST APPROACH												16	7.27		220
WEST TO NORTH	16			1								1		7.73	17
WEST TO SOUTH															
WEST TO EAST	188	9	5	1								15		92.27	203
THIS LEG WEST															
															794
														PCT SPLIT OUT/IN	
NORTH TOTAL	235	5	5	3		2						15		46/54	250
PERCENTAGE	94.00	2.00	2.00	1.20		0.80						6.00			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	726	19	12	3		2						36		60/40	762
PERCENTAGE	95.28	2.49	1.57	0.39		0.26						4.72			
WEST TOTAL	551	16	7	2								25		38/62	576
PERCENTAGE	95.66	2.78	1.22	0.35								4.34			
															1588

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5426 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:00 - 17:00
LOCATION SR 300 & SAND HILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															118
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	102													86.44	102
NORTH TO WEST	16													13.56	16
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												14	2.39		586
EAST TO NORTH	173	1	2	1								4		30.20	177
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	399	1	9									10		69.80	409
WEST APPROACH												8	3.51		228
WEST TO NORTH	24													10.53	24
WEST TO SOUTH															
WEST TO EAST	196	6	2									8		89.47	204
THIS LEG WEST															
															932
														PCT SPLIT OUT/IN	
NORTH TOTAL	315	1	2	1								4		37/63	319
PERCENTAGE	98.75	0.31	0.63	0.31								1.25			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	870	8	13	1								22		66/34	892
PERCENTAGE	97.53	0.90	1.46	0.11								2.47			
WEST TOTAL	635	7	11									18		35/65	653
PERCENTAGE	97.24	1.07	1.68									2.76			
															1864

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5426 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 17:00 - 18:00
LOCATION SR 300 & SAND HILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															125
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	111													88.80	111
NORTH TO WEST	14													11.20	14
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												8	1.39		577
EAST TO NORTH	178	2	1			2						5		31.72	183
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	391		3									3		68.28	394
WEST APPROACH												7	3.68		190
WEST TO NORTH	12													6.32	12
WEST TO SOUTH															
WEST TO EAST	171	1	6									7		93.68	178
THIS LEG WEST															
															892
														PCT SPLIT OUT/IN	
NORTH TOTAL	315	2	1			2						5		39/61	320
PERCENTAGE	98.44	0.62	0.31			0.62						1.56			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	851	3	10			2						15		67/33	866
PERCENTAGE	98.27	0.35	1.15			0.23						1.73			
WEST TOTAL	588	1	9									10		32/68	598
PERCENTAGE	98.33	0.17	1.51									1.67			
															1784

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5426 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:30 - 17:30
LOCATION SR 300 & SAND HILL RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															137
NORTH TO SOUTH															
NORTH TO EAST	122													89.05	122
NORTH TO WEST	15													10.95	15
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												8	1.30		614
EAST TO NORTH	200	1	1	1		1						4		33.22	204
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	406	1	3									4		66.78	410
WEST APPROACH												8	3.36		238
WEST TO NORTH	25													10.50	25
WEST TO SOUTH															
WEST TO EAST	205	3	5									8		89.50	213
THIS LEG WEST															
															989
														PCT SPLIT OUT/IN	
NORTH TOTAL	362	1	1	1		1						4		37/63	366
PERCENTAGE	98.91	0.27	0.27	0.27		0.27						1.09			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	933	5	9	1		1						16		65/35	949
PERCENTAGE	98.31	0.53	0.95	0.11		0.11						1.69			
WEST TOTAL	651	4	8									12		36/64	663
PERCENTAGE	98.19	0.60	1.21									1.81			
															1978

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5426 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:30 - 17:30
LOCATION SR 300 & SAND HILL RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															137
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	122													89.05	122
NORTH TO WEST	15													10.95	15
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												8	1.30		614
EAST TO NORTH	200	1	1	1		1						4		33.22	204
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	406	1	3									4		66.78	410
WEST APPROACH												8	3.36		238
WEST TO NORTH	25													10.50	25
WEST TO SOUTH															
WEST TO EAST	205	3	5									8		89.50	213
THIS LEG WEST															
															989
														PCT SPLIT OUT/IN	
NORTH TOTAL	362	1	1	1		1						4		37/63	366
PERCENTAGE	98.91	0.27	0.27	0.27		0.27						1.09			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	933	5	9	1		1						16		65/35	949
PERCENTAGE	98.31	0.53	0.95	0.11		0.11						1.69			
WEST TOTAL	651	4	8									12		36/64	663
PERCENTAGE	98.19	0.60	1.21									1.81			
															1978

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5426 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:30 - 17:30
LOCATION SR 300 & SAND HILL RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															137
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	122													89.05	122
NORTH TO WEST	15													10.95	15
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												8	1.30		614
EAST TO NORTH	200	1	1	1		1						4		33.22	204
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	406	1	3									4		66.78	410
WEST APPROACH												8	3.36		238
WEST TO NORTH	25													10.50	25
WEST TO SOUTH															
WEST TO EAST	205	3	5									8		89.50	213
THIS LEG WEST															
															989
														PCT SPLIT OUT/IN	
NORTH TOTAL	362	1	1	1		1						4		37/63	366
PERCENTAGE	98.91	0.27	0.27	0.27		0.27						1.09			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	933	5	9	1		1						16		65/35	949
PERCENTAGE	98.31	0.53	0.95	0.11		0.11						1.69			
WEST TOTAL	651	4	8									12		36/64	663
PERCENTAGE	98.19	0.60	1.21									1.81			
															1978

SR 300 MP 002.27 OFF SYS ID COUNTER NUM 5426 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:30 - 17:30
LOCATION SR 300 & SAND HILL RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															137
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	122													89.05	122
NORTH TO WEST	15													10.95	15
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												8	1.30		614
EAST TO NORTH	200	1	1	1		1						4		33.22	204
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	406	1	3									4		66.78	410
WEST APPROACH												8	3.36		238
WEST TO NORTH	25													10.50	25
WEST TO SOUTH															
WEST TO EAST	205	3	5									8		89.50	213
THIS LEG WEST															
															989
														PCT SPLIT OUT/IN	
NORTH TOTAL	362	1	1	1		1						4		37/63	366
PERCENTAGE	98.91	0.27	0.27	0.27		0.27						1.09			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	933	5	9	1		1						16		65/35	949
PERCENTAGE	98.31	0.53	0.95	0.11		0.11						1.69			
WEST TOTAL	651	4	8									12		36/64	663
PERCENTAGE	98.19	0.60	1.21									1.81			
TRUCK PERCENTAGE:															1978

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	3	0.82	1	0.27			4	1.09	0.9959
SOUTH TOTAL									
EAST TOTAL	15	1.58	1	0.11			16	1.69	0.9984
WEST TOTAL	12	1.81					12	1.81	1.0000

PEAK HOUR FACTOR 0.966 249 256 256 228 989

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

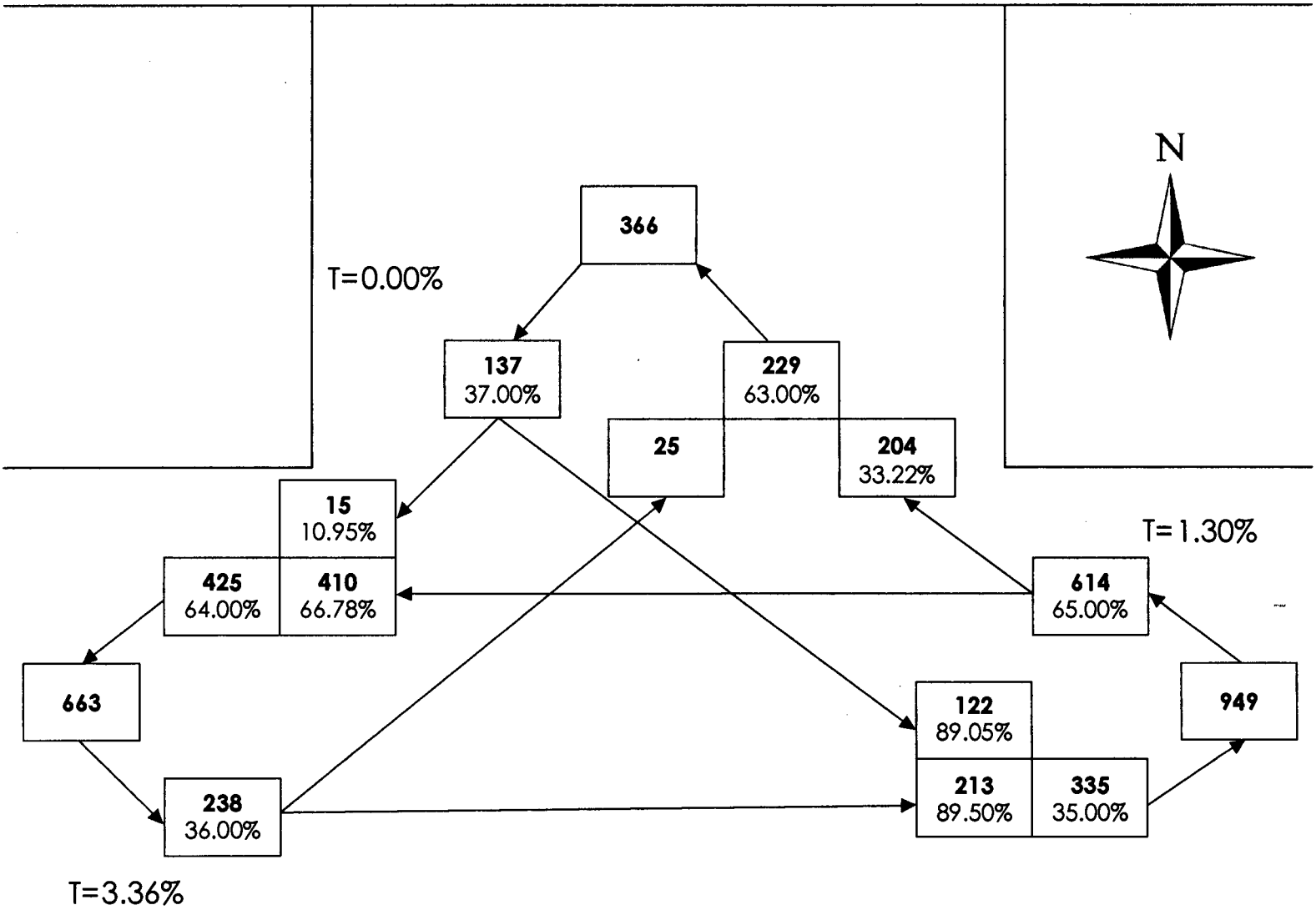
(Block Diagram)

Date: 3/28/2017
Time Period: 16:30 - 17:30

SR: 300 MP: 002.27 Off Sys. ID: Count ID: 17-006

Location: SR 300 & SAND HILL RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 249

Quarter Hour 2 = 256

Quarter Hour 3 = 256

Quarter Hour 4 = 228

TOTAL HOUR = 989

PEAK HOUR FACTOR = 0.966

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

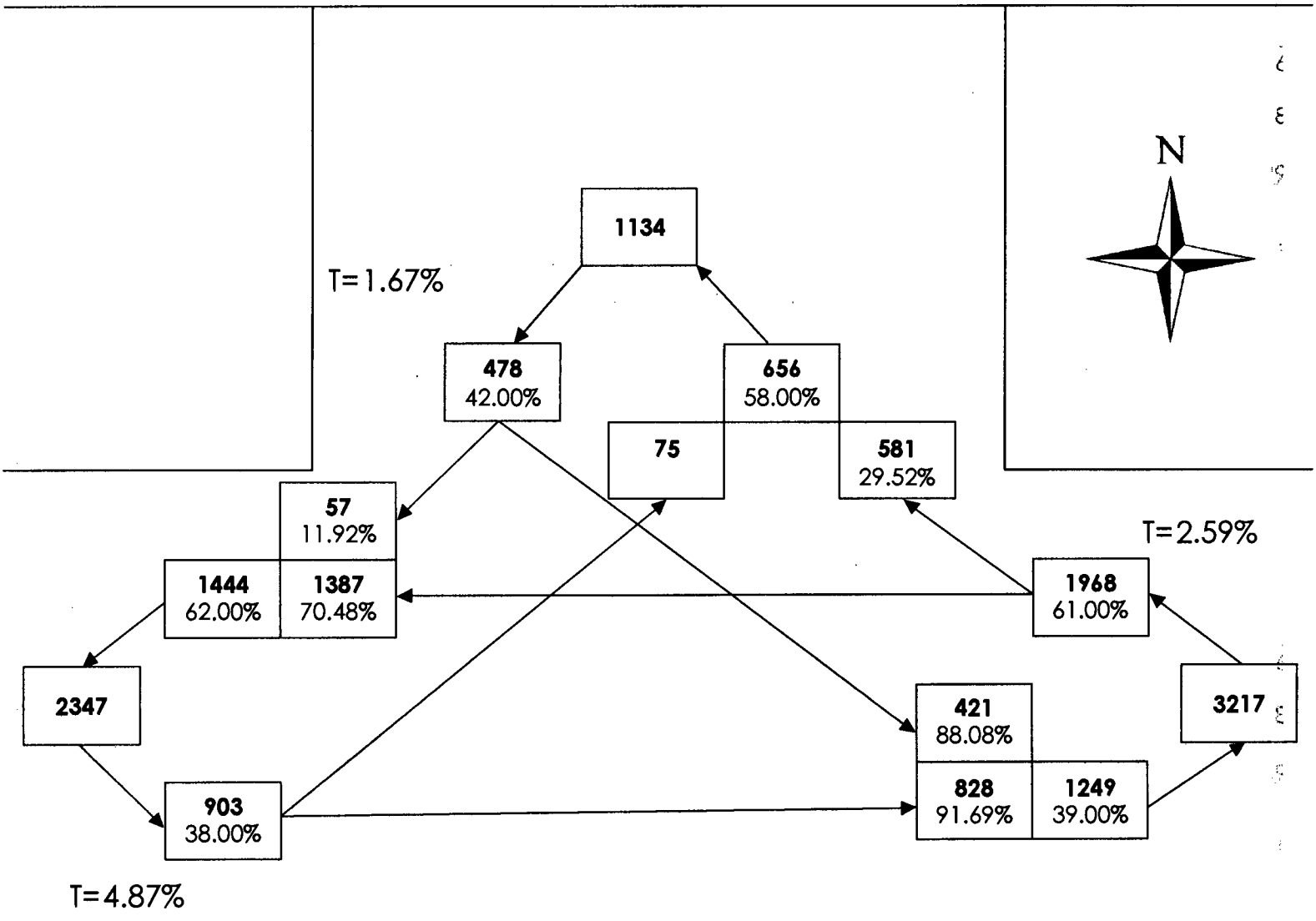
(Block Diagram)

Date: 3/28/2017
Time Period: 14:00 - 18:00

SR: 300 MP: 002.27 Off Sys. ID: Count ID: 17-006

Location: SR 300 & SAND HILL RD

ENTIRE COUNT VOLUMES



2897 5426 5427 5428

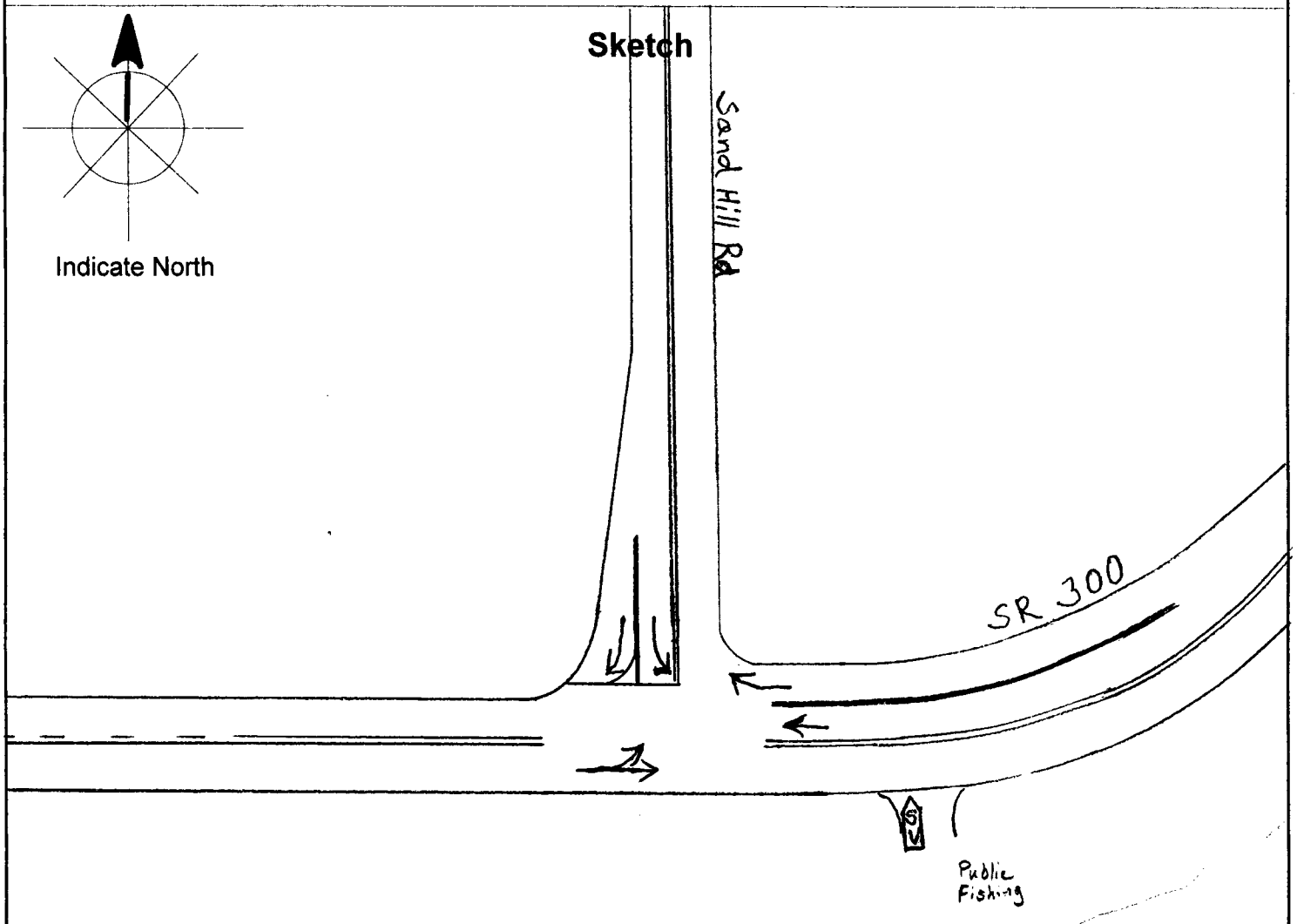
Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
300	2.27		17-006	3-28-17 14:00-18:00 3-29-17 10:00-14:00 3-30-17 6:00-10:00

Station Location: Jct SR 300 and Sand Hill Rd

Sketch



Remarks: G:\17-006 BB 14-1800 #5426 3/28/17

G:\17-006 CC 10-1400 #5427 3/29/17

G:\17-006 DD 06-1000 #5428 3/30/17

CP

Signature

DOT Form 324-005 EF
Revised 2/2007

Peninsula Regional Transportation Planning Organization

SR 20/Mill Road

Intersection Operational Analysis



Prepared by

WSDOT
Washington State Department of Transportation
Olympic Region Planning

July 2017

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Introduction:

This operational analysis was prepared at the special request of the local jurisdiction and funded by the Peninsula Regional Transportation Planning Organization. Those intersections identified as operating below the Washington State Department of Transportation's policy for what is considered acceptable traffic operation level of service (LOS) will need to compete for funding with other intersections around the state based on the expected performance outcome for the proposed improvements.

SR 20 is part of the National Highway System and designated as a Highway of Statewide Significance. SR 20 is a 2-lane rural principal arterial highway where the posted speed limit ranges from 50 mph from the beginning of the route to 30-40 mph within Port Townsend and 25 mph in the vicinity of the WSF ferry terminal. SR 20 begins at US 101 in Discovery Bay, continuing north through less populated forested and agricultural areas, and then into the city of Port Townsend where the route continues on as a 2-lane urban highway ending at the WSF ferry terminal. SR 20 is also classified as T-3 with 3.05 million annual tonnage and 810 daily trucks in 2015. The 2016 AADT on SR 20 ranged from 4,800 vehicles near US 101 to 18,000 after SR 19-Airport Cutoff Road.

The signalized intersection of SR 20 and Mill Road is located within the city limits of Port Townsend in Jefferson County. This urban principal arterial features one twelve-foot lane in each direction with 7-foot roadway shoulders. In addition, there are 100-foot left-turn storage lanes on SR 20 in each direction onto the minor roads. The posted speed limit at this location is 40 mph with a rolling terrain that may cause trucks to slow down.

Port Townsend Paper Corporation's mill headquarters is located off of Mill Road occupying a 450-acre site with 300 local employees. The paper mill is one of the largest employers in the area with full-time jobs. The mill produces about 950 tons of paper and market pulp each day. Each year the mill recycles 250 million pounds of corrugated cardboard.

Methodology

<u>Traffic Operations Model</u>

The Highway Capacity Software 2010 was used to analyze the signalized intersection of SR 20/ Mill Road. The movement counts average delay defines the level of service (LOS) for the intersection. LOS is based on the seconds per vehicle. The LOS criteria for automobiles at a signalized intersection as defined in the Highway Capacity Manual 2010 is as follows:

Highway Capacity Manual Exhibit 18-4 Signalized Intersection LOS Criteria

Control Delay (seconds/vehicle)	LOS by Volume-to-Capacity Ratio Volume-to-Capacity ≤ 1.0
≤ 10	A
>10 - 20	B
>20 - 35	C
>35 - 55	D
>55 - 80	E
>80	F

For approach based and intersection-wide assessments, LOS is defined solely by control delay.

The Synchro 8/SimTraffic software and the Highway Capacity Software 2010 were used to determine the traffic queues at the intersection. Sidra 6.1 software was used for the roundabout analysis.

Traffic Volumes

In March 2017, WSDOT staff performed 12-hour turning movement manual counts at all legs of the SR 20/Mill Road intersection.

Analysis

The intersection analysis does not apply a seasonal factor to the weekday traffic volumes collected. The LOS and the delay in seconds for the SR 20/Mill Road intersection are depicted in the table below.

Figure 2: Level of Service (Delay, Seconds)

LOCATION	AM	MID-DAY	PM
SR 20/Mill Road	B (11.9)	NA	D (41.0)

Figure 2 portrays the traffic operation LOS at the SR 20/Mill Road intersection. During the morning hours between 6 to 10 a.m. the intersection delay is designated an LOS B with an average delay of 11.9 seconds, meaning that motorists would wait on average 11.9 seconds at the intersection before they could proceed. During the evening hours, between 2 p.m. to 6 p.m., motorists would be delayed at the intersection 41.0 seconds before they could proceed.

The Washington State Department of Transportation's policy for what is considered a minimal acceptable traffic operation LOS at this location is a LOS D designation for urban highways.

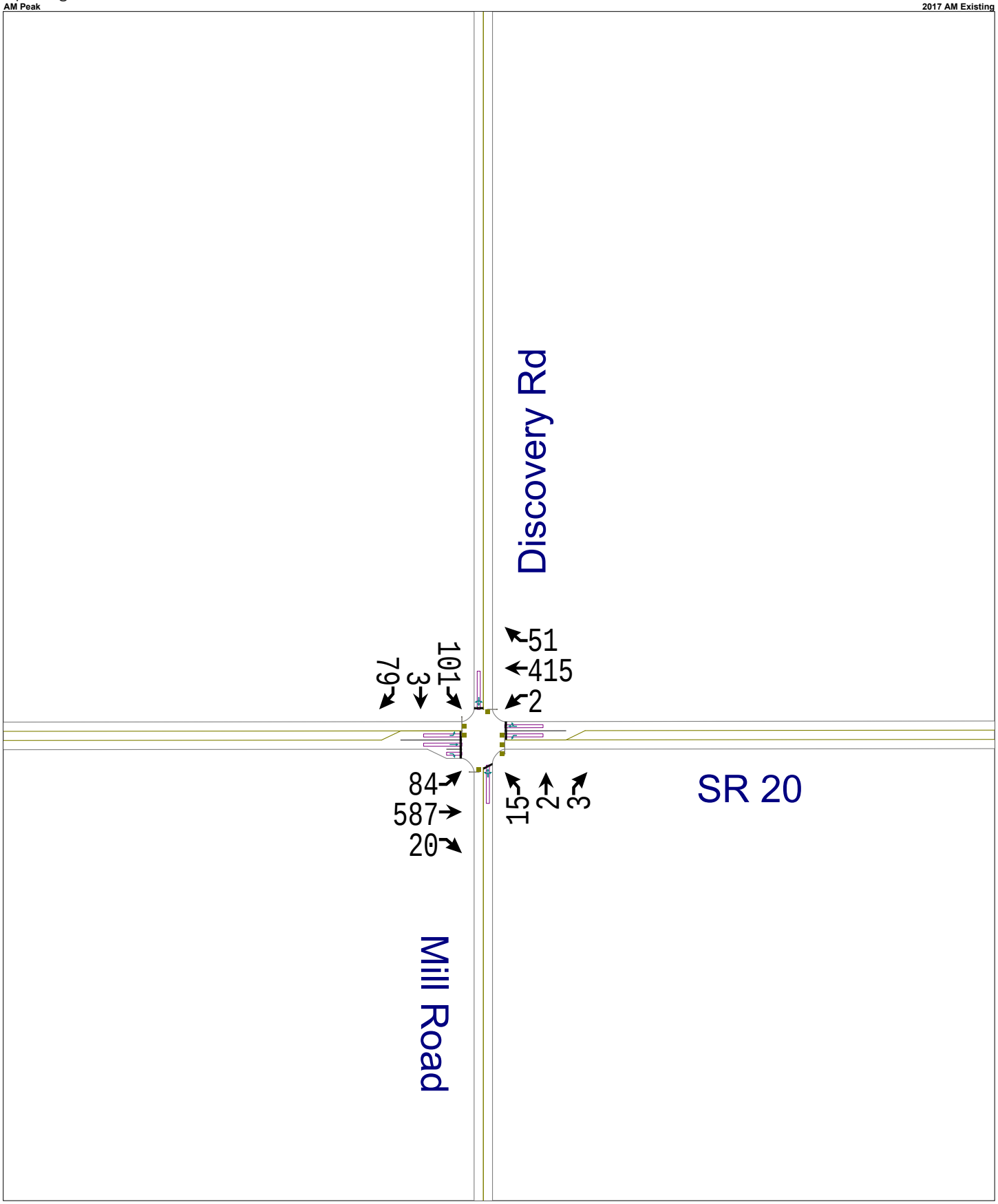
Summary

The analysis depicts the SR 20/Mill Road intersection operating above the target level of LOS D during the morning commute and at the target level of LOS D in the evening hours. As mentioned in the introduction, improvements must compete for funding based upon expected performance outcome. This location may or may not compete well with other intersections statewide.

Appendix

Map - SR 20 @ Mill Road
AM Peak

2017 AM Existing



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	84	587	20	2	415	51	15	2	3	101	3	79
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1727	1827	1484	1429	1855	1900	1900	1493	1900	1900	1847	1900
Adj Flow Rate, veh/h	93	652	22	2	461	57	17	2	3	112	3	88
Adj No. of Lanes	1	1	1	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	10	4	28	33	2	2	1	1	1	1	1	1
Cap, veh/h	154	913	630	34	698	86	322	38	34	277	21	130
Arrive On Green	0.09	0.50	0.50	0.03	0.43	0.41	0.20	0.20	0.18	0.20	0.20	0.18
Sat Flow, veh/h	1645	1827	1262	1361	1619	200	875	187	168	743	102	647
Grp Volume(v), veh/h	93	652	22	2	0	518	22	0	0	203	0	0
Grp Sat Flow(s),veh/h/ln	1645	1827	1262	1361	0	1819	1229	0	0	1492	0	0
Q Serve(g_s), s	2.4	12.2	0.4	0.1	0.0	9.9	0.0	0.0	0.0	4.7	0.0	0.0
Cycle Q Clear(g_c), s	2.4	12.2	0.4	0.1	0.0	9.9	0.5	0.0	0.0	5.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.11	0.77		0.14	0.55		0.43
Lane Grp Cap(c), veh/h	154	913	630	34	0	785	393	0	0	428	0	0
V/C Ratio(X)	0.61	0.71	0.03	0.06	0.00	0.66	0.06	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	639	2547	1759	529	0	2537	951	0	0	1174	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.1	8.5	5.6	20.8	0.0	9.9	14.2	0.0	0.0	16.3	0.0	0.0
Incr Delay (d2), s/veh	3.8	1.1	0.0	0.7	0.0	1.0	0.1	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	6.2	0.1	0.0	0.0	5.1	0.2	0.0	0.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	22.9	9.6	5.6	21.5	0.0	10.9	14.3	0.0	0.0	17.1	0.0	0.0
LnGrp LOS	C	A	A	C		B	B			B		
Approach Vol, veh/h		767			520			22			203	
Approach Delay, s/veh		11.1			10.9			14.3			17.1	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.1	22.9		12.8	5.1	25.9		12.8
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	16.0	60.0		30.0	16.0	60.0		30.0
Max Q Clear Time (g_c+I1), s	4.4	11.9		2.5	2.1	14.2		7.5
Green Ext Time (p_c), s	0.2	5.9		0.9	0.0	5.9		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	11.9
HCM 2010 LOS	B

Intersection: 3: Mill Road/Discovery Road & SR 20

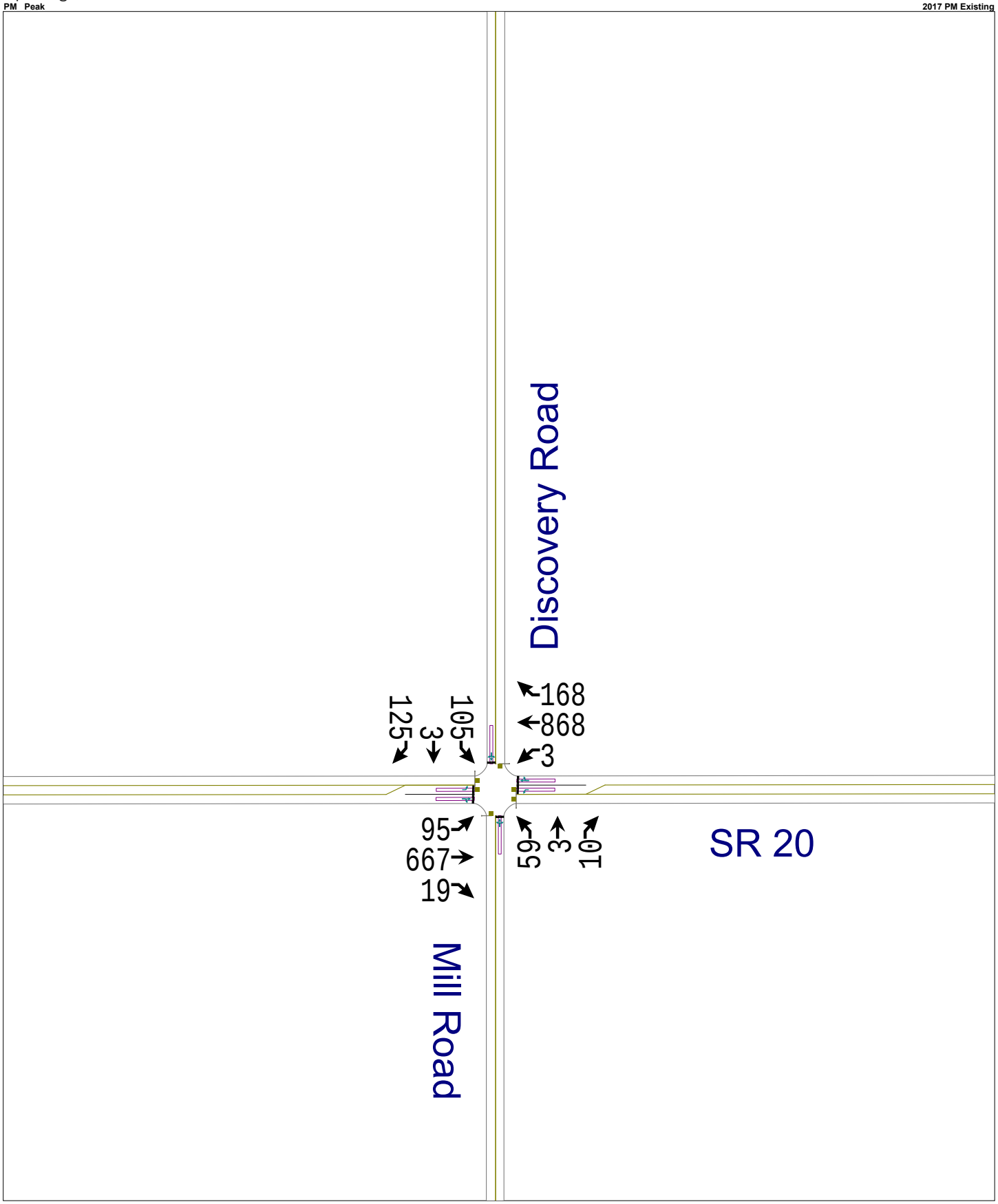
Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	114	310	6	278	46	219
Average Queue (ft)	68	177	1	160	18	119
95th Queue (ft)	125	317	7	276	49	214
Link Distance (ft)		5524		8228	4036	4232
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	90		90			
Storage Blk Time (%)	4	13		18		
Queuing Penalty (veh)	33	13		1		

Network Summary

Network wide Queuing Penalty: 47

Map - SR 20 @ Mill Road
PM Peak

2017 PM Existing



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	75	529	15	2	689	133	47	2	8	83	2	99
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1827	1850	1824	1624	1881	1824	1824	1753	1900	1900	1863	1824
Adj Flow Rate, veh/h	106	732	38	7	904	190	116	7	18	139	3	166
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.89	0.91	0.50	0.38	0.96	0.88	0.51	0.38	0.55	0.75	0.88	0.75
Percent Heavy Veh, %	4	1	1	17	1	1	1	1	1	1	1	1
Cap, veh/h	149	1130	59	26	874	184	235	17	28	205	9	193
Arrive On Green	0.09	0.65	0.65	0.02	0.58	0.57	0.22	0.22	0.21	0.22	0.22	0.21
Sat Flow, veh/h	1740	1743	90	1547	1508	317	783	75	126	705	42	873
Grp Volume(v), veh/h	106	0	770	7	0	1094	141	0	0	308	0	0
Grp Sat Flow(s),veh/h/ln	1740	0	1834	1547	0	1825	983	0	0	1619	0	0
Q Serve(g_s), s	6.2	0.0	26.8	0.5	0.0	61.0	0.0	0.0	0.0	4.3	0.0	0.0
Cycle Q Clear(g_c), s	6.2	0.0	26.8	0.5	0.0	61.0	14.5	0.0	0.0	18.8	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.17	0.82		0.13	0.45		0.54
Lane Grp Cap(c), veh/h	149	0	1189	26	0	1057	280	0	0	407	0	0
V/C Ratio(X)	0.71	0.00	0.65	0.27	0.00	1.03	0.50	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	281	0	1189	250	0	1057	367	0	0	517	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	46.9	0.0	11.2	51.2	0.0	22.2	37.5	0.0	0.0	39.3	0.0	0.0
Incr Delay (d2), s/veh	6.1	0.0	1.2	5.6	0.0	37.0	1.4	0.0	0.0	4.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	13.9	0.2	0.0	41.1	3.9	0.0	0.0	9.1	0.0	0.0
LnGrp Delay(d),s/veh	53.0	0.0	12.4	56.8	0.0	59.2	38.9	0.0	0.0	44.2	0.0	0.0
LnGrp LOS	D		B	E		F	D			D		
Approach Vol, veh/h		876			1101			141			308	
Approach Delay, s/veh		17.3			59.2			38.9			44.2	
Approach LOS		B			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.0	65.0		27.3	5.7	72.3		27.3
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	16.0	60.0		30.0	16.0	60.0		30.0
Max Q Clear Time (g_c+I1), s	8.2	63.0		16.5	2.5	28.8		20.8
Green Ext Time (p_c), s	0.2	0.0		1.7	0.0	12.8		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	41.0
HCM 2010 LOS	D

Intersection: 3: Mill Road/Discovery Road & SR 20

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	114	325	18	1550	117	240
Average Queue (ft)	74	178	3	889	48	132
95th Queue (ft)	130	333	18	1608	104	225
Link Distance (ft)		5524		8228	4036	4232
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	90		90			
Storage Blk Time (%)	11	12		41		
Queuing Penalty (veh)	78	12		1		

Network Summary

Network wide Queuing Penalty: 91

MOVEMENT SUMMARY

Site: SR 20 & Mill Rd Peninsula RTPO Study 2017 - all single lane approaches

SR 20/Discovery Rd/Mill Rd PM
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Mill Rd											
1	L2	51	30.0	0.134	16.3	LOS B	0.7	20.4	0.72	0.86	31.1
6	T1	2	0.0	0.134	8.5	LOS A	0.7	20.4	0.72	0.86	23.5
16	R2	9	25.0	0.134	10.5	LOS B	0.7	20.4	0.72	0.86	30.7
Approach		61	28.2	0.134	15.2	LOS B	0.7	20.4	0.72	0.86	30.8
East: SR 20											
7	L2	2	50.0	0.828	16.6	LOS B	12.7	327.6	0.83	0.68	33.1
4	T1	741	4.0	0.828	8.1	LOS A	12.7	327.6	0.83	0.68	34.8
14	R2	143	1.0	0.828	8.0	LOS A	12.7	327.6	0.83	0.68	27.8
Approach		886	3.6	0.828	8.1	LOS A	12.7	327.6	0.83	0.68	34.0
North: Discovery Rd											
5	L2	89	6.0	0.400	14.0	LOS B	2.8	70.9	0.88	0.97	29.4
2	T1	2	0.0	0.400	9.0	LOS A	2.8	70.9	0.88	0.97	29.7
12	R2	106	2.0	0.400	8.8	LOS A	2.8	70.9	0.88	0.97	28.5
Approach		198	3.8	0.400	11.1	LOS B	2.8	70.9	0.88	0.97	28.9
West: SR 20											
3	L2	81	4.0	0.605	10.4	LOS B	5.8	148.9	0.51	0.52	26.6
8	T1	569	2.0	0.605	5.0	LOS A	5.8	148.9	0.51	0.52	35.6
18	R2	16	60.0	0.605	7.1	LOS A	5.8	148.9	0.51	0.52	33.1
Approach		666	3.6	0.605	5.7	LOS A	5.8	148.9	0.51	0.52	34.7
All Vehicles		1811	4.5	0.828	7.8	LOS A	12.7	327.6	0.72	0.66	33.7

Level of Service (LOS) Method: Delay (HCM 2000).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 08:32:23
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SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3974 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 10:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												21	3.33		631
THIS LEG NORTH															
NORTH TO SOUTH	11		1									1		1.90	12
NORTH TO EAST	291	1	6	1								8		47.39	299
NORTH TO WEST	308	6	4	1				1				12		50.71	320
SOUTH APPROACH												40	67.80		59
SOUTH TO NORTH	5													8.47	5
THIS LEG SOUTH															
SOUTH TO EAST	6		1				1	1				3		15.25	9
SOUTH TO WEST	8		1	1			15	20				37		76.27	45
EAST APPROACH												68	5.98		1138
EAST TO NORTH	112		6	1			1					8		10.54	120
EAST TO SOUTH	4		1					3				4		0.70	8
THIS LEG EAST															
EAST TO WEST	954	11	27	5		8	4	1				56		88.75	1010
WEST APPROACH												141	6.02		2341
WEST TO NORTH	223	2	7	5		1		2				17		10.25	240
WEST TO SOUTH	58		1				5	28				34		3.93	92
WEST TO EAST	1919	14	49	2	3	13	8	1				90		85.82	2009
THIS LEG WEST															4169
														PCT SPLIT OUT/IN	
NORTH TOTAL	950	9	24	8		1	1	3				46		63/37	996
PERCENTAGE	95.38	0.90	2.41	0.80		0.10	0.10	0.30				4.62			
SOUTH TOTAL	92		5	1			21	52				79		35/65	171
PERCENTAGE	53.80		2.92	0.58			12.2	30.4				46.20			
EAST TOTAL	3286	26	90	9	3	21	14	6				169		33/67	3455
PERCENTAGE	95.11	0.75	2.60	0.26	0.09	0.61	0.41	0.17				4.89			
WEST TOTAL	3470	33	89	14	3	22	32	53				246		63/37	3716
PERCENTAGE	93.38	0.89	2.40	0.38	0.08	0.59	0.86	1.43				6.62			
															8338

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	41	4.12	5	0.50			46	4.62	0.9876
SOUTH TOTAL	6	3.51	73	42.69			79	46.20	0.5570
EAST TOTAL	128	3.70	41	1.19			169	4.89	0.9825
WEST TOTAL	139	3.74	107	2.88			246	6.62	0.9523

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3974 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 07:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												1	1.39		72
THIS LEG NORTH															
NORTH TO SOUTH	3													4.17	3
NORTH TO EAST	23													31.94	23
NORTH TO WEST	45							1				1		63.89	46
SOUTH APPROACH												11	78.57		14
SOUTH TO NORTH	1													7.14	1
THIS LEG SOUTH															
SOUTH TO EAST	2													14.29	2
SOUTH TO WEST							3	8				11		78.57	11
EAST APPROACH												12	11.32		106
EAST TO NORTH	4													3.77	4
EAST TO SOUTH	1		1									1		1.89	2
THIS LEG EAST															
EAST TO WEST	89	4	3	1		2	1					11		94.34	100
WEST APPROACH												28	8.97		312
WEST TO NORTH	26	1	1									2		8.97	28
WEST TO SOUTH	33						1	7				8		13.14	41
WEST TO EAST	225	4	7			3	4					18		77.88	243
THIS LEG WEST															
															504
														PCT SPLIT OUT/IN	
NORTH TOTAL	102	1	1					1				3		69/31	105
PERCENTAGE	97.14	0.95	0.95					0.95				2.86			
SOUTH TOTAL	40		1				4	15				20		23/77	60
PERCENTAGE	66.67		1.67				6.67	25.0				33.33			
EAST TOTAL	344	8	11	1		5	5					30		28/72	374
PERCENTAGE	91.98	2.14	2.94	0.27		1.34	1.34					8.02			
WEST TOTAL	418	9	11	1		5	9	16				51		67/33	469
PERCENTAGE	89.13	1.92	2.35	0.21		1.07	1.92	3.41				10.87			
															1008

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3974 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												5	2.81		178
THIS LEG NORTH															
NORTH TO SOUTH	4													2.25	4
NORTH TO EAST	83	1	2									3		48.31	86
NORTH TO WEST	86		2									2		49.44	88
SOUTH APPROACH												11	84.62		13
SOUTH TO NORTH	1													7.69	1
THIS LEG SOUTH															
SOUTH TO EAST	1						1	1				2		23.08	3
SOUTH TO WEST				1			2	6				9		69.23	9
EAST APPROACH												10	4.41		227
EAST TO NORTH	18		1	1								2		8.81	20
EAST TO SOUTH	2							2				2		1.76	4
THIS LEG EAST															
EAST TO WEST	197	2	3				1					6		89.43	203
WEST APPROACH												25	3.82		654
WEST TO NORTH	79		1	1								2		12.39	81
WEST TO SOUTH	12							5				5		2.60	17
WEST TO EAST	538	4	12		2							18		85.02	556
THIS LEG WEST															
															1072
														PCT SPLIT OUT/IN	
NORTH TOTAL	271	1	6	2								9		64/36	280
PERCENTAGE	96.79	0.36	2.14	0.71								3.21			
SOUTH TOTAL	20			1			3	14				18		34/66	38
PERCENTAGE	52.63			2.63			7.89	36.8				47.37			
EAST TOTAL	839	7	18	1	2		2	3				33		26/74	872
PERCENTAGE	96.22	0.80	2.06	0.11	0.23		0.23	0.34				3.78			
WEST TOTAL	912	6	18	2	2		3	11				42		69/31	954
PERCENTAGE	95.60	0.63	1.89	0.21	0.21		0.31	1.15				4.40			
															2144

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3974 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:00 - 09:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												9	4.55		198
THIS LEG NORTH															
NORTH TO SOUTH	2													1.01	2
NORTH TO EAST	87		1	1								2		44.95	89
NORTH TO WEST	100	6	1									7		54.04	107
SOUTH APPROACH												5	41.67		12
SOUTH TO NORTH	1													8.33	1
THIS LEG SOUTH															
SOUTH TO EAST	1													8.33	1
SOUTH TO WEST	5						2	3				5		83.33	10
EAST APPROACH												19	5.64		337
EAST TO NORTH	42		2				1					3		13.35	45
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	276	3	7	1		3	2					16		86.65	292
WEST APPROACH												39	5.70		684
WEST TO NORTH	41	1	1	2		1		1				6		6.87	47
WEST TO SOUTH	9						1	4				5		2.05	14
WEST TO EAST	595	3	14	1	1	6	2	1				28		91.08	623
THIS LEG WEST															
															1231
														PCT SPLIT OUT/IN	
NORTH TOTAL	273	7	5	3		1	1	1				18		68/32	291
PERCENTAGE	93.81	2.41	1.72	1.03		0.34	0.34	0.34				6.19			
SOUTH TOTAL	18						3	7				10		43/57	28
PERCENTAGE	64.29						10.7	25.0				35.71			
EAST TOTAL	1001	6	24	3	1	9	5	1				49		32/68	1050
PERCENTAGE	95.33	0.57	2.29	0.29	0.10	0.86	0.48	0.10				4.67			
WEST TOTAL	1026	13	23	4	1	10	7	9				67		63/37	1093
PERCENTAGE	93.87	1.19	2.10	0.37	0.09	0.91	0.64	0.82				6.13			
															2462

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3974 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												6	3.28		183
THIS LEG NORTH															
NORTH TO SOUTH	2		1									1		1.64	3
NORTH TO EAST	98		3									3		55.19	101
NORTH TO WEST	77		1	1								2		43.17	79
SOUTH APPROACH												13	65.00		20
SOUTH TO NORTH	2													10.00	2
THIS LEG SOUTH															
SOUTH TO EAST	2		1									1		15.00	3
SOUTH TO WEST	3		1				8	3				12		75.00	15
EAST APPROACH												27	5.77		468
EAST TO NORTH	48		3									3		10.90	51
EAST TO SOUTH	1							1				1		0.43	2
THIS LEG EAST															
EAST TO WEST	392	2	14	3		3		1				23		88.68	415
WEST APPROACH												49	7.09		691
WEST TO NORTH	77		4	2				1				7		12.16	84
WEST TO SOUTH	4		1				3	12				16		2.89	20
WEST TO EAST	561	3	16	1		4	2					26		84.95	587
THIS LEG WEST															1362
														PCT SPLIT OUT/IN	
NORTH TOTAL	304		12	3				1				16		57/43	320
PERCENTAGE	95.00		3.75	0.94				0.31				5.00			
SOUTH TOTAL	14		4				11	16				31		44/56	45
PERCENTAGE	31.11		8.89				24.4	35.5				68.89			
EAST TOTAL	1102	5	37	4		7	2	2				57		40/60	1159
PERCENTAGE	95.08	0.43	3.19	0.35		0.60	0.17	0.17				4.92			
WEST TOTAL	1114	5	37	7		7	13	17				86		58/42	1200
PERCENTAGE	92.83	0.42	3.08	0.58		0.58	1.08	1.42				7.17			
															2724

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3974 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:30 - 08:30
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												10	4.72		212
THIS LEG NORTH															
NORTH TO SOUTH	3													1.42	3
NORTH TO EAST	90		2									2		43.40	92
NORTH TO WEST	109	5	3									8		55.19	117
SOUTH APPROACH												6	85.71		7
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST							1					1		14.29	1
SOUTH TO WEST	1						2	3				5		85.71	6
EAST APPROACH												13	4.13		315
EAST TO NORTH	29		2				1					3		10.16	32
EAST TO SOUTH	2							2				2		1.27	4
THIS LEG EAST															
EAST TO WEST	271	3	4				1					8		88.57	279
WEST APPROACH												35	4.63		756
WEST TO NORTH	83	1	2	1		1		1				6		11.77	89
WEST TO SOUTH	13							5				5		2.38	18
WEST TO EAST	625	5	10	1	2	3	2	1				24		85.85	649
THIS LEG WEST															
															1290
														PCT SPLIT OUT/IN	
NORTH TOTAL	314	6	9	1		1	1	1				19		64/36	333
PERCENTAGE	94.29	1.80	2.70	0.30		0.30	0.30	0.30				5.71			
SOUTH TOTAL	19						3	10				13		22/78	32
PERCENTAGE	59.38						9.38	31.2				40.62			
EAST TOTAL	1017	8	18	1	2	3	5	3				40		30/70	1057
PERCENTAGE	96.22	0.76	1.70	0.09	0.19	0.28	0.47	0.28				3.78			
WEST TOTAL	1102	14	19	2	2	4	5	10				56		65/35	1158
PERCENTAGE	95.16	1.21	1.64	0.17	0.17	0.35	0.43	0.86				4.84			
															2580

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3974 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 07:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												1	1.39		72
THIS LEG NORTH															
NORTH TO SOUTH	3													4.17	3
NORTH TO EAST	23													31.94	23
NORTH TO WEST	45							1				1		63.89	46
SOUTH APPROACH												11	78.57		14
SOUTH TO NORTH	1													7.14	1
THIS LEG SOUTH															
SOUTH TO EAST	2													14.29	2
SOUTH TO WEST							3	8				11		78.57	11
EAST APPROACH												12	11.32		106
EAST TO NORTH	4													3.77	4
EAST TO SOUTH	1		1									1		1.89	2
THIS LEG EAST															
EAST TO WEST	89	4	3	1		2	1					11		94.34	100
WEST APPROACH												28	8.97		312
WEST TO NORTH	26	1	1									2		8.97	28
WEST TO SOUTH	33						1	7				8		13.14	41
WEST TO EAST	225	4	7			3	4					18		77.88	243
THIS LEG WEST															
															504
														PCT SPLIT OUT/IN	
NORTH TOTAL	102	1	1					1				3		69/31	105
PERCENTAGE	97.14	0.95	0.95					0.95				2.86			
SOUTH TOTAL	40		1				4	15				20		23/77	60
PERCENTAGE	66.67		1.67				6.67	25.0				33.33			
EAST TOTAL	344	8	11	1		5	5					30		28/72	374
PERCENTAGE	91.98	2.14	2.94	0.27		1.34	1.34					8.02			
WEST TOTAL	418	9	11	1		5	9	16				51		67/33	469
PERCENTAGE	89.13	1.92	2.35	0.21		1.07	1.92	3.41				10.87			
															1008

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3974 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:45 - 09:45
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												8	4.44		180
THIS LEG NORTH															
NORTH TO SOUTH	1		1									1		1.11	2
NORTH TO EAST	100		4	1								5		58.33	105
NORTH TO WEST	71		1	1								2		40.56	73
SOUTH APPROACH												8	44.44		18
SOUTH TO NORTH	1													5.56	1
THIS LEG SOUTH															
SOUTH TO EAST	3													16.67	3
SOUTH TO WEST	6		1				5	2				8		77.78	14
EAST APPROACH												24	5.61		428
EAST TO NORTH	52		2									2		12.62	54
EAST TO SOUTH	1							1				1		0.47	2
THIS LEG EAST															
EAST TO WEST	351	3	9	3		4	1	1				21		86.92	372
WEST APPROACH												44	6.16		714
WEST TO NORTH	66		4	2				1				7		10.22	73
WEST TO SOUTH	3		1				1	13				15		2.52	18
WEST TO EAST	601	2	14			5	1					22		87.25	623
THIS LEG WEST															
															1340
														PCT SPLIT OUT/IN	
NORTH TOTAL	291		12	4				1				17		58/42	308
PERCENTAGE	94.48		3.90	1.30				0.32				5.52			
SOUTH TOTAL	15		3				6	16				25		45/55	40
PERCENTAGE	37.50		7.50				15.0	40.0				62.50			
EAST TOTAL	1108	5	29	4		9	2	2				51		37/63	1159
PERCENTAGE	95.60	0.43	2.50	0.35		0.78	0.17	0.17				4.40			
WEST TOTAL	1098	5	30	6		9	8	17				75		61/39	1173
PERCENTAGE	93.61	0.43	2.56	0.51		0.77	0.68	1.45				6.39			
															2680

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3974 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												6	3.28		183
THIS LEG NORTH															
NORTH TO SOUTH	2		1									1		1.64	3
NORTH TO EAST	98		3									3		55.19	101
NORTH TO WEST	77		1	1								2		43.17	79
SOUTH APPROACH												13	65.00		20
SOUTH TO NORTH	2													10.00	2
THIS LEG SOUTH															
SOUTH TO EAST	2		1									1		15.00	3
SOUTH TO WEST	3		1				8	3				12		75.00	15
EAST APPROACH												27	5.77		468
EAST TO NORTH	48		3									3		10.90	51
EAST TO SOUTH	1							1				1		0.43	2
THIS LEG EAST															
EAST TO WEST	392	2	14	3		3		1				23		88.68	415
WEST APPROACH												49	7.09		691
WEST TO NORTH	77		4	2				1				7		12.16	84
WEST TO SOUTH	4		1				3	12				16		2.89	20
WEST TO EAST	561	3	16	1		4	2					26		84.95	587
THIS LEG WEST															1362
														PCT SPLIT OUT/IN	
NORTH TOTAL	304		12	3				1				16		57/43	320
PERCENTAGE	95.00		3.75	0.94				0.31				5.00			
SOUTH TOTAL	14		4				11	16				31		44/56	45
PERCENTAGE	31.11		8.89				24.4	35.5				68.89			
EAST TOTAL	1102	5	37	4		7	2	2				57		40/60	1159
PERCENTAGE	95.08	0.43	3.19	0.35		0.60	0.17	0.17				4.92			
WEST TOTAL	1114	5	37	7		7	13	17				86		58/42	1200
PERCENTAGE	92.83	0.42	3.08	0.58		0.58	1.08	1.42				7.17			
															2724

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3974 COUNT ID 17-006
DATE 3/30/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												6	3.28		183
THIS LEG NORTH															
NORTH TO SOUTH	2		1									1		1.64	3
NORTH TO EAST	98		3									3		55.19	101
NORTH TO WEST	77		1	1								2		43.17	79
SOUTH APPROACH												13	65.00		20
SOUTH TO NORTH	2													10.00	2
THIS LEG SOUTH															
SOUTH TO EAST	2		1									1		15.00	3
SOUTH TO WEST	3		1				8	3				12		75.00	15
EAST APPROACH												27	5.77		468
EAST TO NORTH	48		3									3		10.90	51
EAST TO SOUTH	1							1				1		0.43	2
THIS LEG EAST															
EAST TO WEST	392	2	14	3		3		1				23		88.68	415
WEST APPROACH												49	7.09		691
WEST TO NORTH	77		4	2				1				7		12.16	84
WEST TO SOUTH	4		1				3	12				16		2.89	20
WEST TO EAST	561	3	16	1		4	2					26		84.95	587
THIS LEG WEST															
															1362
														PCT SPLIT OUT/IN	
NORTH TOTAL	304		12	3				1				16		57/43	320
PERCENTAGE	95.00		3.75	0.94				0.31				5.00			
SOUTH TOTAL	14		4				11	16				31		44/56	45
PERCENTAGE	31.11		8.89				24.4	35.5				68.89			
EAST TOTAL	1102	5	37	4		7	2	2				57		40/60	1159
PERCENTAGE	95.08	0.43	3.19	0.35		0.60	0.17	0.17				4.92			
WEST TOTAL	1114	5	37	7		7	13	17				86		58/42	1200
PERCENTAGE	92.83	0.42	3.08	0.58		0.58	1.08	1.42				7.17			
															2724

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	15	4.69	1	0.31			16	5.00	0.9891
SOUTH TOTAL	4	8.89	27	60.00			31	68.89	0.4812
EAST TOTAL	46	3.97	11	0.95			57	4.92	0.9863
WEST TOTAL	49	4.08	37	3.08			86	7.17	0.9493

PEAK HOUR FACTOR 0.901 319 378 325 340 1362

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

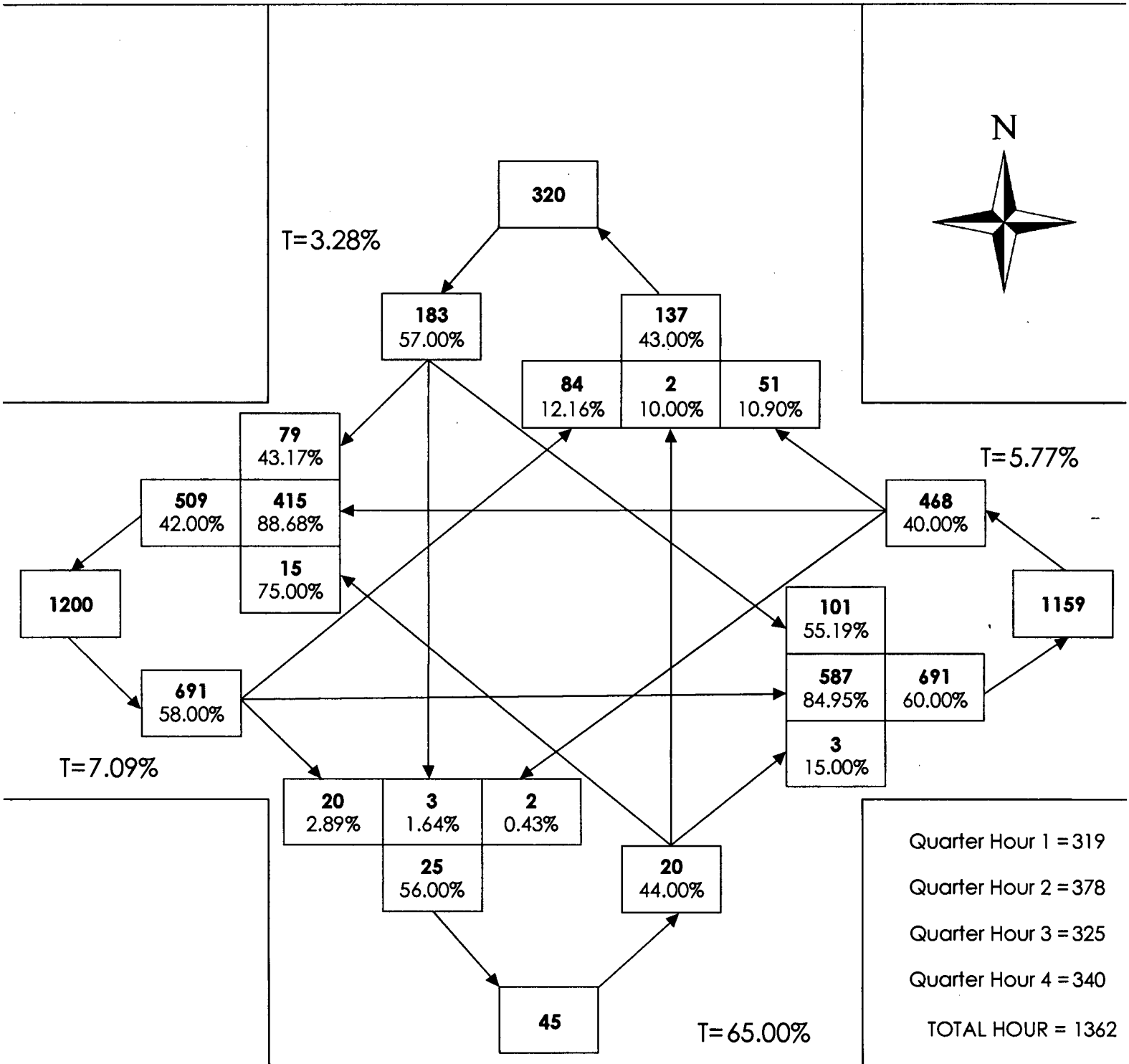
Vehicle Volume Summary
(Block Diagram)

Date: 3/30/2017
Time Period: 09:00 - 10:00

SR: 020 MP: 009.81 Off Sys. ID: Count ID: 17-006

Location: SR 20 & DISCOVERY RD & MILL RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 319
Quarter Hour 2 = 378
Quarter Hour 3 = 325
Quarter Hour 4 = 340

TOTAL HOUR = 1362

PEAK HOUR FACTOR = 0.901

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

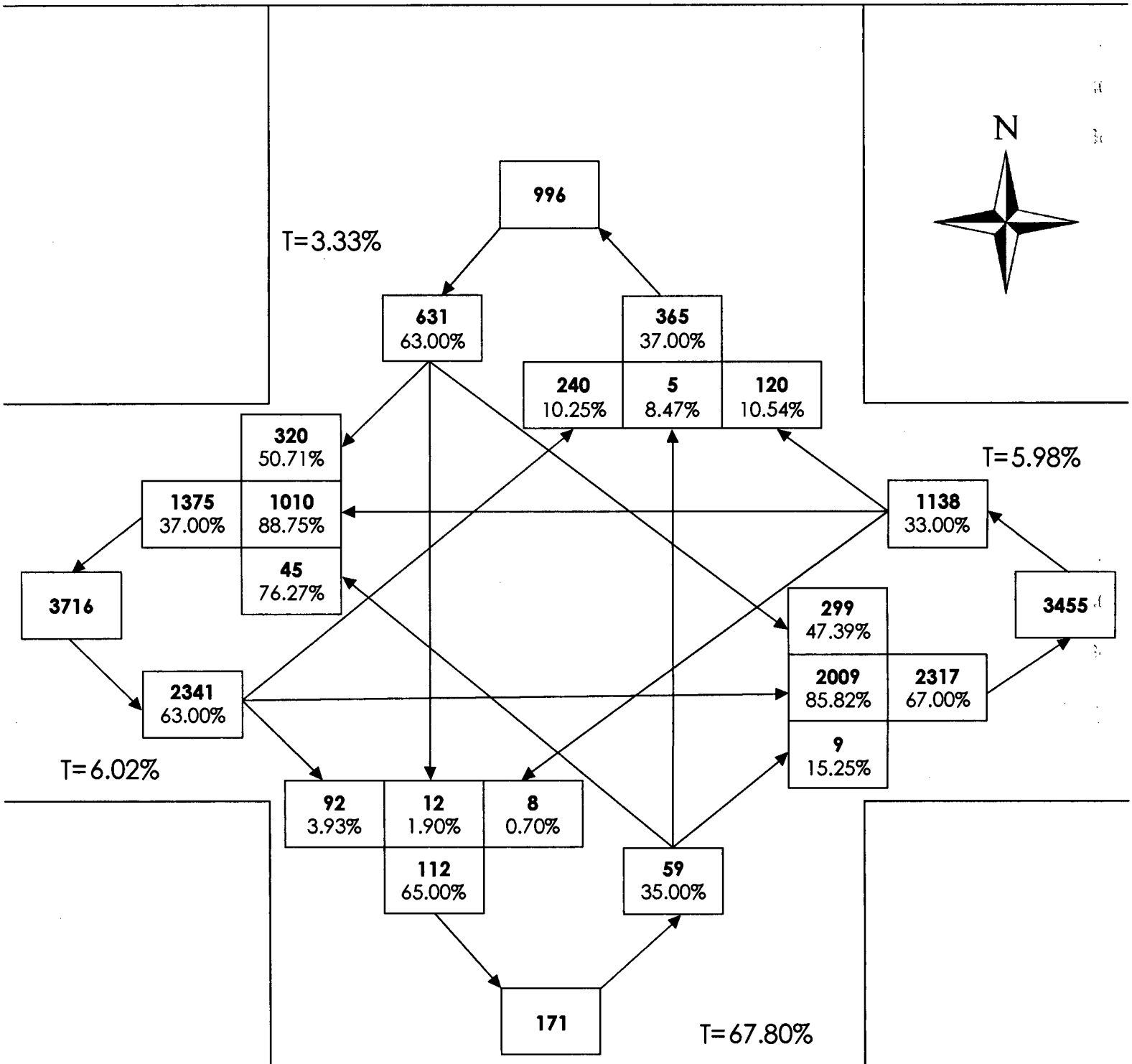
(Block Diagram)

Date: 3/30/2017
Time Period: 06:00 - 10:00

SR: 020 MP: 009.81 Off Sys. ID: Count ID: 17-006

Location: SR 20 & DISCOVERY RD & MILL RD

ENTIRE COUNT VOLUMES



CB # 5158 ID 3973 3972 3974

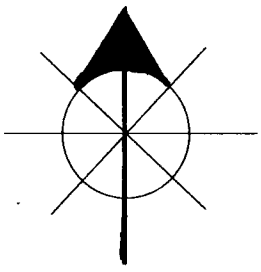
Washington State Department of Transportation

Traffic Station Sketch

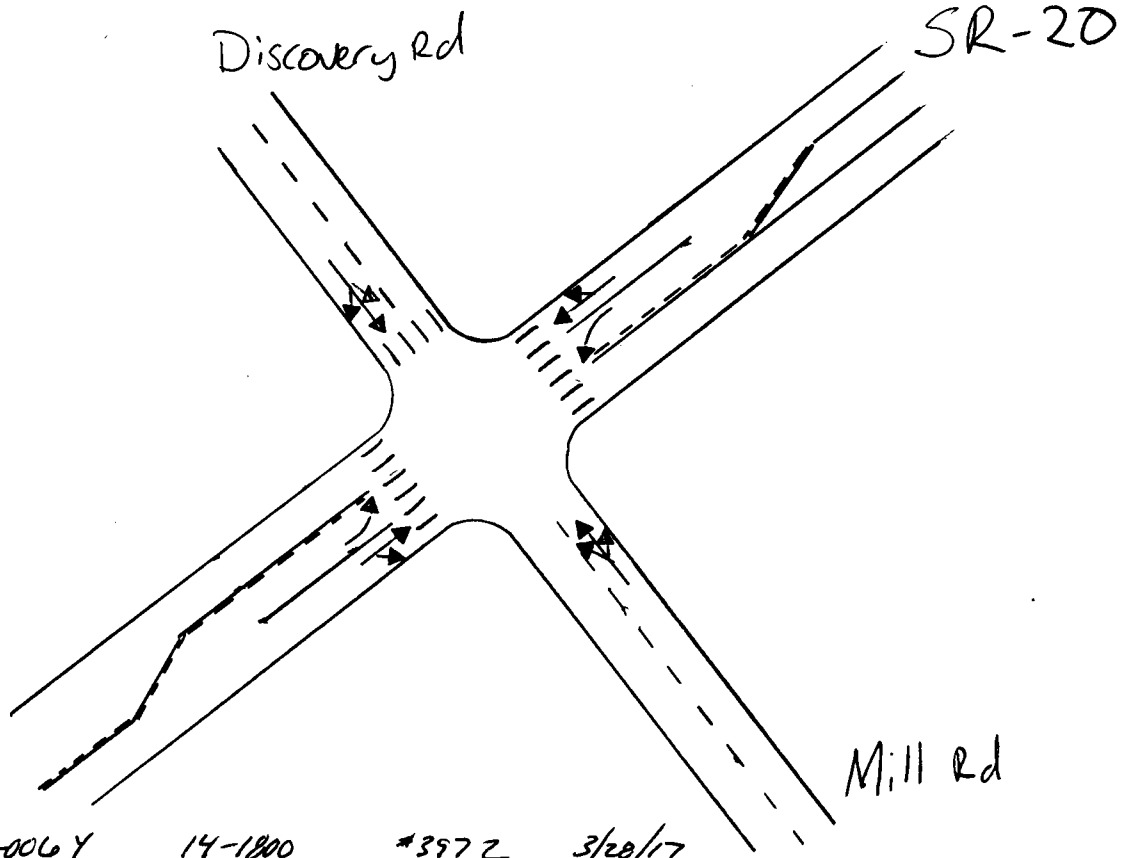
SR #	MP	OSID	Count ID	Date
SR-20	9 ● 81		17-006	3/28/2017 3/29 3/30

Station Location
JCT SR-20 & Mill rd

Sketch



Indicate North



Remarks:

G:\17-006Y 14-1800 #3972 3/28/17

G:\17-006Z 10-1400 #3973 3/29/17

G:\17-006AA 06-1000 #3974 3/30/17

J. Mydlar
Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 08:31:42
PAGE: 1

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3973 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 14:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												22	2.92		754
THIS LEG NORTH															
NORTH TO SOUTH	16		1									1		2.25	17
NORTH TO EAST	414		7	2								9		56.10	423
NORTH TO WEST	302	2	8	1			1					12		41.64	314
SOUTH APPROACH												62	53.45		116
SOUTH TO NORTH	10		1									1		9.48	11
THIS LEG SOUTH															
SOUTH TO EAST	18						1	3				4		18.97	22
SOUTH TO WEST	26		6	1	2	1	23	24				57		71.55	83
EAST APPROACH												109	4.43		2460
EAST TO NORTH	403		9	3		1						13		16.91	416
EAST TO SOUTH	20							7				7		1.10	27
THIS LEG EAST															
EAST TO WEST	1928	13	56	6		6	7	1				89		81.99	2017
WEST APPROACH												186	6.97		2669
WEST TO NORTH	257	6	10	4		3						23		10.49	280
WEST TO SOUTH	22		1	2		1	16	45				65		3.26	87
WEST TO EAST	2204	17	56	6	3	5	7	4				98		86.25	2302
THIS LEG WEST															
															5999
														PCT SPLIT OUT/IN	
NORTH TOTAL	1402	8	36	10		4	1					59		52/48	1461
PERCENTAGE	95.96	0.55	2.46	0.68		0.27	0.07					4.04			
SOUTH TOTAL	112		9	3	2	2	40	79				135		47/53	247
PERCENTAGE	45.34		3.64	1.21	0.81	0.81	16.1	31.9				54.66			
EAST TOTAL	4987	30	128	17	3	12	15	15				220		47/53	5207
PERCENTAGE	95.77	0.58	2.46	0.33	0.06	0.23	0.29	0.29				4.23			
WEST TOTAL	4739	38	137	20	5	16	54	74				344		53/47	5083
PERCENTAGE	93.23	0.75	2.70	0.39	0.10	0.31	1.06	1.46				6.77			
															11998

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	54	3.70	5	0.34			59	4.04	0.9928
SOUTH TOTAL	14	5.67	121	48.99			135	54.66	0.5249
EAST TOTAL	178	3.42	42	0.81			220	4.23	0.9856
WEST TOTAL	200	3.93	144	2.83			344	6.77	0.9513

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3973 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 11:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												3	1.78		169
THIS LEG NORTH															
NORTH TO SOUTH	3													1.78	3
NORTH TO EAST	101		1									1		60.36	102
NORTH TO WEST	62		2									2		37.87	64
SOUTH APPROACH												19	76.00		25
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	2						1	1				2		16.00	4
SOUTH TO WEST	4		2		2		8	5				17		84.00	21
EAST APPROACH												22	4.71		467
EAST TO NORTH	71		2									2		15.63	73
EAST TO SOUTH	4													0.86	4
THIS LEG EAST															
EAST TO WEST	370	1	14	1		2	1	1				20		83.51	390
WEST APPROACH												41	6.50		631
WEST TO NORTH	53		2			1						3		8.87	56
WEST TO SOUTH	4		1	1			6	7				15		3.01	19
WEST TO EAST	533	3	15			2	3					23		88.11	556
THIS LEG WEST															
															1292
														PCT SPLIT OUT/IN	
NORTH TOTAL	290		7			1						8		57/43	298
PERCENTAGE	97.32		2.35			0.34						2.68			
SOUTH TOTAL	17		3	1	2		15	13				34		49/51	51
PERCENTAGE	33.33		5.88	1.96	3.92		29.4	25.4				66.67			
EAST TOTAL	1081	4	32	1		4	5	2				48		41/59	1129
PERCENTAGE	95.75	0.35	2.83	0.09		0.35	0.44	0.18				4.25			
WEST TOTAL	1026	4	36	2	2	5	18	13				80		57/43	1106
PERCENTAGE	92.77	0.36	3.25	0.18	0.18	0.45	1.63	1.18				7.23			
															2584

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3973 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:00 - 12:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												8	3.90		205
THIS LEG NORTH															
NORTH TO SOUTH	5													2.44	5
NORTH TO EAST	115		4	1								5		58.54	120
NORTH TO WEST	77		1	1			1					3		39.02	80
SOUTH APPROACH												16	53.33		30
SOUTH TO NORTH	3		1									1		13.33	4
THIS LEG SOUTH															
SOUTH TO EAST	4													13.33	4
SOUTH TO WEST	7		3	1			5	6				15		73.33	22
EAST APPROACH												27	4.44		608
EAST TO NORTH	102		2	1								3		17.27	105
EAST TO SOUTH	6													0.99	6
THIS LEG EAST															
EAST TO WEST	473	4	11	2		2	5					24		81.74	497
WEST APPROACH												55	7.89		697
WEST TO NORTH	89	6	3									9		14.06	98
WEST TO SOUTH	8			1		1	3	14				19		3.87	27
WEST TO EAST	545	5	15	3	1		2	1				27		82.07	572
THIS LEG WEST															
															1540
														PCT SPLIT OUT/IN	
NORTH TOTAL	391	6	11	3			1					21		50/50	412
PERCENTAGE	94.90	1.46	2.67	0.73			0.24					5.10			
SOUTH TOTAL	33		4	2		1	8	20				35		44/56	68
PERCENTAGE	48.53		5.88	2.94		1.47	11.7	29.4				51.47			
EAST TOTAL	1245	9	32	7	1	2	7	1				59		47/53	1304
PERCENTAGE	95.48	0.69	2.45	0.54	0.08	0.15	0.54	0.08				4.52			
WEST TOTAL	1199	15	33	8	1	3	16	21				97		54/46	1296
PERCENTAGE	92.52	1.16	2.55	0.62	0.08	0.23	1.23	1.62				7.48			
															3080

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3973 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												7	4.00		175
THIS LEG NORTH															
NORTH TO SOUTH	7													4.00	7
NORTH TO EAST	81		1	1								2		47.43	83
NORTH TO WEST	80	2	3									5		48.57	85
SOUTH APPROACH												12	38.71		31
SOUTH TO NORTH	5													16.13	5
THIS LEG SOUTH															
SOUTH TO EAST	8							1				1		29.03	9
SOUTH TO WEST	6		1				5	5				11		54.84	17
EAST APPROACH												34	4.92		691
EAST TO NORTH	111		3	2		1						6		16.93	117
EAST TO SOUTH	7							3				3		1.45	10
THIS LEG EAST															
EAST TO WEST	539	5	17	1		2						25		81.62	564
WEST APPROACH												44	6.52		675
WEST TO NORTH	54		4			1						5		8.74	59
WEST TO SOUTH	8						1	12				13		3.11	21
WEST TO EAST	569	3	16	2	2	1	1	1				26		88.15	595
THIS LEG WEST															
															1572
														PCT SPLIT OUT/IN	
NORTH TOTAL	338	2	11	3		2						18		49/51	356
PERCENTAGE	94.94	0.56	3.09	0.84		0.56						5.06			
SOUTH TOTAL	41		1				6	21				28		45/55	69
PERCENTAGE	59.42		1.45				8.70	30.4				40.58			
EAST TOTAL	1315	8	37	6	2	4	1	5				63		50/50	1378
PERCENTAGE	95.43	0.58	2.69	0.44	0.15	0.29	0.07	0.36				4.57			
WEST TOTAL	1256	10	41	3	2	4	7	18				85		50/50	1341
PERCENTAGE	93.66	0.75	3.06	0.22	0.15	0.30	0.52	1.34				6.34			
															3144

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3973 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												4	1.95		205
THIS LEG NORTH															
NORTH TO SOUTH	1		1									1		0.98	2
NORTH TO EAST	117		1									1		57.56	118
NORTH TO WEST	83		2									2		41.46	85
SOUTH APPROACH												15	50.00		30
SOUTH TO NORTH	2													6.67	2
THIS LEG SOUTH															
SOUTH TO EAST	4							1				1		16.67	5
SOUTH TO WEST	9					1	5	8				14		76.67	23
EAST APPROACH												26	3.75		694
EAST TO NORTH	119		2									2		17.44	121
EAST TO SOUTH	3							4				4		1.01	7
THIS LEG EAST															
EAST TO WEST	546	3	14	2			1					20		81.56	566
WEST APPROACH												46	6.91		666
WEST TO NORTH	61		1	4		1						6		10.06	67
WEST TO SOUTH	2						6	12				18		3.00	20
WEST TO EAST	557	6	10	1		2	1	2				22		86.94	579
THIS LEG WEST															
															1595
														PCT SPLIT OUT/IN	
NORTH TOTAL	383		7	4		1						12		52/48	395
PERCENTAGE	96.96		1.77	1.01		0.25						3.04			
SOUTH TOTAL	21		1			1	11	25				38		51/49	59
PERCENTAGE	35.59		1.69			1.69	18.6	42.3				64.41			
EAST TOTAL	1346	9	27	3		2	2	7				50		50/50	1396
PERCENTAGE	96.42	0.64	1.93	0.21		0.14	0.14	0.50				3.58			
WEST TOTAL	1258	9	27	7		4	13	22				82		50/50	1340
PERCENTAGE	93.88	0.67	2.01	0.52		0.30	0.97	1.64				6.12			
															3190

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3973 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:00 - 12:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												8	3.90		205
THIS LEG NORTH															
NORTH TO SOUTH	5													2.44	5
NORTH TO EAST	115		4	1								5		58.54	120
NORTH TO WEST	77		1	1			1					3		39.02	80
SOUTH APPROACH												16	53.33		30
SOUTH TO NORTH	3		1									1		13.33	4
THIS LEG SOUTH															
SOUTH TO EAST	4													13.33	4
SOUTH TO WEST	7		3	1			5	6				15		73.33	22
EAST APPROACH												27	4.44		608
EAST TO NORTH	102		2	1								3		17.27	105
EAST TO SOUTH	6													0.99	6
THIS LEG EAST															
EAST TO WEST	473	4	11	2		2	5					24		81.74	497
WEST APPROACH												55	7.89		697
WEST TO NORTH	89	6	3									9		14.06	98
WEST TO SOUTH	8			1		1	3	14				19		3.87	27
WEST TO EAST	545	5	15	3	1		2	1				27		82.07	572
THIS LEG WEST															
															1540
														PCT SPLIT OUT/IN	
NORTH TOTAL	391	6	11	3			1					21		50/50	412
PERCENTAGE	94.90	1.46	2.67	0.73			0.24					5.10			
SOUTH TOTAL	33		4	2		1	8	20				35		44/56	68
PERCENTAGE	48.53		5.88	2.94		1.47	11.7	29.4				51.47			
EAST TOTAL	1245	9	32	7	1	2	7	1				59		47/53	1304
PERCENTAGE	95.48	0.69	2.45	0.54	0.08	0.15	0.54	0.08				4.52			
WEST TOTAL	1199	15	33	8	1	3	16	21				97		54/46	1296
PERCENTAGE	92.52	1.16	2.55	0.62	0.08	0.23	1.23	1.62				7.48			
															3080

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3973 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:30 - 12:30
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												8	4.57		175
THIS LEG NORTH															
NORTH TO SOUTH	7													4.00	7
NORTH TO EAST	84		3	1								4		50.29	88
NORTH TO WEST	76	1	2				1					4		45.71	80
SOUTH APPROACH												16	44.44		36
SOUTH TO NORTH	2		1									1		8.33	3
THIS LEG SOUTH															
SOUTH TO EAST	10													27.78	10
SOUTH TO WEST	8		1	1			6	7				15		63.89	23
EAST APPROACH												31	4.80		646
EAST TO NORTH	101		2	1		1						4		16.25	105
EAST TO SOUTH	6							3				3		1.39	9
THIS LEG EAST															
EAST TO WEST	508	5	13	3		2	1					24		82.35	532
WEST APPROACH												37	5.34		693
WEST TO NORTH	62	1	4									5		9.67	67
WEST TO SOUTH	4						3	13				16		2.89	20
WEST TO EAST	590	3	11		1		1					16		87.45	606
THIS LEG WEST															
															1550
														PCT SPLIT OUT/IN	
NORTH TOTAL	332	2	12	2		1	1					18		50/50	350
PERCENTAGE	94.86	0.57	3.43	0.57		0.29	0.29					5.14			
SOUTH TOTAL	37		2	1			9	23				35		50/50	72
PERCENTAGE	51.39		2.78	1.39			12.5	31.9				48.61			
EAST TOTAL	1299	8	29	5	1	3	2	3				51		48/52	1350
PERCENTAGE	96.22	0.59	2.15	0.37	0.07	0.22	0.15	0.22				3.78			
WEST TOTAL	1248	10	31	4	1	2	12	20				80		52/48	1328
PERCENTAGE	93.98	0.75	2.33	0.30	0.08	0.15	0.90	1.51				6.02			
															3100

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3973 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:45 - 12:45
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												8	4.30		186
THIS LEG NORTH															
NORTH TO SOUTH	6													3.23	6
NORTH TO EAST	90		3	1								4		50.54	94
NORTH TO WEST	82	2	2									4		46.24	86
SOUTH APPROACH												13	39.39		33
SOUTH TO NORTH	3													9.09	3
THIS LEG SOUTH															
SOUTH TO EAST	11													33.33	11
SOUTH TO WEST	6		1				4	8				13		57.58	19
EAST APPROACH												37	5.38		688
EAST TO NORTH	110		3	1		1						5		16.72	115
EAST TO SOUTH	5							3				3		1.16	8
THIS LEG EAST															
EAST TO WEST	536	5	17	3		3	1					29		82.12	565
WEST APPROACH												40	5.71		700
WEST TO NORTH	58		4									4		8.86	62
WEST TO SOUTH	5						2	13				15		2.86	20
WEST TO EAST	597	3	14	1	1		1	1				21		88.29	618
THIS LEG WEST															
															1607
														PCT SPLIT OUT/IN	
NORTH TOTAL	349	2	12	2		1						17		51/49	366
PERCENTAGE	95.36	0.55	3.28	0.55		0.27						4.64			
SOUTH TOTAL	36		1				6	24				31		49/51	67
PERCENTAGE	53.73		1.49				8.96	35.8				46.27			
EAST TOTAL	1349	8	37	6	1	4	2	4				62		49/51	1411
PERCENTAGE	95.61	0.57	2.62	0.43	0.07	0.28	0.14	0.28				4.39			
WEST TOTAL	1284	10	38	4	1	3	8	22				86		51/49	1370
PERCENTAGE	93.72	0.73	2.77	0.29	0.07	0.22	0.58	1.61				6.28			
															3214

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3973 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:45 - 12:45
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												8	4.30		186
THIS LEG NORTH															
NORTH TO SOUTH	6													3.23	6
NORTH TO EAST	90		3	1								4		50.54	94
NORTH TO WEST	82	2	2									4		46.24	86
SOUTH APPROACH												13	39.39		33
SOUTH TO NORTH	3													9.09	3
THIS LEG SOUTH															
SOUTH TO EAST	11													33.33	11
SOUTH TO WEST	6		1				4	8				13		57.58	19
EAST APPROACH												37	5.38		688
EAST TO NORTH	110		3	1		1						5		16.72	115
EAST TO SOUTH	5							3				3		1.16	8
THIS LEG EAST															
EAST TO WEST	536	5	17	3		3	1					29		82.12	565
WEST APPROACH												40	5.71		700
WEST TO NORTH	58		4									4		8.86	62
WEST TO SOUTH	5						2	13				15		2.86	20
WEST TO EAST	597	3	14	1	1		1	1				21		88.29	618
THIS LEG WEST															
															1607
														PCT SPLIT OUT/IN	
NORTH TOTAL	349	2	12	2		1						17		51/49	366
PERCENTAGE	95.36	0.55	3.28	0.55		0.27						4.64			
SOUTH TOTAL	36		1				6	24				31		49/51	67
PERCENTAGE	53.73		1.49				8.96	35.8				46.27			
EAST TOTAL	1349	8	37	6	1	4	2	4				62		49/51	1411
PERCENTAGE	95.61	0.57	2.62	0.43	0.07	0.28	0.14	0.28				4.39			
WEST TOTAL	1284	10	38	4	1	3	8	22				86		51/49	1370
PERCENTAGE	93.72	0.73	2.77	0.29	0.07	0.22	0.58	1.61				6.28			
															3214

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3973 COUNT ID 17-006
DATE 3/29/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:45 - 12:45
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												8	4.30		186
THIS LEG NORTH															
NORTH TO SOUTH	6													3.23	6
NORTH TO EAST	90		3	1								4		50.54	94
NORTH TO WEST	82	2	2									4		46.24	86
SOUTH APPROACH												13	39.39		33
SOUTH TO NORTH	3													9.09	3
THIS LEG SOUTH															
SOUTH TO EAST	11													33.33	11
SOUTH TO WEST	6		1				4	8				13		57.58	19
EAST APPROACH												37	5.38		688
EAST TO NORTH	110		3	1		1						5		16.72	115
EAST TO SOUTH	5							3				3		1.16	8
THIS LEG EAST															
EAST TO WEST	536	5	17	3		3	1					29		82.12	565
WEST APPROACH												40	5.71		700
WEST TO NORTH	58		4									4		8.86	62
WEST TO SOUTH	5						2	13				15		2.86	20
WEST TO EAST	597	3	14	1	1		1	1				21		88.29	618
THIS LEG WEST															1607
														PCT SPLIT OUT/IN	
NORTH TOTAL	349	2	12	2		1						17		51/49	366
PERCENTAGE	95.36	0.55	3.28	0.55		0.27						4.64			
SOUTH TOTAL	36		1				6	24				31		49/51	67
PERCENTAGE	53.73		1.49				8.96	35.8				46.27			
EAST TOTAL	1349	8	37	6	1	4	2	4				62		49/51	1411
PERCENTAGE	95.61	0.57	2.62	0.43	0.07	0.28	0.14	0.28				4.39			
WEST TOTAL	1284	10	38	4	1	3	8	22				86		51/49	1370
PERCENTAGE	93.72	0.73	2.77	0.29	0.07	0.22	0.58	1.61				6.28			
															3214

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	16	4.37	1	0.27			17	4.64	0.9945
SOUTH TOTAL	1	1.49	30	44.78			31	46.27	0.5403
EAST TOTAL	52	3.69	10	0.71			62	4.39	0.9867
WEST TOTAL	53	3.87	33	2.41			86	6.28	0.9567

PEAK HOUR FACTOR 0.945 425 413 347 422 1607

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

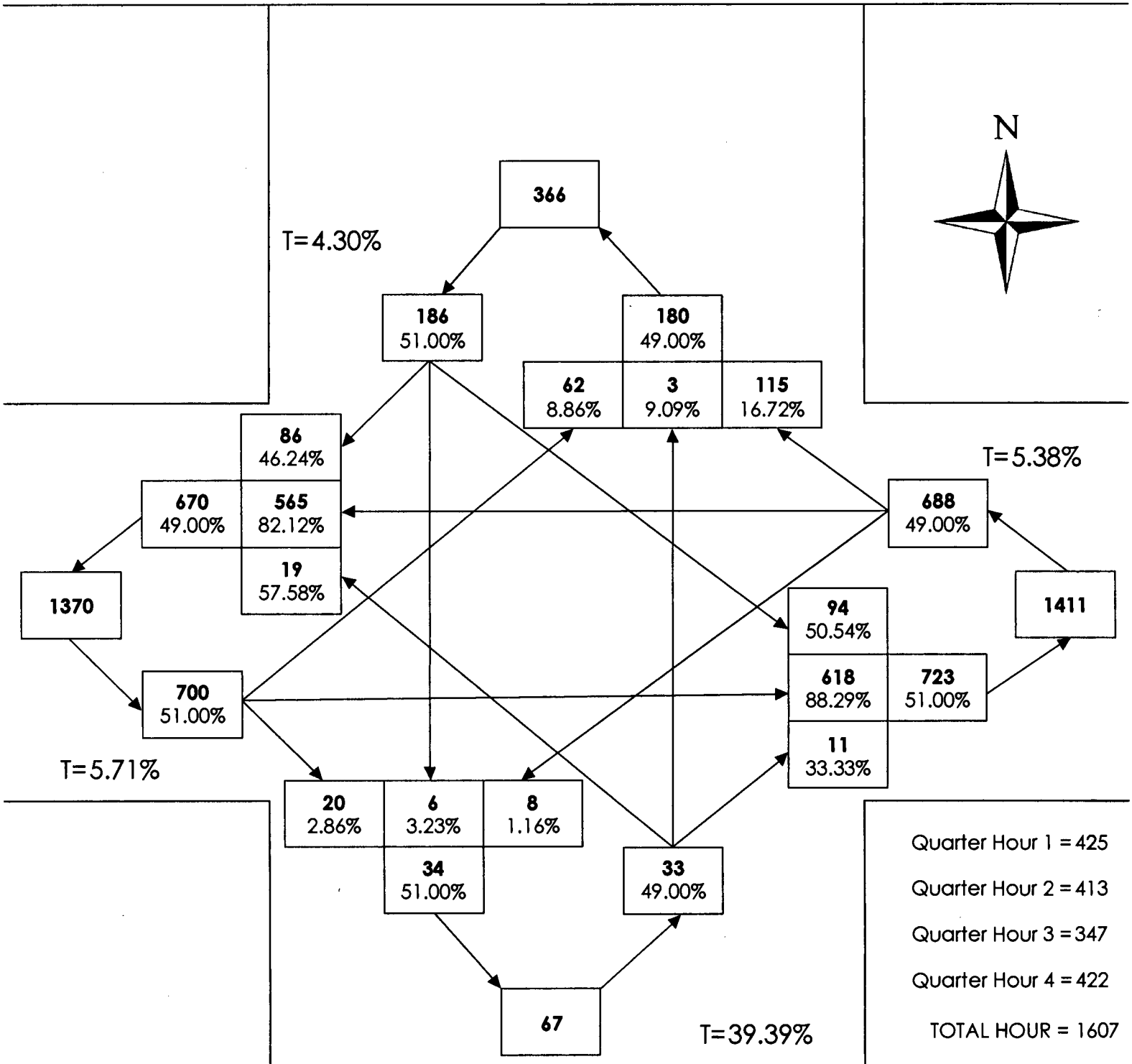
(Block Diagram)

Date: 3/29/2017
Time Period: 11:45 - 12:45

SR: 020 MP: 009.81 Off Sys. ID: Count ID: 17-006

Location: SR 20 & DISCOVERY RD & MILL RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 425

Quarter Hour 2 = 413

Quarter Hour 3 = 347

Quarter Hour 4 = 422

TOTAL HOUR = 1607

PEAK HOUR FACTOR = 0.945

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

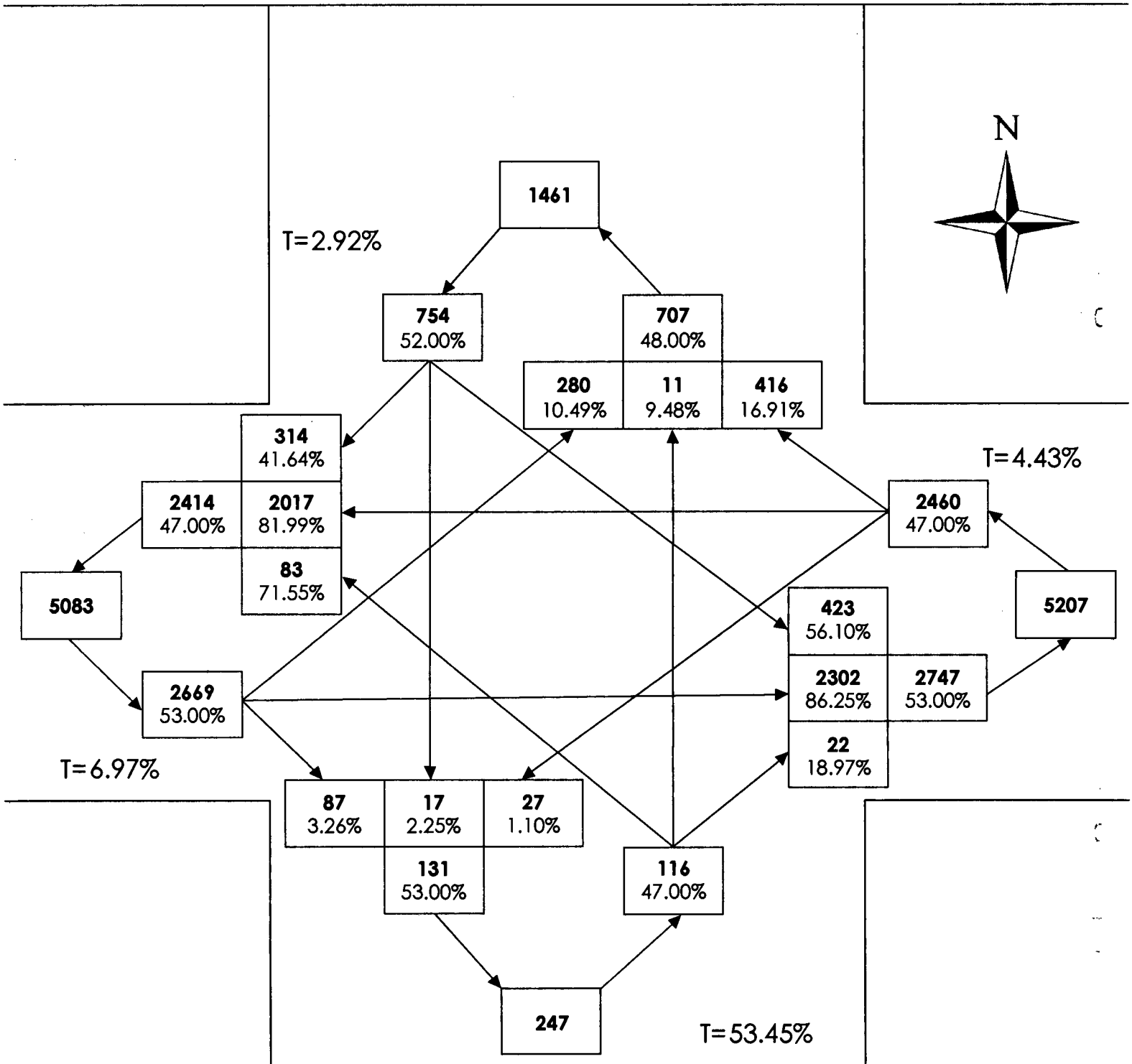
(Block Diagram)

Date: 3/29/2017
Time Period: 10:00 - 14:00

SR: 020 MP: 009.81 Off Sys. ID: Count ID: 17-006

Location: SR 20 & DISCOVERY RD & MILL RD

ENTIRE COUNT VOLUMES



CB # 5158 +U 3973 3972 3974

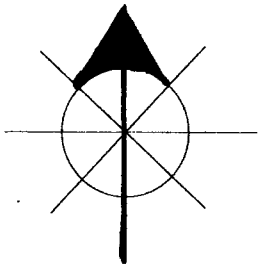
Washington State Department of Transportation

Traffic Station Sketch

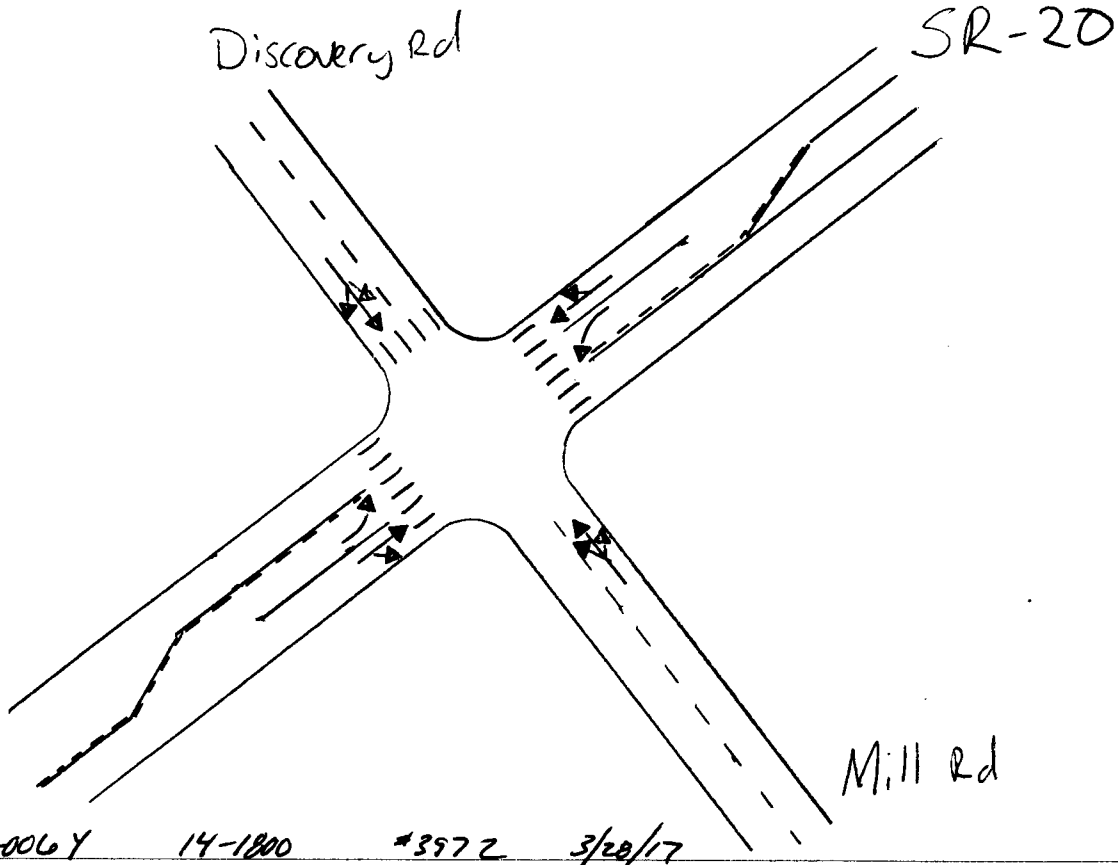
SR #	MP	OSID	Count ID	Date
SR-20	9 ● 81		17-006	3/28/2017 3/29 3/30

Station Location
JCT SR-20 & Mill rd

Sketch



Indicate North



Remarks:

G:\17-006Y 14-1800 #3972 3/28/17

G:\17-006Z 10-1400 #3973 3/29/17

G:\17-006AA 06-1000 #3974 3/30/17

J. Myllar
Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 08:29:44
PAGE: 1

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3972 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 18:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												20	2.71		737
THIS LEG NORTH															
NORTH TO SOUTH	10													1.36	10
NORTH TO EAST	318		3	5								8		44.23	326
NORTH TO WEST	389		5	3		2	1	1				12		54.41	401
SOUTH APPROACH												44	21.36		206
SOUTH TO NORTH	26													12.62	26
THIS LEG SOUTH															
SOUTH TO EAST	19					1	1	1				3		10.68	22
SOUTH TO WEST	117		4				26	10			1	41		76.70	158
EAST APPROACH												89	2.89		3080
EAST TO NORTH	502	1	2	1								4		16.43	506
EAST TO SOUTH	14							2				2		0.52	16
THIS LEG EAST															
EAST TO WEST	2475	14	49	6		12	1	1				83		83.05	2558
WEST APPROACH												90	3.84		2341
WEST TO NORTH	328	1	5			2						8		14.35	336
WEST TO SOUTH	33					1	3	28				32		2.78	65
WEST TO EAST	1890	10	31	2	1	3	3					50		82.87	1940
THIS LEG WEST															6364
														PCT SPLIT OUT/IN	
NORTH TOTAL	1573	2	15	9		4	1	1				32		46/54	1605
PERCENTAGE	98.01	0.12	0.93	0.56		0.25	0.06	0.06				1.99			
SOUTH TOTAL	219		4			2	30	41			1	78		69/31	297
PERCENTAGE	73.74		1.35			0.67	10.1	13.8			0.34	26.26			
EAST TOTAL	5218	25	85	14	1	16	5	4				150		57/43	5368
PERCENTAGE	97.21	0.47	1.58	0.26	0.02	0.30	0.09	0.07				2.79			
WEST TOTAL	5232	25	94	11	1	20	34	40			1	226		43/57	5458
PERCENTAGE	95.86	0.46	1.72	0.20	0.02	0.37	0.62	0.73			0.02	4.14			
															12728

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	26	1.62	6	0.37			32	1.99	0.9925
SOUTH TOTAL	4	1.35	73	24.58	1	0.34	78	26.26	0.6931
EAST TOTAL	125	2.33	25	0.47			150	2.79	0.9926
WEST TOTAL	131	2.40	94	1.72	1	0.02	226	4.14	0.9715

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3972 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 15:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												9	4.86		185
THIS LEG NORTH															
NORTH TO SOUTH	3													1.62	3
NORTH TO EAST	85		2	2								4		48.11	89
NORTH TO WEST	88		1	2		1	1					5		50.27	93
SOUTH APPROACH												11	47.83		23
SOUTH TO NORTH	2													8.70	2
THIS LEG SOUTH															
SOUTH TO EAST	4					1						1		21.74	5
SOUTH TO WEST	6						5	4			1	10		69.57	16
EAST APPROACH												36	4.92		731
EAST TO NORTH	130		1	1								2		18.06	132
EAST TO SOUTH	4													0.55	4
THIS LEG EAST															
EAST TO WEST	561	4	21	5		4						34		81.40	595
WEST APPROACH												29	4.80		604
WEST TO NORTH	61	1	2			1						4		10.76	65
WEST TO SOUTH	9					1	1	6				8		2.81	17
WEST TO EAST	505	3	13			1						17		86.42	522
THIS LEG WEST															
															1543
														PCT SPLIT OUT/IN	
NORTH TOTAL	369	1	6	5		2	1					15		48/52	384
PERCENTAGE	96.09	0.26	1.56	1.30		0.52	0.26					3.91			
SOUTH TOTAL	28					2	6	10			1	19		49/51	47
PERCENTAGE	59.57					4.26	12.7	21.2			2.13	40.43			
EAST TOTAL	1289	7	37	8		6						58		54/46	1347
PERCENTAGE	95.69	0.52	2.75	0.59		0.45						4.31			
WEST TOTAL	1230	8	37	7		8	7	10			1	78		46/54	1308
PERCENTAGE	94.04	0.61	2.83	0.54		0.61	0.54	0.76			0.08	5.96			
															3086

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3972 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 15:00 - 16:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												5	2.58		194
THIS LEG NORTH															
NORTH TO SOUTH	3													1.55	3
NORTH TO EAST	85			3								3		45.36	88
NORTH TO WEST	101		2									2		53.09	103
SOUTH APPROACH												17	25.76		66
SOUTH TO NORTH	3													4.55	3
THIS LEG SOUTH															
SOUTH TO EAST	6						1	1				2		12.12	8
SOUTH TO WEST	40		2				10	3				15		83.33	55
EAST APPROACH												24	2.98		805
EAST TO NORTH	125	1										1		15.65	126
EAST TO SOUTH	1							1				1		0.25	2
THIS LEG EAST															
EAST TO WEST	655	5	14			2		1				22		84.10	677
WEST APPROACH												24	3.91		614
WEST TO NORTH	79		2			1						3		13.36	82
WEST TO SOUTH	6						2	7				9		2.44	15
WEST TO EAST	505	3	7		1	1						12		84.20	517
THIS LEG WEST															
															1679
														PCT SPLIT OUT/IN	
NORTH TOTAL	396	1	4	3		1						9		48/52	405
PERCENTAGE	97.78	0.25	0.99	0.74		0.25						2.22			
SOUTH TOTAL	59		2				13	12				27		77/23	86
PERCENTAGE	68.60		2.33				15.1	13.9				31.40			
EAST TOTAL	1377	9	21	3	1	3	1	3				41		57/43	1418
PERCENTAGE	97.11	0.63	1.48	0.21	0.07	0.21	0.07	0.21				2.89			
WEST TOTAL	1386	8	27		1	4	12	11				63		42/58	1449
PERCENTAGE	95.65	0.55	1.86		0.07	0.28	0.83	0.76				4.35			
															3358

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3972 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:00 - 17:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												6	3.16		190
THIS LEG NORTH															
NORTH TO SOUTH	3													1.58	3
NORTH TO EAST	86		1									1		45.79	87
NORTH TO WEST	95		2	1		1		1				5		52.63	100
SOUTH APPROACH												10	16.13		62
SOUTH TO NORTH	13													20.97	13
THIS LEG SOUTH															
SOUTH TO EAST	6													9.68	6
SOUTH TO WEST	33		2				6	2				10		69.35	43
EAST APPROACH												11	1.47		749
EAST TO NORTH	125													16.69	125
EAST TO SOUTH	7													0.93	7
THIS LEG EAST															
EAST TO WEST	606	2	8			1						11		82.38	617
WEST APPROACH												23	3.82		602
WEST TO NORTH	82		1									1		13.79	83
WEST TO SOUTH	15							5				5		3.32	20
WEST TO EAST	482	3	9	2		1	2					17		82.89	499
THIS LEG WEST															
															1603
														PCT SPLIT OUT/IN	
NORTH TOTAL	404		4	1		1		1				7		46/54	411
PERCENTAGE	98.30		0.97	0.24		0.24		0.24				1.70			
SOUTH TOTAL	77		2				6	7				15		67/33	92
PERCENTAGE	83.70		2.17				6.52	7.61				16.30			
EAST TOTAL	1312	5	18	2		2	2					29		56/44	1341
PERCENTAGE	97.84	0.37	1.34	0.15		0.15	0.15					2.16			
WEST TOTAL	1313	5	22	3		3	8	8				49		44/56	1362
PERCENTAGE	96.40	0.37	1.62	0.22		0.22	0.59	0.59				3.60			
															3206

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3972 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 17:00 - 18:00
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															168
THIS LEG NORTH															
NORTH TO SOUTH	1													0.60	1
NORTH TO EAST	62													36.90	62
NORTH TO WEST	105													62.50	105
SOUTH APPROACH												6	10.91		55
SOUTH TO NORTH	8													14.55	8
THIS LEG SOUTH															
SOUTH TO EAST	3													5.45	3
SOUTH TO WEST	38						5	1				6		80.00	44
EAST APPROACH												18	2.26		795
EAST TO NORTH	122		1									1		15.47	123
EAST TO SOUTH	2							1				1		0.38	3
THIS LEG EAST															
EAST TO WEST	653	3	6	1		5	1					16		84.15	669
WEST APPROACH												14	2.69		521
WEST TO NORTH	106													20.35	106
WEST TO SOUTH	3							10				10		2.50	13
WEST TO EAST	398	1	2				1					4		77.16	402
THIS LEG WEST															
															1539
														PCT SPLIT OUT/IN	
NORTH TOTAL	404		1									1		41/59	405
PERCENTAGE	99.75		0.25									0.25			
SOUTH TOTAL	55						5	12				17		76/24	72
PERCENTAGE	76.39						6.94	16.6				23.61			
EAST TOTAL	1240	4	9	1		5	2	1				22		63/37	1262
PERCENTAGE	98.26	0.32	0.71	0.08		0.40	0.16	0.08				1.74			
WEST TOTAL	1303	4	8	1		5	7	11				36		39/61	1339
PERCENTAGE	97.31	0.30	0.60	0.07		0.37	0.52	0.82				2.69			
															3078

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3972 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												5	2.49		201
THIS LEG NORTH															
NORTH TO SOUTH	3													1.49	3
NORTH TO EAST	83													41.29	83
NORTH TO WEST	110		2	1		1		1				5		57.21	115
SOUTH APPROACH												8	11.11		72
SOUTH TO NORTH	12													16.67	12
THIS LEG SOUTH															
SOUTH TO EAST	5													6.94	5
SOUTH TO WEST	47		2				5	1				8		76.39	55
EAST APPROACH												17	2.14		796
EAST TO NORTH	126													15.83	126
EAST TO SOUTH	6							1				1		0.88	7
THIS LEG EAST															
EAST TO WEST	647		12	1		3						16		83.29	663
WEST APPROACH												20	3.36		596
WEST TO NORTH	88		1									1		14.93	89
WEST TO SOUTH	16							5				5		3.52	21
WEST TO EAST	472	3	7	2			2					14		81.54	486
THIS LEG WEST															
															1665
														PCT SPLIT OUT/IN	
NORTH TOTAL	422		3	1		1		1				6		47/53	428
PERCENTAGE	98.60		0.70	0.23		0.23		0.23				1.40			
SOUTH TOTAL	89		2				5	7				14		70/30	103
PERCENTAGE	86.41		1.94				4.85	6.80				13.59			
EAST TOTAL	1339	3	19	3		3	2	1				31		58/42	1370
PERCENTAGE	97.74	0.22	1.39	0.22		0.22	0.15	0.07				2.26			
WEST TOTAL	1380	3	24	4		4	7	7				49		42/58	1429
PERCENTAGE	96.57	0.21	1.68	0.28		0.28	0.49	0.49				3.43			
															3330

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3972 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 15:30 - 16:30
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												8	4.04		198
THIS LEG NORTH															
NORTH TO SOUTH	5													2.53	5
NORTH TO EAST	87		1	3								4		45.96	91
NORTH TO WEST	98		2	1				1				4		51.52	102
SOUTH APPROACH												14	18.42		76
SOUTH TO NORTH	9													11.84	9
THIS LEG SOUTH															
SOUTH TO EAST	5													6.58	5
SOUTH TO WEST	48		3				8	3				14		81.58	62
EAST APPROACH												11	1.48		745
EAST TO NORTH	122	1										1		16.51	123
EAST TO SOUTH	4													0.54	4
THIS LEG EAST															
EAST TO WEST	608	2	7					1				10		82.95	618
WEST APPROACH												25	3.96		631
WEST TO NORTH	80		2									2		13.00	82
WEST TO SOUTH	11						2	5				7		2.85	18
WEST TO EAST	515	3	9	1	1	2						16		84.15	531
THIS LEG WEST															
															1650
														PCT SPLIT OUT/IN	
NORTH TOTAL	401	1	5	4				1				11		48/52	412
PERCENTAGE	97.33	0.24	1.21	0.97				0.24				2.67			
SOUTH TOTAL	82		3				10	8				21		74/26	103
PERCENTAGE	79.61		2.91				9.71	7.77				20.39			
EAST TOTAL	1341	6	17	4	1	2		1				31		54/46	1372
PERCENTAGE	97.74	0.44	1.24	0.29	0.07	0.15		0.07				2.26			
WEST TOTAL	1360	5	23	2	1	2	10	10				53		45/55	1413
PERCENTAGE	96.25	0.35	1.63	0.14	0.07	0.14	0.71	0.71				3.75			
															3300

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3972 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:45 - 15:45
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												7	3.80		184
THIS LEG NORTH															
NORTH TO SOUTH	2													1.09	2
NORTH TO EAST	78		2	3								5		45.11	83
NORTH TO WEST	97		2									2		53.80	99
SOUTH APPROACH												16	28.07		57
SOUTH TO NORTH	2													3.51	2
THIS LEG SOUTH															
SOUTH TO EAST	6						1	1				2		14.04	8
SOUTH TO WEST	33		1				10	3				14		82.46	47
EAST APPROACH												31	3.76		824
EAST TO NORTH	132	1										1		16.14	133
EAST TO SOUTH	1							1				1		0.24	2
THIS LEG EAST															
EAST TO WEST	660	6	21			2						29		83.62	689
WEST APPROACH												24	3.88		619
WEST TO NORTH	72		1			2						3		12.12	75
WEST TO SOUTH	6						2	7				9		2.42	15
WEST TO EAST	517	2	8		1	1						12		85.46	529
THIS LEG WEST															
															1684
														PCT SPLIT OUT/IN	
NORTH TOTAL	383	1	5	3		2						11		47/53	394
PERCENTAGE	97.21	0.25	1.27	0.76		0.51						2.79			
SOUTH TOTAL	50		1				13	12				26		75/25	76
PERCENTAGE	65.79		1.32				17.1	15.7				34.21			
EAST TOTAL	1394	9	31	3	1	3	1	2				50		57/43	1444
PERCENTAGE	96.54	0.62	2.15	0.21	0.07	0.21	0.07	0.14				3.46			
WEST TOTAL	1385	8	33		1	5	12	10				69		43/57	1454
PERCENTAGE	95.25	0.55	2.27		0.07	0.34	0.83	0.69				4.75			
															3368

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3972 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:45 - 15:45
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												7	3.80		184
THIS LEG NORTH															
NORTH TO SOUTH	2													1.09	2
NORTH TO EAST	78		2	3								5		45.11	83
NORTH TO WEST	97		2									2		53.80	99
SOUTH APPROACH												16	28.07		57
SOUTH TO NORTH	2													3.51	2
THIS LEG SOUTH															
SOUTH TO EAST	6						1	1				2		14.04	8
SOUTH TO WEST	33		1				10	3				14		82.46	47
EAST APPROACH												31	3.76		824
EAST TO NORTH	132	1										1		16.14	133
EAST TO SOUTH	1							1				1		0.24	2
THIS LEG EAST															
EAST TO WEST	660	6	21			2						29		83.62	689
WEST APPROACH												24	3.88		619
WEST TO NORTH	72		1			2						3		12.12	75
WEST TO SOUTH	6						2	7				9		2.42	15
WEST TO EAST	517	2	8		1	1						12		85.46	529
THIS LEG WEST															
															1684
														PCT SPLIT OUT/IN	
NORTH TOTAL	383	1	5	3		2						11		47/53	394
PERCENTAGE	97.21	0.25	1.27	0.76		0.51						2.79			
SOUTH TOTAL	50		1				13	12				26		75/25	76
PERCENTAGE	65.79		1.32				17.1	15.7				34.21			
EAST TOTAL	1394	9	31	3	1	3	1	2				50		57/43	1444
PERCENTAGE	96.54	0.62	2.15	0.21	0.07	0.21	0.07	0.14				3.46			
WEST TOTAL	1385	8	33		1	5	12	10				69		43/57	1454
PERCENTAGE	95.25	0.55	2.27		0.07	0.34	0.83	0.69				4.75			
															3368

SR 020 MP 009.81 OFF SYS ID COUNTER NUM 3972 COUNT ID 17-006
DATE 3/28/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:45 - 15:45
LOCATION SR 20 & DISCOVERY RD & MILL RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												7	3.80		184
THIS LEG NORTH															
NORTH TO SOUTH	2													1.09	2
NORTH TO EAST	78		2	3								5		45.11	83
NORTH TO WEST	97		2									2		53.80	99
SOUTH APPROACH												16	28.07		57
SOUTH TO NORTH	2													3.51	2
THIS LEG SOUTH															
SOUTH TO EAST	6						1	1				2		14.04	8
SOUTH TO WEST	33		1				10	3				14		82.46	47
EAST APPROACH												31	3.76		824
EAST TO NORTH	132	1										1		16.14	133
EAST TO SOUTH	1							1				1		0.24	2
THIS LEG EAST															
EAST TO WEST	660	6	21			2						29		83.62	689
WEST APPROACH												24	3.88		619
WEST TO NORTH	72		1			2						3		12.12	75
WEST TO SOUTH	6						2	7				9		2.42	15
WEST TO EAST	517	2	8		1	1						12		85.46	529
THIS LEG WEST															
															1684
														PCT SPLIT OUT/IN	
NORTH TOTAL	383	1	5	3		2						11		47/53	394
PERCENTAGE	97.21	0.25	1.27	0.76		0.51						2.79			
SOUTH TOTAL	50		1				13	12				26		75/25	76
PERCENTAGE	65.79		1.32				17.1	15.7				34.21			
EAST TOTAL	1394	9	31	3	1	3	1	2				50		57/43	1444
PERCENTAGE	96.54	0.62	2.15	0.21	0.07	0.21	0.07	0.14				3.46			
WEST TOTAL	1385	8	33		1	5	12	10				69		43/57	1454
PERCENTAGE	95.25	0.55	2.27		0.07	0.34	0.83	0.69				4.75			
															3368

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	9	2.28	2	0.51			11	2.79	0.9911
SOUTH TOTAL	1	1.32	25	32.89			26	34.21	0.6359
EAST TOTAL	44	3.05	6	0.42			50	3.46	0.9924
WEST TOTAL	42	2.89	27	1.86			69	4.75	0.9706

PEAK HOUR FACTOR 0.925 408 410 411 455 1684

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

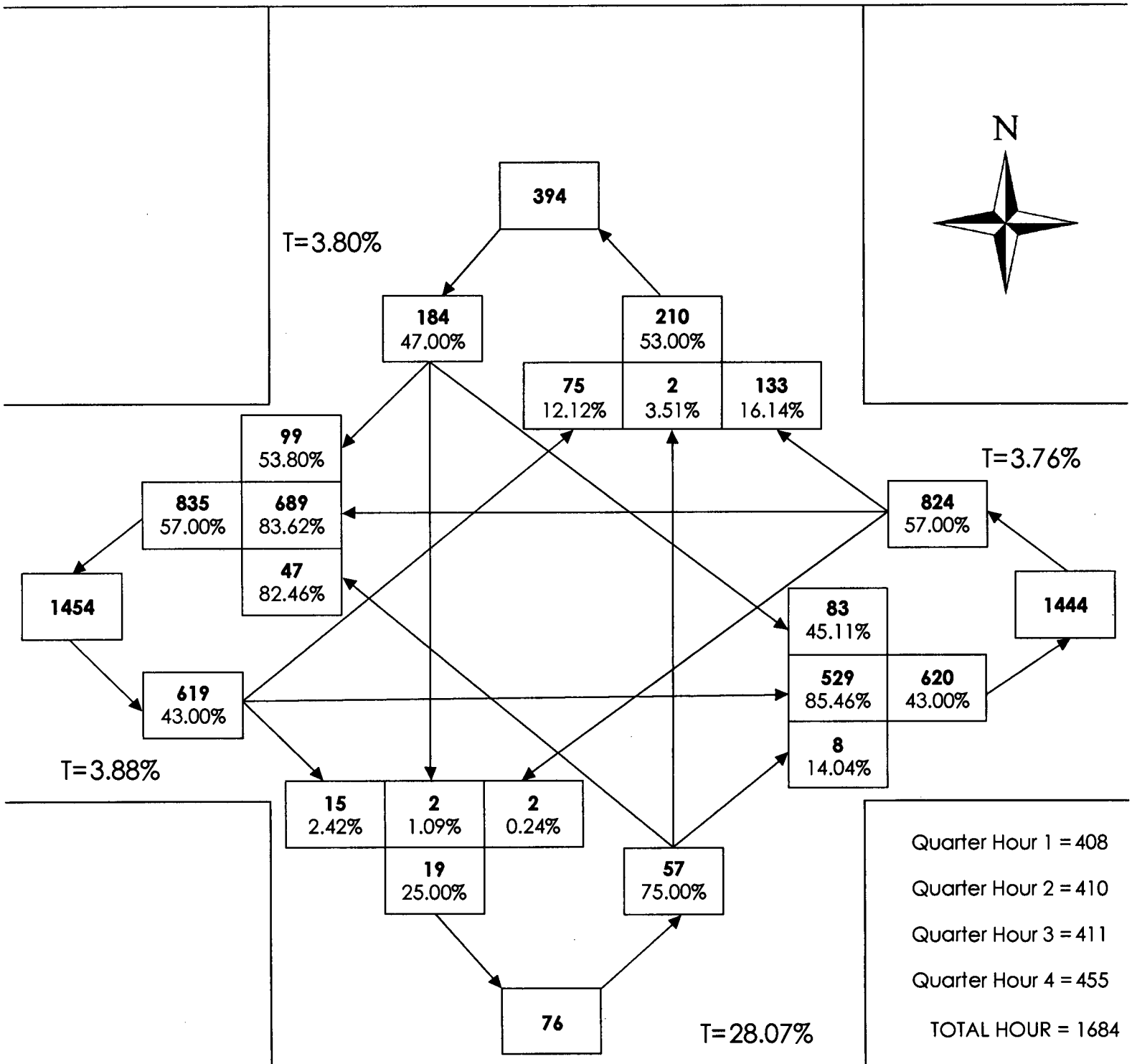
(Block Diagram)

Date: 3/28/2017
Time Period: 14:45 - 15:45

SR: 020 MP: 009.81 Off Sys. ID: Count ID: 17-006

Location: SR 20 & DISCOVERY RD & MILL RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 408

Quarter Hour 2 = 410

Quarter Hour 3 = 411

Quarter Hour 4 = 455

TOTAL HOUR = 1684

PEAK HOUR FACTOR = 0.925

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

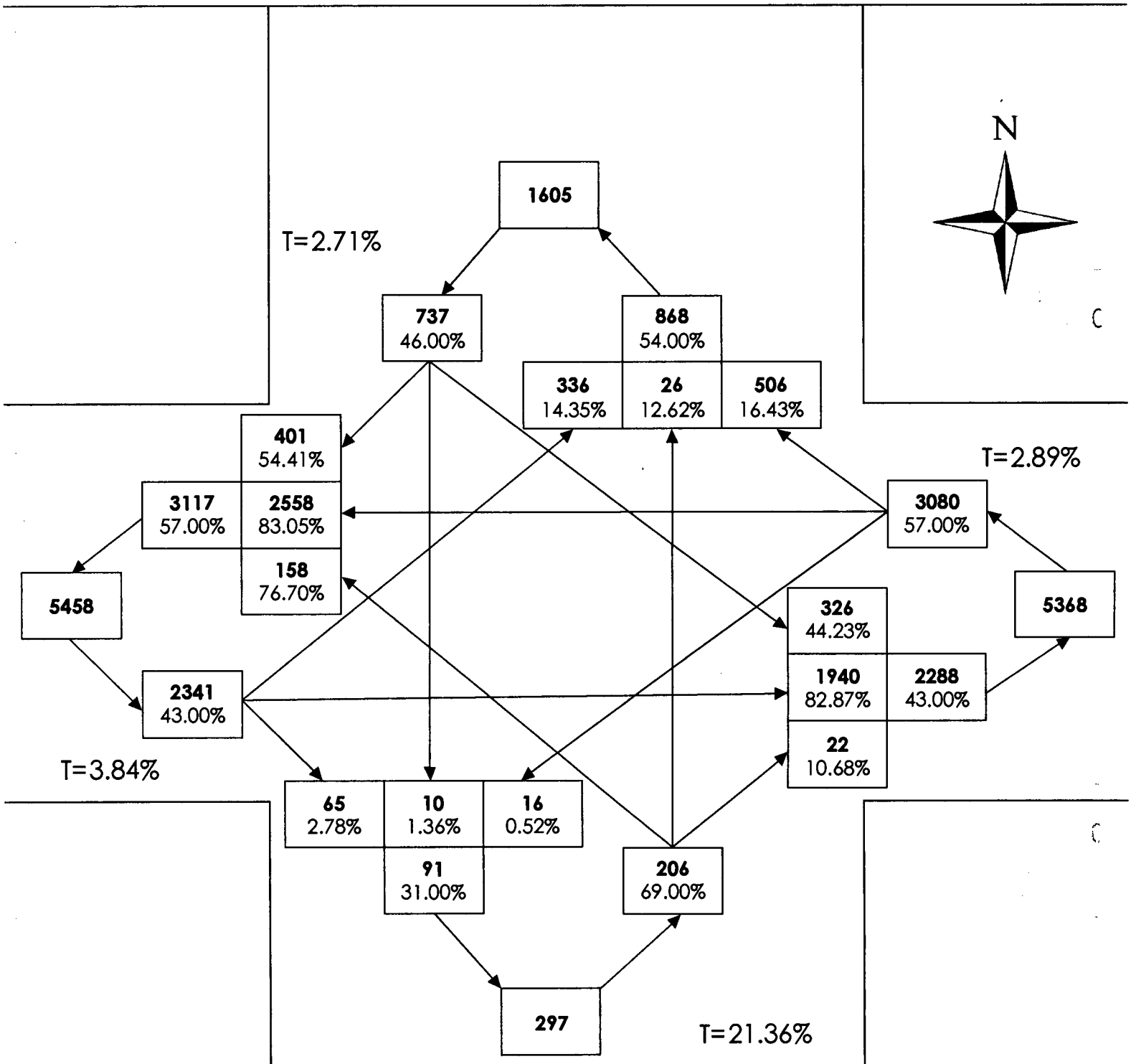
(Block Diagram)

Date: 3/28/2017
Time Period: 14:00 - 18:00

SR: 020 MP: 009.81 Off Sys. ID: Count ID: 17-006

Location: SR 20 & DISCOVERY RD & MILL RD

ENTIRE COUNT VOLUMES



CB # 5158 +U 3973 3972 3974

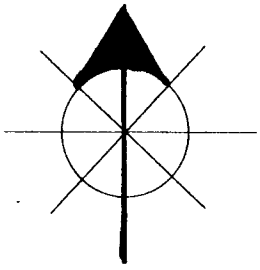
Washington State Department of Transportation

Traffic Station Sketch

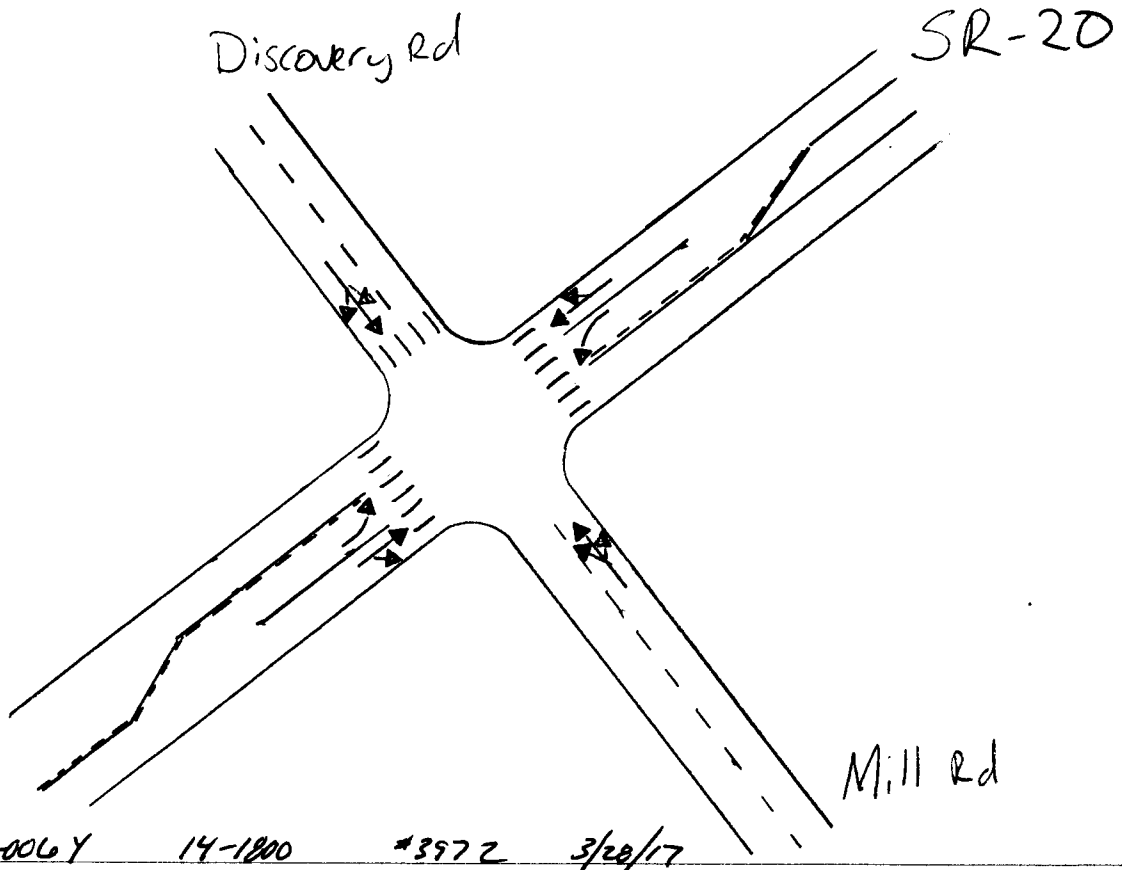
SR #	MP	OSID	Count ID	Date
SR-20	9 ● 81		17-006	3/28/2017 3/29 3/30

Station Location
JCT SR-20 & Mill rd

Sketch



Indicate North



Remarks:

G:\17-006Y 14-1800 #3972 3/28/17

G:\17-006Z 10-1400 #3973 3/29/17

G:\17-006AA 06-1000 #3974 3/30/17

J. Myllar
Signature

DOT Form 324-005 EF
Revised 2/2007

Peninsula Regional Transportation Planning Organization

State Route 112/Elwha River Road

Intersection Operational Analysis



Prepared by

WSDOT
Washington State Department of Transportation
Olympic Region Planning

July 2017

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Introduction:

Note: This intersection operational analysis was prepared specifically at the request of the Peninsula Regional Transportation Planning Organization and their member Clallam County.

State Route (SR) 112 is nationally designated as The Strait of Juan de Fuca National Scenic Byway. This scenic byway is 61.29 miles long and is located on the Olympic Peninsula in Clallam County, Washington between the Makah Indian Reservation boundary near Neah Bay and the City of Port Angeles. Cape Flattery located in Neah Bay is the most northwestern point of the contiguous United States drawing tourists from all over the nation. SR 112 serves as an economic and community link for area residents. This scenic byway is lined with jagged cliffs and the magnificent cedar forests of the Olympic National Park, the highway gives travelers stunning views of the Strait of Juan De Fuca and Canada's Vancouver Island.

The SR 112/Elwha River Road intersection roadway geometrics include one twelve-foot lane in each direction with six-foot roadway shoulders. The posted speed limit is 55 miles per hour with a rolling terrain that may cause commercial trucks to frequently slow down.

Methodology

Traffic Operations Model

The Highway Capacity Software 2010 was used to analyze the unsignalized intersection of SR 112/ Elwha River Road. The turning movement counts from the minor street that experiences the worst delay defines the level of service (LOS) level for the intersection. The LOS criteria for automobiles at a two-way stopped controlled intersection as defined in the Highway Capacity Manual 2010 is as follows:

Highway Capacity Manual Exhibit 19-1 Two-way Stopped Controlled Intersection LOS Criteria

Control Delay (s/vehicle)	**LOS by Volume-to-Capacity Ratio v/c ≤ 1.0**
0-10	A
>10-15	B
>15-25	C
>25-35	D
>35-50	E
>50	F

Note: The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major street approaches, or for the intersection as a whole.

The Synchro 8/SimTraffic software and the Highway Capacity Software 2010 were used to determine the traffic queues at the intersection. The Washington State Department of Transportation's Design Manual Chapter 1310 was used to determine the right and left turn lanes lengths needed from the major road onto the minor road.

Traffic Volumes

In March 2017, WSDOT staff performed 12-hour turning movement manual counts at all legs of the SR 112/Elwha River Road intersection.

Analysis

The intersection analysis applies a seasonal factor of 1.0600 percent to the weekday traffic volumes collected. The seasonal factor adjusts the volume to reflect the yearly average volume and are only applied to the major approaches. The LOS and the delay in seconds for the SR 112/ Elwha River Road intersection are depicted in the table below.

Figure 2: Level of Service (Delay, Seconds)

LOCATION	AM	MID-DAY	PM
SR 112/Elwha River Road	A (8.8)	A (9.4)	B (10.6)

Figure 2 portrays the traffic operation LOS at the SR 112/Elwha River Road intersection. During the morning hours between 6 to 10 a.m., the intersection delay is designated an LOS A. with an average delay of 8.8 seconds. Meaning that motorists would wait on average 8.8 seconds at the intersection before they could proceed. Between the hours of 11 a.m. to 2 p.m., motorists would wait an average of 9.4 seconds, During the evening hours, between 2 p.m. to 6 p.m., motorists would be delayed at the intersection 10.6 seconds before they could proceed.

Note: The Washington State Department of Transportation's policy for what is considered a minimal acceptable traffic operation LOS at this location is a LOS C designation for rural highways.

Summary

The analysis depicts the SR 112/Elwha River Road intersection operating above the target level of LOS C. Therefore, no mitigation efforts are recommended at this time.

However, if a new development should be proposed for this area, WSDOT could ask the developer to mitigate for their added traffic volumes through the Hearing Examiner in the State Environmental Protection Act (SEPA) Process.

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: AM
Intersection: SR 112/Elwha R Rd
Jurisdiction: Clallam Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 112/Elwha R Rd
East/West Street: SR 112
North/South Street: Elwha R Rd
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	35	326			86	1
Peak-Hour Factor, PHF	0.93	0.93			0.93	0.93
Hourly Flow Rate, HFR	37	350			92	1
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				0		16
Peak Hour Factor, PHF				0.93		0.93
Hourly Flow Rate, HFR				0		17
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	37						17	
C(m) (vph)	1514						971	
v/c	0.02						0.02	
95% queue length	0.08						0.05	
Control Delay	7.4						8.8	
LOS	A						A	
Approach Delay							8.8	
Approach LOS							A	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: Mid-day
Intersection: SR 112/Elwha R Rd
Jurisdiction: Clallam Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 112/Elwha R Rd
East/West Street: SR 112
North/South Street: Elwha R Rd
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	12	208			169	2
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	13	231			187	2
Percent Heavy Vehicles	18	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				1		23
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				1		25
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	13						26	
C(m) (vph)	1294						842	
v/c	0.01						0.03	
95% queue length	0.03						0.10	
Control Delay	7.8						9.4	
LOS	A						A	
Approach Delay							9.4	
Approach LOS							A	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst:	jmn
Agency/Co.:	wsdot
Date Performed:	5/8/2017
Analysis Time Period:	PM
Intersection:	SR 112/Elwha R Rd
Jurisdiction:	Clallam Co
Units: U. S. Customary	
Analysis Year:	2017
Project ID:	SR 112/Elwha R Rd
East/West Street:	SR 112
North/South Street:	Elwha R Rd
Intersection Orientation: EW	Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	13	160			308	5
Peak-Hour Factor, PHF	0.92	0.92			0.92	0.92
Hourly Flow Rate, HFR	14	173			334	5
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				1		49
Peak Hour Factor, PHF				0.92		0.92
Hourly Flow Rate, HFR				1		53
Percent Heavy Vehicles				0		2
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

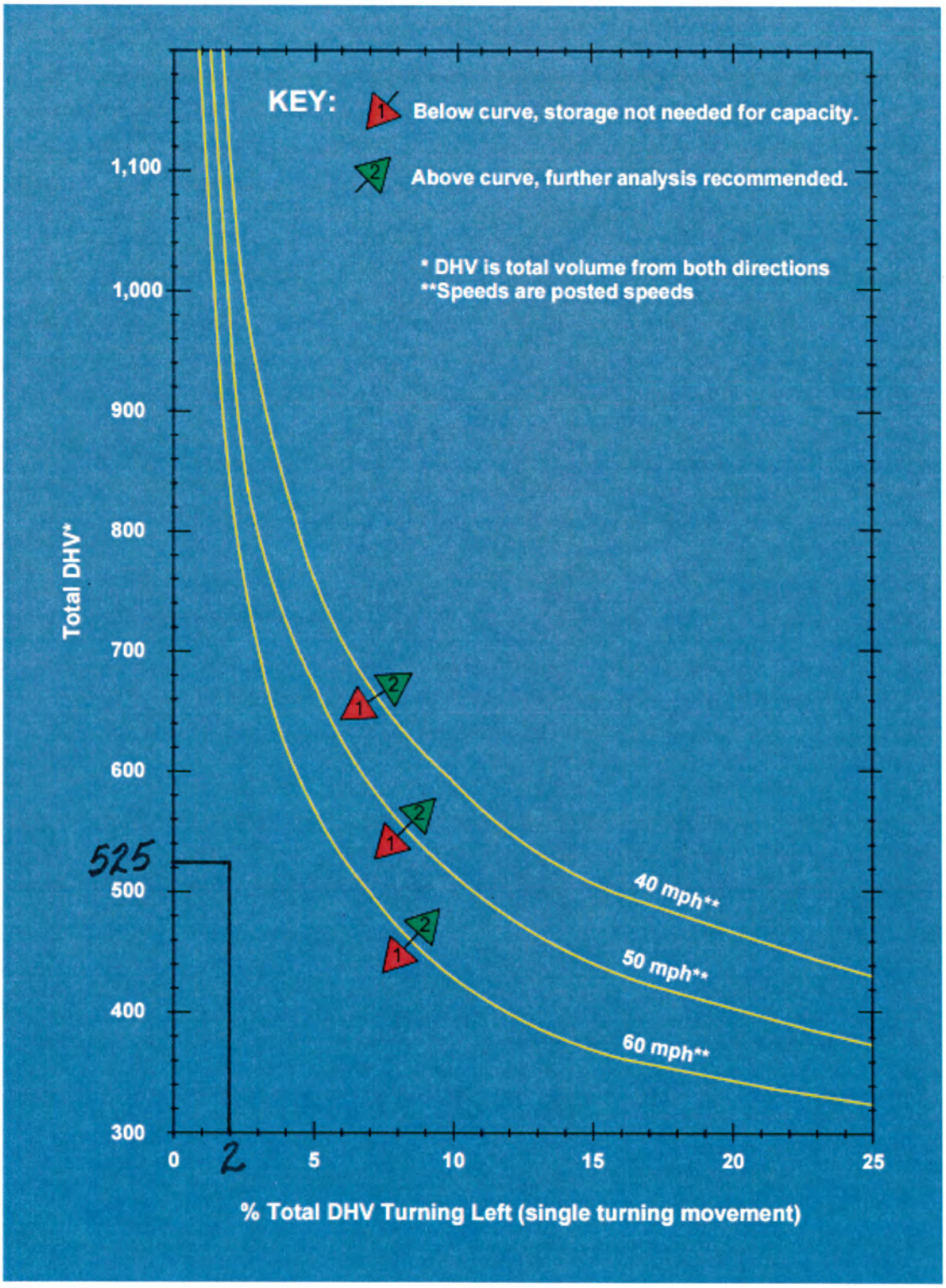
Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	14						54	
C(m) (vph)	1231						701	
v/c	0.01						0.08	
95% queue length	0.03						0.25	
Control Delay	8.0						10.6	
LOS	A						B	
Approach Delay							10.6	
Approach LOS							B	

SR 112/Elwha River Road
MP 60.24

55 mph

Exhibit 1310-7a Left-Turn Storage Guidelines: Two-Lane, Unsignalized



STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 09:21:01
PAGE: 1

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4373 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 10:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												1	2.13		47
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	4													8.51	4
NORTH TO WEST	42	1										1		91.49	43
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												70	21.41		327
EAST TO NORTH	4													1.22	4
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	253	4	18	32	1	2	4	9				70		98.78	323
WEST APPROACH												59	6.64		888
WEST TO NORTH	60	1										1		6.87	61
WEST TO SOUTH															
WEST TO EAST	769	5	8	4	1	1	3	32			4	58		93.13	827
THIS LEG WEST															
															1262
														PCT SPLIT OUT/IN	
NORTH TOTAL	110	2										2		42/58	112
PERCENTAGE	98.21	1.79										1.79			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	1030	9	26	36	2	3	7	41			4	128		28/72	1158
PERCENTAGE	88.95	0.78	2.25	3.11	0.17	0.26	0.60	3.54			0.35	11.05			
WEST TOTAL	1124	11	26	36	2	3	7	41			4	130		71/29	1254
PERCENTAGE	89.63	0.88	2.07	2.87	0.16	0.24	0.56	3.27			0.32	10.37			
TRUCK PERCENTAGE:															2524

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	2	1.79					2	1.79	1.0000
SOUTH TOTAL									
EAST TOTAL	73	6.30	51	4.40	4	0.35	128	11.05	0.9022
WEST TOTAL	75	5.98	51	4.07	4	0.32	130	10.37	0.9090

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4373 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 07:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															6
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	1													16.67	1
NORTH TO WEST	5													83.33	5
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												15	26.79		56
EAST TO NORTH	2													3.57	2
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	39	3	5	6			1					15		96.43	54
WEST APPROACH												9	6.43		140
WEST TO NORTH	7													5.00	7
WEST TO SOUTH															
WEST TO EAST	124		2	1				5			1	9		95.00	133
THIS LEG WEST															
															202
														PCT SPLIT OUT/IN	
NORTH TOTAL	15													40/60	15
PERCENTAGE	100.00														
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	166	3	7	7			1	5			1	24		29/71	190
PERCENTAGE	87.37	1.58	3.68	3.68			0.53	2.63			0.53	12.63			
WEST TOTAL	175	3	7	7			1	5			1	24		70/30	199
PERCENTAGE	87.94	1.51	3.52	3.52			0.50	2.51			0.50	12.06			
															404

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4373 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															16
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST	16													100.00	16
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												17	21.25		80
EAST TO NORTH	1													1.25	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	62		2	9	1	1	1	3				17		98.75	79
WEST APPROACH												18	5.44		331
WEST TO NORTH	32													9.67	32
WEST TO SOUTH															
WEST TO EAST	281	4	2		1		1	9			1	18		90.33	299
THIS LEG WEST															
															427
														PCT SPLIT OUT/IN	
NORTH TOTAL	49													33/67	49
PERCENTAGE	100.00														
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	344	4	4	9	2	1	2	12			1	35		21/79	379
PERCENTAGE	90.77	1.06	1.06	2.37	0.53	0.26	0.53	3.17			0.26	9.23			
WEST TOTAL	391	4	4	9	2	1	2	12			1	35		78/22	426
PERCENTAGE	91.78	0.94	0.94	2.11	0.47	0.23	0.47	2.82			0.23	8.22			
															854

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4373 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:00 - 09:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												1	6.67		15
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST	14	1										1		100.00	15
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												14	16.28		86
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	72		5	4		1	2	2				14		100.00	86
WEST APPROACH												12	5.53		217
WEST TO NORTH	12	1										1		5.99	13
WEST TO SOUTH															
WEST TO EAST	193			1		1	1	8				11		94.01	204
THIS LEG WEST															
															318
														PCT SPLIT OUT/IN	
NORTH TOTAL	26	2										2		54/46	28
PERCENTAGE	92.86	7.14										7.14			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	265		5	5		2	3	10				25		30/70	290
PERCENTAGE	91.38		1.72	1.72		0.69	1.03	3.45				8.62			
WEST TOTAL	291	2	5	5		2	3	10				27		68/32	318
PERCENTAGE	91.51	0.63	1.57	1.57		0.63	0.94	3.14				8.49			
															636

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4373 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															10
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	3													30.00	3
NORTH TO WEST	7													70.00	7
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												24	22.86		105
EAST TO NORTH	1													0.95	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	80	1	6	13				4				24		99.05	104
WEST APPROACH												20	10.00		200
WEST TO NORTH	9													4.50	9
WEST TO SOUTH															
WEST TO EAST	171	1	4	2			1	10			2	20		95.50	191
THIS LEG WEST															
															315
														PCT SPLIT OUT/IN	
NORTH TOTAL	20													50/50	20
PERCENTAGE	100.00														
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	255	2	10	15			1	14			2	44		35/65	299
PERCENTAGE	85.28	0.67	3.34	5.02			0.33	4.68			0.67	14.72			
WEST TOTAL	267	2	10	15			1	14			2	44		64/36	311
PERCENTAGE	85.85	0.64	3.22	4.82			0.32	4.50			0.64	14.15			
															630

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4373 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:15 - 08:15
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															16
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST	16													100.00	16
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												19	24.05		79
EAST TO NORTH	1													1.27	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	59		3	9	1	1	1	4				19		98.73	78
WEST APPROACH												12	3.63		331
WEST TO NORTH	35													10.57	35
WEST TO SOUTH															
WEST TO EAST	284		1				1	9			1	12		89.43	296
THIS LEG WEST															
															426
														PCT SPLIT OUT/IN	
NORTH TOTAL	52													31/69	52
PERCENTAGE	100.00														
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	344		4	9	1	1	2	13			1	31		21/79	375
PERCENTAGE	91.73		1.07	2.40	0.27	0.27	0.53	3.47			0.27	8.27			
WEST TOTAL	394		4	9	1	1	2	13			1	31		78/22	425
PERCENTAGE	92.71		0.94	2.12	0.24	0.24	0.47	3.06			0.24	7.29			
															852

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4373 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															16
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST	16													100.00	16
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												17	21.25		80
EAST TO NORTH	1													1.25	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	62		2	9	1	1	1	3				17		98.75	79
WEST APPROACH												18	5.44		331
WEST TO NORTH	32													9.67	32
WEST TO SOUTH															
WEST TO EAST	281	4	2		1		1	9			1	18		90.33	299
THIS LEG WEST															
															427
														PCT SPLIT OUT/IN	
NORTH TOTAL	49													33/67	49
PERCENTAGE	100.00														
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	344	4	4	9	2	1	2	12			1	35		21/79	379
PERCENTAGE	90.77	1.06	1.06	2.37	0.53	0.26	0.53	3.17			0.26	9.23			
WEST TOTAL	391	4	4	9	2	1	2	12			1	35		78/22	426
PERCENTAGE	91.78	0.94	0.94	2.11	0.47	0.23	0.47	2.82			0.23	8.22			
															854

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4373 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															16
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST	16													100.00	16
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												17	21.25		80
EAST TO NORTH	1													1.25	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	62		2	9	1	1	1	3				17		98.75	79
WEST APPROACH												18	5.44		331
WEST TO NORTH	32													9.67	32
WEST TO SOUTH															
WEST TO EAST	281	4	2		1		1	9			1	18		90.33	299
THIS LEG WEST															
															427
														PCT SPLIT OUT/IN	
NORTH TOTAL	49													33/67	49
PERCENTAGE	100.00														
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	344	4	4	9	2	1	2	12			1	35		21/79	379
PERCENTAGE	90.77	1.06	1.06	2.37	0.53	0.26	0.53	3.17			0.26	9.23			
WEST TOTAL	391	4	4	9	2	1	2	12			1	35		78/22	426
PERCENTAGE	91.78	0.94	0.94	2.11	0.47	0.23	0.47	2.82			0.23	8.22			
															854

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4373 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK S TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															16
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST	16													100.00	16
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												17	21.25		80
EAST TO NORTH	1													1.25	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	62		2	9	1	1	1	3				17		98.75	79
WEST APPROACH												18	5.44		331
WEST TO NORTH	32													9.67	32
WEST TO SOUTH															
WEST TO EAST	281	4	2		1		1	9			1	18		90.33	299
THIS LEG WEST															
															427
														PCT SPLIT OUT/IN	
NORTH TOTAL	49													33/67	49
PERCENTAGE	100.00														
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	344	4	4	9	2	1	2	12			1	35		21/79	379
PERCENTAGE	90.77	1.06	1.06	2.37	0.53	0.26	0.53	3.17			0.26	9.23			
WEST TOTAL	391	4	4	9	2	1	2	12			1	35		78/22	426
PERCENTAGE	91.78	0.94	0.94	2.11	0.47	0.23	0.47	2.82			0.23	8.22			
															854

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL									1.0000
SOUTH TOTAL									
EAST TOTAL	19	5.01	15	3.96	1	0.26	35	9.23	0.9110
WEST TOTAL	19	4.46	15	3.52	1	0.23	35	8.22	0.9200

PEAK HOUR FACTOR 0.928 84 115 113 115 427

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

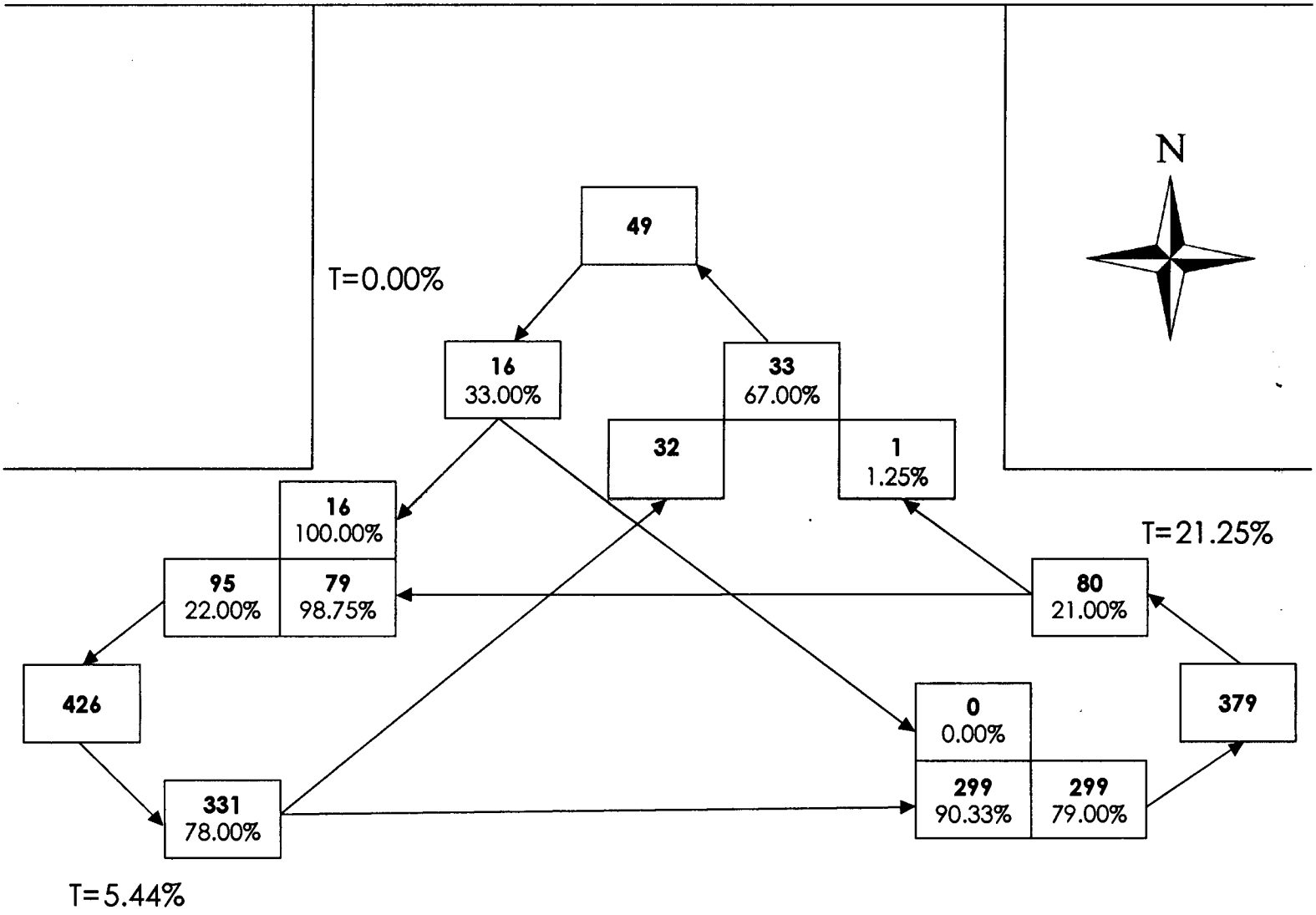
(Block Diagram)

Date: 3/23/2017
Time Period: 07:00 - 08:00

SR: 112 MP: 059.12 Off Sys. ID: Count ID: 17-006

Location: SR 112 & ELWHA RIVER RD - OLD SR 112

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 84

Quarter Hour 2 = 115

Quarter Hour 3 = 113

Quarter Hour 4 = 115

TOTAL HOUR = 427

PEAK HOUR FACTOR = 0.928

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

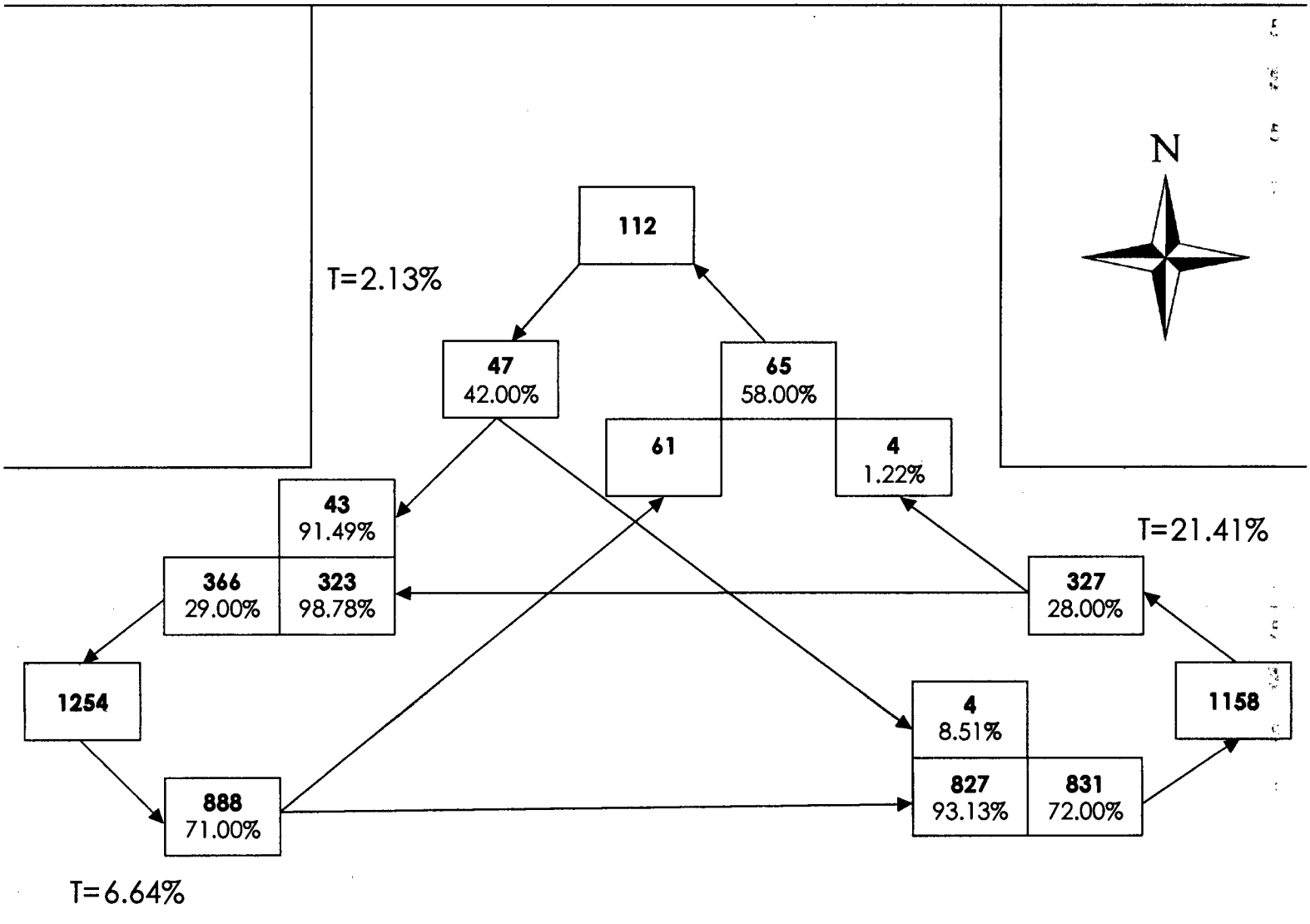
(Block Diagram)

Date: 3/23/2017
Time Period: 06:00 - 10:00

SR: 112 MP: 059.12 Off Sys. ID: Count ID: 17-006

Location: SR 112 & ELWHA RIVER RD - OLD SR 112

ENTIRE COUNT VOLUMES



CB# 5159 ID# 4371
4372
4373

Washington State Department of Transportation

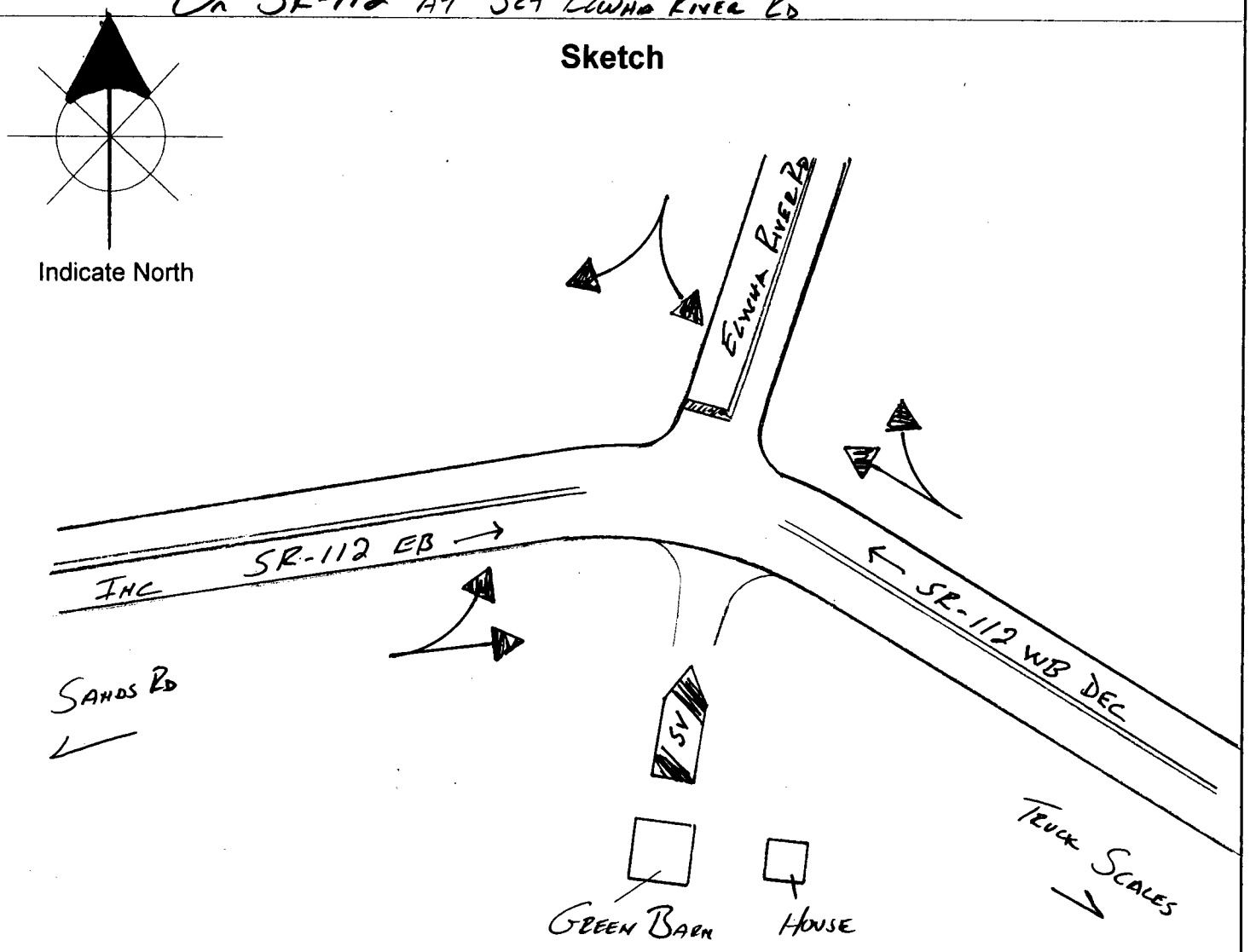
Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
112	59 • 12		SPH 17-006	3-21-2017 3-22-2017 3-23-2017

Station Location

On SR-112 AT JCT ELWHA RIVER RD

Sketch



Remarks: G:\17-006A 14-1800 #4371 3/21/17

G:\17-006B 10-1400 #4372 3/22/17

G:\17-006C 06-1000 #4373 3/23/17

Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4372 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 14:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												4	4.04		99
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	5													5.05	5
NORTH TO WEST	90	1	1	2								4		94.95	94
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												60	11.26		533
EAST TO NORTH	8													1.50	8
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	465	2	15	30		6	2	5				60		98.50	525
WEST APPROACH												62	8.72		711
WEST TO NORTH	50	1	2	2								5		7.74	55
WEST TO SOUTH															
WEST TO EAST	599	2	12	6	1	4	2	30				57		92.26	656
THIS LEG WEST															
															1343
														PCT SPLIT OUT/IN	
NORTH TOTAL	153	2	3	4								9		61/39	162
PERCENTAGE	94.44	1.23	1.85	2.47								5.56			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	1077	4	27	36	1	10	4	35				117		45/55	1194
PERCENTAGE	90.20	0.34	2.26	3.02	0.08	0.84	0.34	2.93				9.80			
WEST TOTAL	1204	6	30	40	1	10	4	35				126		53/47	1330
PERCENTAGE	90.53	0.45	2.26	3.01	0.08	0.75	0.30	2.63				9.47			
															2686

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	9	5.56					9	5.56	0.9878
SOUTH TOTAL									
EAST TOTAL	68	5.70	49	4.10			117	9.80	0.9191
WEST TOTAL	77	5.79	49	3.68			126	9.47	0.9255

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4372 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 11:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															19
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	2													10.53	2
NORTH TO WEST	17													89.47	17
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												22	19.13		115
EAST TO NORTH	1													0.87	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	92			8	12		1		1			22		99.13	114
WEST APPROACH												12	6.49		185
WEST TO NORTH	17													9.19	17
WEST TO SOUTH															
WEST TO EAST	156	1		5	1		1		4			12		90.81	168
THIS LEG WEST															
															319
														PCT SPLIT OUT/IN	
NORTH TOTAL	37													51/49	37
PERCENTAGE	100.00														
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	251	1		13	13		2		5			34		40/60	285
PERCENTAGE	88.07	0.35		4.56	4.56		0.70		1.75			11.93			
WEST TOTAL	282	1		13	13		2		5			34		59/41	316
PERCENTAGE	89.24	0.32		4.11	4.11		0.63		1.58			10.76			
															638

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4372 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:00 - 12:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												2	9.09		22
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	1													4.55	1
NORTH TO WEST	19		1	1								2		95.45	21
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												11	9.65		114
EAST TO NORTH	4													3.51	4
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	99		2	6		1	1	1				11		96.49	110
WEST APPROACH												22	12.94		170
WEST TO NORTH	7		1									1		4.71	8
WEST TO SOUTH															
WEST TO EAST	141		4	2	1	2	1	11				21		95.29	162
THIS LEG WEST															
															306
														PCT SPLIT OUT/IN	
NORTH TOTAL	31		2	1								3		65/35	34
PERCENTAGE	91.18		5.88	2.94								8.82			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	245		6	8	1	3	2	12				32		41/59	277
PERCENTAGE	88.45		2.17	2.89	0.36	1.08	0.72	4.33				11.55			
WEST TOTAL	266		8	9	1	3	2	12				35		56/44	301
PERCENTAGE	88.37		2.66	2.99	0.33	1.00	0.66	3.99				11.63			
															612

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4372 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															24
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	1													4.17	1
NORTH TO WEST	23													95.83	23
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												15	9.55		157
EAST TO NORTH	2													1.27	2
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	140	1	2	7		3	1	1				15		98.73	155
WEST APPROACH												13	6.44		202
WEST TO NORTH	9		1	1								2		5.45	11
WEST TO SOUTH															
WEST TO EAST	180		1	2		1	1	6				11		94.55	191
THIS LEG WEST															
															383
														PCT SPLIT OUT/IN	
NORTH TOTAL	35		1	1								2		65/35	37
PERCENTAGE	94.59		2.70	2.70								5.41			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	323	1	3	9		4	2	7				26		45/55	349
PERCENTAGE	92.55	0.29	0.86	2.58		1.15	0.57	2.01				7.45			
WEST TOTAL	352	1	4	10		4	2	7				28		53/47	380
PERCENTAGE	92.63	0.26	1.05	2.63		1.05	0.53	1.84				7.37			
															766

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4372 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												2	5.88		34
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	1													2.94	1
NORTH TO WEST	31	1		1								2		97.06	33
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												12	8.16		147
EAST TO NORTH	1													0.68	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	134	1	3	5		1		2				12		99.32	146
WEST APPROACH												15	9.74		154
WEST TO NORTH	17	1		1								2		12.34	19
WEST TO SOUTH															
WEST TO EAST	122	1	2	1				9				13		87.66	135
THIS LEG WEST															
															335
														PCT SPLIT OUT/IN	
NORTH TOTAL	50	2		2								4		63/37	54
PERCENTAGE	92.59	3.70		3.70								7.41			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	258	2	5	6		1		11				25		52/48	283
PERCENTAGE	91.17	0.71	1.77	2.12		0.35		3.89				8.83			
WEST TOTAL	304	4	5	8		1		11				29		46/54	333
PERCENTAGE	91.29	1.20	1.50	2.40		0.30		3.30				8.71			
															670

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4372 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												2	5.88		34
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	1													2.94	1
NORTH TO WEST	31	1		1								2		97.06	33
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												12	8.16		147
EAST TO NORTH	1													0.68	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	134	1	3	5		1		2				12		99.32	146
WEST APPROACH												15	9.74		154
WEST TO NORTH	17	1		1								2		12.34	19
WEST TO SOUTH															
WEST TO EAST	122	1	2	1				9				13		87.66	135
THIS LEG WEST															
															335
														PCT SPLIT OUT/IN	
NORTH TOTAL	50	2		2								4		63/37	54
PERCENTAGE	92.59	3.70		3.70								7.41			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	258	2	5	6		1		11				25		52/48	283
PERCENTAGE	91.17	0.71	1.77	2.12		0.35		3.89				8.83			
WEST TOTAL	304	4	5	8		1		11				29		46/54	333
PERCENTAGE	91.29	1.20	1.50	2.40		0.30		3.30				8.71			
															670

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4372 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															24
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	1													4.17	1
NORTH TO WEST	23													95.83	23
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												15	9.55		157
EAST TO NORTH	2													1.27	2
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	140	1	2	7		3	1	1				15		98.73	155
WEST APPROACH												13	6.44		202
WEST TO NORTH	9		1	1								2		5.45	11
WEST TO SOUTH															
WEST TO EAST	180		1	2		1	1	6				11		94.55	191
THIS LEG WEST															
															383
														PCT SPLIT OUT/IN	
NORTH TOTAL	35		1	1								2		65/35	37
PERCENTAGE	94.59		2.70	2.70								5.41			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	323	1	3	9		4	2	7				26		45/55	349
PERCENTAGE	92.55	0.29	0.86	2.58		1.15	0.57	2.01				7.45			
WEST TOTAL	352	1	4	10		4	2	7				28		53/47	380
PERCENTAGE	92.63	0.26	1.05	2.63		1.05	0.53	1.84				7.37			
															766

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4372 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															24
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	1													4.17	1
NORTH TO WEST	23													95.83	23
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												15	9.55		157
EAST TO NORTH	2													1.27	2
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	140	1	2	7		3	1	1				15		98.73	155
WEST APPROACH												13	6.44		202
WEST TO NORTH	9		1	1								2		5.45	11
WEST TO SOUTH															
WEST TO EAST	180		1	2		1	1	6				11		94.55	191
THIS LEG WEST															
															383
														PCT SPLIT OUT/IN	
NORTH TOTAL	35		1	1								2		65/35	37
PERCENTAGE	94.59		2.70	2.70								5.41			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	323	1	3	9		4	2	7				26		45/55	349
PERCENTAGE	92.55	0.29	0.86	2.58		1.15	0.57	2.01				7.45			
WEST TOTAL	352	1	4	10		4	2	7				28		53/47	380
PERCENTAGE	92.63	0.26	1.05	2.63		1.05	0.53	1.84				7.37			
															766

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4372 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															24
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	1													4.17	1
NORTH TO WEST	23													95.83	23
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												15	9.55		157
EAST TO NORTH	2													1.27	2
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	140	1	2	7		3	1	1				15		98.73	155
WEST APPROACH												13	6.44		202
WEST TO NORTH	9		1	1								2		5.45	11
WEST TO SOUTH															
WEST TO EAST	180		1	2		1	1	6				11		94.55	191
THIS LEG WEST															
															383
														PCT SPLIT OUT/IN	
NORTH TOTAL	35		1	1								2		65/35	37
PERCENTAGE	94.59		2.70	2.70								5.41			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	323	1	3	9		4	2	7				26		45/55	349
PERCENTAGE	92.55	0.29	0.86	2.58		1.15	0.57	2.01				7.45			
WEST TOTAL	352	1	4	10		4	2	7				28		53/47	380
PERCENTAGE	92.63	0.26	1.05	2.63		1.05	0.53	1.84				7.37			
															766

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	2	5.41					2	5.41	0.9866
SOUTH TOTAL									
EAST TOTAL	13	3.72	13	3.72			26	7.45	0.9319
WEST TOTAL	15	3.95	13	3.42			28	7.37	0.9359

PEAK HOUR FACTOR 0.903 84 89 104 106 383

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

(Block Diagram)

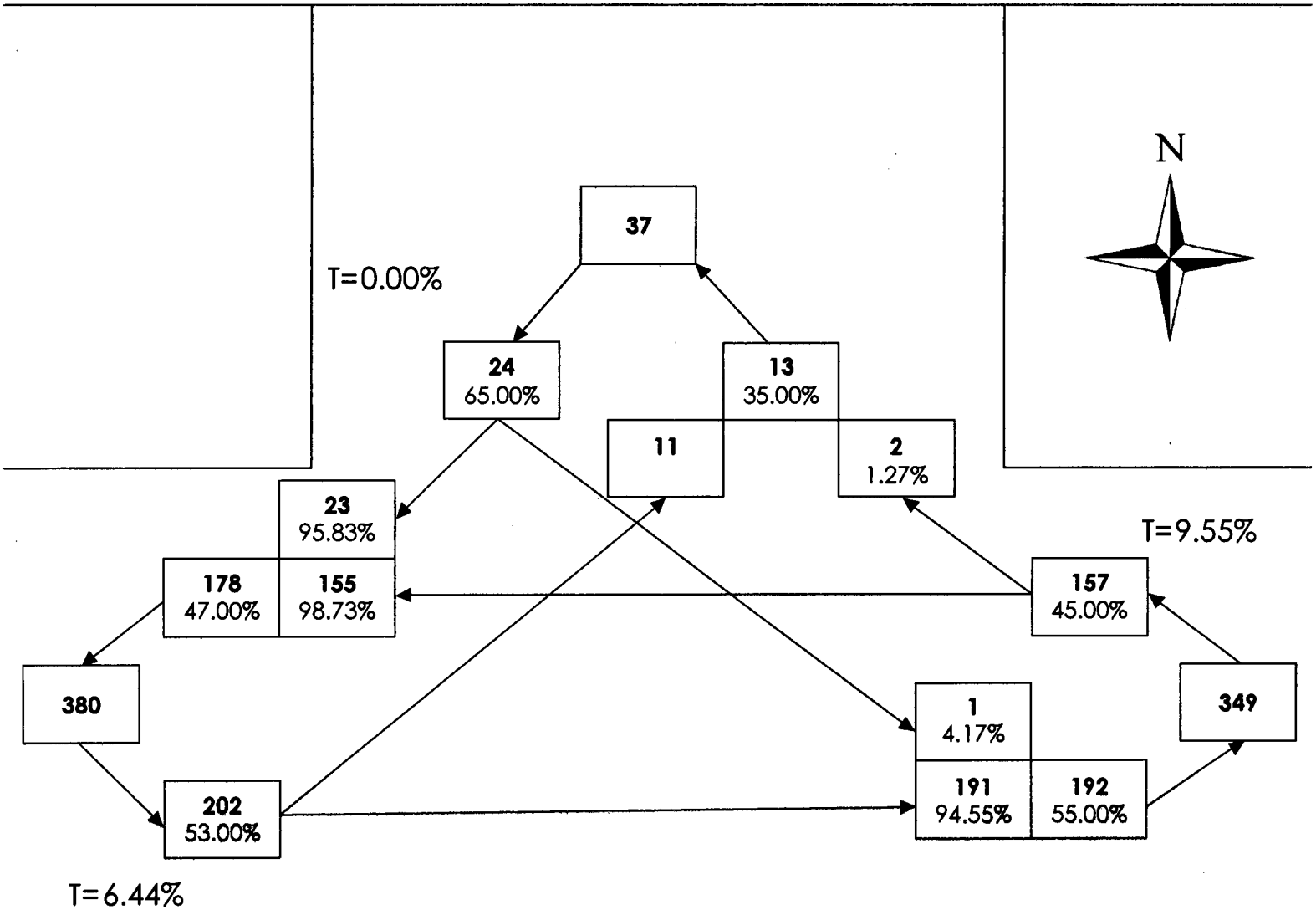
Date: 3/22/2017

Time Period: 12:00 - 13:00

SR: 112 MP: 059.12 Off Sys. ID: Count ID: 17-006

Location: SR 112 & ELWHA RIVER RD - OLD SR 112

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 84

Quarter Hour 2 = 89

Quarter Hour 3 = 104

Quarter Hour 4 = 106

TOTAL HOUR = 383

PEAK HOUR FACTOR = 0.903

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

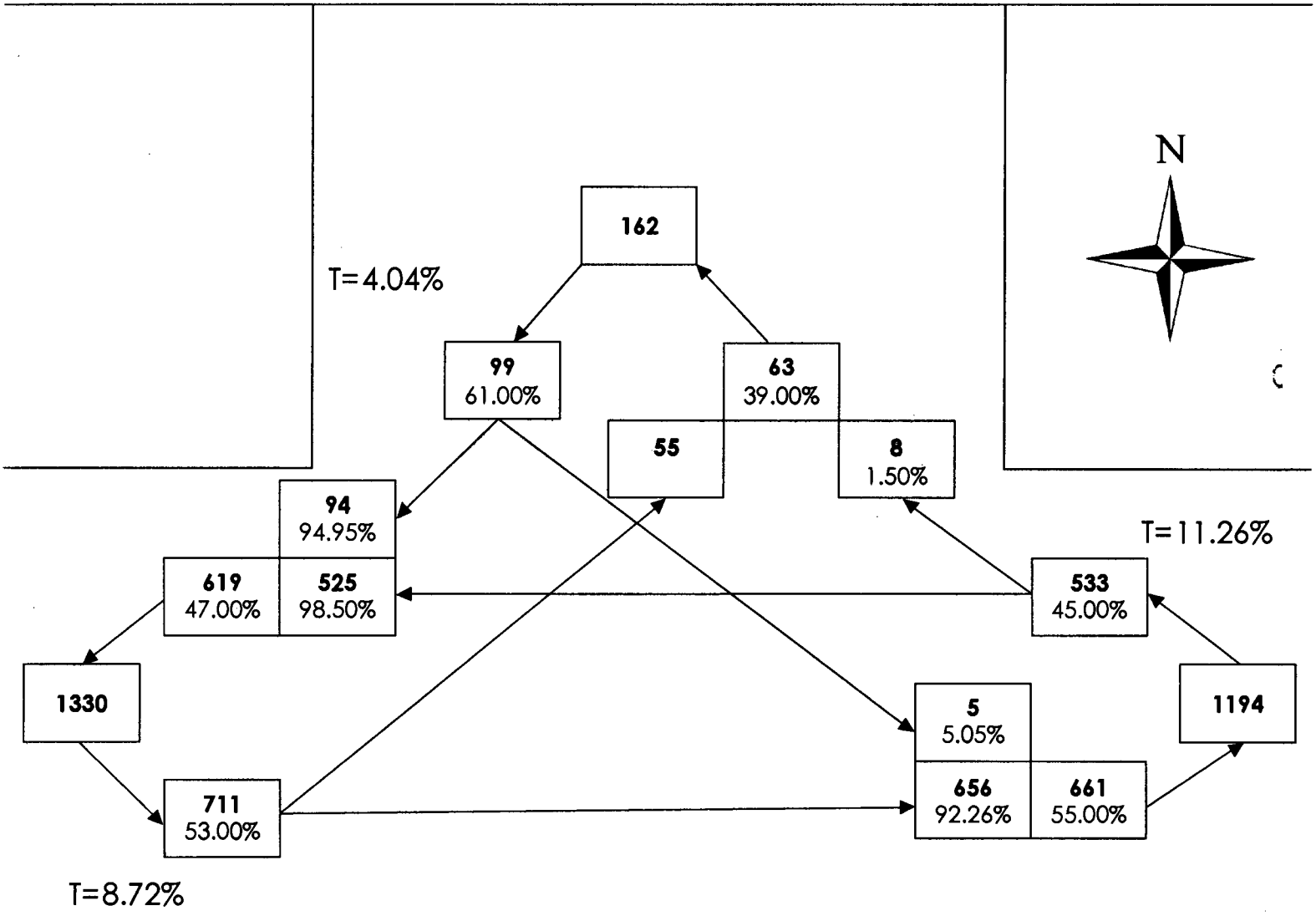
(Block Diagram)

Date: 3/22/2017
Time Period: 10:00 - 14:00

SR: 112 MP: 059.12 Off Sys. ID: Count ID: 17-006

Location: SR 112 & ELWHA RIVER RD - OLD SR 112

ENTIRE COUNT VOLUMES



CB# 5159 ID# 4371
4372
4373

Washington State Department of Transportation

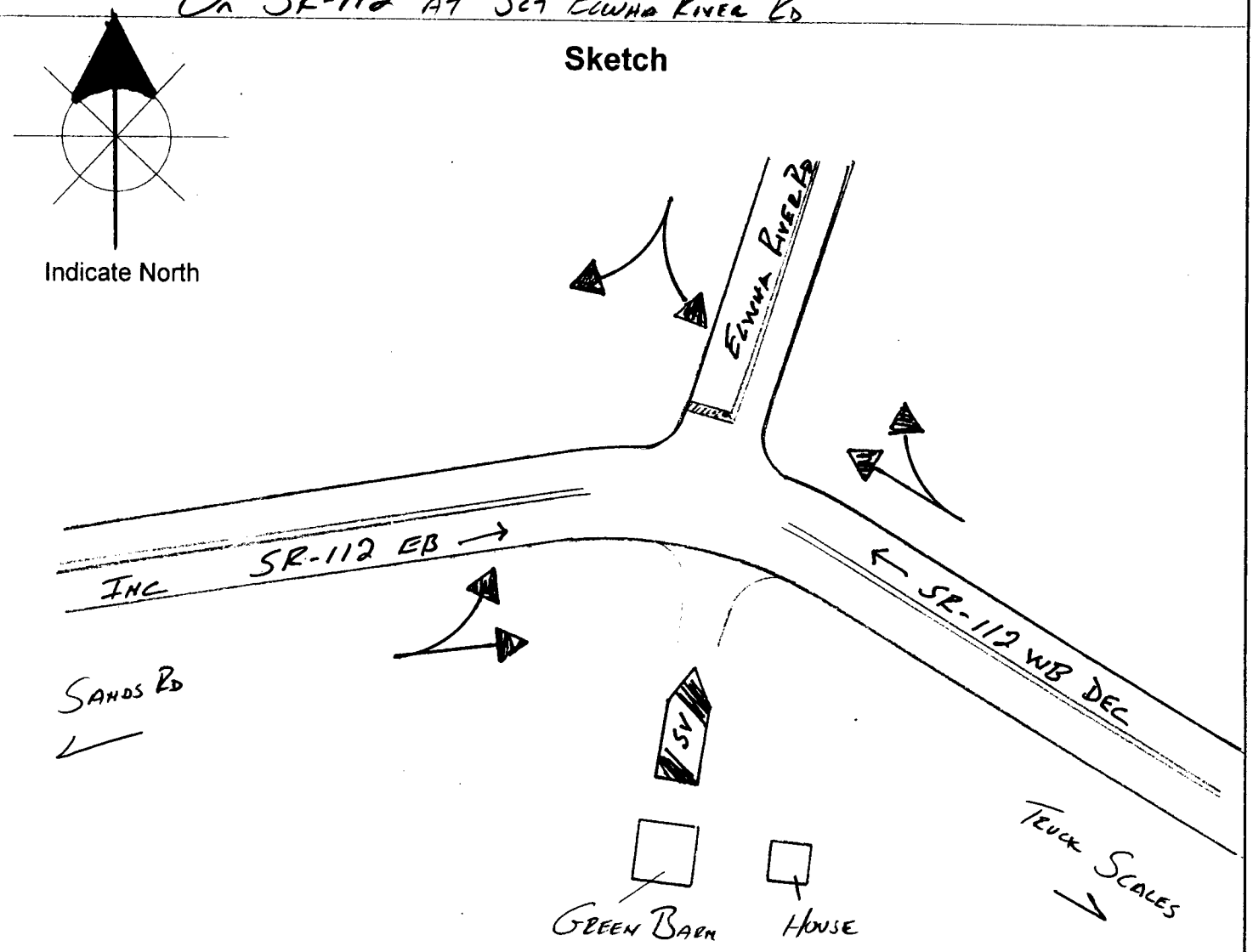
Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
112	59 • 12		SPH 17-006	3-21-2017 3-22-2017 3-23-2017

Station Location

On SR-112 AT Jct Elwha River Rd

Sketch



Remarks:

G:\17-006A	14-1000	#4371	3/21/17
G:\17-006B	10-1400	#4372	3/22/17
G:\17-006C	06-1000	#4373	3/23/17

Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4371 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 18:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												5	3.36		149
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	5													3.36	5
NORTH TO WEST	139		3	1		1						5		96.64	144
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												36	4.19		859
EAST TO NORTH	9													1.05	9
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	814	6	14	11	2	2		1				36		98.95	850
WEST APPROACH												59	8.63		684
WEST TO NORTH	40		1	1								2		6.14	42
WEST TO SOUTH															
WEST TO EAST	585	6	25	4	2		4	14			2	57		93.86	642
THIS LEG WEST															
															1692
														PCT SPLIT OUT/IN	
NORTH TOTAL	193		4	2		1						7		74/26	200
PERCENTAGE	96.50		2.00	1.00		0.50						3.50			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	1413	12	39	15	4	2	4	15			2	93		57/43	1506
PERCENTAGE	93.82	0.80	2.59	1.00	0.27	0.13	0.27	1.00			0.13	6.18			
WEST TOTAL	1578	12	43	17	4	3	4	15			2	100		41/59	1678
PERCENTAGE	94.04	0.72	2.56	1.01	0.24	0.18	0.24	0.89			0.12	5.96			
															3384

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	6	3.00	1	0.50			7	3.50	0.9900
SOUTH TOTAL									
EAST TOTAL	70	4.65	21	1.39	2	0.13	93	6.18	0.9650
WEST TOTAL	76	4.53	22	1.31	2	0.12	100	5.96	0.9674

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4371 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 15:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												3	10.71		28
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST	25		1	1		1						3		100.00	28
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												11	6.75		163
EAST TO NORTH	1													0.61	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	151	1	4	3	2			1				11		99.39	162
WEST APPROACH												28	14.43		194
WEST TO NORTH	8			1								1		4.64	9
WEST TO SOUTH															
WEST TO EAST	158	3	11	1	1		2	8			1	27		95.36	185
THIS LEG WEST															
															385
														PCT SPLIT OUT/IN	
NORTH TOTAL	34		1	2		1						4		74/26	38
PERCENTAGE	89.47		2.63	5.26		2.63						10.53			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	310	4	15	4	3		2	9			1	38		47/53	348
PERCENTAGE	89.08	1.15	4.31	1.15	0.86		0.57	2.59			0.29	10.92			
WEST TOTAL	342	4	16	6	3	1	2	9			1	42		51/49	384
PERCENTAGE	89.06	1.04	4.17	1.56	0.78	0.26	0.52	2.34			0.26	10.94			
															770

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4371 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 15:00 - 16:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												1	2.86		35
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	3													8.57	3
NORTH TO WEST	31		1									1		91.43	32
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												7	3.63		193
EAST TO NORTH	1													0.52	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	185	3	1	2		1						7		99.48	192
WEST APPROACH												17	9.44		180
WEST TO NORTH	11		1									1		6.67	12
WEST TO SOUTH															
WEST TO EAST	152	1	5	1	1		1	6			1	16		93.33	168
THIS LEG WEST															
															408
														PCT SPLIT OUT/IN	
NORTH TOTAL	46		2									2		73/27	48
PERCENTAGE	95.83		4.17									4.17			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	341	4	6	3	1	1	1	6			1	23		53/47	364
PERCENTAGE	93.68	1.10	1.65	0.82	0.27	0.27	0.27	1.65			0.27	6.32			
WEST TOTAL	379	4	8	3	1	1	1	6			1	25		45/55	404
PERCENTAGE	93.81	0.99	1.98	0.74	0.25	0.25	0.25	1.49			0.25	6.19			
															816

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4371 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:00 - 17:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															36
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	1													2.78	1
NORTH TO WEST	35													97.22	35
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												12	5.04		238
EAST TO NORTH	2													0.84	2
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	224		6	5		1						12		99.16	236
WEST APPROACH												10	6.10		164
WEST TO NORTH	10													6.10	10
WEST TO SOUTH															
WEST TO EAST	144	1	7	1			1					10		93.90	154
THIS LEG WEST															
															438
														PCT SPLIT OUT/IN	
NORTH TOTAL	48													75/25	48
PERCENTAGE	100.00														
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	371	1	13	6		1	1					22		61/39	393
PERCENTAGE	94.40	0.25	3.31	1.53		0.25	0.25					5.60			
WEST TOTAL	413	1	13	6		1	1					22		38/62	435
PERCENTAGE	94.94	0.23	2.99	1.38		0.23	0.23					5.06			
															876

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4371 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 17:00 - 18:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												1	2.00		50
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	1													2.00	1
NORTH TO WEST	48		1									1		98.00	49
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												6	2.26		265
EAST TO NORTH	5													1.89	5
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	254	2	3	1								6		98.11	260
WEST APPROACH												4	2.74		146
WEST TO NORTH	11													7.53	11
WEST TO SOUTH															
WEST TO EAST	131	1	2	1								4		92.47	135
THIS LEG WEST															
															461
														PCT SPLIT OUT/IN	
NORTH TOTAL	65		1									1		76/24	66
PERCENTAGE	98.48		1.52									1.52			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	391	3	5	2								10		66/34	401
PERCENTAGE	97.51	0.75	1.25	0.50								2.49			
WEST TOTAL	444	3	6	2								11		32/68	455
PERCENTAGE	97.58	0.66	1.32	0.44								2.42			
															922

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4371 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 17:00 - 18:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												1	2.00		50
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	1													2.00	1
NORTH TO WEST	48		1									1		98.00	49
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												6	2.26		265
EAST TO NORTH	5													1.89	5
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	254	2	3	1								6		98.11	260
WEST APPROACH												4	2.74		146
WEST TO NORTH	11													7.53	11
WEST TO SOUTH															
WEST TO EAST	131	1	2	1								4		92.47	135
THIS LEG WEST															
															461
														PCT SPLIT OUT/IN	
NORTH TOTAL	65		1									1		76/24	66
PERCENTAGE	98.48		1.52									1.52			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	391	3	5	2								10		66/34	401
PERCENTAGE	97.51	0.75	1.25	0.50								2.49			
WEST TOTAL	444	3	6	2								11		32/68	455
PERCENTAGE	97.58	0.66	1.32	0.44								2.42			
															922

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4371 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															43
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	1													2.33	1
NORTH TO WEST	42													97.67	42
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												12	4.69		256
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	244	1	6	4		1						12		100.00	256
WEST APPROACH												5	3.16		158
WEST TO NORTH	10													6.33	10
WEST TO SOUTH															
WEST TO EAST	143		3	1			1					5		93.67	148
THIS LEG WEST															
															457
														PCT SPLIT OUT/IN	
NORTH TOTAL	53													81/19	53
PERCENTAGE	100.00														
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	388	1	9	5		1	1					17		63/37	405
PERCENTAGE	95.80	0.25	2.22	1.23		0.25	0.25					4.20			
WEST TOTAL	439	1	9	5		1	1					17		35/65	456
PERCENTAGE	96.27	0.22	1.97	1.10		0.22	0.22					3.73			
															914

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4371 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:30 - 17:30
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															46
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST	46													100.00	46
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												8	3.19		251
EAST TO NORTH	1													0.40	1
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	242	2	4	2								8		99.60	250
WEST APPROACH												4	2.45		163
WEST TO NORTH	10													6.13	10
WEST TO SOUTH															
WEST TO EAST	149		3	1								4		93.87	153
THIS LEG WEST															
															460
														PCT SPLIT OUT/IN	
NORTH TOTAL	57													81/19	57
PERCENTAGE	100.00														
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	392	2	7	3								12		62/38	404
PERCENTAGE	97.03	0.50	1.73	0.74								2.97			
WEST TOTAL	447	2	7	3								12		36/64	459
PERCENTAGE	97.39	0.44	1.53	0.65								2.61			
															920

SR 112 MP 059.12 OFF SYS ID COUNTER NUM 4371 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 17:00 - 18:00
LOCATION SR 112 & ELWHA RIVER RD - OLD SR 112 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												1	2.00		50
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST	1													2.00	1
NORTH TO WEST	48		1									1		98.00	49
SOUTH APPROACH															
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST															
EAST APPROACH												6	2.26		265
EAST TO NORTH	5													1.89	5
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	254	2	3	1								6		98.11	260
WEST APPROACH												4	2.74		146
WEST TO NORTH	11													7.53	11
WEST TO SOUTH															
WEST TO EAST	131	1	2	1								4		92.47	135
THIS LEG WEST															
															461
														PCT SPLIT OUT/IN	
NORTH TOTAL	65		1									1		76/24	66
PERCENTAGE	98.48		1.52									1.52			
SOUTH TOTAL															
PERCENTAGE															
EAST TOTAL	391	3	5	2								10		66/34	401
PERCENTAGE	97.51	0.75	1.25	0.50								2.49			
WEST TOTAL	444	3	6	2								11		32/68	455
PERCENTAGE	97.58	0.66	1.32	0.44								2.42			
															922

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	1	1.52					1	1.52	1.0000
SOUTH TOTAL									
EAST TOTAL	10	2.49					10	2.49	0.9975
WEST TOTAL	11	2.42					11	2.42	0.9978

PEAK HOUR FACTOR 0.915 126 124 111 100 461

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

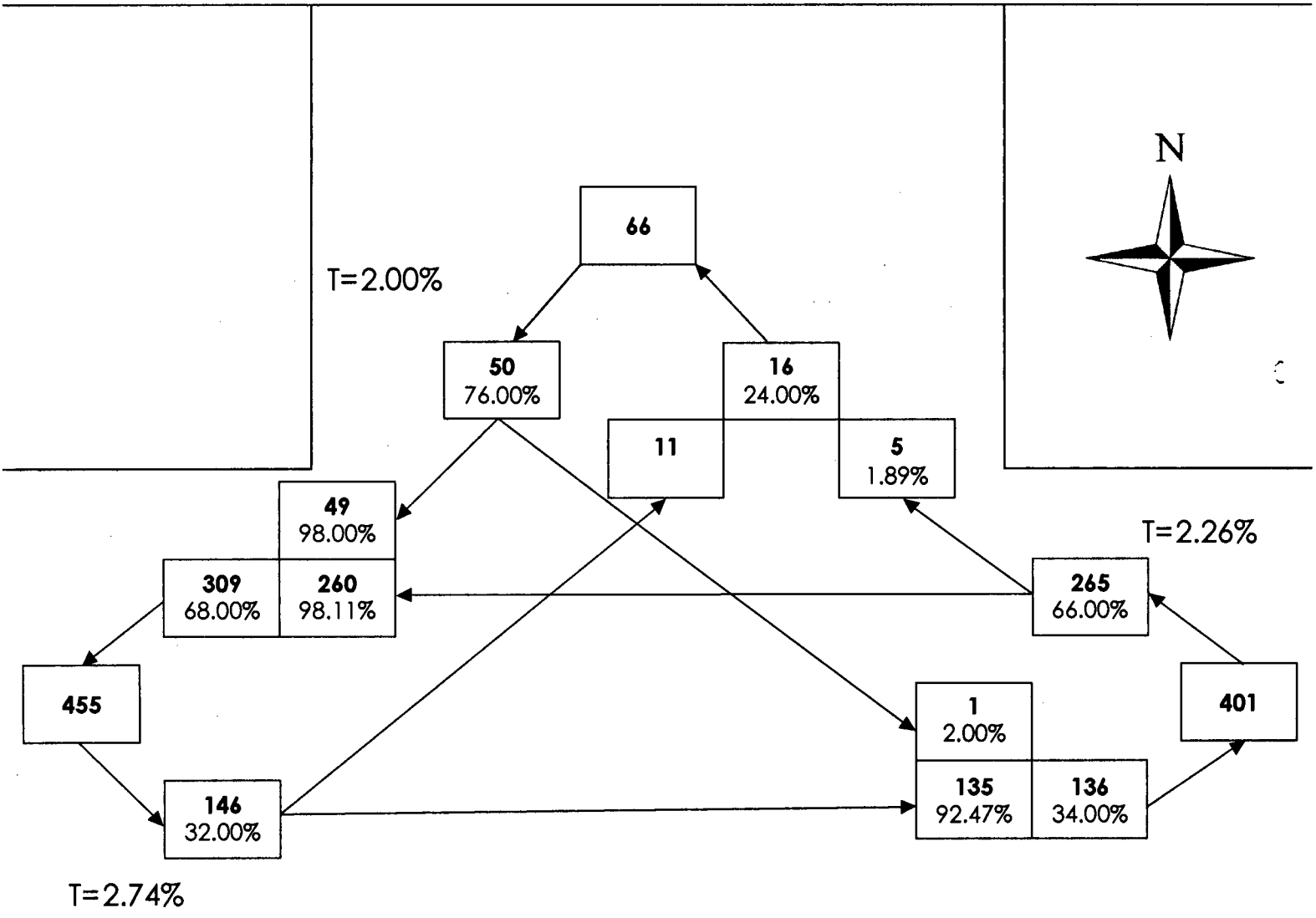
(Block Diagram)

Date: 3/21/2017
Time Period: 17:00 - 18:00

SR: 112 MP: 059.12 Off Sys. ID: Count ID: 17-006

Location: SR 112 & ELWHA RIVER RD - OLD SR 112

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 126

Quarter Hour 2 = 124

Quarter Hour 3 = 111

Quarter Hour 4 = 100

TOTAL HOUR = 461

PEAK HOUR FACTOR = 0.915

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

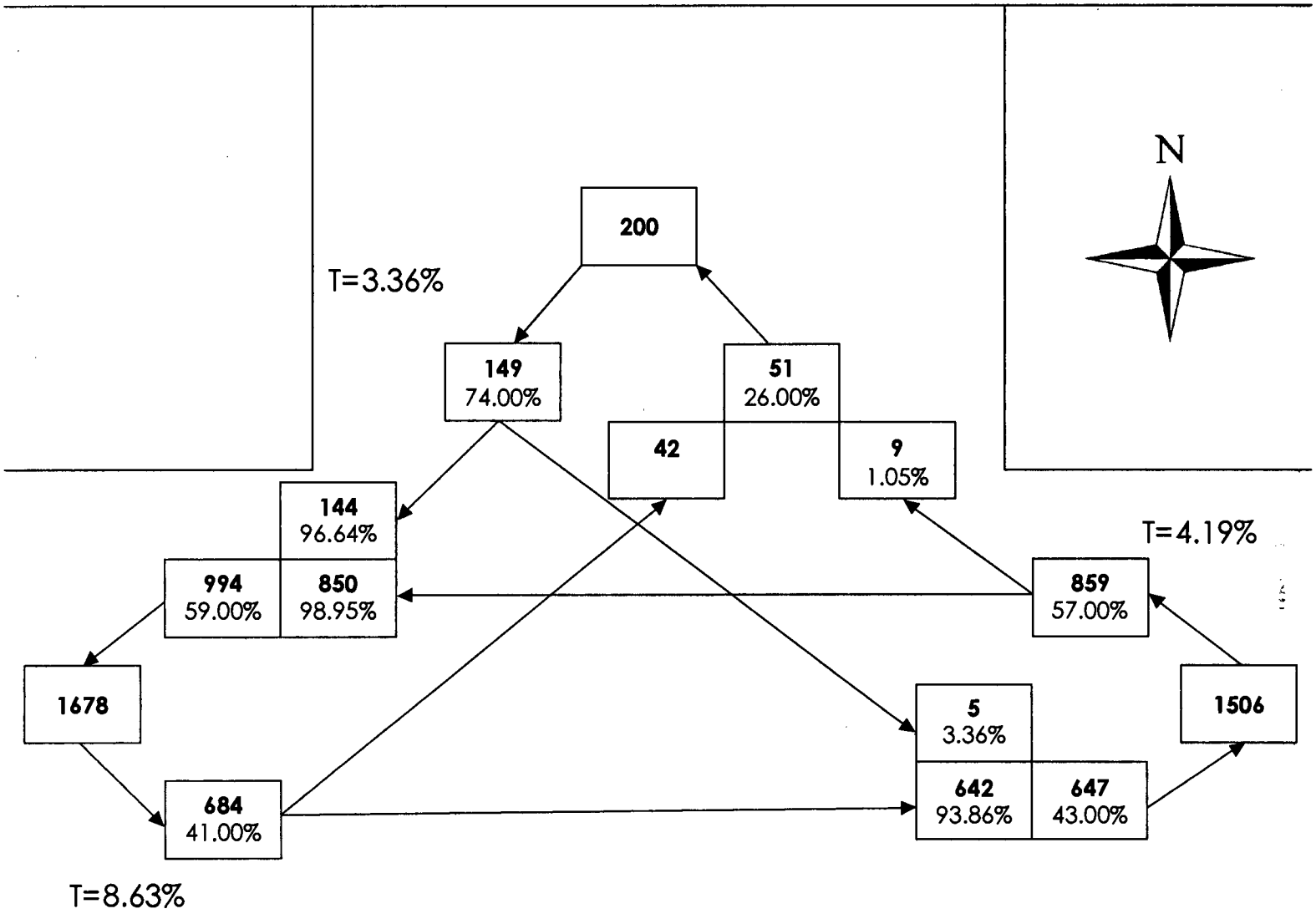
(Block Diagram)

Date: 3/21/2017
Time Period: 14:00 - 18:00

SR: 112 MP: 059.12 Off Sys. ID: Count ID: 17-006

Location: SR 112 & ELWHA RIVER RD - OLD SR 112

ENTIRE COUNT VOLUMES



CB# 5159 ID# 4371
4372
4373

Washington State Department of Transportation

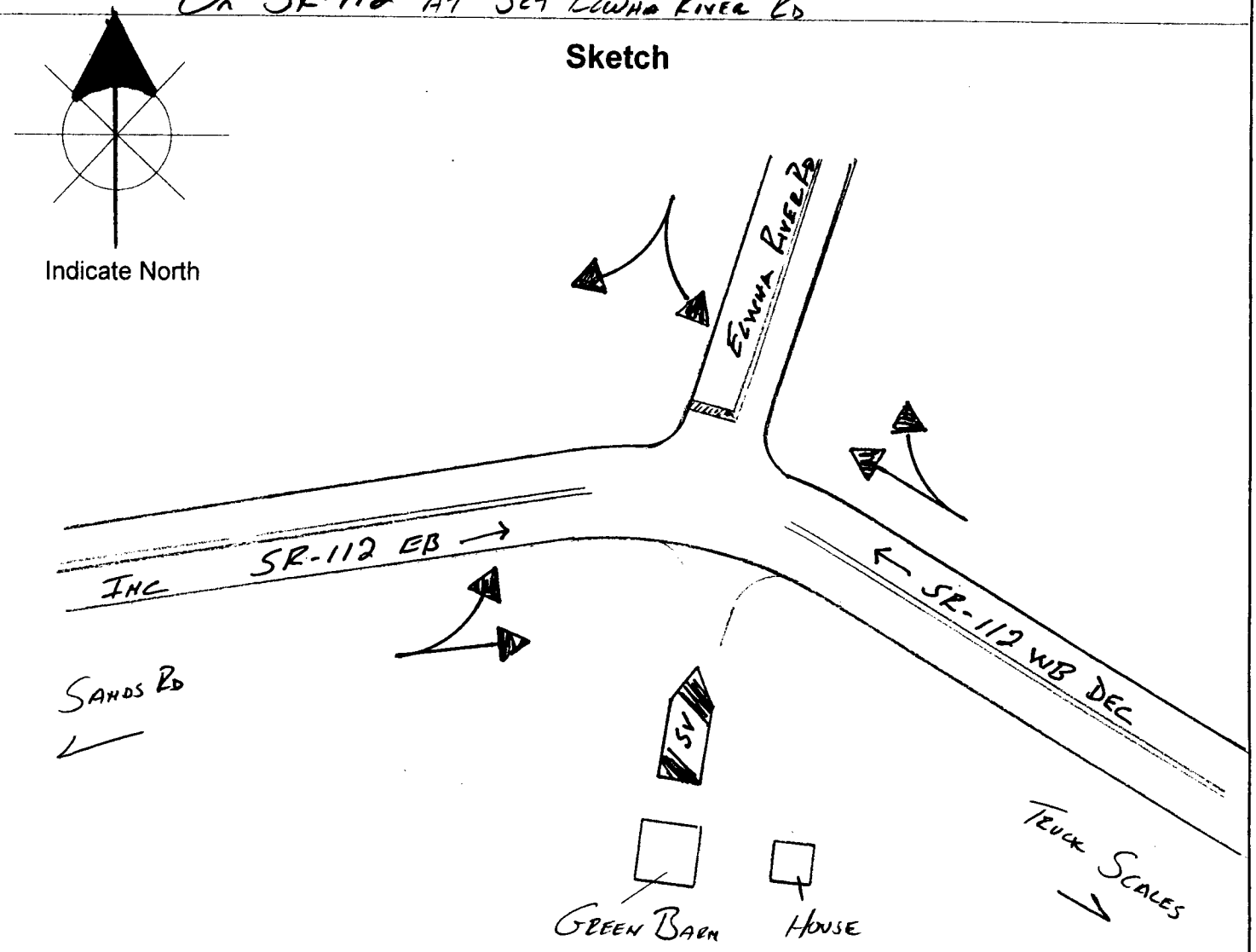
Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
112	59 • 12		SPH 17-006	3-21-2017 3-22-2017 3-23-2017

Station Location

On SR-112 AT Jct Elwha River Rd

Sketch



Remarks:

G:\17-006A	14-1800	#4371	3/21/17
G:\17-006B	10-1400	#4372	3/22/17
G:\17-006C	06-1000	#4373	3/23/17

Signature

DOT Form 324-005 EF
Revised 2/2007

Peninsula Regional Transportation Planning Organization

US 101 Happy Valley Road

Intersection Operational Analysis



Prepared by

WSDOT
Washington State Department of Transportation
Olympic Region Planning

July 2017

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Introduction:

Note: This intersection operational analysis was prepared specifically at the request of the Peninsula Regional Transportation Planning Organization and their member Clallam County.

US 101 in Washington State is designated as the Pacific Coast Scenic Byway, three hundred and fifty miles around the Olympic Peninsula and down the Pacific Coast. Washington's longest byway encompasses the glacially sculpted peaks and immense forests of the Olympic Peninsula. Travelers are drawn to the old growth forests, and unique plants and wildlife of the Olympic National Park, the living tribal cultures, or the lifestyle of contemporary forestry and fishing communities. US 101 is a rural freight and commuter route that regionally connects Port Angeles and Sequim with the Hood Canal Bridge and Kitsap County, providing a critical east-west link on the northern Olympic Peninsula and provides a gateway to the peninsula's natural and scenic resources.

The intersection of US 101 and Happy Valley Road is located in Clallam County within the city limits of Sequim. This rural principal arterial features one twelve-foot lane in each direction with eight-foot roadway shoulders. The posted speed limit at this location is 55 miles per hour with a level terrain.

Methodology

Traffic Operations Model

The Highway Capacity Software 2010 was used to analyze the unsignalized intersection of US 101/Happy Valley Road. The turning movement counts from the minor street that experiences the worst delay defines the LOS level for the intersection. The LOS criteria for automobiles at a two-way stopped controlled intersection as defined in the Highway Capacity Manual 2010 is as follows:

Highway Capacity Manual Exhibit 19-1 Two-way Stopped Controlled Intersection LOS Criteria

Control Delay (s/vehicle)	LOS by Volume-to-Capacity Ratio v/c ≤ 1.0
0-10	A
>10-15	B
>15-25	C
>25-35	D
>35-50	E
>50	F

Note: The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major street approaches or for the intersection as a whole.

The Synchro 8/SimTraffic software and the Highway Capacity Software 2010 were used to determine the traffic queues at the intersection. The Washington State Department of Transportation's Design Manual Chapter 1310 was used to determine the right and left turn lanes lengths needed from the major road onto the minor road.

Traffic Volumes

In March 2017, WSDOT staff performed 12-hour turning movement manual counts at all legs of the US 101 Happy Valley Road intersection.

Analysis

The intersection analysis applies a seasonal factor of 1.1600 percent to the weekday traffic volumes collected. The seasonal factor adjusts the volumes to reflect the yearly average volume, and are only applied to the major approaches. The LOS and the delay in seconds for the US 101/Happy Valley Road intersection are depicted in the table below.

Figure 2: Level of Service (Delay, Seconds)

LOCATION	AM	MID-DAY	PM
US 101/Happy Valley Road	D (25.9)	C (23.1)	D (30.5)

Figure 2 portrays the traffic operation LOS at the US 101/Happy Valley Road intersection. During the morning hours between 6 to 10 a.m., the intersection delay is designated an LOS D with an average delay of 25.9 seconds. Meaning that motorists would wait on average 25.9 seconds at the intersection before they could proceed. Mid-Day between the hours of 11 a.m. to 2 p.m., motorists would wait an average of 23.1 seconds. During the evening hours, between 2 p.m. to 6 p.m., motorists would be delayed at the intersection 30.5 seconds before they could proceed. Note: The Washington State Department of Transportation's policy for what is considered a minimal acceptable traffic operation LOS at this location is a LOS C designation for rural highways.

Summary

The analysis depicts the intersection operating below the target level of LOS C during the morning and evening commute hours. Therefore, when a new development in the area is proposed, WSDOT may request the following developer mitigation through the Hearings Examiner in the State Environmental Protection Act (SEPA) Process: 1) An eastbound right turn taper or pocket along US 101 at the Happy Valley Road intersection. 2) A dedicated turn lane on Happy Valley Road. The turn lane would lessen the delay for right turning vehicles since they would be allowed to turn without having to wait for the left turning vehicles. Adding a turn lane on the minor approach of Happy Valley Road, would provide an intersection operation of LOS D with an average delay of 30 seconds. The left turn movement would operate at LOS E with a delay of 43.7 seconds, and the right turn would operate at LOS B with a delay of 13.5 seconds. The 95% queue for the left turn lane from Happy Valley Road would be less than one car length.

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: AM
Intersection: US 101/Happy Valley Rd
Jurisdiction: Clallam Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: US 101/Happy Valley Rd
East/West Street: US 101
North/South Street: Happy Valley Rd
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		619	10	5	602	
Peak-Hour Factor, PHF		0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR		651	10	5	633	
Percent Heavy Vehicles		--	--	0	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	17		2			
Peak Hour Factor, PHF	0.95		0.95			
Hourly Flow Rate, HFR	17		2			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		5		19				
C(m) (vph)		937		191				
v/c		0.01		0.10				
95% queue length		0.02		0.33				
Control Delay		8.9		25.9				
LOS		A		D				
Approach Delay				25.9				
Approach LOS				D				

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: Mid-day
Intersection: US 101/Happy Valley Rd
Jurisdiction: Clallam Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: US 101/Happy Valley Rd
East/West Street: US 101
North/South Street: Happy Valley Rd
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		727	19	6	637	
Peak-Hour Factor, PHF		0.96	0.96	0.96	0.96	
Hourly Flow Rate, HFR		757	19	6	663	
Percent Heavy Vehicles		--	--	0	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	7		9			
Peak Hour Factor, PHF	0.96		0.96			
Hourly Flow Rate, HFR	7		9			
Percent Heavy Vehicles	17		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		6		16				
C(m) (vph)		849		215				
v/c		0.01		0.07				
95% queue length		0.02		0.24				
Control Delay		9.3		23.1				
LOS		A		C				
Approach Delay				23.1				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: PM
Intersection: US 101/Happy Valley Rd
Jurisdiction: Clallam Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: US 101/Happy Valley Rd
East/West Street: US 101
North/South Street: Happy Valley Rd
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		688	23	7	936	
Peak-Hour Factor, PHF		0.96	0.96	0.96	0.96	
Hourly Flow Rate, HFR		716	23	7	975	
Percent Heavy Vehicles		--	--	0	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	6		5			
Peak Hour Factor, PHF	0.96		0.96			
Hourly Flow Rate, HFR	6		5			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

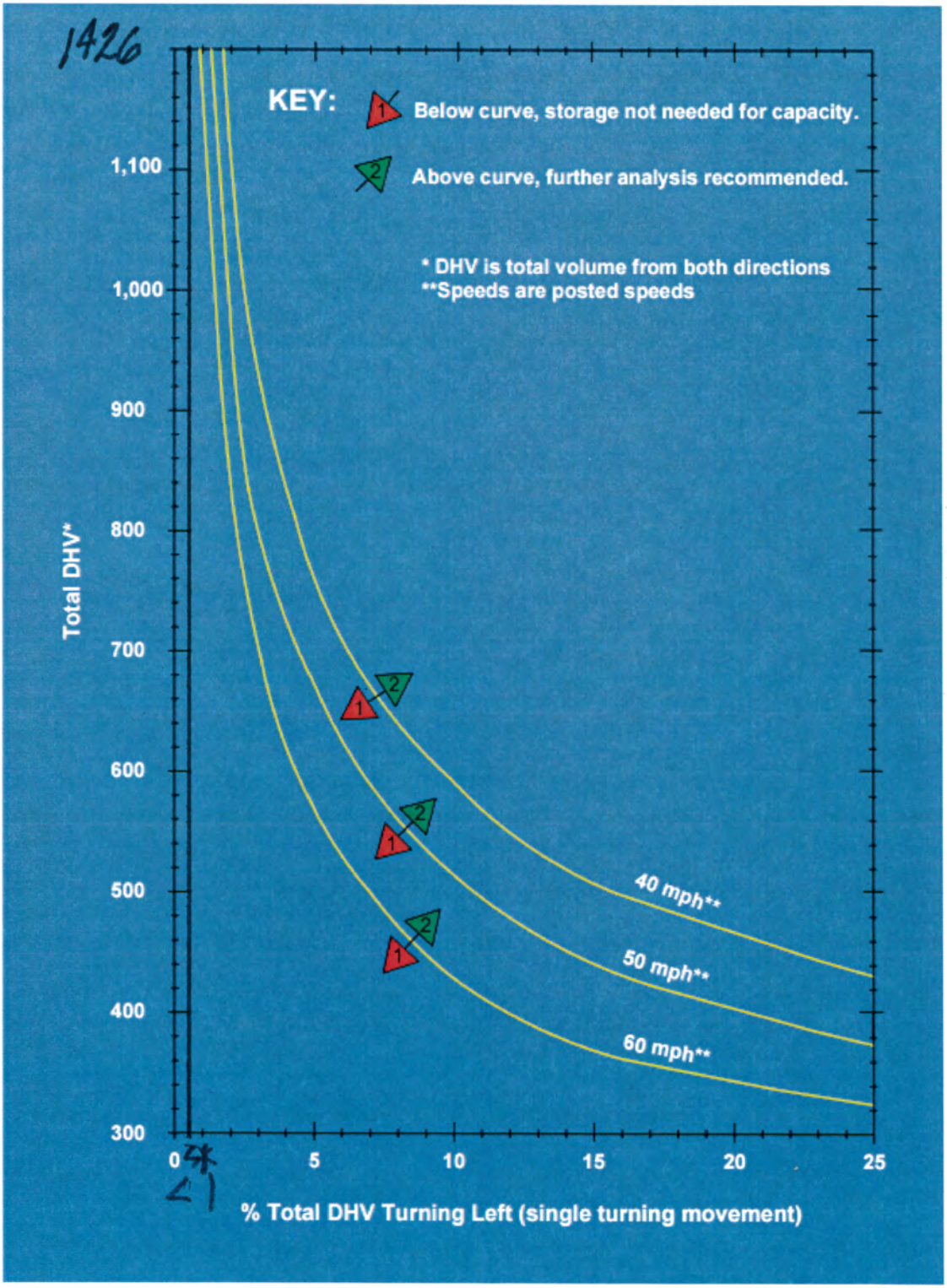
Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		7		11				
C(m) (vph)		876		152				
v/c		0.01		0.07				
95% queue length		0.02		0.23				
Control Delay		9.1		30.5				
LOS		A		D				
Approach Delay				30.5				
Approach LOS				D				

US 101/Happy Valley Rd
MP 267.03

55 mph

Exhibit 1310-7a Left-Turn Storage Guidelines: Two-Lane, Unsignalized



STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 08:42:39
PAGE: 1

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3374 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 10:00
LOCATION SR 101 & HAPPY VALLEY RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	1.32		76
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	22		1									1		30.26	23
SOUTH TO WEST	53													69.74	53
EAST APPROACH												191	12.01		1590
EAST TO NORTH															
EAST TO SOUTH	10	1										1		0.69	11
THIS LEG EAST															
EAST TO WEST	1389	6	71	14	1	14	37	37	1	2	7	190		99.31	1579
WEST APPROACH												225	12.69		1773
WEST TO NORTH															
WEST TO SOUTH	23		1									1		1.35	24
WEST TO EAST	1525	11	93	19	10	19	34	35			3	224		98.65	1749
THIS LEG WEST															
															3439
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	108	1	2									3		68/32	111
PERCENTAGE	97.30	0.90	1.80									2.70			
EAST TOTAL	2946	18	165	33	11	33	71	72	1	2	10	416		47/53	3362
PERCENTAGE	87.63	0.54	4.91	0.98	0.33	0.98	2.11	2.14	0.03	0.06	0.30	12.37			
WEST TOTAL	2990	17	165	33	11	33	71	72	1	2	10	415		52/48	3405
PERCENTAGE	87.81	0.50	4.85	0.97	0.32	0.97	2.09	2.11	0.03	0.06	0.29	12.19			
															6878

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL									
SOUTH TOTAL	3	2.70					3	2.70	1.0000
EAST TOTAL	227	6.75	176	5.23	13	0.39	416	12.37	0.9077
WEST TOTAL	226	6.64	176	5.17	13	0.38	415	12.19	0.9088

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3374 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 07:00
LOCATION SR 101 & HAPPY VALLEY RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															10
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	7													70.00	7
SOUTH TO WEST	3													30.00	3
EAST APPROACH												25	12.89		194
EAST TO NORTH															
EAST TO SOUTH	2													1.03	2
THIS LEG EAST															
EAST TO WEST	167	1	6			2	9	6		1		25		98.97	192
WEST APPROACH												43	15.14		284
WEST TO NORTH															
WEST TO SOUTH	1													0.35	1
WEST TO EAST	240	7	13	4	1	4	9	5				43		99.65	283
THIS LEG WEST															
															488
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	13													77/23	13
PERCENTAGE	100.00														
EAST TOTAL	416	8	19	4	1	6	18	11		1		68		40/60	484
PERCENTAGE	85.95	1.65	3.93	0.83	0.21	1.24	3.72	2.27		0.21		14.05			
WEST TOTAL	411	8	19	4	1	6	18	11		1		68		59/41	479
PERCENTAGE	85.80	1.67	3.97	0.84	0.21	1.25	3.76	2.30		0.21		14.20			
															976

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3374 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 101 & HAPPY VALLEY RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															25
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	5													20.00	5
SOUTH TO WEST	20													80.00	20
EAST APPROACH												52	12.68		410
EAST TO NORTH															
EAST TO SOUTH	2	1										1		0.73	3
THIS LEG EAST															
EAST TO WEST	356	3	16	1	1	6	6	13	1	1	3	51		99.27	407
WEST APPROACH												45	10.74		419
WEST TO NORTH															
WEST TO SOUTH	6													1.43	6
WEST TO EAST	368	3	15	5	3	2	7	10				45		98.57	413
THIS LEG WEST															
															854
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	33	1										1		74/26	34
PERCENTAGE	97.06	2.94										2.94			
EAST TOTAL	731	7	31	6	4	8	13	23	1	1	3	97		50/50	828
PERCENTAGE	88.29	0.85	3.74	0.72	0.48	0.97	1.57	2.78	0.12	0.12	0.36	11.71			
WEST TOTAL	750	6	31	6	4	8	13	23	1	1	3	96		50/50	846
PERCENTAGE	88.65	0.71	3.66	0.71	0.47	0.95	1.54	2.72	0.12	0.12	0.35	11.35			
															1708

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3374 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:00 - 09:00
LOCATION SR 101 & HAPPY VALLEY RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	4.55		22
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	8		1									1		40.91	9
SOUTH TO WEST	13													59.09	13
EAST APPROACH												60	12.96		463
EAST TO NORTH															
EAST TO SOUTH	2													0.43	2
THIS LEG EAST															
EAST TO WEST	401	1	24	7		4	13	9			2	60		99.57	461
WEST APPROACH												59	11.20		527
WEST TO NORTH															
WEST TO SOUTH	8													1.52	8
WEST TO EAST	460		26	7	1	6	9	9			1	59		98.48	519
THIS LEG WEST															
															1012
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	31		1									1		69/31	32
PERCENTAGE	96.88		3.12									3.12			
EAST TOTAL	871	1	51	14	1	10	22	18			3	120		47/53	991
PERCENTAGE	87.89	0.10	5.15	1.41	0.10	1.01	2.22	1.82			0.30	12.11			
WEST TOTAL	882	1	50	14	1	10	22	18			3	119		53/47	1001
PERCENTAGE	88.11	0.10	5.00	1.40	0.10	1.00	2.20	1.80			0.30	11.89			
															2024

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3374 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 101 & HAPPY VALLEY RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															19
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	2													10.53	2
SOUTH TO WEST	17													89.47	17
EAST APPROACH												54	10.33		523
EAST TO NORTH															
EAST TO SOUTH	4													0.76	4
THIS LEG EAST															
EAST TO WEST	465	1	25	6		2	9	9			2	54		99.24	519
WEST APPROACH												78	14.36		543
WEST TO NORTH															
WEST TO SOUTH	8		1									1		1.66	9
WEST TO EAST	457	1	39	3	5	7	9	11			2	77		98.34	534
THIS LEG WEST															
															1085
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	31		1									1		59/41	32
PERCENTAGE	96.88		3.12									3.12			
EAST TOTAL	928	2	64	9	5	9	18	20			4	131		49/51	1059
PERCENTAGE	87.63	0.19	6.04	0.85	0.47	0.85	1.70	1.89			0.38	12.37			
WEST TOTAL	947	2	65	9	5	9	18	20			4	132		50/50	1079
PERCENTAGE	87.77	0.19	6.02	0.83	0.46	0.83	1.67	1.85			0.37	12.23			
															2170

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3374 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:30 - 08:30
LOCATION SR 101 & HAPPY VALLEY RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	4.00		25
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	5		1									1		24.00	6
SOUTH TO WEST	19													76.00	19
EAST APPROACH												45	9.83		458
EAST TO NORTH															
EAST TO SOUTH	3	1										1		0.87	4
THIS LEG EAST															
EAST TO WEST	410	3	16	3		5	9	6			2	44		99.13	454
WEST APPROACH												47	10.04		468
WEST TO NORTH															
WEST TO SOUTH	11													2.35	11
WEST TO EAST	410	2	19	6		4	7	9				47		97.65	457
THIS LEG WEST															
															951
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	38	1	1									2		62/38	40
PERCENTAGE	95.00	2.50	2.50									5.00			
EAST TOTAL	828	6	36	9		9	16	15			2	93		50/50	921
PERCENTAGE	89.90	0.65	3.91	0.98		0.98	1.74	1.63			0.22	10.10			
WEST TOTAL	850	5	35	9		9	16	15			2	91		50/50	941
PERCENTAGE	90.33	0.53	3.72	0.96		0.96	1.70	1.59			0.21	9.67			
															1902

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3374 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 101 & HAPPY VALLEY RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															19
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	2													10.53	2
SOUTH TO WEST	17													89.47	17
EAST APPROACH												54	10.33		523
EAST TO NORTH															
EAST TO SOUTH	4													0.76	4
THIS LEG EAST															
EAST TO WEST	465	1	25	6		2	9	9			2	54		99.24	519
WEST APPROACH												78	14.36		543
WEST TO NORTH															
WEST TO SOUTH	8		1									1		1.66	9
WEST TO EAST	457	1	39	3	5	7	9	11			2	77		98.34	534
THIS LEG WEST															
															1085
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	31		1									1		59/41	32
PERCENTAGE	96.88		3.12									3.12			
EAST TOTAL	928	2	64	9	5	9	18	20			4	131		49/51	1059
PERCENTAGE	87.63	0.19	6.04	0.85	0.47	0.85	1.70	1.89			0.38	12.37			
WEST TOTAL	947	2	65	9	5	9	18	20			4	132		50/50	1079
PERCENTAGE	87.77	0.19	6.02	0.83	0.46	0.83	1.67	1.85			0.37	12.23			
															2170

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3374 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 101 & HAPPY VALLEY RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															19
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	2													10.53	2
SOUTH TO WEST	17													89.47	17
EAST APPROACH												54	10.33		523
EAST TO NORTH															
EAST TO SOUTH	4													0.76	4
THIS LEG EAST															
EAST TO WEST	465	1	25	6		2	9	9			2	54		99.24	519
WEST APPROACH												78	14.36		543
WEST TO NORTH															
WEST TO SOUTH	8		1									1		1.66	9
WEST TO EAST	457	1	39	3	5	7	9	11			2	77		98.34	534
THIS LEG WEST															
															1085
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	31		1									1		59/41	32
PERCENTAGE	96.88		3.12									3.12			
EAST TOTAL	928	2	64	9	5	9	18	20			4	131		49/51	1059
PERCENTAGE	87.63	0.19	6.04	0.85	0.47	0.85	1.70	1.89			0.38	12.37			
WEST TOTAL	947	2	65	9	5	9	18	20			4	132		50/50	1079
PERCENTAGE	87.77	0.19	6.02	0.83	0.46	0.83	1.67	1.85			0.37	12.23			
															2170

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3374 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 101 & HAPPY VALLEY RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															19
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	2													10.53	2
SOUTH TO WEST	17													89.47	17
EAST APPROACH												54	10.33		523
EAST TO NORTH															
EAST TO SOUTH	4													0.76	4
THIS LEG EAST															
EAST TO WEST	465	1	25	6		2	9	9			2	54		99.24	519
WEST APPROACH												78	14.36		543
WEST TO NORTH															
WEST TO SOUTH	8		1									1		1.66	9
WEST TO EAST	457	1	39	3	5	7	9	11			2	77		98.34	534
THIS LEG WEST															
															1085
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	31		1									1		59/41	32
PERCENTAGE	96.88		3.12									3.12			
EAST TOTAL	928	2	64	9	5	9	18	20			4	131		49/51	1059
PERCENTAGE	87.63	0.19	6.04	0.85	0.47	0.85	1.70	1.89			0.38	12.37			
WEST TOTAL	947	2	65	9	5	9	18	20			4	132		50/50	1079
PERCENTAGE	87.77	0.19	6.02	0.83	0.46	0.83	1.67	1.85			0.37	12.23			
															2170

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL									
SOUTH TOTAL	1	3.12					1	3.12	1.0000
EAST TOTAL	80	7.55	47	4.44	4	0.38	131	12.37	0.9172
WEST TOTAL	81	7.51	47	4.36	4	0.37	132	12.23	0.9186

PEAK HOUR FACTOR 0.945 254 284 260 287 1085

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

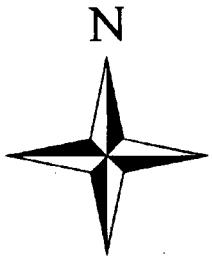
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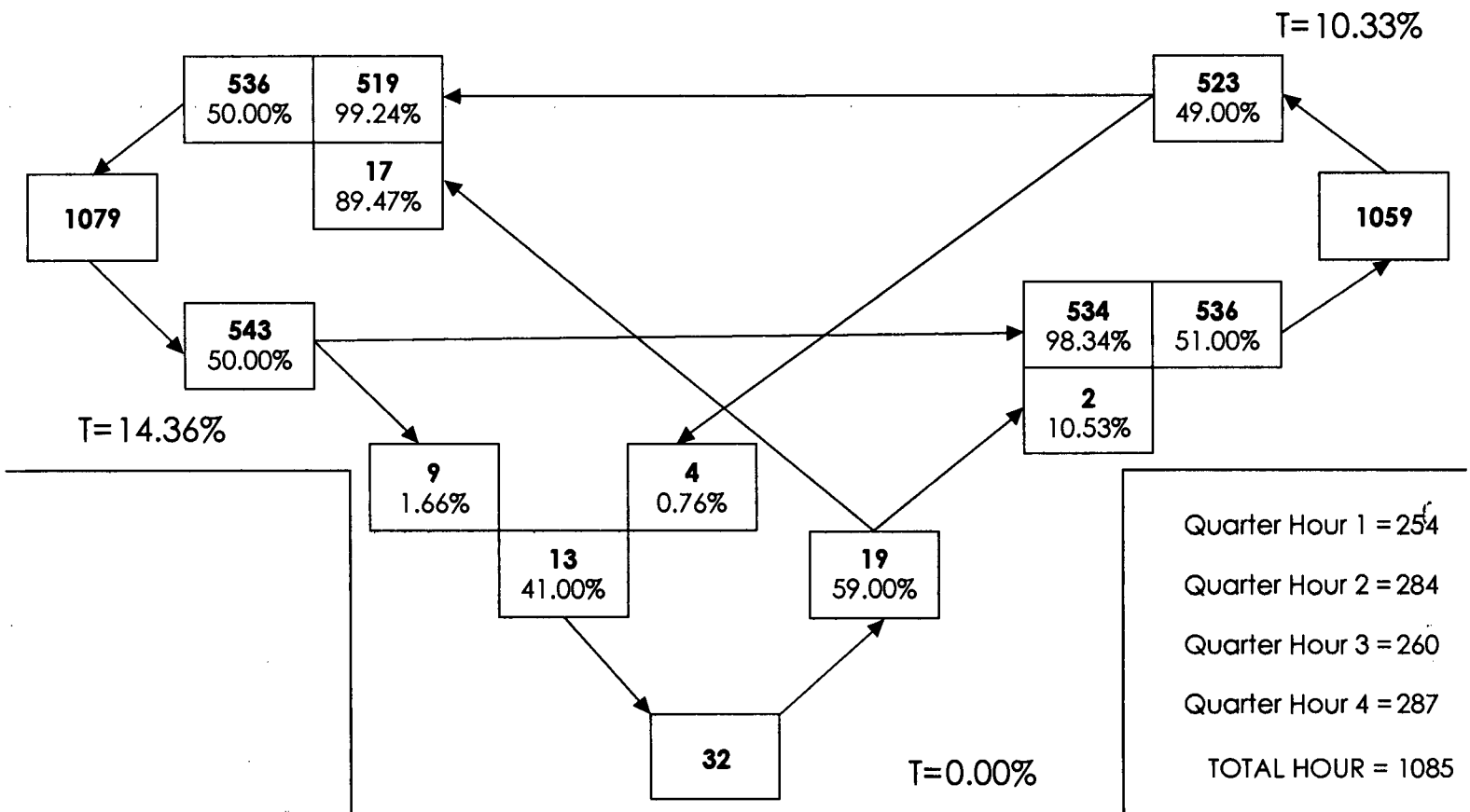
Date: 3/23/2017
Time Period: 09:00 - 10:00

SR: 101 MP: 267.03 Off Sys. ID: Count ID: 17-006

Location: SR 101 & HAPPY VALLEY RD

INTERSECTIONAL PEAK HOUR AND VOLUMES





Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

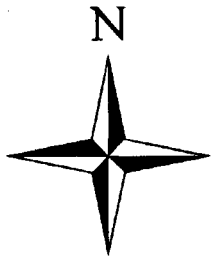
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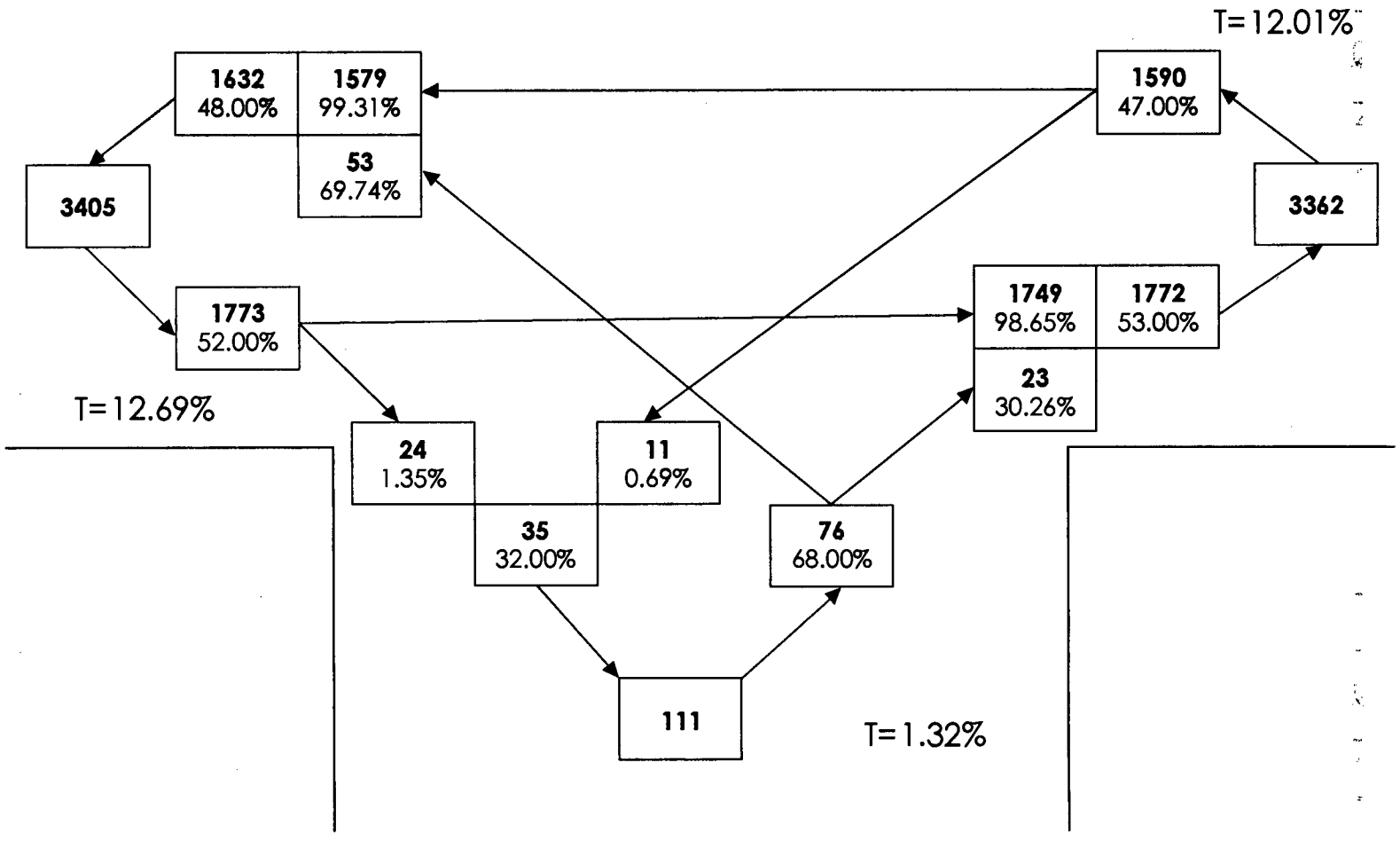
Date: 3/23/2017
Time Period: 06:00 - 10:00

SR: 101 MP: 267.03 Off Sys. ID: Count ID: 17-006

Location: SR 101 & HAPPY VALLEY RD

ENTIRE COUNT VOLUMES





#2901
ID 3372, 3373, 3374

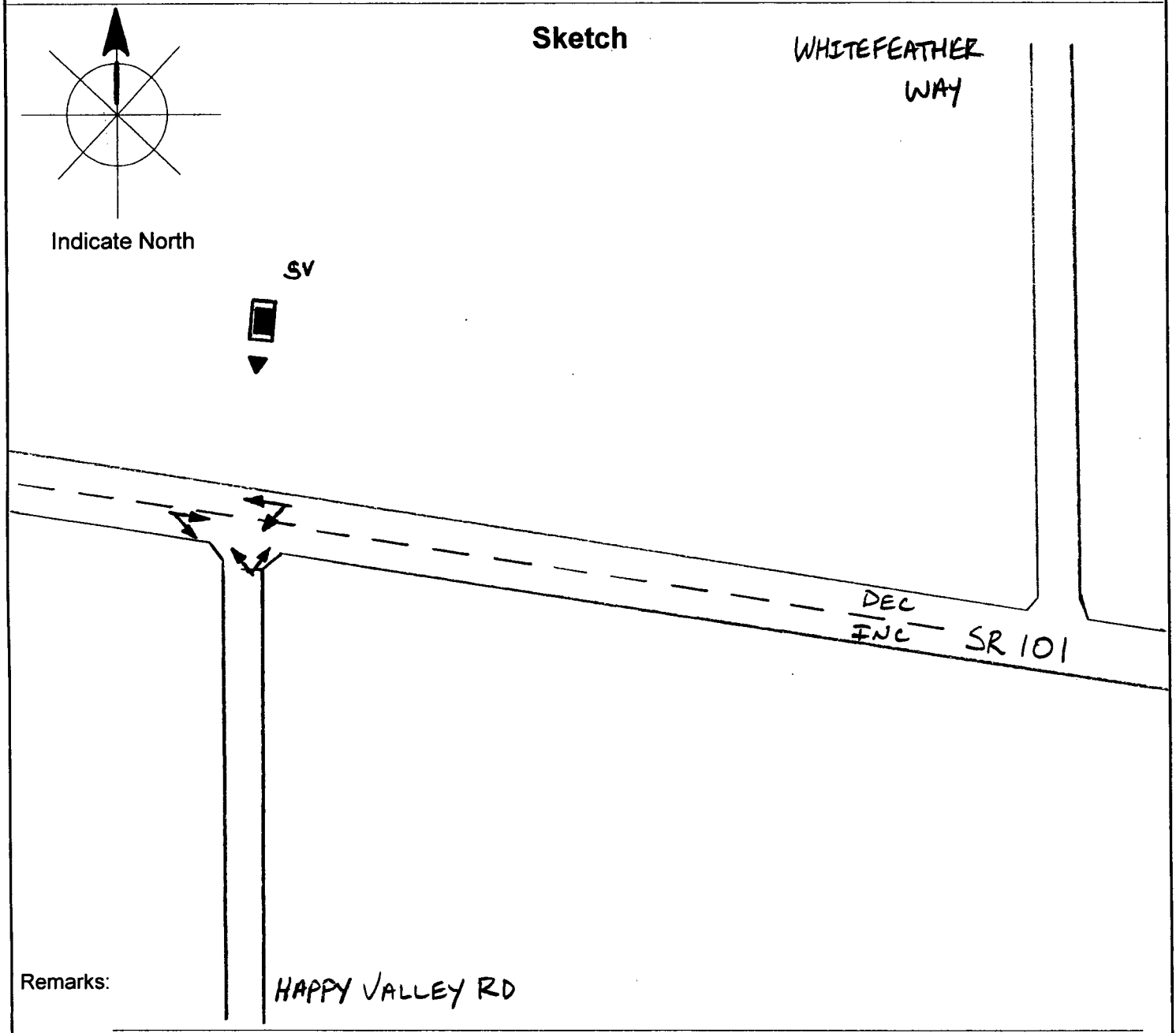
Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
101	267 ● 03		SP# 17-006	3/21/2017

Station Location
JCT SR 101 & HAPPY VALLEY RD (SEQUIM)

Sketch



Remarks:

G:\17-006J	14-1800	#3372	3/21/17
G:\17-006K	10-1400	#3373	3/22/17
G:\17-006L	06-1000	#3374	3/23/17

T. BRECKEL
Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 08:42:10
PAGE: 1

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3373 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 14:00
LOCATION SR 101 & HAPPY VALLEY RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												2	3.08		65
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	27													41.54	27
SOUTH TO WEST	36		1					1				2		58.46	38
EAST APPROACH												185	8.64		2140
EAST TO NORTH															
EAST TO SOUTH	15													0.70	15
THIS LEG EAST															
EAST TO WEST	1940	6	75	14	1	16	29	37	1		6	185		99.30	2125
WEST APPROACH												234	9.83		2381
WEST TO NORTH															
WEST TO SOUTH	43		2									2		1.89	45
WEST TO EAST	2104	6	110	21	3	16	41	33	1		1	232		98.11	2336
THIS LEG WEST															
															4586
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	121		3					1				4		52/48	125
PERCENTAGE	96.80		2.40					0.80				3.20			
EAST TOTAL	4086	12	185	35	4	32	70	70	2		7	417		48/52	4503
PERCENTAGE	90.74	0.27	4.11	0.78	0.09	0.71	1.55	1.55	0.04		0.16	9.26			
WEST TOTAL	4123	12	188	35	4	32	70	71	2		7	421		52/48	4544
PERCENTAGE	90.74	0.26	4.14	0.77	0.09	0.70	1.54	1.56	0.04		0.15	9.26			
															9172

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL									
SOUTH TOTAL	3	2.40	1	0.80			4	3.20	0.9842
EAST TOTAL	236	5.24	172	3.82	9	0.20	417	9.26	0.9338
WEST TOTAL	239	5.26	173	3.81	9	0.20	421	9.26	0.9340

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3373 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 11:00
LOCATION SR 101 & HAPPY VALLEY RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	5.88		17
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	7													41.18	7
SOUTH TO WEST	9		1									1		58.82	10
EAST APPROACH												44	8.15		540
EAST TO NORTH															
EAST TO SOUTH	3													0.56	3
THIS LEG EAST															
EAST TO WEST	493		17	4	1	4	8	9			1	44		99.44	537
WEST APPROACH												70	12.52		559
WEST TO NORTH															
WEST TO SOUTH	7		1									1		1.43	8
WEST TO EAST	482	2	37	5	1	4	9	10	1			69		98.57	551
THIS LEG WEST															
															1116
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	26		2									2		61/39	28
PERCENTAGE	92.86		7.14									7.14			
EAST TOTAL	985	2	54	9	2	8	17	19	1		1	113		49/51	1098
PERCENTAGE	89.71	0.18	4.92	0.82	0.18	0.73	1.55	1.73	0.09		0.09	10.29			
WEST TOTAL	991	2	56	9	2	8	17	19	1		1	115		51/49	1106
PERCENTAGE	89.60	0.18	5.06	0.81	0.18	0.72	1.54	1.72	0.09		0.09	10.40			
															2232

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3373 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:00 - 12:00
LOCATION SR 101 & HAPPY VALLEY RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															16
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	7													43.75	7
SOUTH TO WEST	9													56.25	9
EAST APPROACH												48	9.25		519
EAST TO NORTH															
EAST TO SOUTH	3													0.58	3
THIS LEG EAST															
EAST TO WEST	468	4	15	2		4	8	12	1		2	48		99.42	516
WEST APPROACH												63	11.11		567
WEST TO NORTH															
WEST TO SOUTH	8													1.41	8
WEST TO EAST	496		28	6	1	7	9	12				63		98.59	559
THIS LEG WEST															1102
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	27													59/41	27
PERCENTAGE	100.00														
EAST TOTAL	974	4	43	8	1	11	17	24	1		2	111		48/52	1085
PERCENTAGE	89.77	0.37	3.96	0.74	0.09	1.01	1.57	2.21	0.09		0.18	10.23			
WEST TOTAL	981	4	43	8	1	11	17	24	1		2	111		52/48	1092
PERCENTAGE	89.84	0.37	3.94	0.73	0.09	1.01	1.56	2.20	0.09		0.18	10.16			
															2204

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3373 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 101 & HAPPY VALLEY RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	6.25		16
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	9													56.25	9
SOUTH TO WEST	6							1				1		43.75	7
EAST APPROACH												45	8.12		554
EAST TO NORTH															
EAST TO SOUTH	5													0.90	5
THIS LEG EAST															
EAST TO WEST	504	2	19	2		5	6	10			1	45		99.10	549
WEST APPROACH												56	8.71		643
WEST TO NORTH															
WEST TO SOUTH	16													2.49	16
WEST TO EAST	571	1	25	7		4	12	6			1	56		97.51	627
THIS LEG WEST															
															1213
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	36							1				1		43/57	37
PERCENTAGE	97.30							2.70				2.70			
EAST TOTAL	1089	3	44	9		9	18	16			2	101		47/53	1190
PERCENTAGE	91.51	0.25	3.70	0.76		0.76	1.51	1.34			0.17	8.49			
WEST TOTAL	1097	3	44	9		9	18	17			2	102		54/46	1199
PERCENTAGE	91.49	0.25	3.67	0.75		0.75	1.50	1.42			0.17	8.51			
															2426

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3373 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 101 & HAPPY VALLEY RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															16
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	4													25.00	4
SOUTH TO WEST	12													75.00	12
EAST APPROACH												48	9.11		527
EAST TO NORTH															
EAST TO SOUTH	4													0.76	4
THIS LEG EAST															
EAST TO WEST	475		24	6		3	7	6			2	48		99.24	523
WEST APPROACH												45	7.35		612
WEST TO NORTH															
WEST TO SOUTH	12		1									1		2.12	13
WEST TO EAST	555	3	20	3	1	1	11	5				44		97.88	599
THIS LEG WEST															
															1155
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	32		1									1		48/52	33
PERCENTAGE	96.97		3.03									3.03			
EAST TOTAL	1038	3	44	9	1	4	18	11			2	92		47/53	1130
PERCENTAGE	91.86	0.27	3.89	0.80	0.09	0.35	1.59	0.97			0.18	8.14			
WEST TOTAL	1054	3	45	9	1	4	18	11			2	93		53/47	1147
PERCENTAGE	91.89	0.26	3.92	0.78	0.09	0.35	1.57	0.96			0.17	8.11			
															2310

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3373 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 101 & HAPPY VALLEY RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	6.25		16
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	9													56.25	9
SOUTH TO WEST	6							1				1		43.75	7
EAST APPROACH												45	8.12		554
EAST TO NORTH															
EAST TO SOUTH	5													0.90	5
THIS LEG EAST															
EAST TO WEST	504	2	19	2		5	6	10			1	45		99.10	549
WEST APPROACH												56	8.71		643
WEST TO NORTH															
WEST TO SOUTH	16													2.49	16
WEST TO EAST	571	1	25	7		4	12	6			1	56		97.51	627
THIS LEG WEST															
															1213
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	36							1				1		43/57	37
PERCENTAGE	97.30							2.70				2.70			
EAST TOTAL	1089	3	44	9		9	18	16			2	101		47/53	1190
PERCENTAGE	91.51	0.25	3.70	0.76		0.76	1.51	1.34			0.17	8.49			
WEST TOTAL	1097	3	44	9		9	18	17			2	102		54/46	1199
PERCENTAGE	91.49	0.25	3.67	0.75		0.75	1.50	1.42			0.17	8.51			
															2426

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3373 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 101 & HAPPY VALLEY RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	6.25		16
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	9													56.25	9
SOUTH TO WEST	6							1				1		43.75	7
EAST APPROACH												45	8.12		554
EAST TO NORTH															
EAST TO SOUTH	5													0.90	5
THIS LEG EAST															
EAST TO WEST	504	2	19	2		5	6	10			1	45		99.10	549
WEST APPROACH												56	8.71		643
WEST TO NORTH															
WEST TO SOUTH	16													2.49	16
WEST TO EAST	571	1	25	7		4	12	6			1	56		97.51	627
THIS LEG WEST															
															1213
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	36							1				1		43/57	37
PERCENTAGE	97.30							2.70				2.70			
EAST TOTAL	1089	3	44	9		9	18	16			2	101		47/53	1190
PERCENTAGE	91.51	0.25	3.70	0.76		0.76	1.51	1.34			0.17	8.49			
WEST TOTAL	1097	3	44	9		9	18	17			2	102		54/46	1199
PERCENTAGE	91.49	0.25	3.67	0.75		0.75	1.50	1.42			0.17	8.51			
															2426

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3373 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 101 & HAPPY VALLEY RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	6.25		16
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	9													56.25	9
SOUTH TO WEST	6							1				1		43.75	7
EAST APPROACH												45	8.12		554
EAST TO NORTH															
EAST TO SOUTH	5													0.90	5
THIS LEG EAST															
EAST TO WEST	504	2	19	2		5	6	10			1	45		99.10	549
WEST APPROACH												56	8.71		643
WEST TO NORTH															
WEST TO SOUTH	16													2.49	16
WEST TO EAST	571	1	25	7		4	12	6			1	56		97.51	627
THIS LEG WEST															
															1213
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	36							1				1		43/57	37
PERCENTAGE	97.30							2.70				2.70			
EAST TOTAL	1089	3	44	9		9	18	16			2	101		47/53	1190
PERCENTAGE	91.51	0.25	3.70	0.76		0.76	1.51	1.34			0.17	8.49			
WEST TOTAL	1097	3	44	9		9	18	17			2	102		54/46	1199
PERCENTAGE	91.49	0.25	3.67	0.75		0.75	1.50	1.42			0.17	8.51			
															2426

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3373 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 101 & HAPPY VALLEY RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	6.25		16
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	9													56.25	9
SOUTH TO WEST	6							1				1		43.75	7
EAST APPROACH												45	8.12		554
EAST TO NORTH															
EAST TO SOUTH	5													0.90	5
THIS LEG EAST															
EAST TO WEST	504	2	19	2		5	6	10			1	45		99.10	549
WEST APPROACH												56	8.71		643
WEST TO NORTH															
WEST TO SOUTH	16													2.49	16
WEST TO EAST	571	1	25	7		4	12	6			1	56		97.51	627
THIS LEG WEST															
															1213
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	36							1				1		43/57	37
PERCENTAGE	97.30							2.70				2.70			
EAST TOTAL	1089	3	44	9		9	18	16			2	101		47/53	1190
PERCENTAGE	91.51	0.25	3.70	0.76		0.76	1.51	1.34			0.17	8.49			
WEST TOTAL	1097	3	44	9		9	18	17			2	102		54/46	1199
PERCENTAGE	91.49	0.25	3.67	0.75		0.75	1.50	1.42			0.17	8.51			
															2426

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL									
SOUTH TOTAL			1	2.70			1	2.70	0.9487
EAST TOTAL	56	4.71	43	3.61	2	0.17	101	8.49	0.9388
WEST TOTAL	56	4.67	44	3.67	2	0.17	102	8.51	0.9378

PEAK HOUR FACTOR 0.960 296 286 315 316 1213

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

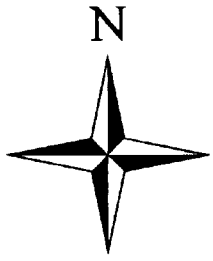
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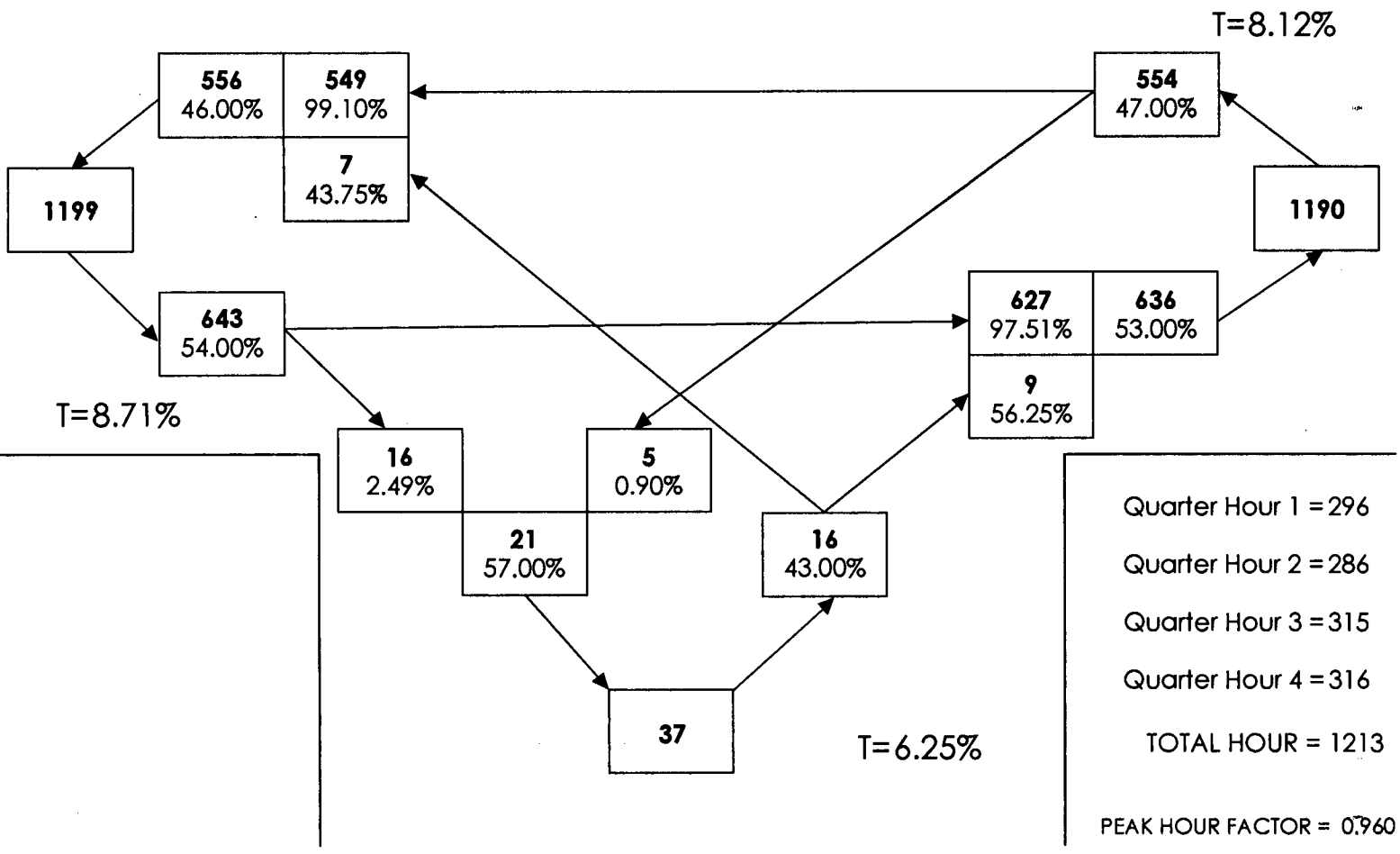
Date: 3/22/2017
Time Period: 12:00 - 13:00

SR: 101 MP: 267.03 Off Sys. ID: Count ID: 17-006

Location: SR 101 & HAPPY VALLEY RD

INTERSECTIONAL PEAK HOUR AND VOLUMES





Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

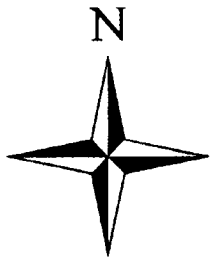
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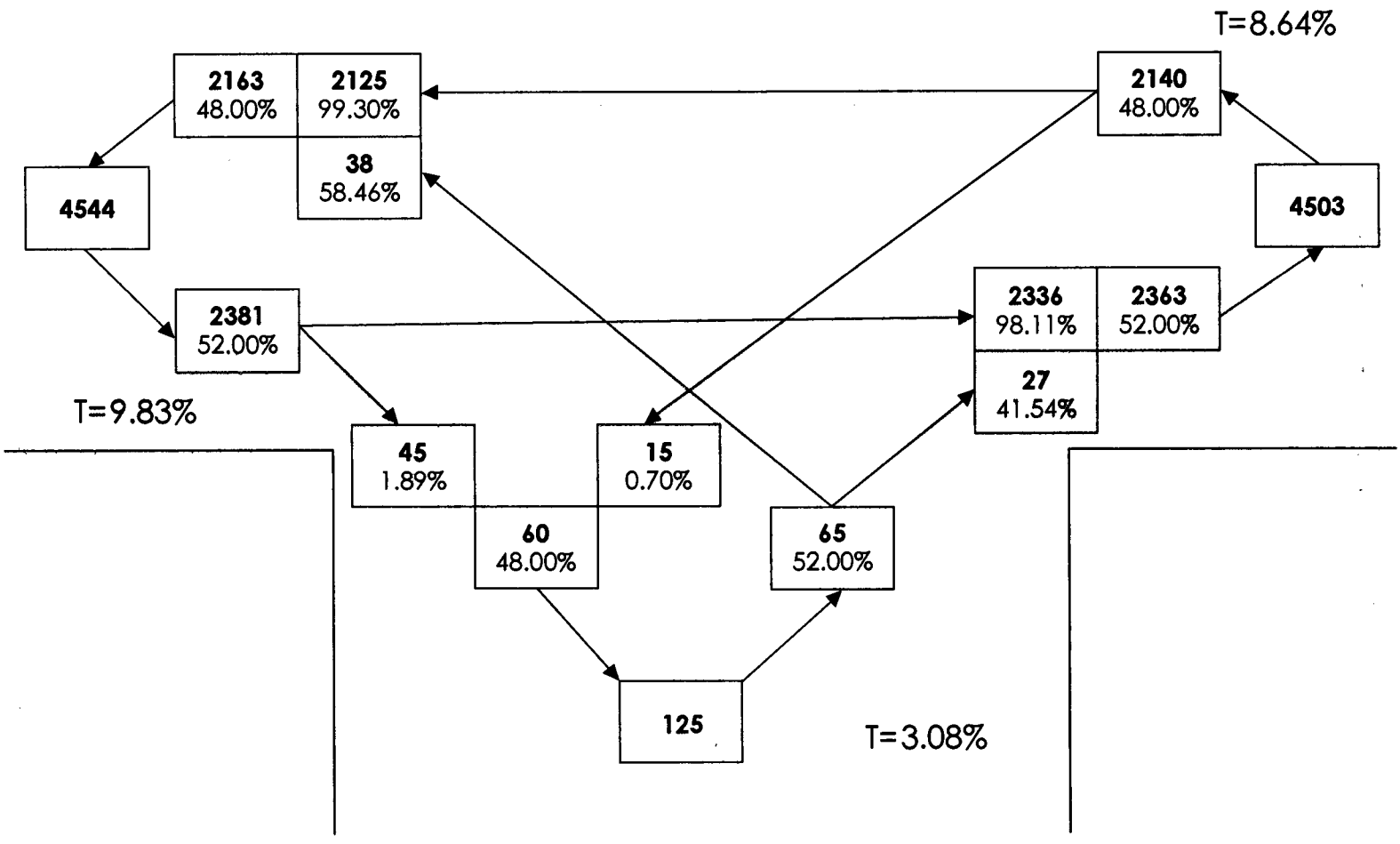
Date: 3/22/2017
Time Period: 10:00 - 14:00

SR: 101 MP: 267.03 Off Sys. ID: Count ID: 17-006

Location: SR 101 & HAPPY VALLEY RD

ENTIRE COUNT VOLUMES





#2901
ID 3372, 3373, 3374

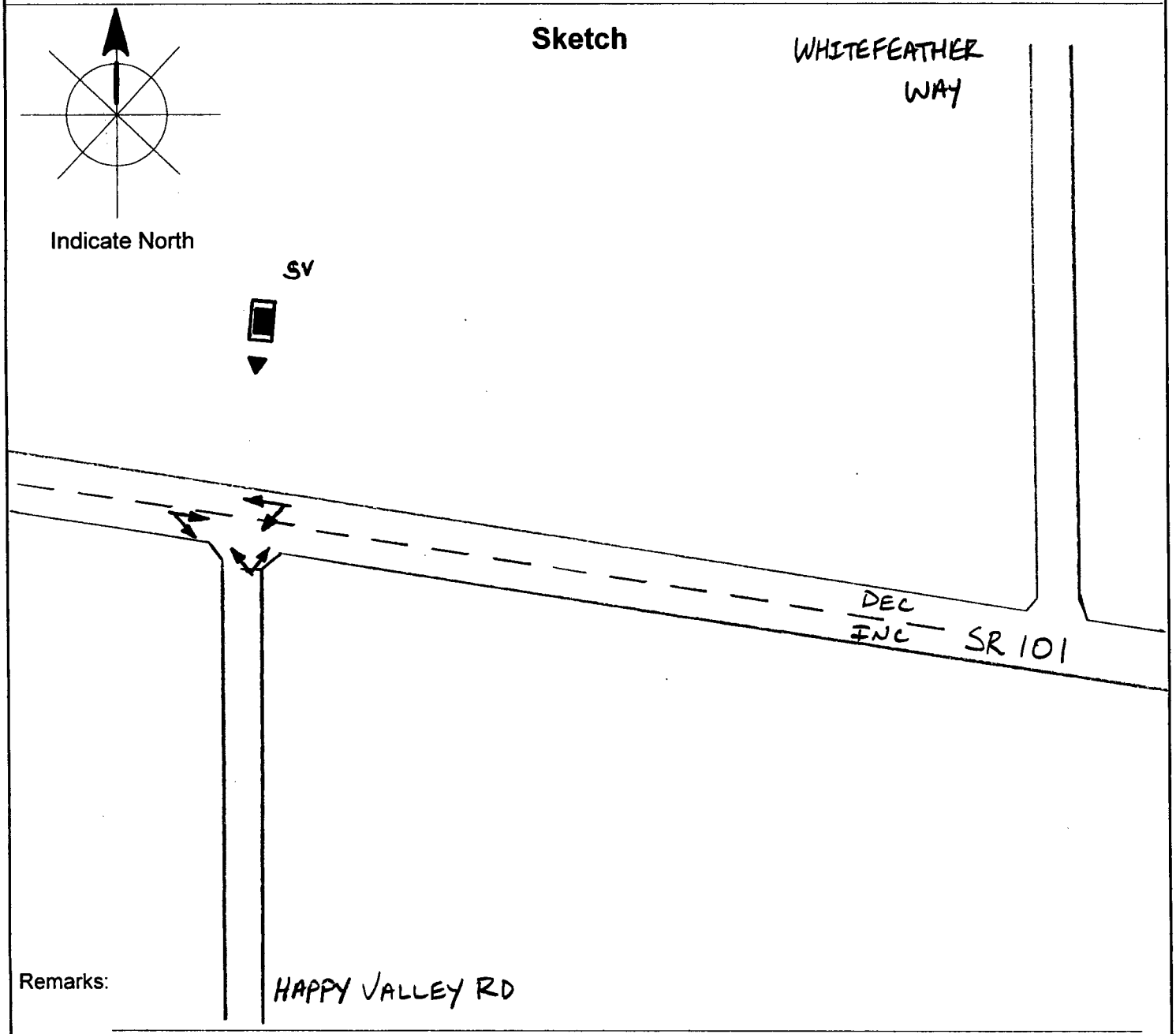
Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
101	267 ● 03		SP# 17-006	3/21/2017

Station Location
JCT SR 101 & HAPPY VALLEY RD (SEQUIM)

Sketch



Remarks:

G:\17-006J	14-1800	#3372	3/21/17
G:\17-006K	10-1400	#3373	3/22/17
G:\17-006L	06-1000	#3374	3/23/17

T. BRECKEL
Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 08:41:35
PAGE: 1

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3372 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 18:00
LOCATION SR 101 & HAPPY VALLEY RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												5	7.81		64
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	22	1	1			2						4		40.62	26
SOUTH TO WEST	37		1									1		59.38	38
EAST APPROACH												201	8.25		2437
EAST TO NORTH															
EAST TO SOUTH	22					1						1		0.94	23
THIS LEG EAST															
EAST TO WEST	2214	11	81	24	1	19	30	31			3	200		99.06	2414
WEST APPROACH												161	6.51		2472
WEST TO NORTH															
WEST TO SOUTH	63		2									2		2.63	65
WEST TO EAST	2248	12	67	7	18	15	17	19	1		3	159		97.37	2407
THIS LEG WEST															
															4973
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	144	1	4			3						8		42/58	152
PERCENTAGE	94.74	0.66	2.63			1.97						5.26			
EAST TOTAL	4506	24	149	31	19	37	47	50	1		6	364		50/50	4870
PERCENTAGE	92.53	0.49	3.06	0.64	0.39	0.76	0.97	1.03	0.02		0.12	7.47			
WEST TOTAL	4562	23	151	31	19	34	47	50	1		6	362		50/50	4924
PERCENTAGE	92.65	0.47	3.07	0.63	0.39	0.69	0.95	1.02	0.02		0.12	7.35			
															9946

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL									
SOUTH TOTAL	5	3.29	3	1.97			8	5.26	0.9806
EAST TOTAL	223	4.58	134	2.75	7	0.14	364	7.47	0.9495
WEST TOTAL	224	4.55	131	2.66	7	0.14	362	7.35	0.9506

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3372 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 15:00
LOCATION SR 101 & HAPPY VALLEY RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	5.88		17
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	6		1									1		41.18	7
SOUTH TO WEST	10													58.82	10
EAST APPROACH												54	9.05		597
EAST TO NORTH															
EAST TO SOUTH	4					1						1		0.84	5
THIS LEG EAST															
EAST TO WEST	539		18	8	1	4	7	14			1	53		99.16	592
WEST APPROACH												56	8.52		657
WEST TO NORTH															
WEST TO SOUTH	12													1.83	12
WEST TO EAST	589	4	25	2	9	4	6	6				56		98.17	645
THIS LEG WEST															
															1271
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	32		1			1						2		50/50	34
PERCENTAGE	94.12		2.94			2.94						5.88			
EAST TOTAL	1138	4	44	10	10	9	13	20			1	111		48/52	1249
PERCENTAGE	91.11	0.32	3.52	0.80	0.80	0.72	1.04	1.60			0.08	8.89			
WEST TOTAL	1150	4	43	10	10	8	13	20			1	109		52/48	1259
PERCENTAGE	91.34	0.32	3.42	0.79	0.79	0.64	1.03	1.59			0.08	8.66			
															2542

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3372 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 15:00 - 16:00
LOCATION SR 101 & HAPPY VALLEY RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												2	10.53		19
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	4	1				1						2		31.58	6
SOUTH TO WEST	13													68.42	13
EAST APPROACH												52	11.21		464
EAST TO NORTH															
EAST TO SOUTH	8													1.72	8
THIS LEG EAST															
EAST TO WEST	404	5	18	8		7	11	2			1	52		98.28	456
WEST APPROACH												49	7.62		643
WEST TO NORTH															
WEST TO SOUTH	14		1									1		2.33	15
WEST TO EAST	580	5	19	2	7	5	3	6			1	48		97.67	628
THIS LEG WEST															
															1126
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	39	1	1			1						3		45/55	42
PERCENTAGE	92.86	2.38	2.38			2.38						7.14			
EAST TOTAL	996	11	37	10	7	13	14	8			2	102		42/58	1098
PERCENTAGE	90.71	1.00	3.37	0.91	0.64	1.18	1.28	0.73			0.18	9.29			
WEST TOTAL	1011	10	38	10	7	12	14	8			2	101		58/42	1112
PERCENTAGE	90.92	0.90	3.42	0.90	0.63	1.08	1.26	0.72			0.18	9.08			
															2252

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3372 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:00 - 17:00
LOCATION SR 101 & HAPPY VALLEY RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															12
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	6													50.00	6
SOUTH TO WEST	6													50.00	6
EAST APPROACH												55	7.00		786
EAST TO NORTH															
EAST TO SOUTH	4													0.51	4
THIS LEG EAST															
EAST TO WEST	727	4	25	4		4	7	11				55		99.49	782
WEST APPROACH												41	6.87		597
WEST TO NORTH															
WEST TO SOUTH	16		1									1		2.85	17
WEST TO EAST	540	3	18	2	2	6	5	3			1	40		97.15	580
THIS LEG WEST															
															1395
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	32		1									1		36/64	33
PERCENTAGE	96.97		3.03									3.03			
EAST TOTAL	1277	7	43	6	2	10	12	14			1	95		57/43	1372
PERCENTAGE	93.08	0.51	3.13	0.44	0.15	0.73	0.87	1.02			0.07	6.92			
WEST TOTAL	1289	7	44	6	2	10	12	14			1	96		43/57	1385
PERCENTAGE	93.07	0.51	3.18	0.43	0.14	0.72	0.87	1.01			0.07	6.93			
															2790

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3372 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 17:00 - 18:00
LOCATION SR 101 & HAPPY VALLEY RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												2	12.50		16
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	6					1						1		43.75	7
SOUTH TO WEST	8		1									1		56.25	9
EAST APPROACH												40	6.78		590
EAST TO NORTH															
EAST TO SOUTH	6													1.02	6
THIS LEG EAST															
EAST TO WEST	544	2	20	4		4	5	4			1	40		98.98	584
WEST APPROACH												15	2.61		575
WEST TO NORTH															
WEST TO SOUTH	21													3.65	21
WEST TO EAST	539		5	1			3	4	1		1	15		96.35	554
THIS LEG WEST															
															1181
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	41		1			1						2		37/63	43
PERCENTAGE	95.35		2.33			2.33						4.65			
EAST TOTAL	1095	2	25	5		5	8	8	1		2	56		51/49	1151
PERCENTAGE	95.13	0.17	2.17	0.43		0.43	0.70	0.70	0.09		0.17	4.87			
WEST TOTAL	1112	2	26	5		4	8	8	1		2	56		49/51	1168
PERCENTAGE	95.21	0.17	2.23	0.43		0.34	0.68	0.68	0.09		0.17	4.79			
															2362

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3372 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:45 - 17:45
LOCATION SR 101 & HAPPY VALLEY RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	5.26		19
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	6													31.58	6
SOUTH TO WEST	12		1									1		68.42	13
EAST APPROACH												41	6.05		678
EAST TO NORTH															
EAST TO SOUTH	4													0.59	4
THIS LEG EAST															
EAST TO WEST	633	2	20	5		4	5	5				41		99.41	674
WEST APPROACH												24	3.96		606
WEST TO NORTH															
WEST TO SOUTH	23		1									1		3.96	24
WEST TO EAST	559	1	9	1		2	3	5			2	23		96.04	582
THIS LEG WEST															
															1303
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	45		2									2		40/60	47
PERCENTAGE	95.74		4.26									4.26			
EAST TOTAL	1202	3	29	6		6	8	10			2	64		54/46	1266
PERCENTAGE	94.94	0.24	2.29	0.47		0.47	0.63	0.79			0.16	5.06			
WEST TOTAL	1227	3	31	6		6	8	10			2	66		47/53	1293
PERCENTAGE	94.90	0.23	2.40	0.46		0.46	0.62	0.77			0.15	5.10			
															2606

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3372 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 101 & HAPPY VALLEY RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															11
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	5													45.45	5
SOUTH TO WEST	6													54.55	6
EAST APPROACH												53	6.52		813
EAST TO NORTH															
EAST TO SOUTH	6													0.74	6
THIS LEG EAST															
EAST TO WEST	754	3	26	3		6	7	8				53		99.26	807
WEST APPROACH												37	6.04		613
WEST TO NORTH															
WEST TO SOUTH	19		1									1		3.26	20
WEST TO EAST	557	3	18	2		3	5	4			1	36		96.74	593
THIS LEG WEST															
															1437
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	36		1									1		30/70	37
PERCENTAGE	97.30		2.70									2.70			
EAST TOTAL	1322	6	44	5		9	12	12			1	89		58/42	1411
PERCENTAGE	93.69	0.43	3.12	0.35		0.64	0.85	0.85			0.07	6.31			
WEST TOTAL	1336	6	45	5		9	12	12			1	90		43/57	1426
PERCENTAGE	93.69	0.42	3.16	0.35		0.63	0.84	0.84			0.07	6.31			
															2874

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3372 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 101 & HAPPY VALLEY RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															11
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	5													45.45	5
SOUTH TO WEST	6													54.55	6
EAST APPROACH												53	6.52		813
EAST TO NORTH															
EAST TO SOUTH	6													0.74	6
THIS LEG EAST															
EAST TO WEST	754	3	26	3		6	7	8				53		99.26	807
WEST APPROACH												37	6.04		613
WEST TO NORTH															
WEST TO SOUTH	19		1									1		3.26	20
WEST TO EAST	557	3	18	2		3	5	4			1	36		96.74	593
THIS LEG WEST															
															1437
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	36		1									1		30/70	37
PERCENTAGE	97.30		2.70									2.70			
EAST TOTAL	1322	6	44	5		9	12	12			1	89		58/42	1411
PERCENTAGE	93.69	0.43	3.12	0.35		0.64	0.85	0.85			0.07	6.31			
WEST TOTAL	1336	6	45	5		9	12	12			1	90		43/57	1426
PERCENTAGE	93.69	0.42	3.16	0.35		0.63	0.84	0.84			0.07	6.31			
															2874

SR 101 MP 267.03 OFF SYS ID COUNTER NUM 3372 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 101 & HAPPY VALLEY RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															11
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	5													45.45	5
SOUTH TO WEST	6													54.55	6
EAST APPROACH												53	6.52		813
EAST TO NORTH															
EAST TO SOUTH	6													0.74	6
THIS LEG EAST															
EAST TO WEST	754	3	26	3		6	7	8				53		99.26	807
WEST APPROACH												37	6.04		613
WEST TO NORTH															
WEST TO SOUTH	19		1									1		3.26	20
WEST TO EAST	557	3	18	2		3	5	4			1	36		96.74	593
THIS LEG WEST															
															1437
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	36		1									1		30/70	37
PERCENTAGE	97.30		2.70									2.70			
EAST TOTAL	1322	6	44	5		9	12	12			1	89		58/42	1411
PERCENTAGE	93.69	0.43	3.12	0.35		0.64	0.85	0.85			0.07	6.31			
WEST TOTAL	1336	6	45	5		9	12	12			1	90		43/57	1426
PERCENTAGE	93.69	0.42	3.16	0.35		0.63	0.84	0.84			0.07	6.31			
															2874

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL									
SOUTH TOTAL	1	2.70					1	2.70	1.0000
EAST TOTAL	55	3.90	33	2.34	1	0.07	89	6.31	0.9618
WEST TOTAL	56	3.93	33	2.31	1	0.07	90	6.31	0.9622

PEAK HOUR FACTOR 0.961 344 372 374 347 1437

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

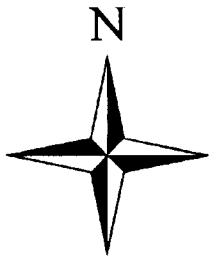
Vehicle Volume Summary
(Block Diagram)

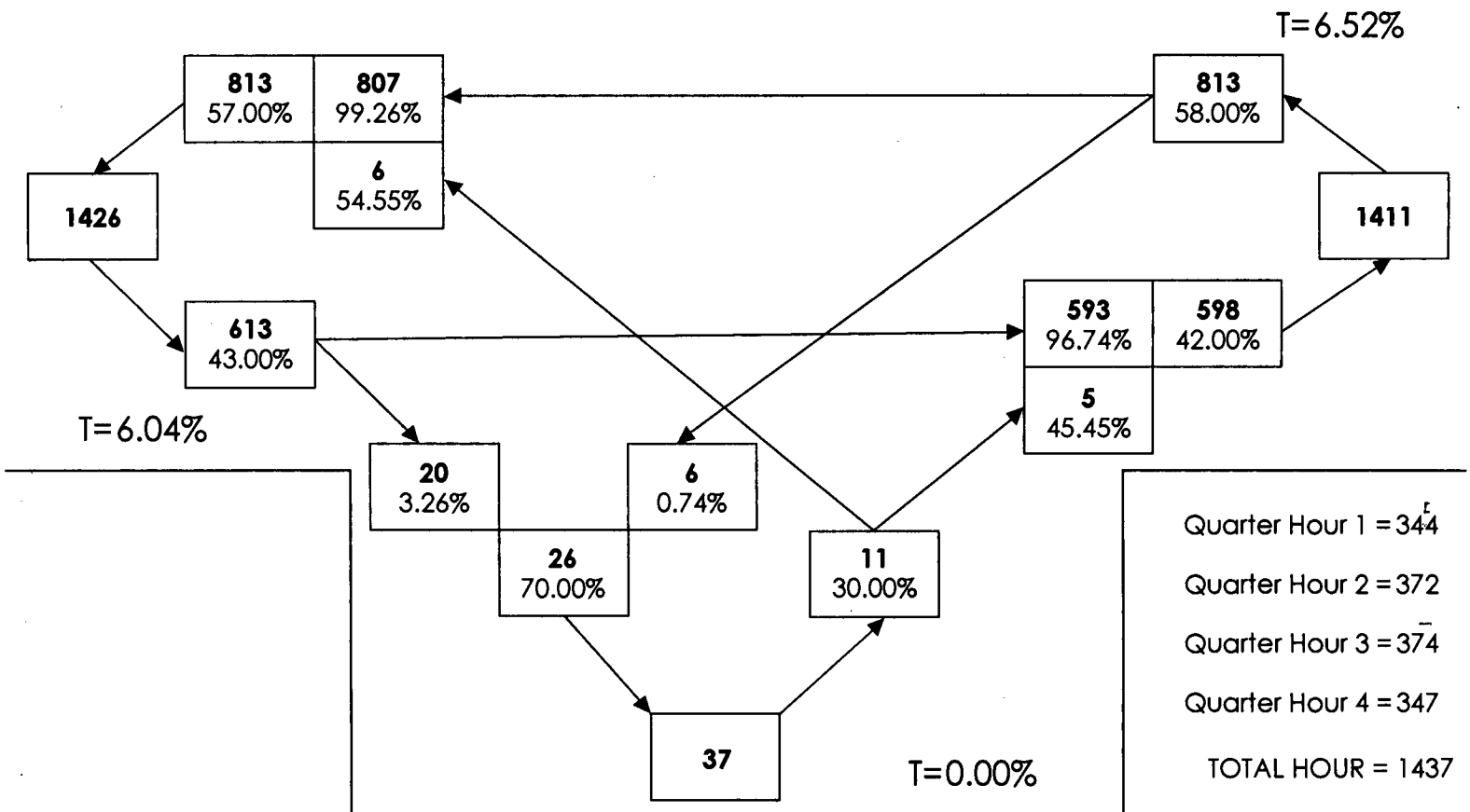
Date: 3/21/2017
Time Period: 16:15 - 17:15

SR: 101 MP: 267.03 Off Sys. ID: Count ID: 17-006

Location: SR 101 & HAPPY VALLEY RD

INTERSECTIONAL PEAK HOUR AND VOLUMES





Quarter Hour 1 = 344
Quarter Hour 2 = 372
Quarter Hour 3 = 374
Quarter Hour 4 = 347

TOTAL HOUR = 1437

PEAK HOUR FACTOR = 0.961

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

(Block Diagram)

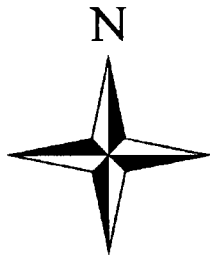
Date: 3/21/2017

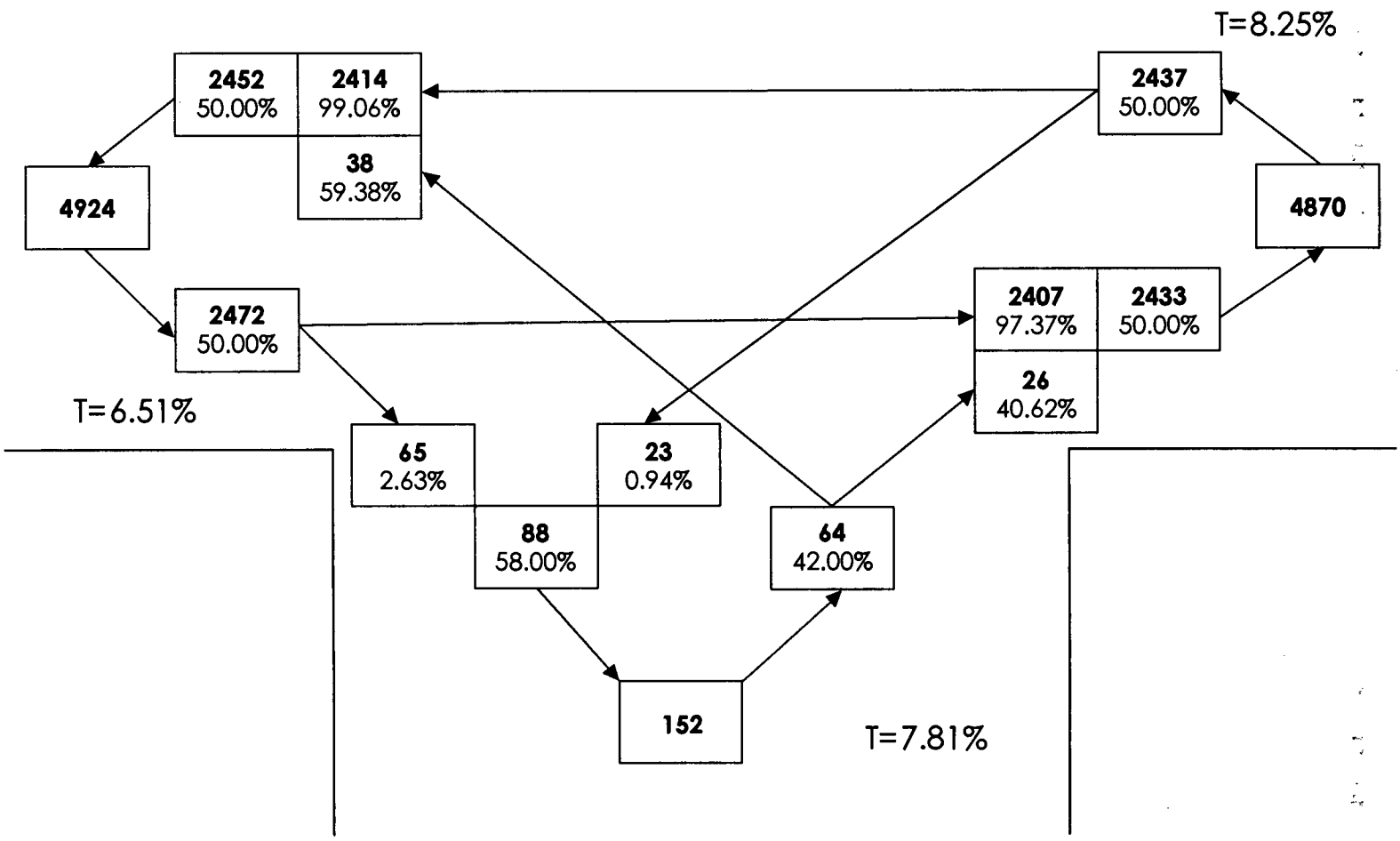
Time Period: 14:00 - 18:00

SR: 101 MP: 267.03 Off Sys. ID: Count ID: 17-006

Location: SR 101 & HAPPY VALLEY RD

ENTIRE COUNT VOLUMES





#2901
ID 3372, 3373, 3374

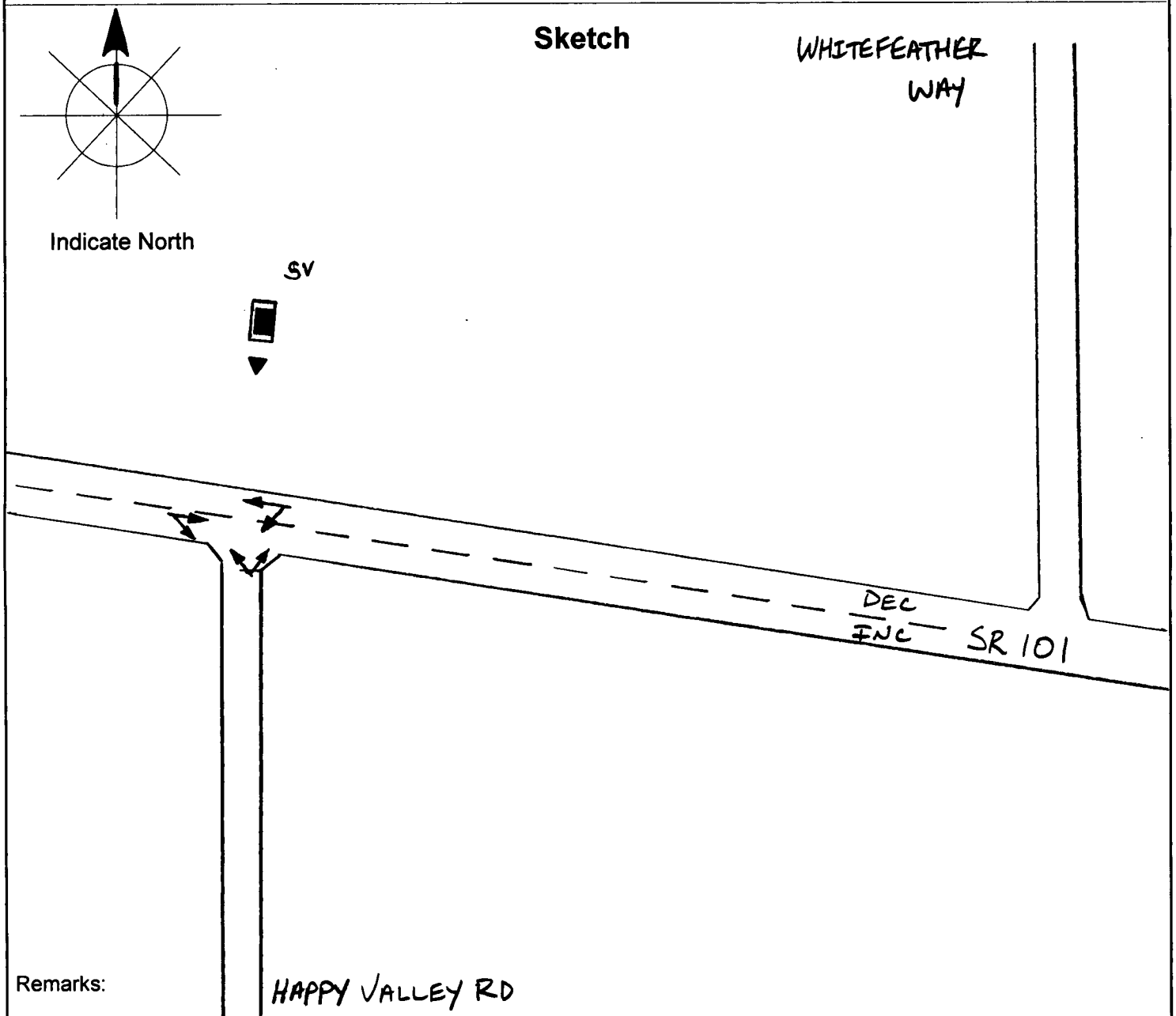
Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
101	267 ● 03		SP# 17-006	3/21/2017

Station Location
JCT SR 101 & HAPPY VALLEY RD (SEQUIM)

Sketch



Remarks:

G:\17-006J	14-1800	#3372	3/21/17
G:\17-006K	10-1400	#3373	3/22/17
G:\17-006L	06-1000	#3374	3/23/17

T. BRECKEL
Signature

DOT Form 324-005 EF
Revised 2/2007

Peninsula Regional Transportation Planning Organization

US 101 Palo Alto Road

Intersection Operational Analysis



Prepared by

WSDOT
Washington State Department of Transportation
Olympic Region Planning

June 2017

Title VI Notice to the Public

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Introduction:

Note: This intersection operational analysis was prepared specifically at the request of the Peninsula Regional Transportation Planning Organization and their member Clallam County.

US 101 in Washington State is designated as the Pacific Coast Scenic Byway, three hundred and fifty miles around the Olympic Peninsula and down the Pacific Coast. Washington's longest byway encompasses the glacially sculpted peaks and immense forests of the Olympic Peninsula. Travelers are drawn to the old growth forests, and unique plants and wildlife of the Olympic National Park, the living tribal cultures, or the lifestyle of contemporary forestry and fishing communities.

The intersection of US 101 and Palo Alto Road is located in Clallam County within the city limits of Sequim. This rural principal arterial features one twelve-foot lane in each direction with six-foot roadway shoulders. Unfortunately, thirty-six feet of paved roadway surface is just not enough space to add a left turn pocket by simply restriping the pavement. The posted speed limit at this location is 55 miles per hour.

Methodology

Traffic Operations Model

The Highway Capacity Software 2010 was used to determine the traffic queues at the unsignalized intersection of US 101/Palo Alto Road. The turning movement from the minor street that experiences the worst delay defines the level of service (LOS) for the intersection. Note: The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major street approaches or for the intersection as a whole. The WSDOT's Design Manual Chapter 1310 was used to determine the right and left turn lanes lengths needed from the major road onto the minor road. The turn lane lengths needed will be shown on figures from the Design Manual and featured in the Appendix.

The Level of service (LOS) for a two way stop-controlled intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement as well as major-street left turns by using analysis are assumed to be those of an isolated intersection. The level of service criteria for automobiles at a two-way stopped controlled intersection as defined by the Highway Capacity Manual is as follows:

Control Delay (s/vehicle)	**LOS by Volume-to-Capacity Ratio v/c ≤ 1.0**
0-10	A
>10-15	B
>15-25	C
>25-35	D

>35-50	E
>50	F

Analysis

The intersection analysis applies a seasonal factor to the March turning movement data volumes. The seasonal factor adjusts the volume to reflect the yearly average volume and are only applied to the major approaches. The level-of-service (LOS) and the delay in seconds for the US 101/Palo Alto Road intersection is shown in the table below.

Figure 2: Level of Service (Delay, Seconds)

LOCATION	AM	MID-DAY	PM
US 101/Palo Alto Road	D (29.3)	D (29.1)	E (44.9)

Figure 2 depicts the traffic operation Level of Service at the US 101/Palo Alto Road intersection. During the morning hours between 6 to 10 a.m., the intersection delay is designated an LOS D. with an average delay of 29.3 seconds. Meaning that motorists would wait on average 29.3 seconds at the intersection before they could proceed. Between the hours of 11 a.m. to 2 p.m., motorists would wait an average of 29.1 seconds. During the evening hours, between 2 p.m. to 6 p.m., motorists would be delayed at the intersection 44.9 seconds before they could proceed.

Note: The Washington State Department of Transportation's policy for what is considered a minimal acceptable traffic operation level of service (LOS) for this location is LOS C.

Summary

The analysis depicts the intersection operating below the target LOS C. Therefore, the following mitigation is being considered. With the addition of an eastbound right turn lane and 515-foot deceleration lane at the US 101/Palo Alto Road intersection, the minor approach will operate at a LOS E with an average delay of 44.4 seconds. The left turn movement will operate at LOS E with a delay of 48.2 seconds and the right turn will operate at LOS B with a delay of 13.2 seconds. The 95% queue for the left turn lane from Palo Alto Road would be less than one car length.

If a new development should be proposed for this area, WSDOT could ask the developer to mitigate for their added new traffic volumes through the Hearing Examiner in the State Environmental Protection Act (SEPA) Process.

Exhibit 1310-7a Left-Turn Storage Guidelines: Two-Lane, Unsignalized

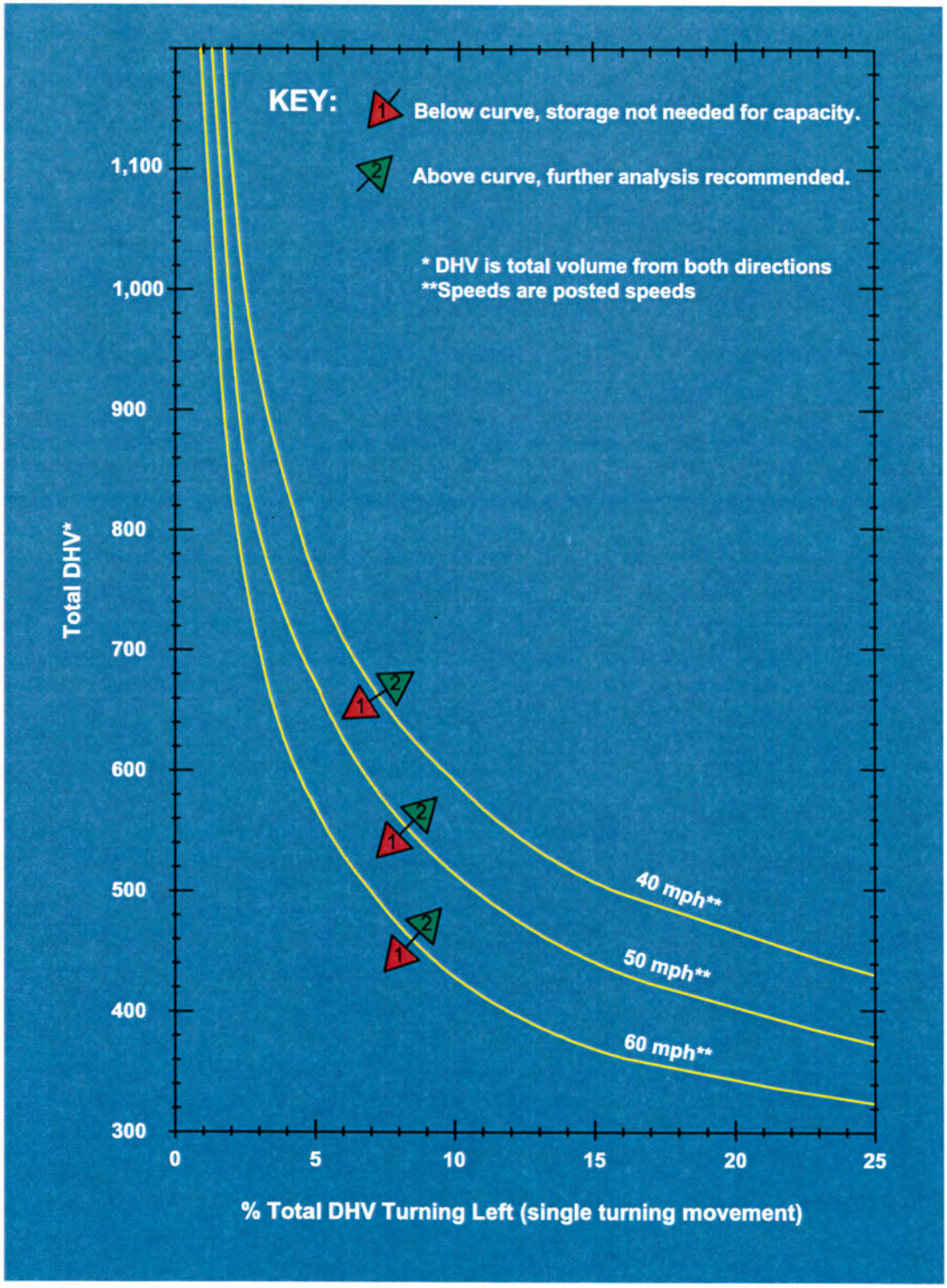
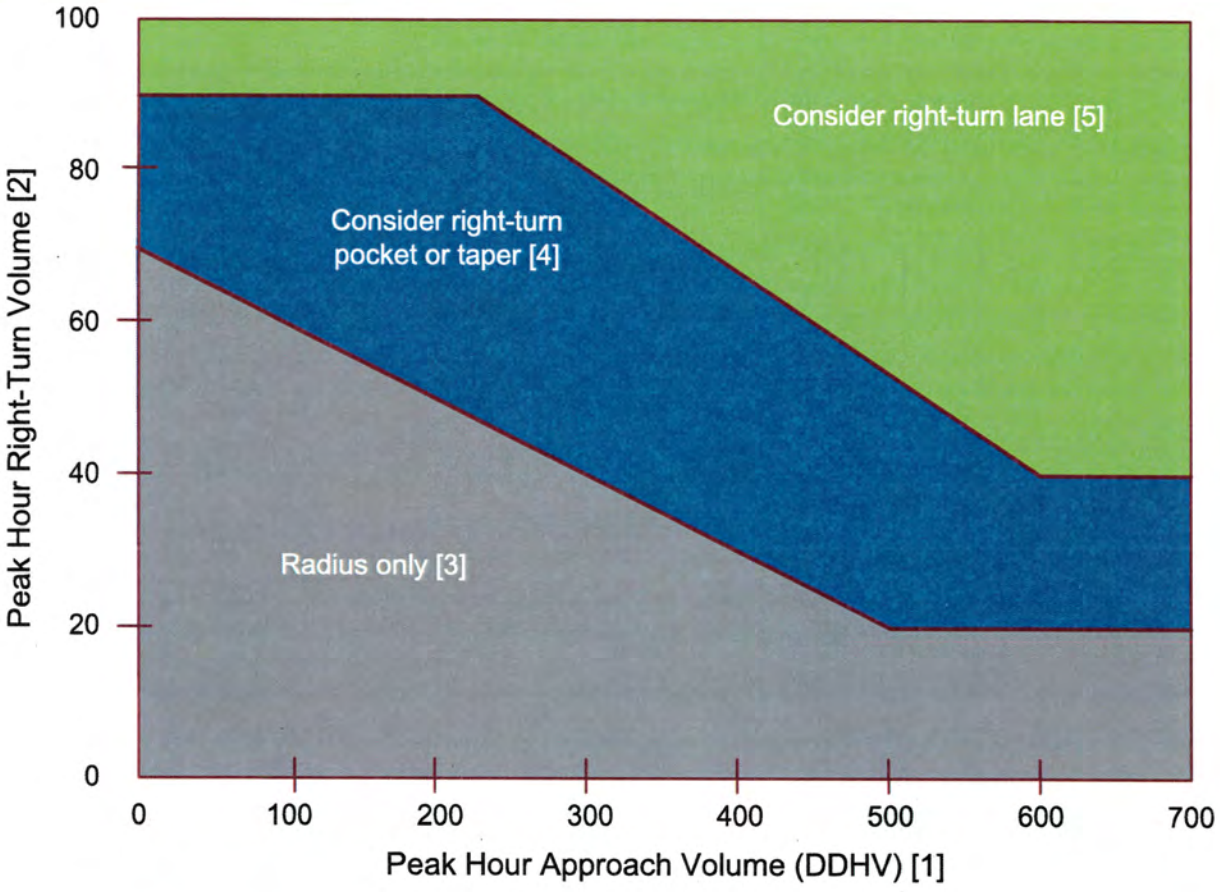


Exhibit 1310-11 Right-Turn Lane Guidelines



Notes:

[1] For two-lane highways, use the peak hour DDHV (through + right-turn).
For multilane, high-speed highways (posted speed 45 mph or above), use the right-lane peak hour approach volume (through + right-turn).

[2] When all three of the following conditions are met, reduce the right-turn DDHV by 20:

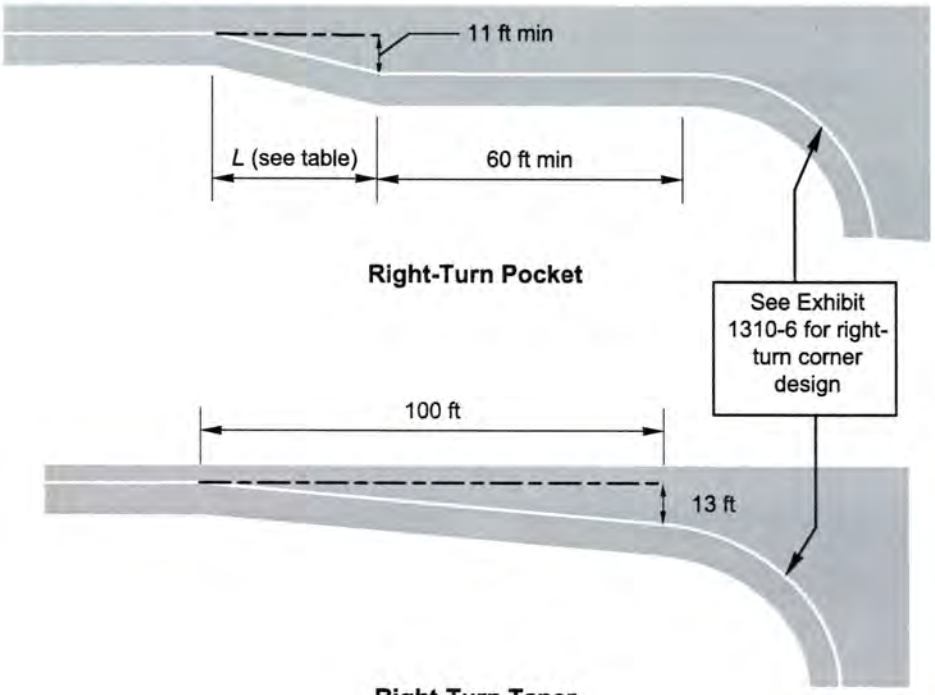
- The posted speed is 45 mph or below
- The right-turn volume is greater than 40 VPH
- The peak hour approach volume (DDHV) is less than 300 VPH

[3] For right-turn corner design, see Exhibit 1310-6.

[4] For right-turn pocket or taper design, see Exhibit 1310-12.

[5] For right-turn lane design, see Exhibit 1310-13.

Exhibit 1310-12 Right-Turn Pocket and Right-Turn Taper



Posted Speed Limit	*L*
Below 40 mph	40 ft
40 mph or above	100 ft

1310.03(4) Speed Change Lanes

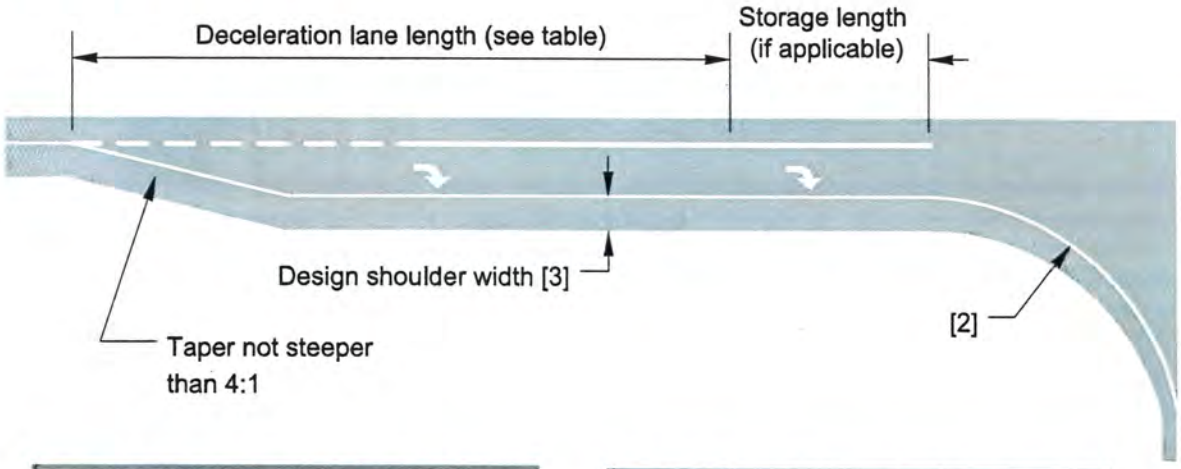
A speed change lane is an auxiliary lane primarily for the acceleration or deceleration of vehicles entering or leaving the through traveled way. Speed change lanes are normally provided for at-grade intersections on multilane divided highways with access control. Where roadside conditions and right of way allow, speed change lanes may be provided on other through roadways. Justification for a speed change lane depends on many factors, including speed; traffic volumes; capacity; type of highway; design and frequency of intersections and crash history

When either deceleration or acceleration lanes are to be used, design them in accordance with Exhibits 1310-13 and 1310-14. When the design speed of the turning traffic is greater than 20 mph, design the speed change lane as a ramp in accordance with Chapter 1360. When a deceleration lane is used with a left-turn lane, add the deceleration length to the storage length.

A dedicated deceleration lane (see Exhibit 1310-13) is advantageous because it removes slowing vehicles from the through lane.

An acceleration lane (see Exhibit 1310-14) is not as advantageous because entering drivers can wait for an opportunity to merge without disrupting through traffic. However, acceleration lanes for left-turning vehicles provide a benefit by allowing the turn to be made in two movements.

Exhibit 1310-13 Right-Turn Lane



Highway Design Speed (mph)	Deceleration Lane Length (ft)
30	160 [1]
35	220
40	275
45	350
50	425
55	515
60	605
65	715
70	820

Minimum Deceleration Lane Length (ft)

Grade	Upgrade	Downgrade
3% to less than 5%	0.9	1.2
5% or more	0.8	1.35

Adjustment Multiplier for Grades 3% or Greater

Notes:

[1] When adjusting for grade, do not reduce the deceleration lane to less than 150 ft.

[2] For right-turn corner design, see Exhibit 1310-6.

[3] See 1310.03(6) and Chapter 1230.

General:

For pavement marking details, see the *Standard Plans* and the MUTCD.

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: AM
Intersection: US 101/Palo Alto Rd
Jurisdiction: Clallam Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: US 101/Palo Alto Rd
East/West Street: US 101
North/South Street: Palo Alto Rd
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		505	18	0	478	
Peak-Hour Factor, PHF		0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR		548	19	0	519	
Percent Heavy Vehicles		--	--	0	--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	28		1			
Peak Hour Factor, PHF	0.92		0.92			
Hourly Flow Rate, HFR	30		1			
Percent Heavy Vehicles	21		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		0		31				
C(m) (vph)		1015		227				
v/c		0.00		0.14				
95% queue length		0.00		0.47				
Control Delay		8.5		23.4				
LOS		A		C				
Approach Delay				23.4				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: Mid-day
Intersection: US 101/Palo Alto Rd
Jurisdiction: Clallam Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: US 101/Palo Alto Rd
East/West Street: US 101
North/South Street: Palo Alto Rd
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		576	33	2	516	
Peak-Hour Factor, PHF		0.96	0.96	0.96	0.96	
Hourly Flow Rate, HFR		600	34	2	537	
Percent Heavy Vehicles		--	--	0	--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	21		1			
Peak Hour Factor, PHF	0.96		0.96			
Hourly Flow Rate, HFR	21		1			
Percent Heavy Vehicles	5		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		2		22				
C(m) (vph)		959		220				
v/c		0.00		0.10				
95% queue length		0.01		0.33				
Control Delay		8.8		23.2				
LOS		A		C				
Approach Delay				23.2				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: PM
Intersection: US 101/Palo Alto Rd
Jurisdiction: Clallam Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: US 101/Palo Alto Rd
East/West Street: US 101
North/South Street: Palo Alto Rd
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		545	39	4	762	
Peak-Hour Factor, PHF		0.93	0.93	0.93	0.93	
Hourly Flow Rate, HFR		586	41	4	819	
Percent Heavy Vehicles		--	--	0	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	15		2			
Peak Hour Factor, PHF	0.93		0.93			
Hourly Flow Rate, HFR	16		2			
Percent Heavy Vehicles	13		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		4		18				
C(m) (vph)		965		151				
v/c		0.00		0.12				
95% queue length		0.01		0.40				
Control Delay		8.7		32.0				
LOS		A		D				
Approach Delay				32.0				
Approach LOS				D				

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 08:54:15
PAGE: 1

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1741 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 10:00
LOCATION SR 101 & PALO ALTO RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												7	7.53		93
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	6													6.45	6
SOUTH TO WEST	80	1	2	4								7		93.55	87
EAST APPROACH												181	12.37		1463
EAST TO NORTH															
EAST TO SOUTH	1													0.07	1
THIS LEG EAST															
EAST TO WEST	1281	6	65	9	2	14	37	37	1	2	8	181		99.93	1462
WEST APPROACH												219	12.59		1740
WEST TO NORTH															
WEST TO SOUTH	31		2		4							6		2.13	37
WEST TO EAST	1490	11	86	18	6	18	35	36			3	213		97.87	1703
THIS LEG WEST															
															3296
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	118	1	4	4	4							13		71/29	131
PERCENTAGE	90.08	0.76	3.05	3.05	3.05							9.92			
EAST TOTAL	2778	17	151	27	8	32	72	73	1	2	11	394		46/54	3172
PERCENTAGE	87.58	0.54	4.76	0.85	0.25	1.01	2.27	2.30	0.03	0.06	0.35	12.42			
WEST TOTAL	2882	18	155	31	12	32	72	73	1	2	11	407		53/47	3289
PERCENTAGE	87.63	0.55	4.71	0.94	0.36	0.97	2.19	2.22	0.03	0.06	0.33	12.37			
															6592

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL									
SOUTH TOTAL	13	9.92					13	9.92	0.9562
EAST TOTAL	203	6.40	177	5.58	14	0.44	394	12.42	0.9030
WEST TOTAL	216	6.57	177	5.38	14	0.43	407	12.37	0.9046

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1741 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 07:00
LOCATION SR 101 & PALO ALTO RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															18
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	1													5.56	1
SOUTH TO WEST	17													94.44	17
EAST APPROACH												25	14.12		177
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	152	1	5	1		2	9	5	1	1		25		100.00	177
WEST APPROACH												44	15.17		290
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST	246	7	13	4	1	3	9	7				44		100.00	290
THIS LEG WEST															
															485
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	18													100/0	18
PERCENTAGE	100.00														
EAST TOTAL	399	8	18	5	1	5	18	12	1	1		69		38/62	468
PERCENTAGE	85.26	1.71	3.85	1.07	0.21	1.07	3.85	2.56	0.21	0.21		14.74			
WEST TOTAL	415	8	18	5	1	5	18	12	1	1		69		60/40	484
PERCENTAGE	85.74	1.65	3.72	1.03	0.21	1.03	3.72	2.48	0.21	0.21		14.26			
															970

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1741 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 101 & PALO ALTO RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	4.35		23
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	2													8.70	2
SOUTH TO WEST	20	1										1		91.30	21
EAST APPROACH												50	13.05		383
EAST TO NORTH															
EAST TO SOUTH	1													0.26	1
THIS LEG EAST															
EAST TO WEST	332	3	15	1	1	6	6	13	1	1	3	50		99.74	382
WEST APPROACH												44	10.89		404
WEST TO NORTH															
WEST TO SOUTH	7													1.73	7
WEST TO EAST	353	3	14	5	3	2	7	10				44		98.27	397
THIS LEG WEST															
															810
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	30	1										1		74/26	31
PERCENTAGE	96.77	3.23										3.23			
EAST TOTAL	688	6	29	6	4	8	13	23	1	1	3	94		49/51	782
PERCENTAGE	87.98	0.77	3.71	0.77	0.51	1.02	1.66	2.94	0.13	0.13	0.38	12.02			
WEST TOTAL	712	7	29	6	4	8	13	23	1	1	3	95		50/50	807
PERCENTAGE	88.23	0.87	3.59	0.74	0.50	0.99	1.61	2.85	0.12	0.12	0.37	11.77			
															1620

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1741 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:00 - 09:00
LOCATION SR 101 & PALO ALTO RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															23
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	2													8.70	2
SOUTH TO WEST	21													91.30	21
EAST APPROACH												58	13.65		425
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	367	1	23	5	1	4	13	9			2	58		100.00	425
WEST APPROACH												58	11.09		523
WEST TO NORTH															
WEST TO SOUTH	11		1									1		2.29	12
WEST TO EAST	454		25	6	1	6	10	8			1	57		97.71	511
THIS LEG WEST															971
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	34		1									1		66/34	35
PERCENTAGE	97.14		2.86									2.86			
EAST TOTAL	823	1	48	11	2	10	23	17			3	115		45/55	938
PERCENTAGE	87.74	0.11	5.12	1.17	0.21	1.07	2.45	1.81			0.32	12.26			
WEST TOTAL	853	1	49	11	2	10	23	17			3	116		54/46	969
PERCENTAGE	88.03	0.10	5.06	1.14	0.21	1.03	2.37	1.75			0.31	11.97			
															1942

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1741 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 101 & PALO ALTO RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												6	20.69		29
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	1													3.45	1
SOUTH TO WEST	22		2	4								6		96.55	28
EAST APPROACH												48	10.04		478
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	430	1	22	2		2	9	10			2	48		100.00	478
WEST APPROACH												73	13.96		523
WEST TO NORTH															
WEST TO SOUTH	13		1		4							5		3.44	18
WEST TO EAST	437	1	34	3	1	7	9	11			2	68		96.56	505
THIS LEG WEST															
															1030
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	36		3	4	4							11		62/38	47
PERCENTAGE	76.60		6.38	8.51	8.51							23.40			
EAST TOTAL	868	2	56	5	1	9	18	21			4	116		49/51	984
PERCENTAGE	88.21	0.20	5.69	0.51	0.10	0.91	1.83	2.13			0.41	11.79			
WEST TOTAL	902	2	59	9	5	9	18	21			4	127		51/49	1029
PERCENTAGE	87.66	0.19	5.73	0.87	0.49	0.87	1.75	2.04			0.39	12.34			
															2060

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1741 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 101 & PALO ALTO RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												6	20.69		29
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	1													3.45	1
SOUTH TO WEST	22		2	4								6		96.55	28
EAST APPROACH												48	10.04		478
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	430	1	22	2		2	9	10			2	48		100.00	478
WEST APPROACH												73	13.96		523
WEST TO NORTH															
WEST TO SOUTH	13		1		4							5		3.44	18
WEST TO EAST	437	1	34	3	1	7	9	11			2	68		96.56	505
THIS LEG WEST															
															1030
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	36		3	4	4							11		62/38	47
PERCENTAGE	76.60		6.38	8.51	8.51							23.40			
EAST TOTAL	868	2	56	5	1	9	18	21			4	116		49/51	984
PERCENTAGE	88.21	0.20	5.69	0.51	0.10	0.91	1.83	2.13			0.41	11.79			
WEST TOTAL	902	2	59	9	5	9	18	21			4	127		51/49	1029
PERCENTAGE	87.66	0.19	5.73	0.87	0.49	0.87	1.75	2.04			0.39	12.34			
															2060

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1741 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 101 & PALO ALTO RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												6	20.69		29
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	1													3.45	1
SOUTH TO WEST	22		2	4								6		96.55	28
EAST APPROACH												48	10.04		478
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	430	1	22	2		2	9	10			2	48		100.00	478
WEST APPROACH												73	13.96		523
WEST TO NORTH															
WEST TO SOUTH	13		1		4							5		3.44	18
WEST TO EAST	437	1	34	3	1	7	9	11			2	68		96.56	505
THIS LEG WEST															
															1030
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	36		3	4	4							11		62/38	47
PERCENTAGE	76.60		6.38	8.51	8.51							23.40			
EAST TOTAL	868	2	56	5	1	9	18	21			4	116		49/51	984
PERCENTAGE	88.21	0.20	5.69	0.51	0.10	0.91	1.83	2.13			0.41	11.79			
WEST TOTAL	902	2	59	9	5	9	18	21			4	127		51/49	1029
PERCENTAGE	87.66	0.19	5.73	0.87	0.49	0.87	1.75	2.04			0.39	12.34			
															2060

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1741 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 101 & PALO ALTO RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												6	20.69		29
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	1													3.45	1
SOUTH TO WEST	22		2	4								6		96.55	28
EAST APPROACH												48	10.04		478
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	430	1	22	2		2	9	10			2	48		100.00	478
WEST APPROACH												73	13.96		523
WEST TO NORTH															
WEST TO SOUTH	13		1		4							5		3.44	18
WEST TO EAST	437	1	34	3	1	7	9	11			2	68		96.56	505
THIS LEG WEST															
															1030
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	36		3	4	4							11		62/38	47
PERCENTAGE	76.60		6.38	8.51	8.51							23.40			
EAST TOTAL	868	2	56	5	1	9	18	21			4	116		49/51	984
PERCENTAGE	88.21	0.20	5.69	0.51	0.10	0.91	1.83	2.13			0.41	11.79			
WEST TOTAL	902	2	59	9	5	9	18	21			4	127		51/49	1029
PERCENTAGE	87.66	0.19	5.73	0.87	0.49	0.87	1.75	2.04			0.39	12.34			
															2060

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1741 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 101 & PALO ALTO RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												6	20.69		29
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	1													3.45	1
SOUTH TO WEST	22		2	4								6		96.55	28
EAST APPROACH												48	10.04		478
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	430	1	22	2		2	9	10			2	48		100.00	478
WEST APPROACH												73	13.96		523
WEST TO NORTH															
WEST TO SOUTH	13		1		4							5		3.44	18
WEST TO EAST	437	1	34	3	1	7	9	11			2	68		96.56	505
THIS LEG WEST															
															1030
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	36		3	4	4							11		62/38	47
PERCENTAGE	76.60		6.38	8.51	8.51							23.40			
EAST TOTAL	868	2	56	5	1	9	18	21			4	116		49/51	984
PERCENTAGE	88.21	0.20	5.69	0.51	0.10	0.91	1.83	2.13			0.41	11.79			
WEST TOTAL	902	2	59	9	5	9	18	21			4	127		51/49	1029
PERCENTAGE	87.66	0.19	5.73	0.87	0.49	0.87	1.75	2.04			0.39	12.34			
															2060

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL									
SOUTH TOTAL	11	23.40					11	23.40	0.8867
EAST TOTAL	64	6.50	48	4.88	4	0.41	116	11.79	0.9149
WEST TOTAL	75	7.29	48	4.66	4	0.39	127	12.34	0.9134

PEAK HOUR FACTOR 0.916 245 268 236 281 1030

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

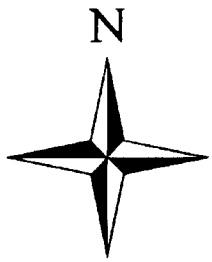
(Block Diagram)

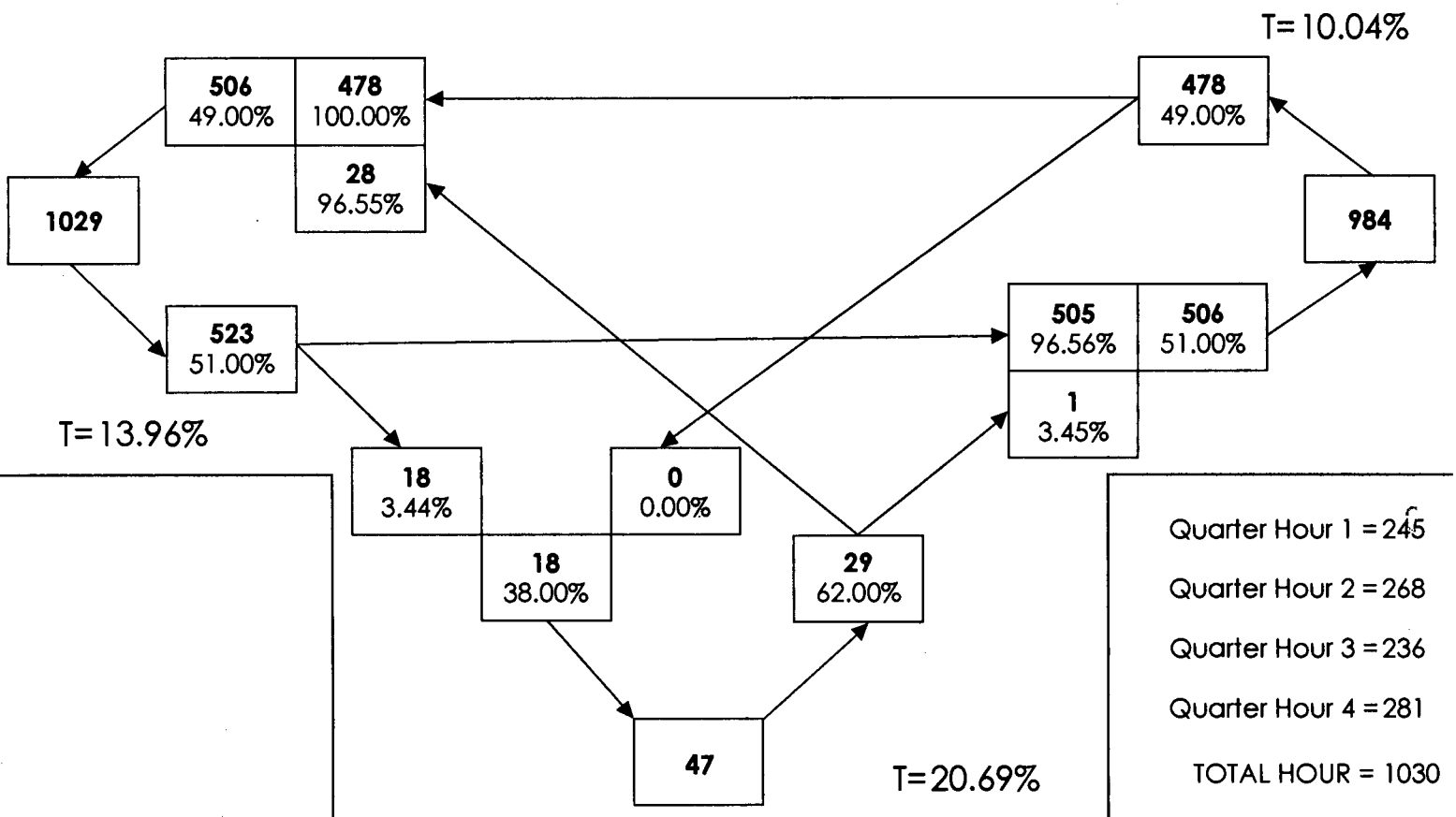
Date: 3/23/2017
Time Period: 09:00 - 10:00

SR: 101 MP: 267.43 Off Sys. ID: Count ID: 17-006

Location: SR 101 & PALO ALTO RD

INTERSECTIONAL PEAK HOUR AND VOLUMES





Quarter Hour 1 = 245
Quarter Hour 2 = 268
Quarter Hour 3 = 236
Quarter Hour 4 = 281

TOTAL HOUR = 1030

PEAK HOUR FACTOR = 0.916

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

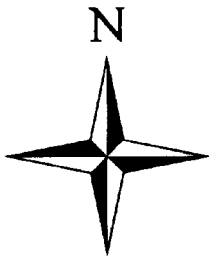
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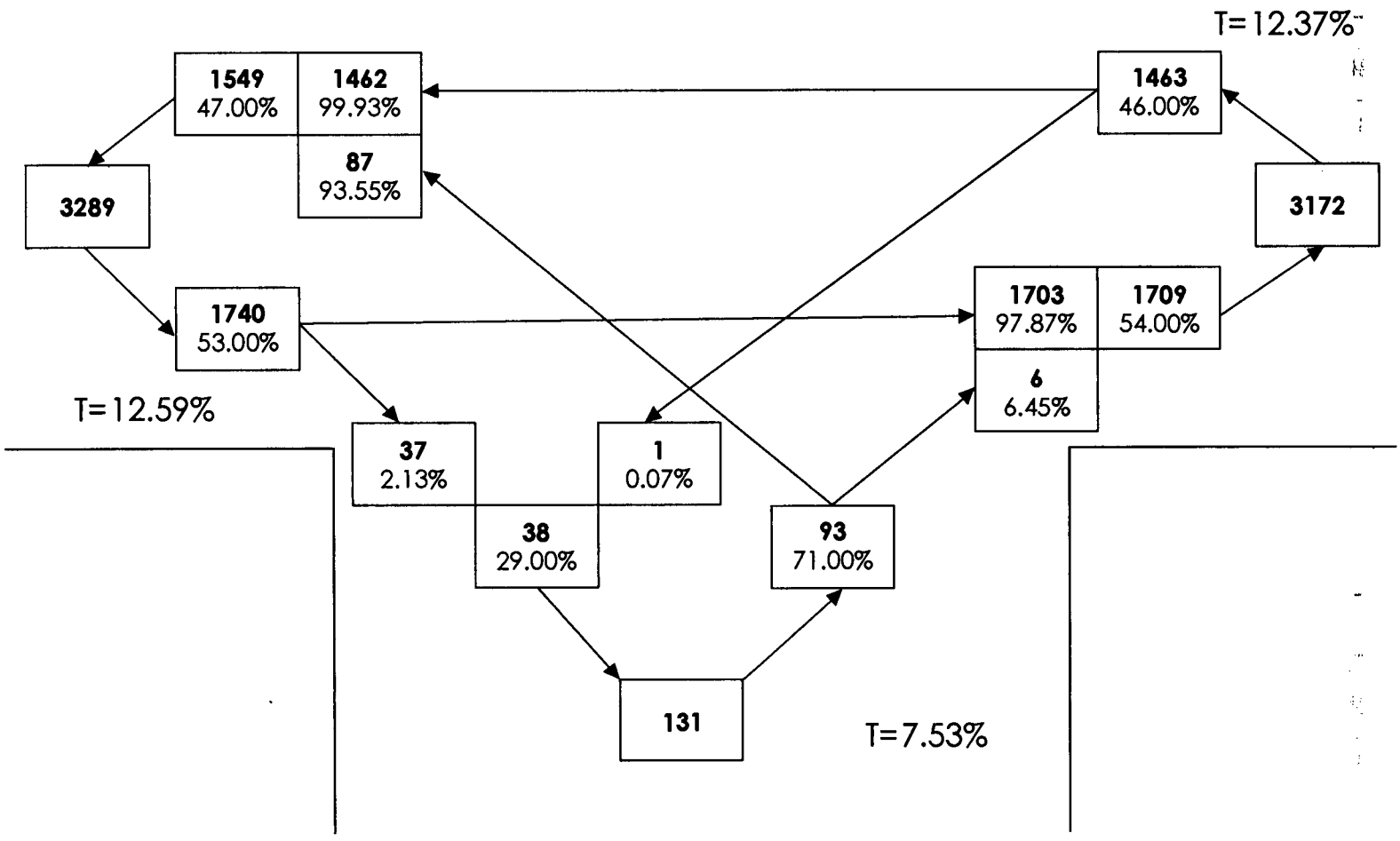
Date: 3/23/2017
Time Period: 06:00 - 10:00

SR: 101 MP: 267.43 Off Sys. ID: Count ID: 17-006

Location: SR 101 & PALO ALTO RD

ENTIRE COUNT VOLUMES





CB#2898

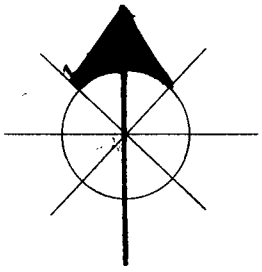
Washington State Department of Transportation

Traffic Station Sketch

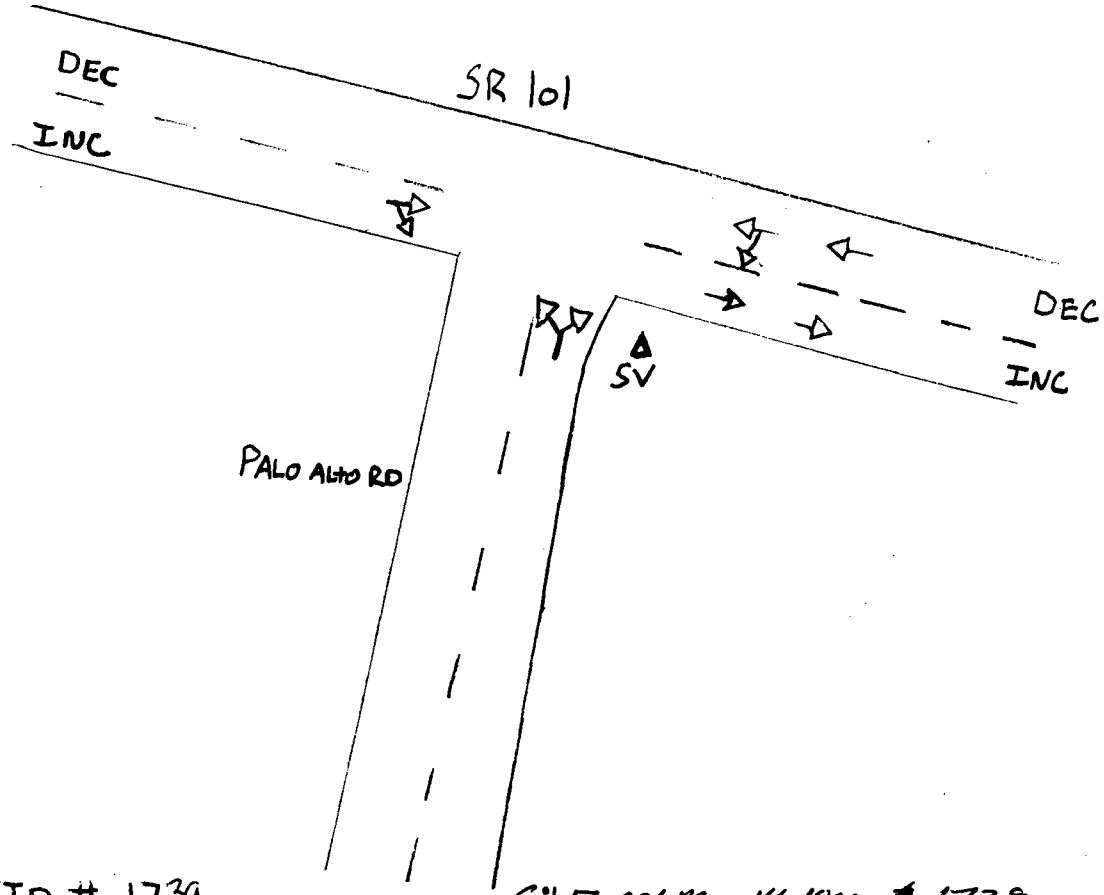
SR #	MP	OSID	Count ID	Date
101	267 ● 43		17-006	3/22/2017

Station Location
JCT SR 101 AT PALO ALTO RD

Sketch



Indicate North



Remarks:

ID # 1739 G:\17-006M 14-1800 #1739 3/21/17

1740 G:\17-006 N 10-1400 #1740 3/22/17

1741 G:\17-0060 06-1000 #1741 3/28/17

Caleb Cutler

Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 08:53:43
PAGE: 1

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1740 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 14:00
LOCATION SR 101 & PALO ALTO RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	0.95		105
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	19													18.10	19
SOUTH TO WEST	85		1									1		81.90	86
EAST APPROACH												179	8.95		1999
EAST TO NORTH															
EAST TO SOUTH	4													0.20	4
THIS LEG EAST															
EAST TO WEST	1816	4	71	15	1	16	27	38	1	1	5	179		99.80	1995
WEST APPROACH												224	9.79		2287
WEST TO NORTH															
WEST TO SOUTH	115		1									1		5.07	116
WEST TO EAST	1948	4	104	23	3	13	40	32	1		3	223		94.93	2171
THIS LEG WEST															
															4391
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	223		2									2		47/53	225
PERCENTAGE	99.11		0.89									0.89			
EAST TOTAL	3787	8	175	38	4	29	67	70	2	1	8	402		48/52	4189
PERCENTAGE	90.40	0.19	4.18	0.91	0.10	0.69	1.60	1.67	0.05	0.02	0.19	9.60			
WEST TOTAL	3964	8	177	38	4	29	67	70	2	1	8	404		52/48	4368
PERCENTAGE	90.75	0.18	4.05	0.87	0.09	0.66	1.53	1.60	0.05	0.02	0.18	9.25			
															8782

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL									
SOUTH TOTAL	2	0.89					2	0.89	1.0000
EAST TOTAL	225	5.37	166	3.96	11	0.26	402	9.60	0.9295
WEST TOTAL	227	5.20	166	3.80	11	0.25	404	9.25	0.9322

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1740 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 11:00
LOCATION SR 101 & PALO ALTO RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															26
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	8													30.77	8
SOUTH TO WEST	18													69.23	18
EAST APPROACH												46	9.04		509
EAST TO NORTH															
EAST TO SOUTH	2													0.39	2
THIS LEG EAST															
EAST TO WEST	461		19	4	1	5	7	8	1		1	46		99.61	507
WEST APPROACH												68	12.55		542
WEST TO NORTH															
WEST TO SOUTH	25													4.61	25
WEST TO EAST	449	2	34	5	1	4	9	11	1		1	68		95.39	517
THIS LEG WEST															
															1077
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	53													49/51	53
PERCENTAGE	100.00														
EAST TOTAL	920	2	53	9	2	9	16	19	2		2	114		49/51	1034
PERCENTAGE	88.97	0.19	5.13	0.87	0.19	0.87	1.55	1.84	0.19		0.19	11.03			
WEST TOTAL	953	2	53	9	2	9	16	19	2		2	114		51/49	1067
PERCENTAGE	89.32	0.19	4.97	0.84	0.19	0.84	1.50	1.78	0.19		0.19	10.68			
															2154

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1740 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:00 - 12:00
LOCATION SR 101 & PALO ALTO RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															27
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	5													18.52	5
SOUTH TO WEST	22													81.48	22
EAST APPROACH												46	9.50		484
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	438	2	13	4		4	7	14	1	1		46		100.00	484
WEST APPROACH												60	10.83		554
WEST TO NORTH															
WEST TO SOUTH	21		1									1		3.97	22
WEST TO EAST	473		28	6	1	5	8	10		1		59		96.03	532
THIS LEG WEST															
															1065
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	48		1									1		55/45	49
PERCENTAGE	97.96		2.04									2.04			
EAST TOTAL	916	2	41	10	1	9	15	24	1	2		105		47/53	1021
PERCENTAGE	89.72	0.20	4.02	0.98	0.10	0.88	1.47	2.35	0.10	0.20		10.28			
WEST TOTAL	954	2	42	10	1	9	15	24	1	2		106		52/48	1060
PERCENTAGE	90.00	0.19	3.96	0.94	0.09	0.85	1.42	2.26	0.09	0.19		10.00			
															2130

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1740 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 101 & PALO ALTO RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	4.55		22
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	1													4.55	1
SOUTH TO WEST	20		1									1		95.45	21
EAST APPROACH												41	7.92		518
EAST TO NORTH															
EAST TO SOUTH	2													0.39	2
THIS LEG EAST															
EAST TO WEST	475	2	16	1		5	6	10			1	41		99.61	516
WEST APPROACH												54	8.87		609
WEST TO NORTH															
WEST TO SOUTH	33													5.42	33
WEST TO EAST	522	1	24	7		3	12	6			1	54		94.58	576
THIS LEG WEST															
															1149
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	56		1									1		39/61	57
PERCENTAGE	98.25		1.75									1.75			
EAST TOTAL	1000	3	40	8		8	18	16			2	95		47/53	1095
PERCENTAGE	91.32	0.27	3.65	0.73		0.73	1.64	1.46			0.18	8.68			
WEST TOTAL	1050	3	41	8		8	18	16			2	96		53/47	1146
PERCENTAGE	91.62	0.26	3.58	0.70		0.70	1.57	1.40			0.17	8.38			
															2298

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1740 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 101 & PALO ALTO RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															30
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	5													16.67	5
SOUTH TO WEST	25													83.33	25
EAST APPROACH												46	9.43		488
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	442		23	6		2	7	6			2	46		100.00	488
WEST APPROACH												42	7.22		582
WEST TO NORTH															
WEST TO SOUTH	36													6.19	36
WEST TO EAST	504	1	18	5	1	1	11	5				42		93.81	546
THIS LEG WEST															
															1100
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	66													45/55	66
PERCENTAGE	100.00														
EAST TOTAL	951	1	41	11	1	3	18	11			2	88		47/53	1039
PERCENTAGE	91.53	0.10	3.95	1.06	0.10	0.29	1.73	1.06			0.19	8.47			
WEST TOTAL	1007	1	41	11	1	3	18	11			2	88		53/47	1095
PERCENTAGE	91.96	0.09	3.74	1.00	0.09	0.27	1.64	1.00			0.18	8.04			
															2200

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1740 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 101 & PALO ALTO RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															30
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	5													16.67	5
SOUTH TO WEST	25													83.33	25
EAST APPROACH												46	9.43		488
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST	442		23	6		2	7	6			2	46		100.00	488
WEST APPROACH												42	7.22		582
WEST TO NORTH															
WEST TO SOUTH	36													6.19	36
WEST TO EAST	504	1	18	5	1	1	11	5				42		93.81	546
THIS LEG WEST															
															1100
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	66													45/55	66
PERCENTAGE	100.00														
EAST TOTAL	951	1	41	11	1	3	18	11			2	88		47/53	1039
PERCENTAGE	91.53	0.10	3.95	1.06	0.10	0.29	1.73	1.06			0.19	8.47			
WEST TOTAL	1007	1	41	11	1	3	18	11			2	88		53/47	1095
PERCENTAGE	91.96	0.09	3.74	1.00	0.09	0.27	1.64	1.00			0.18	8.04			
															2200

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1740 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 101 & PALO ALTO RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	4.55		22
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	1													4.55	1
SOUTH TO WEST	20		1									1		95.45	21
EAST APPROACH												41	7.92		518
EAST TO NORTH															
EAST TO SOUTH	2													0.39	2
THIS LEG EAST															
EAST TO WEST	475	2	16	1		5	6	10			1	41		99.61	516
WEST APPROACH												54	8.87		609
WEST TO NORTH															
WEST TO SOUTH	33													5.42	33
WEST TO EAST	522	1	24	7		3	12	6			1	54		94.58	576
THIS LEG WEST															
															1149
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	56		1									1		39/61	57
PERCENTAGE	98.25		1.75									1.75			
EAST TOTAL	1000	3	40	8		8	18	16			2	95		47/53	1095
PERCENTAGE	91.32	0.27	3.65	0.73		0.73	1.64	1.46			0.18	8.68			
WEST TOTAL	1050	3	41	8		8	18	16			2	96		53/47	1146
PERCENTAGE	91.62	0.26	3.58	0.70		0.70	1.57	1.40			0.17	8.38			
															2298

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1740 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 101 & PALO ALTO RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	4.55		22
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	1													4.55	1
SOUTH TO WEST	20		1									1		95.45	21
EAST APPROACH												41	7.92		518
EAST TO NORTH															
EAST TO SOUTH	2													0.39	2
THIS LEG EAST															
EAST TO WEST	475	2	16	1		5	6	10			1	41		99.61	516
WEST APPROACH												54	8.87		609
WEST TO NORTH															
WEST TO SOUTH	33													5.42	33
WEST TO EAST	522	1	24	7		3	12	6			1	54		94.58	576
THIS LEG WEST															
															1149
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	56		1									1		39/61	57
PERCENTAGE	98.25		1.75									1.75			
EAST TOTAL	1000	3	40	8		8	18	16			2	95		47/53	1095
PERCENTAGE	91.32	0.27	3.65	0.73		0.73	1.64	1.46			0.18	8.68			
WEST TOTAL	1050	3	41	8		8	18	16			2	96		53/47	1146
PERCENTAGE	91.62	0.26	3.58	0.70		0.70	1.57	1.40			0.17	8.38			
															2298

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1740 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 101 & PALO ALTO RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												1	4.55		22
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	1													4.55	1
SOUTH TO WEST	20		1									1		95.45	21
EAST APPROACH												41	7.92		518
EAST TO NORTH															
EAST TO SOUTH	2													0.39	2
THIS LEG EAST															
EAST TO WEST	475	2	16	1		5	6	10			1	41		99.61	516
WEST APPROACH												54	8.87		609
WEST TO NORTH															
WEST TO SOUTH	33													5.42	33
WEST TO EAST	522	1	24	7		3	12	6			1	54		94.58	576
THIS LEG WEST															
															1149
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	56		1									1		39/61	57
PERCENTAGE	98.25		1.75									1.75			
EAST TOTAL	1000	3	40	8		8	18	16			2	95		47/53	1095
PERCENTAGE	91.32	0.27	3.65	0.73		0.73	1.64	1.46			0.18	8.68			
WEST TOTAL	1050	3	41	8		8	18	16			2	96		53/47	1146
PERCENTAGE	91.62	0.26	3.58	0.70		0.70	1.57	1.40			0.17	8.38			
															2298

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL									
SOUTH TOTAL	1	1.75					1	1.75	1.0000
EAST TOTAL	51	4.66	42	3.84	2	0.18	95	8.68	0.9350
WEST TOTAL	52	4.54	42	3.66	2	0.17	96	8.38	0.9378

PEAK HOUR FACTOR 0.964 275 281 298 295 1149

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

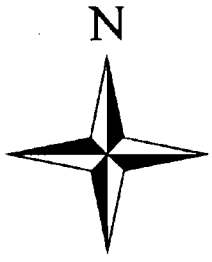
(Block Diagram)

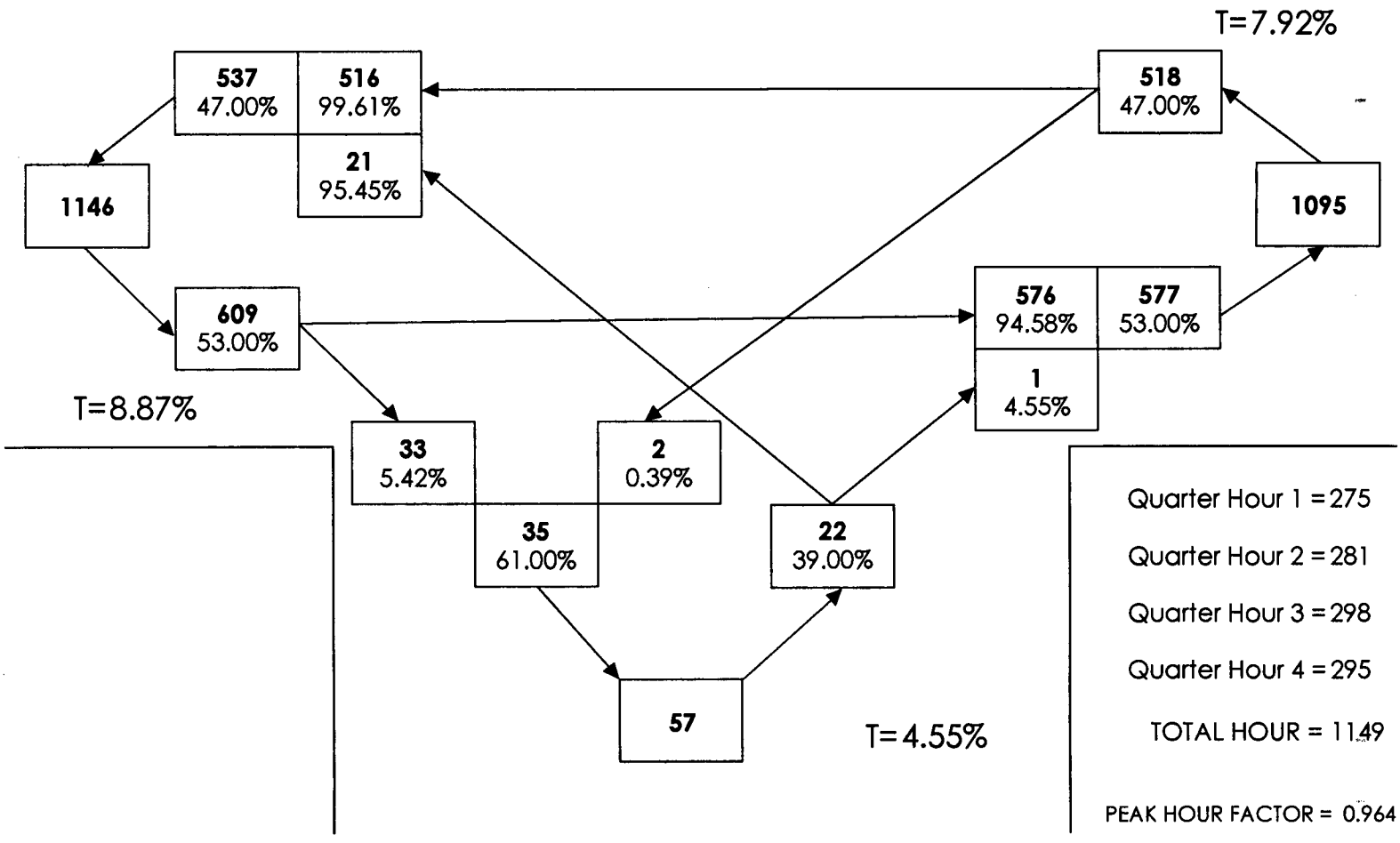
Date: 3/22/2017
Time Period: 12:00 - 13:00

SR: 101 MP: 267.43 Off Sys. ID: Count ID: 17-006

Location: SR 101 & PALO ALTO RD

INTERSECTIONAL PEAK HOUR AND VOLUMES





Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

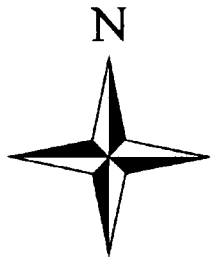
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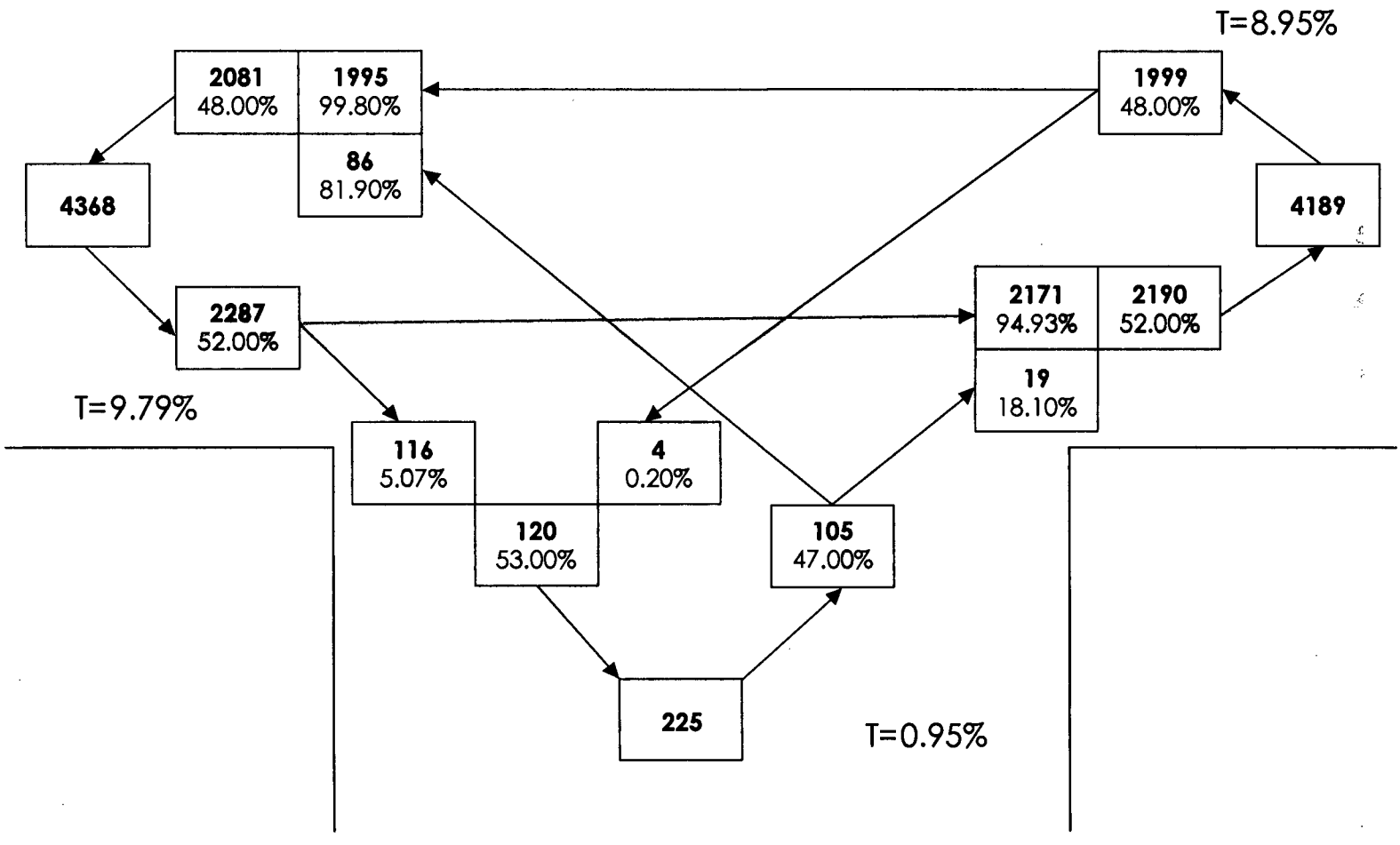
Date: 3/22/2017
Time Period: 10:00 - 14:00

SR: 101 MP: 267.43 Off Sys. ID: Count ID: 17-006

Location: SR 101 & PALO ALTO RD

ENTIRE COUNT VOLUMES





CIS# 2095

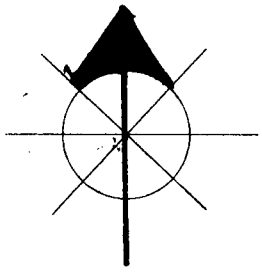
Washington State Department of Transportation

Traffic Station Sketch

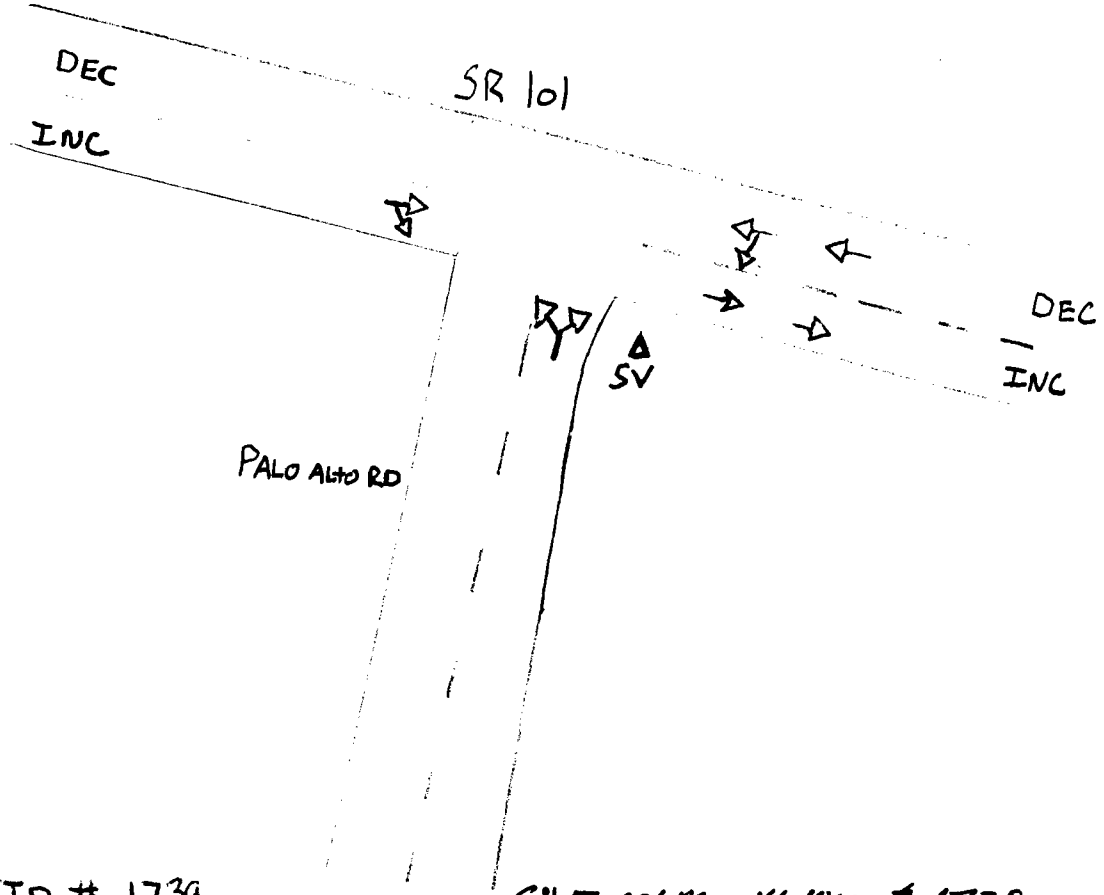
SR #	MP	OSID	Count ID	Date
101	267 ● 43		17-006	3/22/2017

Station Location
JCT SR 101 AT PALO ALTO RD

Sketch



Indicate North



Remarks:

ID # 1739 G:\17-006M 14-1800 #1739 3/21/17

1740 G:\17-006 N 10-1400 #1740 3/22/17

1741 G:\17-0060 06-1000 #1741 8/28/17

Caleb Cutler
Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 08:53:15
PAGE: 1

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1739 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 18:00
LOCATION SR 101 & PALO ALTO RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												19	19.39		98
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	6													6.12	6
SOUTH TO WEST	73		2	16	1							19		93.88	92
EAST APPROACH												176	7.69		2290
EAST TO NORTH															
EAST TO SOUTH	12													0.52	12
THIS LEG EAST															
EAST TO WEST	2102	10	76	5	1	19	30	33		1	1	176		99.48	2278
WEST APPROACH												163	6.81		2394
WEST TO NORTH															
WEST TO SOUTH	148	1	2	1	17							21		7.06	169
WEST TO EAST	2083	9	69	7		16	16	21	1		3	142		92.94	2225
THIS LEG WEST															
															4782
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	239	1	4	17	18							40		35/65	279
PERCENTAGE	85.66	0.36	1.43	6.09	6.45							14.34			
EAST TOTAL	4203	19	145	12	1	35	46	54	1	1	4	318		51/49	4521
PERCENTAGE	92.97	0.42	3.21	0.27	0.02	0.77	1.02	1.19	0.02	0.02	0.09	7.03			
WEST TOTAL	4406	20	149	29	19	35	46	54	1	1	4	358		50/50	4764
PERCENTAGE	92.49	0.42	3.13	0.61	0.40	0.73	0.97	1.13	0.02	0.02	0.08	7.51			
															9564

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL									
SOUTH TOTAL	40	14.34					40	14.34	0.9132
EAST TOTAL	177	3.92	135	2.99	6	0.13	318	7.03	0.9510
WEST TOTAL	217	4.55	135	2.83	6	0.13	358	7.51	0.9484

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1739 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 15:00
LOCATION SR 101 & PALO ALTO RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												9	27.27		33
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	1													3.03	1
SOUTH TO WEST	23		1	8								9		96.97	32
EAST APPROACH												46	8.32		553
EAST TO NORTH															
EAST TO SOUTH	3													0.54	3
THIS LEG EAST															
EAST TO WEST	504		18		1	5	7	14			1	46		99.46	550
WEST APPROACH												57	8.77		650
WEST TO NORTH															
WEST TO SOUTH	26			1	8							9		5.38	35
WEST TO EAST	567	2	28	2		4	5	7				48		94.62	615
THIS LEG WEST															
															1236
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	53		1	9	8							18		46/54	71
PERCENTAGE	74.65		1.41	12.6	11.2							25.35			
EAST TOTAL	1075	2	46	2	1	9	12	21			1	94		47/53	1169
PERCENTAGE	91.96	0.17	3.93	0.17	0.09	0.77	1.03	1.80			0.09	8.04			
WEST TOTAL	1120	2	47	11	9	9	12	21			1	112		53/47	1232
PERCENTAGE	90.91	0.16	3.81	0.89	0.73	0.73	0.97	1.70			0.08	9.09			
															2472

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1739 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 15:00 - 16:00
LOCATION SR 101 & PALO ALTO RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												6	23.08		26
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	2													7.69	2
SOUTH TO WEST	18			6								6		92.31	24
EAST APPROACH												43	10.09		426
EAST TO NORTH															
EAST TO SOUTH	2													0.47	2
THIS LEG EAST															
EAST TO WEST	381	5	17			7	10	4				43		99.53	424
WEST APPROACH												50	8.17		612
WEST TO NORTH															
WEST TO SOUTH	47	1	2		6							9		9.15	56
WEST TO EAST	515	6	18	2		5	3	6			1	41		90.85	556
THIS LEG WEST															
															1064
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	69	1	2	6	6							15		31/69	84
PERCENTAGE	82.14	1.19	2.38	7.14	7.14							17.86			
EAST TOTAL	900	11	35	2		12	13	10			1	84		43/57	984
PERCENTAGE	91.46	1.12	3.56	0.20		1.22	1.32	1.02			0.10	8.54			
WEST TOTAL	961	12	37	8	6	12	13	10			1	99		58/42	1060
PERCENTAGE	90.66	1.13	3.49	0.75	0.57	1.13	1.23	0.94			0.09	9.34			
															2128

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1739 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:00 - 17:00
LOCATION SR 101 & PALO ALTO RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												4	15.38		26
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	2													7.69	2
SOUTH TO WEST	20		1	2	1							4		92.31	24
EAST APPROACH												47	6.35		740
EAST TO NORTH															
EAST TO SOUTH	3													0.41	3
THIS LEG EAST															
EAST TO WEST	690	3	22	1		3	7	11				47		99.59	737
WEST APPROACH												40	6.94		576
WEST TO NORTH															
WEST TO SOUTH	33				3							3		6.25	36
WEST TO EAST	503	1	18	2		6	5	4			1	37		93.75	540
THIS LEG WEST															
															1342
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	58		1	2	4							7		40/60	65
PERCENTAGE	89.23		1.54	3.08	6.15							10.77			
EAST TOTAL	1198	4	40	3		9	12	15			1	84		58/42	1282
PERCENTAGE	93.45	0.31	3.12	0.23		0.70	0.94	1.17			0.08	6.55			
WEST TOTAL	1246	4	41	5	4	9	12	15			1	91		43/57	1337
PERCENTAGE	93.19	0.30	3.07	0.37	0.30	0.67	0.90	1.12			0.07	6.81			
															2684

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1739 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 17:00 - 18:00
LOCATION SR 101 & PALO ALTO RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH															13
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	1													7.69	1
SOUTH TO WEST	12													92.31	12
EAST APPROACH												40	7.01		571
EAST TO NORTH															
EAST TO SOUTH	4													0.70	4
THIS LEG EAST															
EAST TO WEST	527	2	19	4		4	6	4		1		40		99.30	567
WEST APPROACH												16	2.88		556
WEST TO NORTH															
WEST TO SOUTH	42													7.55	42
WEST TO EAST	498		5	1		1	3	4	1		1	16		92.45	514
THIS LEG WEST															
															1140
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	59													22/78	59
PERCENTAGE	100.00														
EAST TOTAL	1030	2	24	5		5	9	8	1	1	1	56		53/47	1086
PERCENTAGE	94.84	0.18	2.21	0.46		0.46	0.83	0.74	0.09	0.09	0.09	5.16			
WEST TOTAL	1079	2	24	5		5	9	8	1	1	1	56		49/51	1135
PERCENTAGE	95.07	0.18	2.11	0.44		0.44	0.79	0.70	0.09	0.09	0.09	4.93			
															2280

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1739 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 15:15 - 16:15
LOCATION SR 101 & PALO ALTO RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												8	26.67		30
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	2													6.67	2
SOUTH TO WEST	20			7	1							8		93.33	28
EAST APPROACH												43	10.19		422
EAST TO NORTH															
EAST TO SOUTH	2													0.47	2
THIS LEG EAST															
EAST TO WEST	377	6	17			5	8	7				43		99.53	420
WEST APPROACH												46	7.58		607
WEST TO NORTH															
WEST TO SOUTH	44	1	2		7							10		8.90	54
WEST TO EAST	517	3	14	2		7	4	5			1	36		91.10	553
THIS LEG WEST															
															1059
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	68	1	2	7	8							18		35/65	86
PERCENTAGE	79.07	1.16	2.33	8.14	9.30							20.93			
EAST TOTAL	898	9	31	2		12	12	12			1	79		43/57	977
PERCENTAGE	91.91	0.92	3.17	0.20		1.23	1.23	1.23			0.10	8.09			
WEST TOTAL	958	10	33	9	8	12	12	12			1	97		58/42	1055
PERCENTAGE	90.81	0.95	3.13	0.85	0.76	1.14	1.14	1.14			0.09	9.19			
															2118

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1739 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 101 & PALO ALTO RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												2	11.76		17
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	2													11.76	2
SOUTH TO WEST	13		1	1								2		88.24	15
EAST APPROACH												47	6.14		766
EAST TO NORTH															
EAST TO SOUTH	4													0.52	4
THIS LEG EAST															
EAST TO WEST	715	3	23	2		5	6	8				47		99.48	762
WEST APPROACH												35	5.99		584
WEST TO NORTH															
WEST TO SOUTH	39													6.68	39
WEST TO EAST	510	1	18	2		3	5	5			1	35		93.32	545
THIS LEG WEST															
															1367
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	58		1	1								2		28/72	60
PERCENTAGE	96.67		1.67	1.67								3.33			
EAST TOTAL	1231	4	41	4		8	11	13			1	82		58/42	1313
PERCENTAGE	93.75	0.30	3.12	0.30		0.61	0.84	0.99			0.08	6.25			
WEST TOTAL	1277	4	42	5		8	11	13			1	84		43/57	1361
PERCENTAGE	93.83	0.29	3.09	0.37		0.59	0.81	0.96			0.07	6.17			
															2734

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1739 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 101 & PALO ALTO RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												2	11.76		17
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	2													11.76	2
SOUTH TO WEST	13		1	1								2		88.24	15
EAST APPROACH												47	6.14		766
EAST TO NORTH															
EAST TO SOUTH	4													0.52	4
THIS LEG EAST															
EAST TO WEST	715	3	23	2		5	6	8				47		99.48	762
WEST APPROACH												35	5.99		584
WEST TO NORTH															
WEST TO SOUTH	39													6.68	39
WEST TO EAST	510	1	18	2		3	5	5			1	35		93.32	545
THIS LEG WEST															
															1367
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	58		1	1								2		28/72	60
PERCENTAGE	96.67		1.67	1.67								3.33			
EAST TOTAL	1231	4	41	4		8	11	13			1	82		58/42	1313
PERCENTAGE	93.75	0.30	3.12	0.30		0.61	0.84	0.99			0.08	6.25			
WEST TOTAL	1277	4	42	5		8	11	13			1	84		43/57	1361
PERCENTAGE	93.83	0.29	3.09	0.37		0.59	0.81	0.96			0.07	6.17			
															2734

SR 101 MP 267.43 OFF SYS ID COUNTER NUM 1739 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 101 & PALO ALTO RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH															
THIS LEG NORTH															
NORTH TO SOUTH															
NORTH TO EAST															
NORTH TO WEST															
SOUTH APPROACH												2	11.76		17
SOUTH TO NORTH															
THIS LEG SOUTH															
SOUTH TO EAST	2													11.76	2
SOUTH TO WEST	13		1	1								2		88.24	15
EAST APPROACH												47	6.14		766
EAST TO NORTH															
EAST TO SOUTH	4													0.52	4
THIS LEG EAST															
EAST TO WEST	715	3	23	2		5	6	8				47		99.48	762
WEST APPROACH												35	5.99		584
WEST TO NORTH															
WEST TO SOUTH	39													6.68	39
WEST TO EAST	510	1	18	2		3	5	5			1	35		93.32	545
THIS LEG WEST															
															1367
														PCT SPLIT OUT/IN	
NORTH TOTAL															
PERCENTAGE															
SOUTH TOTAL	58		1	1								2		28/72	60
PERCENTAGE	96.67		1.67	1.67								3.33			
EAST TOTAL	1231	4	41	4		8	11	13			1	82		58/42	1313
PERCENTAGE	93.75	0.30	3.12	0.30		0.61	0.84	0.99			0.08	6.25			
WEST TOTAL	1277	4	42	5		8	11	13			1	84		43/57	1361
PERCENTAGE	93.83	0.29	3.09	0.37		0.59	0.81	0.96			0.07	6.17			
															2734

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL									
SOUTH TOTAL	2	3.33					2	3.33	0.9917
EAST TOTAL	49	3.73	32	2.44	1	0.08	82	6.25	0.9597
WEST TOTAL	51	3.75	32	2.35	1	0.07	84	6.17	0.9608

PEAK HOUR FACTOR 0.931 329 345 367 326 1367

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

(Block Diagram)

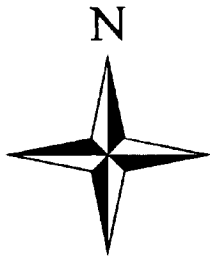
Date: 3/21/2017

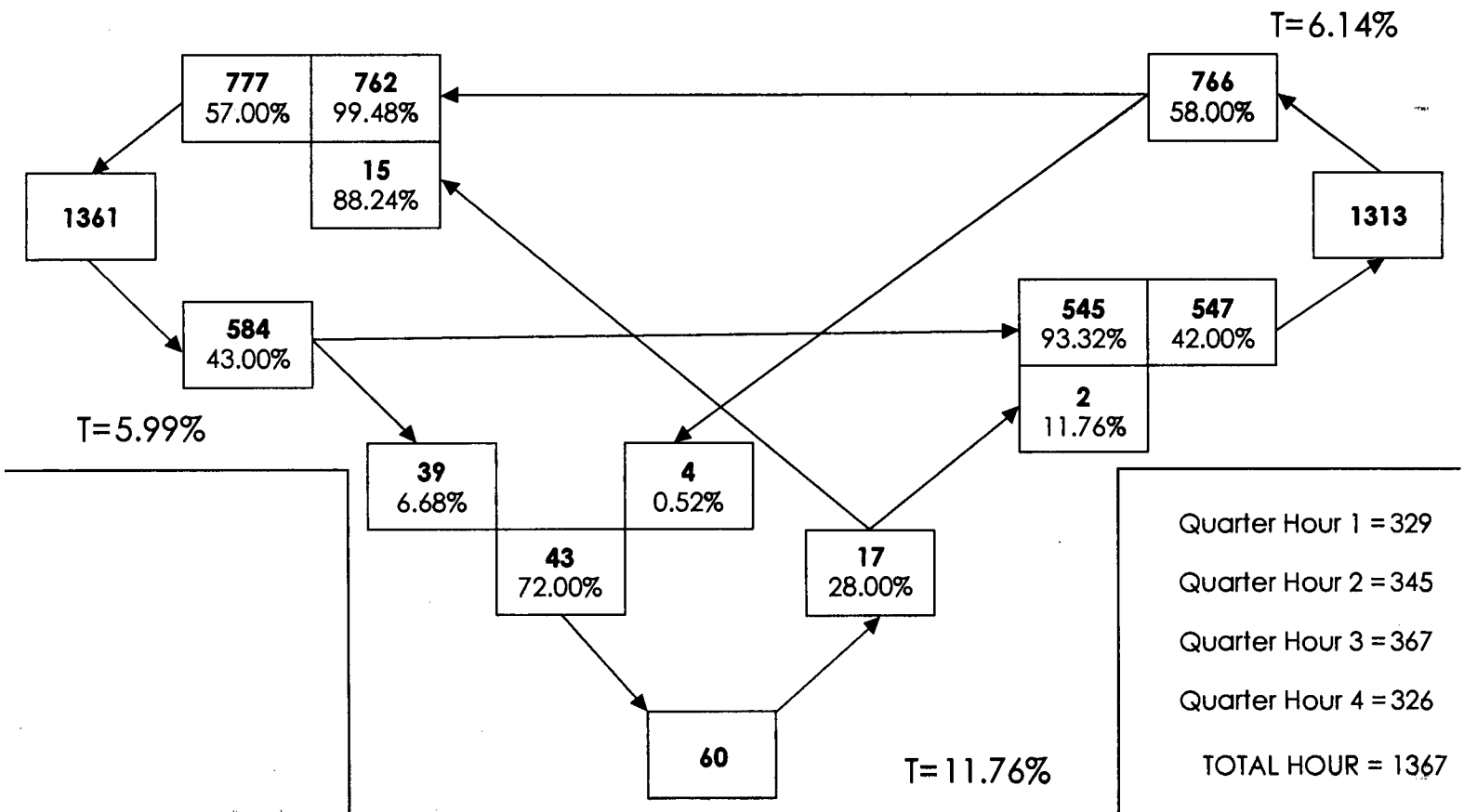
Time Period: 16:15 - 17:15

SR: 101 MP: 267.43 Off Sys. ID: Count ID: 17-006

Location: SR 101 & PALO ALTO RD

INTERSECTIONAL PEAK HOUR AND VOLUMES





Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

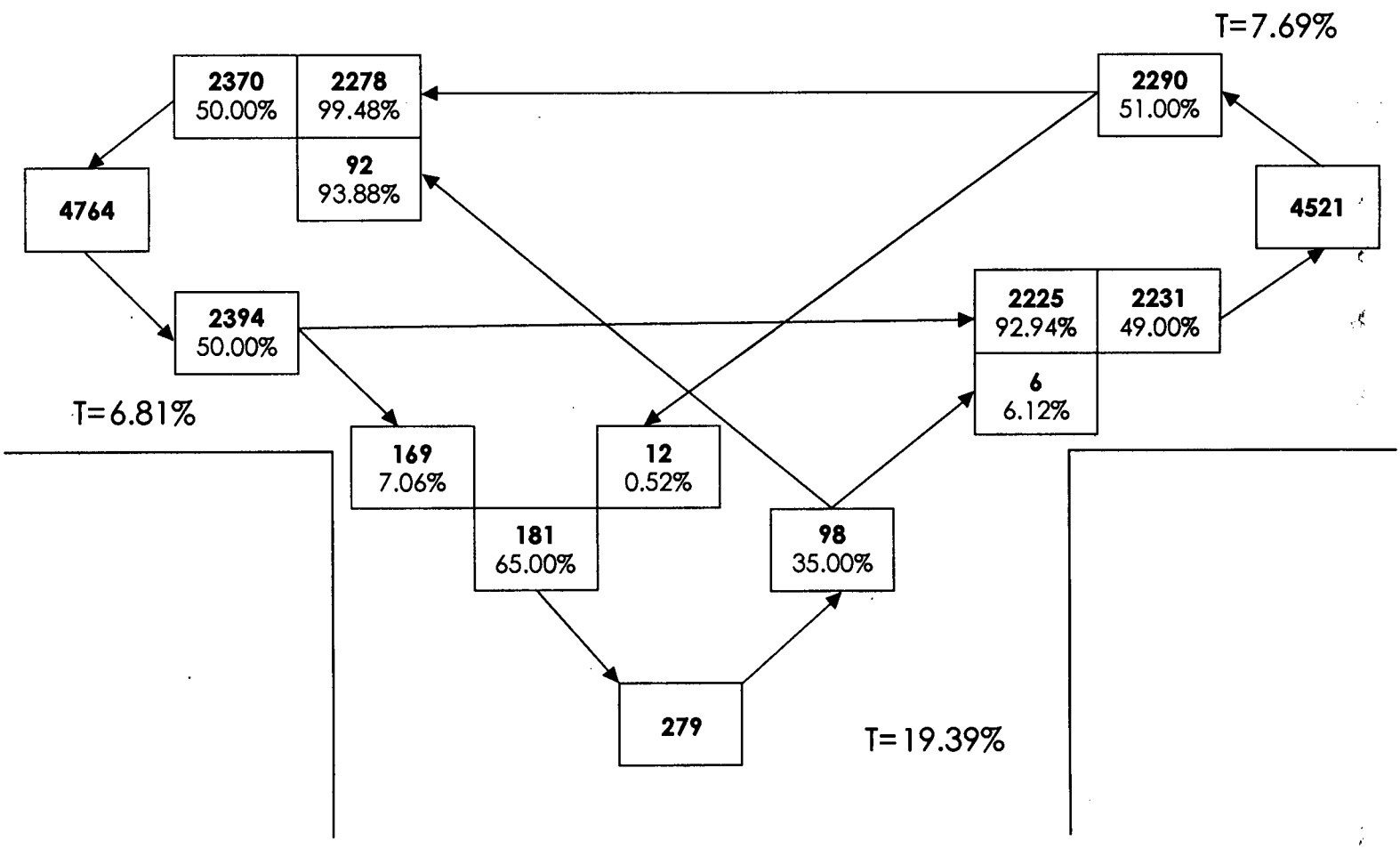
(Block Diagram)

Date: 3/21/2017
Time Period: 14:00 - 18:00

SR: 101 MP: 267.43 Off Sys. ID: Count ID: 17-006

Location: SR 101 & PALO ALTO RD

ENTIRE COUNT VOLUMES



CIS# 2093

Washington State Department of Transportation

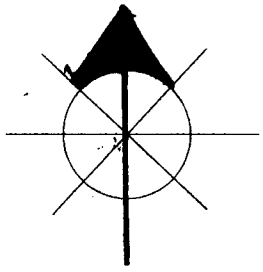
Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
101	267 ● 43		17-006	3/22/2017

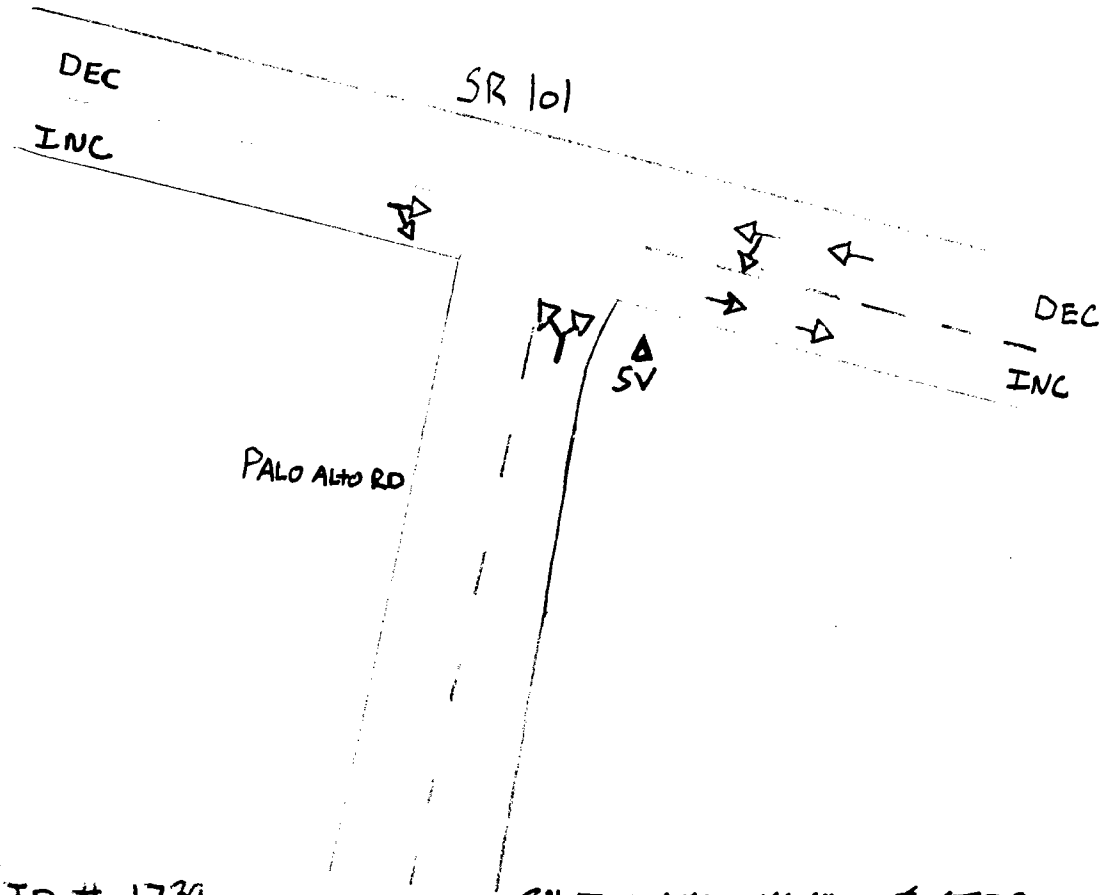
Station Location

JCT SR 101 AT PALO ALTO RD

Sketch



Indicate North



Remarks:

ID # 1739 G:\17-006M 14-1800 #1739 3/21/17

1740 G:\17-006 N 10-1400 #1740 3/22/17

1741 G:\17-0060 06-1000 #1741 3/28/17

Caleb Cutler

Signature

DOT Form 324-005 EF
Revised 2/2007

Peninsula Regional Transportation Planning Organization

SR 20/Four Corners Road

Intersection Operational Analysis



Prepared by

WSDOT
Washington State Department of Transportation
Olympic Region Planning

July 2017

Title VI Notice to the Public

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Introduction:

This operational analysis was prepared at the special request of the local jurisdiction and funded by the Peninsula Regional Transportation Planning Organization. Those intersections identified as operating below the Washington State Department of Transportation's policy for what is considered acceptable traffic operation level of service (LOS) will need to compete for funding with other intersections around the state based on the expected performance outcome for the proposed improvements.

SR 20 is part of the National Highway System and designated as a Highway of Statewide Significance. SR 20 is a 2-lane rural principal arterial highway where the posted speed limit ranges from 50 mph from the beginning of the route to 30-40 mph within Port Townsend and 25 mph in the vicinity of the WSF ferry terminal. SR 20 begins at US 101 in Discovery Bay, continuing north through less populated forested and agricultural areas, and then into the city of Port Townsend where the route continues on as a 2-lane urban highway ending at the WSF ferry terminal. SR 20 is also classified as T-3 with 3.05 million annual tonnage and 810 daily trucks in 2015. The 2016 AADT on SR 20 ranged from 4,800 vehicles near US 101 to 18,000 after SR 19-Airport Cutoff Road.

The intersection of SR 20 and Four Corners Road is located 4 miles from Port Townsend in Jefferson County near the Jefferson County International Airport. This rural principal arterial features one eleven-foot lane in each direction with a 100-foot deceleration right-turn lane onto Four Corners Road, and a 100-foot right-turn taper onto Discovery Road. The posted speed limit at this location is 40 mph with a level terrain.

Methodology

Traffic Operations Model

The Highway Capacity Software 2010 was used to analyze the unsignalized intersection of SR 20/Four Corners Road. The turning movement counts from the minor street that experiences the worst delay defines the level of service (LOS) for the intersection. LOS is based on the seconds per vehicle. The LOS criteria for automobiles at a two-way stopped controlled intersection as defined in the Highway Capacity Manual 2010 is as follows:

Highway Capacity Manual Exhibit 19-1 Two-way Stopped Controlled Intersection LOS Criteria

Control Delay (seconds/vehicle)	**LOS by Volume-to-Capacity Ratio Volume-to-Capacity ≤ 1.0**
0-10	A
>10-15	B
>15-25	C
>25-35	D
>35-50	E
>50	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major street approaches or for the intersection as a whole.

The Synchro 8/SimTraffic software and the Highway Capacity Software 2010 were used to determine the traffic queues at the intersection.

Traffic Volumes

In March 2017, WSDOT staff performed 12-hour turning movement manual counts at all legs of the SR 20/Four Corners Road intersection.

Analysis

The intersection analysis applies a seasonal factor of 1.16 percent to the weekday traffic volumes collected. The seasonal factor adjusts the volumes to reflect the yearly average volume, and are only applied to the major approaches. The LOS and the delay in seconds for the SR 20/Four Corners Road intersection are depicted in the table below.

Figure 2: Level of Service (Delay, Seconds)

LOCATION	AM	MID-DAY	PM
SR 20/Four Corners Road	B (13.3)	B (13.9)	C (16.7)

Figure 2 portrays the traffic operation LOS at the SR 20/Four Corners Road intersection. During the morning hours between 6 to 10 a.m., the intersection delay is designated an LOS B with an average delay of 13.3 seconds, meaning that motorists would wait on average 13.3 seconds at the intersection before they could proceed. Mid-Day between the hours of 11 a.m. to 2 p.m., motorists would wait an average of 13.9 seconds. During the evening hours, between 2 p.m. to 6 p.m., motorists would be delayed at the intersection 16.7 seconds before they could proceed.

The Washington State Department of Transportation's policy for what is considered a minimal acceptable traffic operation LOS at this location is a LOS C designation for rural highways.

Summary

The analysis depicts the SR 20/Four Corners Road intersection operating above or at the target level of LOS C during the morning, mid-day and evening hours. As mentioned in the introduction, improvements must compete for funding based upon expected performance outcome. This location may or may not compete well with other intersections statewide.

Appendix

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: AM
Intersection: SR 20/Four Corners Rd
Jurisdiction: Jefferson Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 20/Four Corners Rd
East/West Street: Four Corners Rd
North/South Street: SR 20
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	19	148	23	26	114	21
Peak-Hour Factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Hourly Flow Rate, HFR	20	157	24	27	121	22
Percent Heavy Vehicles	25	--	--	23	--	--
Median Type/Storage	Undivided		/			
RT Channelized?			No			
Lanes	0	1	1	0	1	0
Configuration		LT	R		LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	24	44	22	22	52	25
Peak Hour Factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Hourly Flow Rate, HFR	25	46	23	23	55	26
Percent Heavy Vehicles	4	14	5	23	15	16
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage		No	/		No	/
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	LTR		LTR			LTR	
v (vph)	20	27		94			104	
C(m) (vph)	1310	1277		548			539	
v/c	0.02	0.02		0.17			0.19	
95% queue length	0.05	0.06		0.61			0.71	
Control Delay	7.8	7.9		12.9			13.3	
LOS	A	A		B			B	
Approach Delay				12.9			13.3	
Approach LOS				B			B	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: Mid-day
Intersection: SR 20/Four Corners Rd
Jurisdiction: Jefferson Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 20/Four Corners Rd
East/West Street: Four Corners Rd
North/South Street: SR 20
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	17	158	28	46	138	21
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	17	166	29	48	145	22
Percent Heavy Vehicles	0	--	--	20	--	--
Median Type/Storage	Undivided		/			
RT Channelized?			No			
Lanes	0	1	1	0	1	0
Configuration		LT	R		LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	22	54	29	13	58	24
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	23	56	30	13	61	25
Percent Heavy Vehicles	14	4	0	0	5	8
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	LTR		LTR			LTR	
v (vph)	17	48		109			99	
C(m) (vph)	1423	1277		512			507	
v/c	0.01	0.04		0.21			0.20	
95% queue length	0.04	0.12		0.80			0.72	
Control Delay	7.6	7.9		13.9			13.8	
LOS	A	A		B			B	
Approach Delay				13.9			13.8	
Approach LOS				B			B	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: PM
Intersection: SR 20/Four Corners Rd
Jurisdiction: Jefferson Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 20/Four Corners Rd
East/West Street: Four Corners Rd
North/South Street: SR 20
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	27	132	36	45	183	31
Peak-Hour Factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Hourly Flow Rate, HFR	28	140	38	47	194	32
Percent Heavy Vehicles	4	--	--	23	--	--
Median Type/Storage	Undivided		/			
RT Channelized?			No			
Lanes	0	1	1	0	1	0
Configuration	LT		R	LTR		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	35	78	29	15	70	21
Peak Hour Factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Hourly Flow Rate, HFR	37	82	30	15	74	22
Percent Heavy Vehicles	3	3	3	0	4	5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

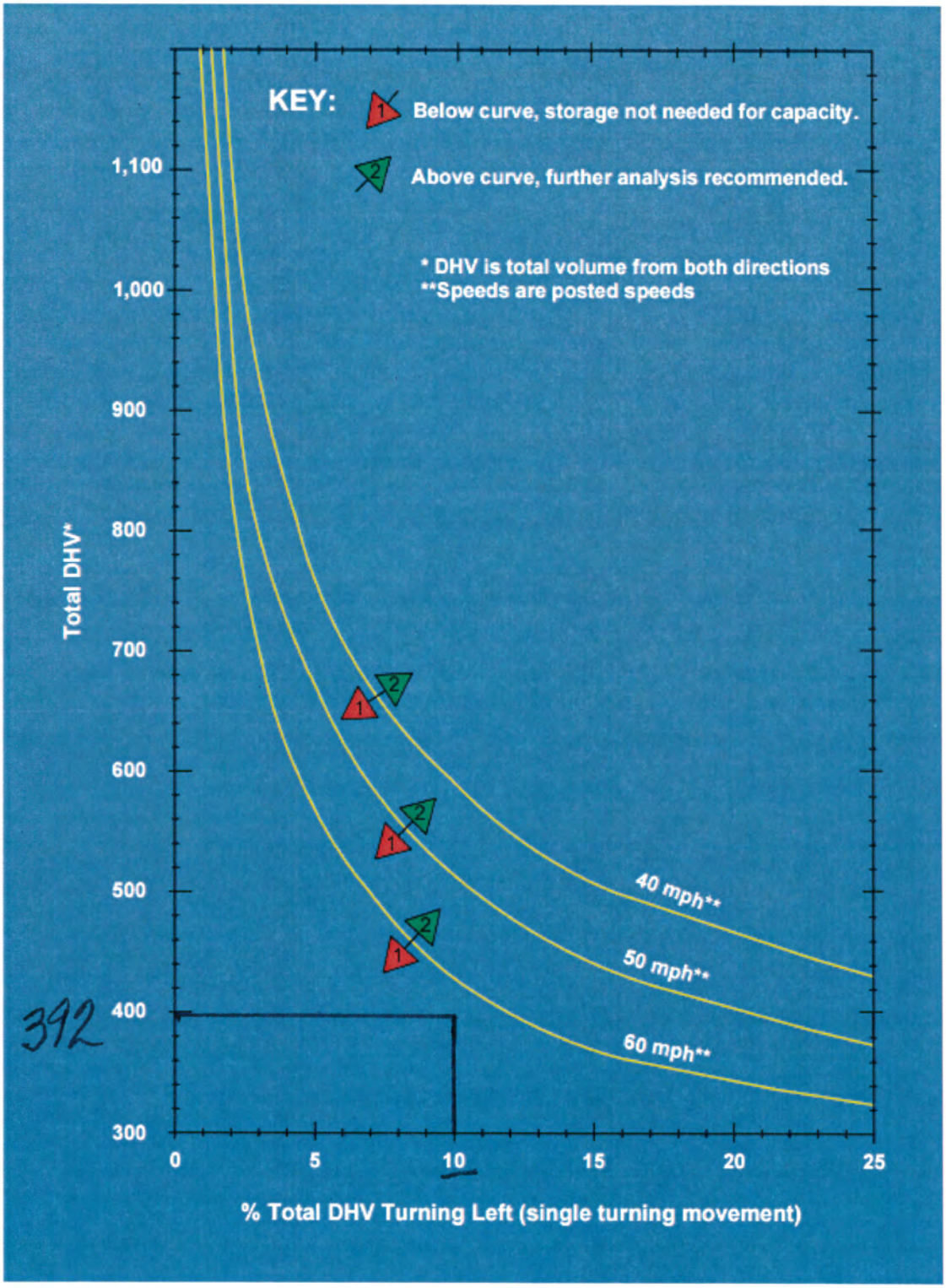
Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	LTR		LTR			LTR	
v (vph)	28	47		149			111	
C(m) (vph)	1331	1281		456			448	
v/c	0.02	0.04		0.33			0.25	
95% queue length	0.06	0.11		1.40			0.97	
Control Delay	7.8	7.9		16.7			15.7	
LOS	A	A		C			C	
Approach Delay				16.7			15.7	
Approach LOS				C			C	

SR 20/Four Corners Rd
MP 6.25

50mph

Exhibit 1310-7a Left-Turn Storage Guidelines: Two-Lane, Unsignalized



STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 08:21:57
PAGE: 1

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3971 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 10:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												47	12.98		362
THIS LEG NORTH															
NORTH TO SOUTH	229		9	4			11	7				31		71.82	260
NORTH TO EAST	58	8	6									14		19.89	72
NORTH TO WEST	28		1					1				2		8.29	30
SOUTH APPROACH												52	7.94		655
SOUTH TO NORTH	491	1	15	1		3	5	12				37		80.61	528
THIS LEG SOUTH															
SOUTH TO EAST	66	1	3			1	2					7		11.15	73
SOUTH TO WEST	46		3		3	2						8		8.24	54
EAST APPROACH												36	13.33		270
EAST TO NORTH	68	8	5									13		30.00	81
EAST TO SOUTH	69	2	2			1						5		27.41	74
THIS LEG EAST															
EAST TO WEST	97	4	11				1			2		18		42.59	115
WEST APPROACH												27	9.64		280
WEST TO NORTH	50	1	6					2				9		21.07	59
WEST TO SOUTH	44		2	2		2		1				7		18.21	51
WEST TO EAST	159		9				1	1				11		60.71	170
THIS LEG WEST															
															1567
														PCT SPLIT OUT/IN	
NORTH TOTAL	924	18	42	5		3	16	22				106		35/65	1030
PERCENTAGE	89.71	1.75	4.08	0.49		0.29	1.55	2.14				10.29			
SOUTH TOTAL	945	4	34	7	3	9	18	20				95		63/37	1040
PERCENTAGE	90.87	0.38	3.27	0.67	0.29	0.87	1.73	1.92				9.13			
EAST TOTAL	517	23	36			2	4	1		2		68		46/54	585
PERCENTAGE	88.38	3.93	6.15			0.34	0.68	0.17		0.34		11.62			
WEST TOTAL	424	5	32	2	3	4	2	5		2		55		58/42	479
PERCENTAGE	88.52	1.04	6.68	0.42	0.63	0.84	0.42	1.04		0.42		11.48			
															3134

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	65	6.31	41	3.98			106	10.29	0.9333
SOUTH TOTAL	48	4.62	47	4.52			95	9.13	0.9265
EAST TOTAL	59	10.09	7	1.20	2	0.34	68	11.62	0.9766
WEST TOTAL	42	8.77	11	2.30	2	0.42	55	11.48	0.9503

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3971 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 07:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												5	12.50		40
THIS LEG NORTH															
NORTH TO SOUTH	24						2	1				3		67.50	27
NORTH TO EAST	10	2										2		30.00	12
NORTH TO WEST	1													2.50	1
SOUTH APPROACH												8	7.55		106
SOUTH TO NORTH	80		2			1		3				6		81.13	86
THIS LEG SOUTH															
SOUTH TO EAST	12						1					1		12.26	13
SOUTH TO WEST	6		1									1		6.60	7
EAST APPROACH												10	27.78		36
EAST TO NORTH	9	3	2									5		38.89	14
EAST TO SOUTH	9	1										1		27.78	10
THIS LEG EAST															
EAST TO WEST	8	2	1							1		4		33.33	12
WEST APPROACH												1	3.03		33
WEST TO NORTH	4													12.12	4
WEST TO SOUTH	6					1						1		21.21	7
WEST TO EAST	22													66.67	22
THIS LEG WEST															
															215
														PCT SPLIT OUT/IN	
NORTH TOTAL	128	5	4			1	2	4				16		28/72	144
PERCENTAGE	88.89	3.47	2.78			0.69	1.39	2.78				11.11			
SOUTH TOTAL	137	1	3			2	3	4				13		71/29	150
PERCENTAGE	91.33	0.67	2.00			1.33	2.00	2.67				8.67			
EAST TOTAL	70	8	3				1			1		13		43/57	83
PERCENTAGE	84.34	9.64	3.61				1.20			1.20		15.66			
WEST TOTAL	47	2	2			1				1		6		62/38	53
PERCENTAGE	88.68	3.77	3.77			1.89				1.89		11.32			
															430

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3971 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												11	13.75		80
THIS LEG NORTH															
NORTH TO SOUTH	52		1	2			3	2				8		75.00	60
NORTH TO EAST	13	2	1									3		20.00	16
NORTH TO WEST	4													5.00	4
SOUTH APPROACH												9	4.84		186
SOUTH TO NORTH	145	1	1				2	1				5		80.65	150
THIS LEG SOUTH															
SOUTH TO EAST	14	1	1									2		8.60	16
SOUTH TO WEST	18				2							2		10.75	20
EAST APPROACH												14	18.67		75
EAST TO NORTH	17	2	3									5		29.33	22
EAST TO SOUTH	16		1			1						2		24.00	18
THIS LEG EAST															
EAST TO WEST	28	2	4							1		7		46.67	35
WEST APPROACH												5	7.35		68
WEST TO NORTH	14		2					1				3		25.00	17
WEST TO SOUTH	9													13.24	9
WEST TO EAST	40		1					1				2		61.76	42
THIS LEG WEST															
															409
														PCT SPLIT OUT/IN	
NORTH TOTAL	245	5	8	2			5	4				24		30/70	269
PERCENTAGE	91.08	1.86	2.97	0.74			1.86	1.49				8.92			
SOUTH TOTAL	254	2	4	2	2	1	5	3				19		68/32	273
PERCENTAGE	93.04	0.73	1.47	0.73	0.73	0.37	1.83	1.10				6.96			
EAST TOTAL	128	7	11			1		1		1		21		50/50	149
PERCENTAGE	85.91	4.70	7.38			0.67		0.67		0.67		14.09			
WEST TOTAL	113	2	7		2			2		1		14		54/46	127
PERCENTAGE	88.98	1.57	5.51		1.57			1.57		0.79		11.02			
															818

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3971 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:00 - 09:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												18	17.31		104
THIS LEG NORTH															
NORTH TO SOUTH	61		6	1			4	3				14		72.12	75
NORTH TO EAST	18	2	2									4		21.15	22
NORTH TO WEST	7													6.73	7
SOUTH APPROACH												11	5.53		199
SOUTH TO NORTH	155		2	1			1	5				9		82.41	164
THIS LEG SOUTH															
SOUTH TO EAST	23					1						1		12.06	24
SOUTH TO WEST	10					1						1		5.53	11
EAST APPROACH												4	5.80		69
EAST TO NORTH	21	2										2		33.33	23
EAST TO SOUTH	21	1										1		31.88	22
THIS LEG EAST															
EAST TO WEST	23						1					1		34.78	24
WEST APPROACH												4	5.00		80
WEST TO NORTH	15	1										1		20.00	16
WEST TO SOUTH	8					1		1				2		12.50	10
WEST TO EAST	53						1					1		67.50	54
THIS LEG WEST															
															452
														PCT SPLIT OUT/IN	
NORTH TOTAL	277	5	10	2			5	8				30		34/66	307
PERCENTAGE	90.23	1.63	3.26	0.65			1.63	2.61				9.77			
SOUTH TOTAL	278	1	8	2		3	5	9				28		65/35	306
PERCENTAGE	90.85	0.33	2.61	0.65		0.98	1.63	2.94				9.15			
EAST TOTAL	159	5	2			1	2					10		41/59	169
PERCENTAGE	94.08	2.96	1.18			0.59	1.18					5.92			
WEST TOTAL	116	1				2	2	1				6		66/34	122
PERCENTAGE	95.08	0.82				1.64	1.64	0.82				4.92			
															904

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3971 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												13	9.42		138
THIS LEG NORTH															
NORTH TO SOUTH	92		2	1			2	1				6		71.01	98
NORTH TO EAST	17	2	3									5		15.94	22
NORTH TO WEST	16		1					1				2		13.04	18
SOUTH APPROACH												24	14.63		164
SOUTH TO NORTH	111		10			2	2	3				17		78.05	128
THIS LEG SOUTH															
SOUTH TO EAST	17		2				1					3		12.20	20
SOUTH TO WEST	12		2		1	1						4		9.76	16
EAST APPROACH												8	8.89		90
EAST TO NORTH	21	1										1		24.44	22
EAST TO SOUTH	23		1									1		26.67	24
THIS LEG EAST															
EAST TO WEST	38		6									6		48.89	44
WEST APPROACH												17	17.17		99
WEST TO NORTH	17		4					1				5		22.22	22
WEST TO SOUTH	21		2	2								4		25.25	25
WEST TO EAST	44		8									8		52.53	52
THIS LEG WEST															
															491
														PCT SPLIT OUT/IN	
NORTH TOTAL	274	3	20	1		2	4	6				36		45/55	310
PERCENTAGE	88.39	0.97	6.45	0.32		0.65	1.29	1.94				11.61			
SOUTH TOTAL	276		19	3	1	3	5	4				35		53/47	311
PERCENTAGE	88.75		6.11	0.96	0.32	0.96	1.61	1.29				11.25			
EAST TOTAL	160	3	20				1					24		49/51	184
PERCENTAGE	86.96	1.63	10.8				0.54					13.04			
WEST TOTAL	148		23	2	1	1		2				29		56/44	177
PERCENTAGE	83.62		12.9	1.13	0.56	0.56		1.13				16.38			
															982

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3971 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:45 - 09:45
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												15	12.40		121
THIS LEG NORTH															
NORTH TO SOUTH	80		2	1			3	3				9		73.55	89
NORTH TO EAST	12	3	2									5		14.05	17
NORTH TO WEST	14							1				1		12.40	15
SOUTH APPROACH												21	11.73		179
SOUTH TO NORTH	128		10			1	1	3				15		79.89	143
THIS LEG SOUTH															
SOUTH TO EAST	15		2				1					3		10.06	18
SOUTH TO WEST	15		1		1	1						3		10.06	18
EAST APPROACH												8	10.00		80
EAST TO NORTH	20	1										1		26.25	21
EAST TO SOUTH	18	1	1									2		25.00	20
THIS LEG EAST															
EAST TO WEST	34		5									5		48.75	39
WEST APPROACH												17	16.04		106
WEST TO NORTH	20		4					1				5		23.58	25
WEST TO SOUTH	22		2	1				1				4		24.53	26
WEST TO EAST	47		7				1					8		51.89	55
THIS LEG WEST															
															486
														PCT SPLIT OUT/IN	
NORTH TOTAL	274	4	18	1		1	4	8				36		39/61	310
PERCENTAGE	88.39	1.29	5.81	0.32		0.32	1.29	2.58				11.61			
SOUTH TOTAL	278	1	18	2	1	2	5	7				36		57/43	314
PERCENTAGE	88.54	0.32	5.73	0.64	0.32	0.64	1.59	2.23				11.46			
EAST TOTAL	146	5	17				2					24		47/53	170
PERCENTAGE	85.88	2.94	10.0				1.18					14.12			
WEST TOTAL	152		19	1	1	1	1	3				26		60/40	178
PERCENTAGE	85.39		10.6	0.56	0.56	0.56	0.56	1.69				14.61			
															972

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3971 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:45 - 09:45
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												15	12.40		121
THIS LEG NORTH															
NORTH TO SOUTH	80		2	1			3	3				9		73.55	89
NORTH TO EAST	12	3	2									5		14.05	17
NORTH TO WEST	14							1				1		12.40	15
SOUTH APPROACH												21	11.73		179
SOUTH TO NORTH	128		10			1	1	3				15		79.89	143
THIS LEG SOUTH															
SOUTH TO EAST	15		2				1					3		10.06	18
SOUTH TO WEST	15		1		1	1						3		10.06	18
EAST APPROACH												8	10.00		80
EAST TO NORTH	20	1										1		26.25	21
EAST TO SOUTH	18	1	1									2		25.00	20
THIS LEG EAST															
EAST TO WEST	34		5									5		48.75	39
WEST APPROACH												17	16.04		106
WEST TO NORTH	20		4					1				5		23.58	25
WEST TO SOUTH	22		2	1				1				4		24.53	26
WEST TO EAST	47		7				1					8		51.89	55
THIS LEG WEST															
															486
														PCT SPLIT OUT/IN	
NORTH TOTAL	274	4	18	1		1	4	8				36		39/61	310
PERCENTAGE	88.39	1.29	5.81	0.32		0.32	1.29	2.58				11.61			
SOUTH TOTAL	278	1	18	2	1	2	5	7				36		57/43	314
PERCENTAGE	88.54	0.32	5.73	0.64	0.32	0.64	1.59	2.23				11.46			
EAST TOTAL	146	5	17				2					24		47/53	170
PERCENTAGE	85.88	2.94	10.0				1.18					14.12			
WEST TOTAL	152		19	1	1	1	1	3				26		60/40	178
PERCENTAGE	85.39		10.6	0.56	0.56	0.56	0.56	1.69				14.61			
															972

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3971 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												13	9.42		138
THIS LEG NORTH															
NORTH TO SOUTH	92		2	1			2	1				6		71.01	98
NORTH TO EAST	17	2	3									5		15.94	22
NORTH TO WEST	16		1					1				2		13.04	18
SOUTH APPROACH												24	14.63		164
SOUTH TO NORTH	111		10			2	2	3				17		78.05	128
THIS LEG SOUTH															
SOUTH TO EAST	17		2				1					3		12.20	20
SOUTH TO WEST	12		2		1	1						4		9.76	16
EAST APPROACH												8	8.89		90
EAST TO NORTH	21	1										1		24.44	22
EAST TO SOUTH	23		1									1		26.67	24
THIS LEG EAST															
EAST TO WEST	38		6									6		48.89	44
WEST APPROACH												17	17.17		99
WEST TO NORTH	17		4					1				5		22.22	22
WEST TO SOUTH	21		2	2								4		25.25	25
WEST TO EAST	44		8									8		52.53	52
THIS LEG WEST															
															491
														PCT SPLIT OUT/IN	
NORTH TOTAL	274	3	20	1		2	4	6				36		45/55	310
PERCENTAGE	88.39	0.97	6.45	0.32		0.65	1.29	1.94				11.61			
SOUTH TOTAL	276		19	3	1	3	5	4				35		53/47	311
PERCENTAGE	88.75		6.11	0.96	0.32	0.96	1.61	1.29				11.25			
EAST TOTAL	160	3	20				1					24		49/51	184
PERCENTAGE	86.96	1.63	10.8				0.54					13.04			
WEST TOTAL	148		23	2	1	1		2				29		56/44	177
PERCENTAGE	83.62		12.9	1.13	0.56	0.56		1.13				16.38			
															982

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3971 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:45 - 09:45
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												15	12.40		121
THIS LEG NORTH															
NORTH TO SOUTH	80		2	1			3	3				9		73.55	89
NORTH TO EAST	12	3	2									5		14.05	17
NORTH TO WEST	14							1				1		12.40	15
SOUTH APPROACH												21	11.73		179
SOUTH TO NORTH	128		10			1	1	3				15		79.89	143
THIS LEG SOUTH															
SOUTH TO EAST	15		2				1					3		10.06	18
SOUTH TO WEST	15		1		1	1						3		10.06	18
EAST APPROACH												8	10.00		80
EAST TO NORTH	20	1										1		26.25	21
EAST TO SOUTH	18	1	1									2		25.00	20
THIS LEG EAST															
EAST TO WEST	34		5									5		48.75	39
WEST APPROACH												17	16.04		106
WEST TO NORTH	20		4					1				5		23.58	25
WEST TO SOUTH	22		2	1				1				4		24.53	26
WEST TO EAST	47		7				1					8		51.89	55
THIS LEG WEST															
															486
														PCT SPLIT OUT/IN	
NORTH TOTAL	274	4	18	1		1	4	8				36		39/61	310
PERCENTAGE	88.39	1.29	5.81	0.32		0.32	1.29	2.58				11.61			
SOUTH TOTAL	278	1	18	2	1	2	5	7				36		57/43	314
PERCENTAGE	88.54	0.32	5.73	0.64	0.32	0.64	1.59	2.23				11.46			
EAST TOTAL	146	5	17				2					24		47/53	170
PERCENTAGE	85.88	2.94	10.0				1.18					14.12			
WEST TOTAL	152		19	1	1	1	1	3				26		60/40	178
PERCENTAGE	85.39		10.6	0.56	0.56	0.56	0.56	1.69				14.61			
															972

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3971 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												13	9.42		138
THIS LEG NORTH															
NORTH TO SOUTH	92		2	1			2	1				6		71.01	98
NORTH TO EAST	17	2	3									5		15.94	22
NORTH TO WEST	16		1					1				2		13.04	18
SOUTH APPROACH												24	14.63		164
SOUTH TO NORTH	111		10			2	2	3				17		78.05	128
THIS LEG SOUTH															
SOUTH TO EAST	17		2				1					3		12.20	20
SOUTH TO WEST	12		2		1	1						4		9.76	16
EAST APPROACH												8	8.89		90
EAST TO NORTH	21	1										1		24.44	22
EAST TO SOUTH	23		1									1		26.67	24
THIS LEG EAST															
EAST TO WEST	38		6									6		48.89	44
WEST APPROACH												17	17.17		99
WEST TO NORTH	17		4					1				5		22.22	22
WEST TO SOUTH	21		2	2								4		25.25	25
WEST TO EAST	44		8									8		52.53	52
THIS LEG WEST															
															491
														PCT SPLIT OUT/IN	
NORTH TOTAL	274	3	20	1		2	4	6				36		45/55	310
PERCENTAGE	88.39	0.97	6.45	0.32		0.65	1.29	1.94				11.61			
SOUTH TOTAL	276		19	3	1	3	5	4				35		53/47	311
PERCENTAGE	88.75		6.11	0.96	0.32	0.96	1.61	1.29				11.25			
EAST TOTAL	160	3	20				1					24		49/51	184
PERCENTAGE	86.96	1.63	10.8				0.54					13.04			
WEST TOTAL	148		23	2	1	1		2				29		56/44	177
PERCENTAGE	83.62		12.9	1.13	0.56	0.56		1.13				16.38			
															982

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	24	7.74	12	3.87			36	11.61	0.9379
SOUTH TOTAL	23	7.40	12	3.86			35	11.25	0.9367
EAST TOTAL	23	12.50	1	0.54			24	13.04	0.9919
WEST TOTAL	26	14.69	3	1.69			29	16.38	0.9619

PEAK HOUR FACTOR	0.937	117	112	131	131	491

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

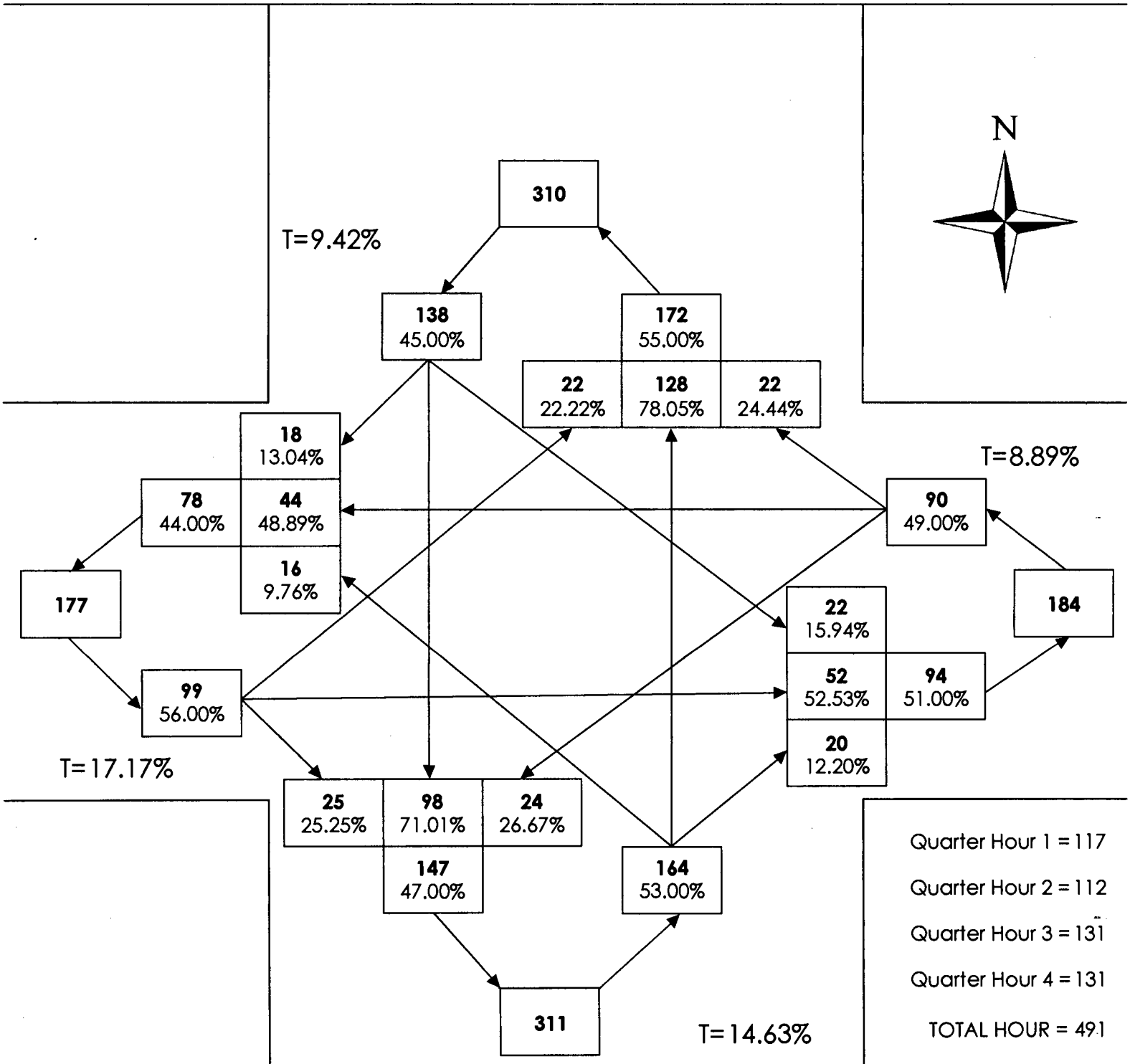
(Block Diagram)

Date: 3/23/2017
Time Period: 09:00 - 10:00

SR: 020 MP: 006.25 Off Sys. ID: Count ID: 17-006

Location: SR 20 & DISCOVERY RD & 4 CORNERS RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 117

Quarter Hour 2 = 112

Quarter Hour 3 = 131

Quarter Hour 4 = 131

TOTAL HOUR = 491

PEAK HOUR FACTOR = 0.937

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

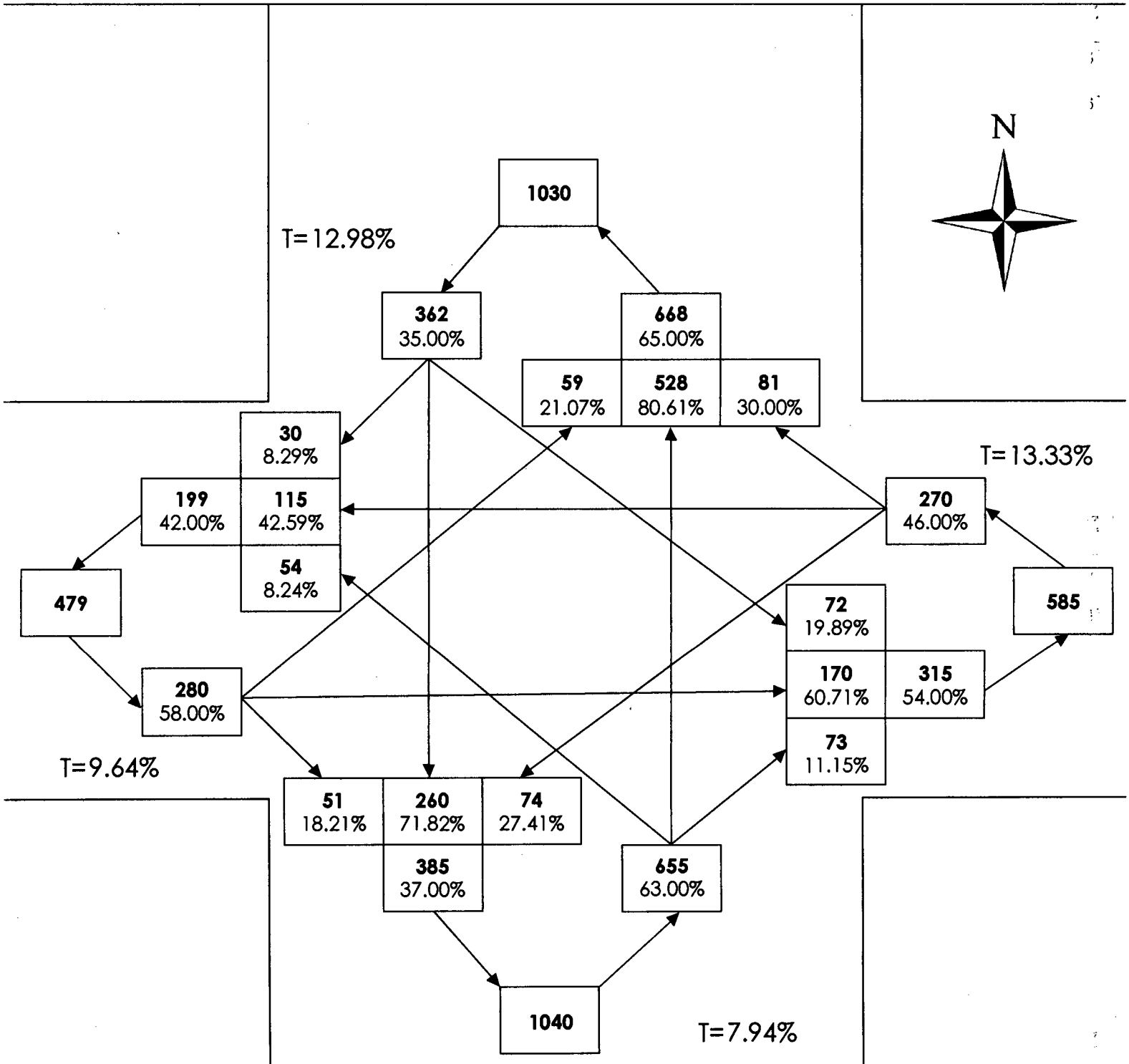
(Block Diagram)

Date: 3/23/2017
Time Period: 06:00 - 10:00

SR: 020 MP: 006.25 Off Sys. ID: Count ID: 17-006

Location: SR 20 & DISCOVERY RD & 4 CORNERS RD

ENTIRE COUNT VOLUMES



CB 5158
3969 - 2-6
ID 3970 10-2
3971 6-10

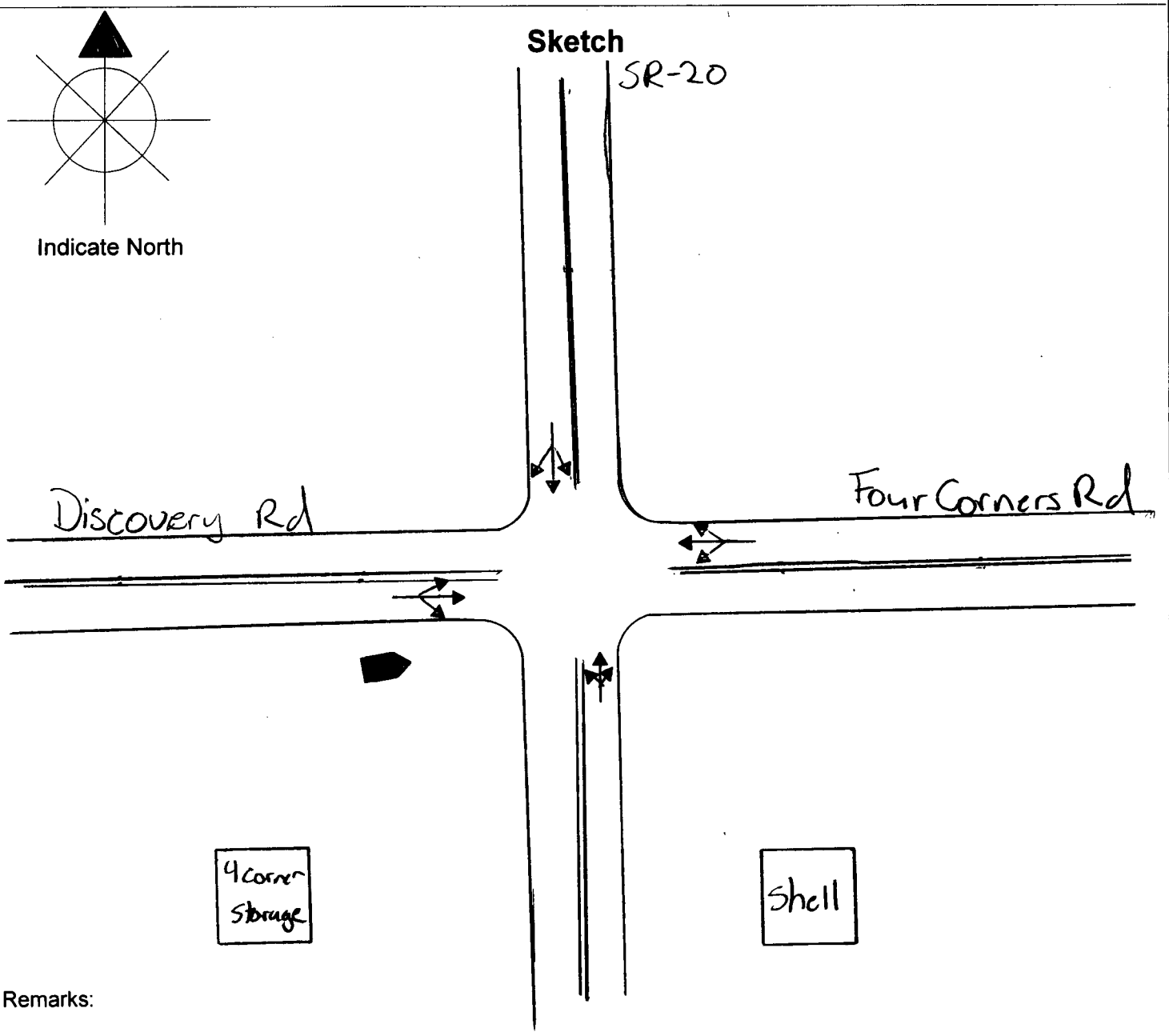
Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
SR-20	6 ● 25		17-006	3/21/2017

Station Location
JCT SR-20 & Four corners rd

Sketch



Remarks:

G:\17-006P 14-1800 #3969 3/21/17

G:\17-006Q 10-1400 #3970 3/22/17

G:\17-006R 06-1000 #3971 3/23/17

J. Mydlar
Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 08:21:14
PAGE: 1

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3970 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 14:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												75	12.65		593
THIS LEG NORTH															
NORTH TO SOUTH	375	1	20	2		2	12	12				49		71.50	424
NORTH TO EAST	93	8	8			1						17		18.55	110
NORTH TO WEST	50	1	5	2			1					9		9.95	59
SOUTH APPROACH												55	9.12		603
SOUTH TO NORTH	421		26			2	3	13				44		77.11	465
THIS LEG SOUTH															
SOUTH TO EAST	75	3	3									6		13.43	81
SOUTH TO WEST	52		4			1						5		9.45	57
EAST APPROACH												35	9.07		386
EAST TO NORTH	80	10	6									16		24.87	96
EAST TO SOUTH	92	1	3			1		1				6		25.39	98
THIS LEG EAST															
EAST TO WEST	179		11	2								13		49.74	192
WEST APPROACH												23	6.48		355
WEST TO NORTH	51			1				1				2		14.93	53
WEST TO SOUTH	79	1	2	1								4		23.38	83
WEST TO EAST	202	3	10			1	1		1		1	17		61.69	219
THIS LEG WEST															
															1937
														PCT SPLIT OUT/IN	
NORTH TOTAL	1070	20	65	5		5	16	26				137		49/51	1207
PERCENTAGE	88.65	1.66	5.39	0.41		0.41	1.33	2.15				11.35			
SOUTH TOTAL	1094	6	58	3		6	15	26				114		50/50	1208
PERCENTAGE	90.56	0.50	4.80	0.25		0.50	1.24	2.15				9.44			
EAST TOTAL	721	25	41	2		3	1	1	1		1	75		48/52	796
PERCENTAGE	90.58	3.14	5.15	0.25		0.38	0.13	0.13	0.13		0.13	9.42			
WEST TOTAL	613	5	32	6		2	2	1	1		1	50		54/46	663
PERCENTAGE	92.46	0.75	4.83	0.90		0.30	0.30	0.15	0.15		0.15	7.54			
															3874

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	90	7.46	47	3.89			137	11.35	0.9352
SOUTH TOTAL	67	5.55	47	3.89			114	9.44	0.9364
EAST TOTAL	68	8.54	5	0.63	2	0.25	75	9.42	0.9857
WEST TOTAL	43	6.49	5	0.75	2	0.30	50	7.54	0.9793

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3970 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 11:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												9	8.65		104
THIS LEG NORTH															
NORTH TO SOUTH	72		1				2	3				6		75.00	78
NORTH TO EAST	13	1										1		13.46	14
NORTH TO WEST	10		1	1								2		11.54	12
SOUTH APPROACH												16	10.74		149
SOUTH TO NORTH	108		7				1	4				12		80.54	120
THIS LEG SOUTH															
SOUTH TO EAST	16	1	1									2		12.08	18
SOUTH TO WEST	9		2									2		7.38	11
EAST APPROACH												10	12.50		80
EAST TO NORTH	20	3	1									4		30.00	24
EAST TO SOUTH	14							1				1		18.75	15
THIS LEG EAST															
EAST TO WEST	36		5									5		51.25	41
WEST APPROACH												6	6.67		90
WEST TO NORTH	10													11.11	10
WEST TO SOUTH	20		1									1		23.33	21
WEST TO EAST	54		4						1			5		65.56	59
THIS LEG WEST															
															423
														PCT SPLIT OUT/IN	
NORTH TOTAL	233	4	10	1			3	7				25		40/60	258
PERCENTAGE	90.31	1.55	3.88	0.39			1.16	2.71				9.69			
SOUTH TOTAL	239	1	12				3	8				24		57/43	263
PERCENTAGE	90.87	0.38	4.56				1.14	3.04				9.13			
EAST TOTAL	153	5	11					1	1			18		47/53	171
PERCENTAGE	89.47	2.92	6.43					0.58	0.58			10.53			
WEST TOTAL	139		13	1					1			15		58/42	154
PERCENTAGE	90.26		8.44	0.65					0.65			9.74			
															846

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3970 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:00 - 12:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												19	12.26		155
THIS LEG NORTH															
NORTH TO SOUTH	99		3				5	3				11		70.97	110
NORTH TO EAST	21	3	4									7		18.06	28
NORTH TO WEST	16						1					1		10.97	17
SOUTH APPROACH												11	8.15		135
SOUTH TO NORTH	98		3				1	5				9		79.26	107
THIS LEG SOUTH															
SOUTH TO EAST	15													11.11	15
SOUTH TO WEST	11		2									2		9.63	13
EAST APPROACH												7	8.33		84
EAST TO NORTH	15	3	1									4		22.62	19
EAST TO SOUTH	26	1										1		32.14	27
THIS LEG EAST															
EAST TO WEST	36		2									2		45.24	38
WEST APPROACH												3	4.17		72
WEST TO NORTH	15													20.83	15
WEST TO SOUTH	10													13.89	10
WEST TO EAST	44		2				1					3		65.28	47
THIS LEG WEST															
															446
														PCT SPLIT OUT/IN	
NORTH TOTAL	264	6	11				7	8				32		52/48	296
PERCENTAGE	89.19	2.03	3.72				2.36	2.70				10.81			
SOUTH TOTAL	259	1	8				6	8				23		48/52	282
PERCENTAGE	91.84	0.35	2.84				2.13	2.84				8.16			
EAST TOTAL	157	7	9				1					17		48/52	174
PERCENTAGE	90.23	4.02	5.17				0.57					9.77			
WEST TOTAL	132		6				2					8		51/49	140
PERCENTAGE	94.29		4.29				1.43					5.71			
															892

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3970 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												24	15.19		158
THIS LEG NORTH															
NORTH TO SOUTH	94		11	2			2	3				18		70.89	112
NORTH TO EAST	27	2	3									5		20.25	32
NORTH TO WEST	13			1								1		8.86	14
SOUTH APPROACH												15	8.82		170
SOUTH TO NORTH	115		10			1		3				14		75.88	129
THIS LEG SOUTH															
SOUTH TO EAST	24		1									1		14.71	25
SOUTH TO WEST	16													9.41	16
EAST APPROACH												8	6.72		119
EAST TO NORTH	27	1	2									3		25.21	30
EAST TO SOUTH	28		1			1						2		25.21	30
THIS LEG EAST															
EAST TO WEST	56		2	1								3		49.58	59
WEST APPROACH												3	3.19		94
WEST TO NORTH	17			1				1				2		20.21	19
WEST TO SOUTH	27													28.72	27
WEST TO EAST	47		1									1		51.06	48
THIS LEG WEST															
															541
														PCT SPLIT OUT/IN	
NORTH TOTAL	293	3	26	4		1	2	7				43		47/53	336
PERCENTAGE	87.20	0.89	7.74	1.19		0.30	0.60	2.08				12.80			
SOUTH TOTAL	304		23	2		2	2	6				35		50/50	339
PERCENTAGE	89.68		6.78	0.59		0.59	0.59	1.77				10.32			
EAST TOTAL	209	3	10	1		1						15		53/47	224
PERCENTAGE	93.30	1.34	4.46	0.45		0.45						6.70			
WEST TOTAL	176		3	3				1				7		51/49	183
PERCENTAGE	96.17		1.64	1.64				0.55				3.83			
															1082

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3970 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												23	13.07		176
THIS LEG NORTH															
NORTH TO SOUTH	110	1	5			2	3	3				14		70.45	124
NORTH TO EAST	32	2	1			1						4		20.45	36
NORTH TO WEST	11	1	4									5		9.09	16
SOUTH APPROACH												13	8.72		149
SOUTH TO NORTH	100		6			1	1	1				9		73.15	109
THIS LEG SOUTH															
SOUTH TO EAST	20	2	1									3		15.44	23
SOUTH TO WEST	16					1						1		11.41	17
EAST APPROACH												10	9.71		103
EAST TO NORTH	18	3	2									5		22.33	23
EAST TO SOUTH	24		2									2		25.24	26
THIS LEG EAST															
EAST TO WEST	51		2	1								3		52.43	54
WEST APPROACH												11	11.11		99
WEST TO NORTH	9													9.09	9
WEST TO SOUTH	22	1	1	1								3		25.25	25
WEST TO EAST	57	3	3			1					1	8		65.66	65
THIS LEG WEST															
															527
														PCT SPLIT OUT/IN	
NORTH TOTAL	280	7	18			4	4	4				37		56/44	317
PERCENTAGE	88.33	2.21	5.68			1.26	1.26	1.26				11.67			
SOUTH TOTAL	292	4	15	1		4	4	4				32		46/54	324
PERCENTAGE	90.12	1.23	4.63	0.31		1.23	1.23	1.23				9.88			
EAST TOTAL	202	10	11	1		2					1	25		45/55	227
PERCENTAGE	88.99	4.41	4.85	0.44		0.88					0.44	11.01			
WEST TOTAL	166	5	10	2		2					1	20		53/47	186
PERCENTAGE	89.25	2.69	5.38	1.08		1.08					0.54	10.75			
															1054

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3970 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:30 - 13:30
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												33	18.64		177
THIS LEG NORTH															
NORTH TO SOUTH	99		10	2		1	4	3				20		67.23	119
NORTH TO EAST	32	3	4			1						8		22.60	40
NORTH TO WEST	13	1	3	1								5		10.17	18
SOUTH APPROACH												14	8.00		175
SOUTH TO NORTH	125		7			1	1	2				11		77.71	136
THIS LEG SOUTH															
SOUTH TO EAST	21	1	2									3		13.71	24
SOUTH TO WEST	15													8.57	15
EAST APPROACH												9	8.57		105
EAST TO NORTH	25	2	2									4		27.62	29
EAST TO SOUTH	19		2			1						3		20.95	22
THIS LEG EAST															
EAST TO WEST	52		1	1								2		51.43	54
WEST APPROACH												5	5.26		95
WEST TO NORTH	13													13.68	13
WEST TO SOUTH	22	1	1									2		25.26	24
WEST TO EAST	55		3									3		61.05	58
THIS LEG WEST															
															552
														PCT SPLIT OUT/IN	
NORTH TOTAL	307	6	26	3		3	5	5				48		50/50	355
PERCENTAGE	86.48	1.69	7.32	0.85		0.85	1.41	1.41				13.52			
SOUTH TOTAL	301	2	22	2		3	5	5				39		51/49	340
PERCENTAGE	88.53	0.59	6.47	0.59		0.88	1.47	1.47				11.47			
EAST TOTAL	204	6	14	1		2						23		46/54	227
PERCENTAGE	89.87	2.64	6.17	0.44		0.88						10.13			
WEST TOTAL	170	2	8	2								12		52/48	182
PERCENTAGE	93.41	1.10	4.40	1.10								6.59			
															1104

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3970 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:30 - 13:30
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												33	18.64		177
THIS LEG NORTH															
NORTH TO SOUTH	99		10	2		1	4	3				20		67.23	119
NORTH TO EAST	32	3	4			1						8		22.60	40
NORTH TO WEST	13	1	3	1								5		10.17	18
SOUTH APPROACH												14	8.00		175
SOUTH TO NORTH	125		7			1	1	2				11		77.71	136
THIS LEG SOUTH															
SOUTH TO EAST	21	1	2									3		13.71	24
SOUTH TO WEST	15													8.57	15
EAST APPROACH												9	8.57		105
EAST TO NORTH	25	2	2									4		27.62	29
EAST TO SOUTH	19		2			1						3		20.95	22
THIS LEG EAST															
EAST TO WEST	52		1	1								2		51.43	54
WEST APPROACH												5	5.26		95
WEST TO NORTH	13													13.68	13
WEST TO SOUTH	22	1	1									2		25.26	24
WEST TO EAST	55		3									3		61.05	58
THIS LEG WEST															
															552
														PCT SPLIT OUT/IN	
NORTH TOTAL	307	6	26	3		3	5	5				48		50/50	355
PERCENTAGE	86.48	1.69	7.32	0.85		0.85	1.41	1.41				13.52			
SOUTH TOTAL	301	2	22	2		3	5	5				39		51/49	340
PERCENTAGE	88.53	0.59	6.47	0.59		0.88	1.47	1.47				11.47			
EAST TOTAL	204	6	14	1		2						23		46/54	227
PERCENTAGE	89.87	2.64	6.17	0.44		0.88						10.13			
WEST TOTAL	170	2	8	2								12		52/48	182
PERCENTAGE	93.41	1.10	4.40	1.10								6.59			
															1104

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3970 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:30 - 13:30
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												33	18.64		177
THIS LEG NORTH															
NORTH TO SOUTH	99		10	2		1	4	3				20		67.23	119
NORTH TO EAST	32	3	4			1						8		22.60	40
NORTH TO WEST	13	1	3	1								5		10.17	18
SOUTH APPROACH												14	8.00		175
SOUTH TO NORTH	125		7			1	1	2				11		77.71	136
THIS LEG SOUTH															
SOUTH TO EAST	21	1	2									3		13.71	24
SOUTH TO WEST	15													8.57	15
EAST APPROACH												9	8.57		105
EAST TO NORTH	25	2	2									4		27.62	29
EAST TO SOUTH	19		2			1						3		20.95	22
THIS LEG EAST															
EAST TO WEST	52		1	1								2		51.43	54
WEST APPROACH												5	5.26		95
WEST TO NORTH	13													13.68	13
WEST TO SOUTH	22	1	1									2		25.26	24
WEST TO EAST	55		3									3		61.05	58
THIS LEG WEST															
															552
														PCT SPLIT OUT/IN	
NORTH TOTAL	307	6	26	3		3	5	5				48		50/50	355
PERCENTAGE	86.48	1.69	7.32	0.85		0.85	1.41	1.41				13.52			
SOUTH TOTAL	301	2	22	2		3	5	5				39		51/49	340
PERCENTAGE	88.53	0.59	6.47	0.59		0.88	1.47	1.47				11.47			
EAST TOTAL	204	6	14	1		2						23		46/54	227
PERCENTAGE	89.87	2.64	6.17	0.44		0.88						10.13			
WEST TOTAL	170	2	8	2								12		52/48	182
PERCENTAGE	93.41	1.10	4.40	1.10								6.59			
															1104

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3970 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:45 - 13:45
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												27	16.27		166
THIS LEG NORTH															
NORTH TO SOUTH	99	1	6	2		2	4	3				18		70.48	117
NORTH TO EAST	29	2	1			1						4		19.88	33
NORTH TO WEST	11	1	3	1								5		9.64	16
SOUTH APPROACH												12	7.41		162
SOUTH TO NORTH	115		6			1	1	1				9		76.54	124
THIS LEG SOUTH															
SOUTH TO EAST	20	2	1									3		14.20	23
SOUTH TO WEST	15													9.26	15
EAST APPROACH												11	10.68		103
EAST TO NORTH	21	3	3									6		26.21	27
EAST TO SOUTH	21		3									3		23.30	24
THIS LEG EAST															
EAST TO WEST	50		1	1								2		50.49	52
WEST APPROACH												8	7.69		104
WEST TO NORTH	12													11.54	12
WEST TO SOUTH	26	1	1	1								3		27.88	29
WEST TO EAST	58		4			1						5		60.58	63
THIS LEG WEST															
															535
														PCT SPLIT OUT/IN	
NORTH TOTAL	287	7	19	3		4	5	4				42		50/50	329
PERCENTAGE	87.23	2.13	5.78	0.91		1.22	1.52	1.22				12.77			
SOUTH TOTAL	296	4	17	3		3	5	4				36		49/51	332
PERCENTAGE	89.16	1.20	5.12	0.90		0.90	1.51	1.20				10.84			
EAST TOTAL	199	7	13	1		2						23		46/54	222
PERCENTAGE	89.64	3.15	5.86	0.45		0.90						10.36			
WEST TOTAL	172	2	9	3		1						15		56/44	187
PERCENTAGE	91.98	1.07	4.81	1.60		0.53						8.02			
															1070

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3970 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:30 - 13:30
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												33	18.64		177
THIS LEG NORTH															
NORTH TO SOUTH	99		10	2		1	4	3				20		67.23	119
NORTH TO EAST	32	3	4			1						8		22.60	40
NORTH TO WEST	13	1	3	1								5		10.17	18
SOUTH APPROACH												14	8.00		175
SOUTH TO NORTH	125		7			1	1	2				11		77.71	136
THIS LEG SOUTH															
SOUTH TO EAST	21	1	2									3		13.71	24
SOUTH TO WEST	15													8.57	15
EAST APPROACH												9	8.57		105
EAST TO NORTH	25	2	2									4		27.62	29
EAST TO SOUTH	19		2			1						3		20.95	22
THIS LEG EAST															
EAST TO WEST	52		1	1								2		51.43	54
WEST APPROACH												5	5.26		95
WEST TO NORTH	13													13.68	13
WEST TO SOUTH	22	1	1									2		25.26	24
WEST TO EAST	55		3									3		61.05	58
THIS LEG WEST															
															552
														PCT SPLIT OUT/IN	
NORTH TOTAL	307	6	26	3		3	5	5				48		50/50	355
PERCENTAGE	86.48	1.69	7.32	0.85		0.85	1.41	1.41				13.52			
SOUTH TOTAL	301	2	22	2		3	5	5				39		51/49	340
PERCENTAGE	88.53	0.59	6.47	0.59		0.88	1.47	1.47				11.47			
EAST TOTAL	204	6	14	1		2						23		46/54	227
PERCENTAGE	89.87	2.64	6.17	0.44		0.88						10.13			
WEST TOTAL	170	2	8	2								12		52/48	182
PERCENTAGE	93.41	1.10	4.40	1.10								6.59			
															1104

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	35	9.86	13	3.66			48	13.52	0.9416
SOUTH TOTAL	26	7.65	13	3.82			39	11.47	0.9405
EAST TOTAL	21	9.25	2	0.88			23	10.13	0.9891
WEST TOTAL	12	6.59					12	6.59	0.9945

PEAK HOUR FACTOR 0.945 146 139 128 139 552

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

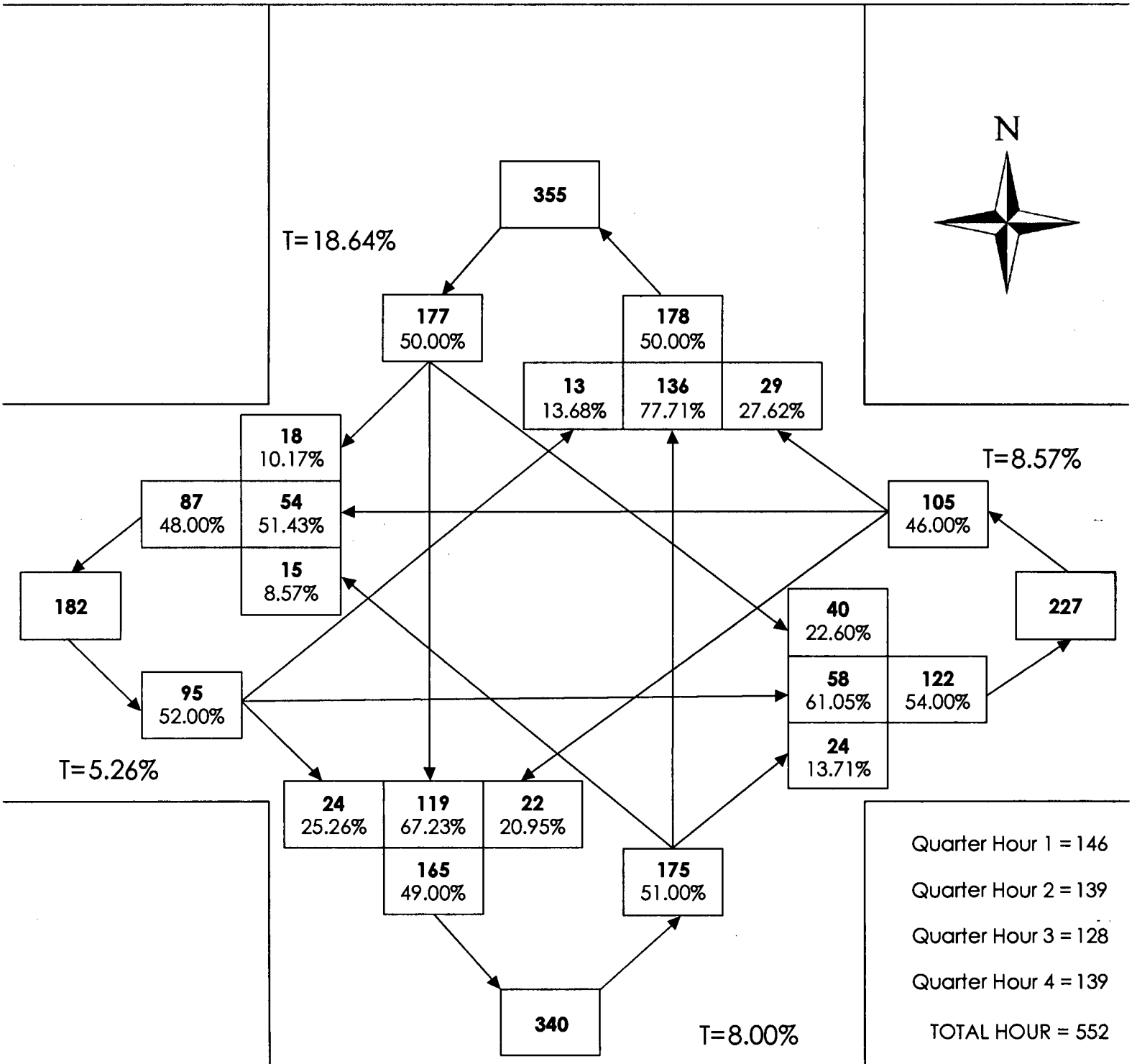
Vehicle Volume Summary
(Block Diagram)

Date: 3/22/2017
Time Period: 12:30 - 13:30

SR: 020 MP: 006.25 Off Sys. ID: Count ID: 17-006

Location: SR 20 & DISCOVERY RD & 4 CORNERS RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 146

Quarter Hour 2 = 139

Quarter Hour 3 = 128

Quarter Hour 4 = 139

TOTAL HOUR = 552

PEAK HOUR FACTOR = 0.945

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

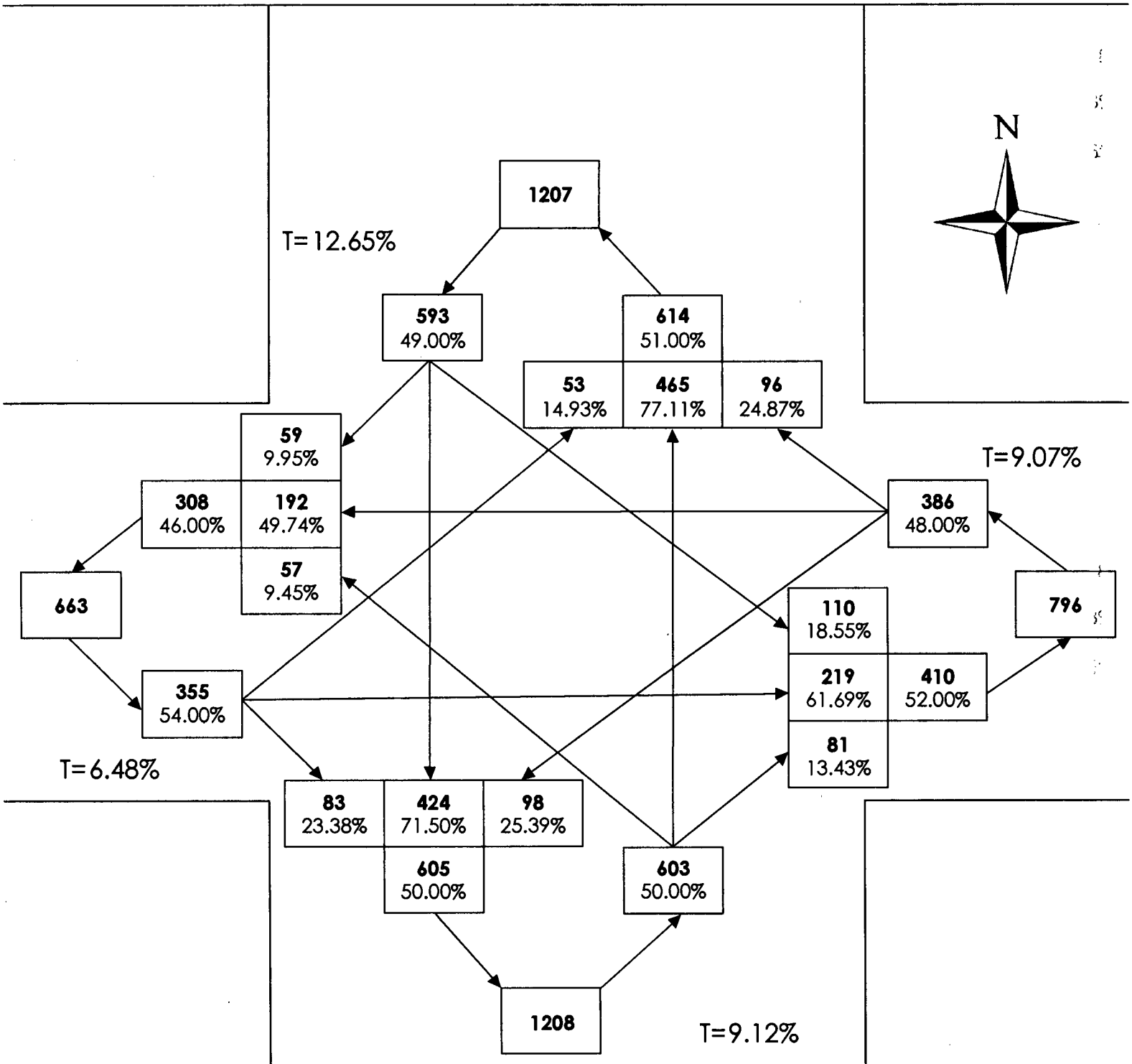
(Block Diagram)

Date: 3/22/2017
Time Period: 10:00 - 14:00

SR: 020 MP: 006.25 Off Sys. ID: Count ID: 17-006

Location: SR 20 & DISCOVERY RD & 4 CORNERS RD

ENTIRE COUNT VOLUMES



CB 5158
3969 - 2-6
ID 3970 10-2
3971 6-10

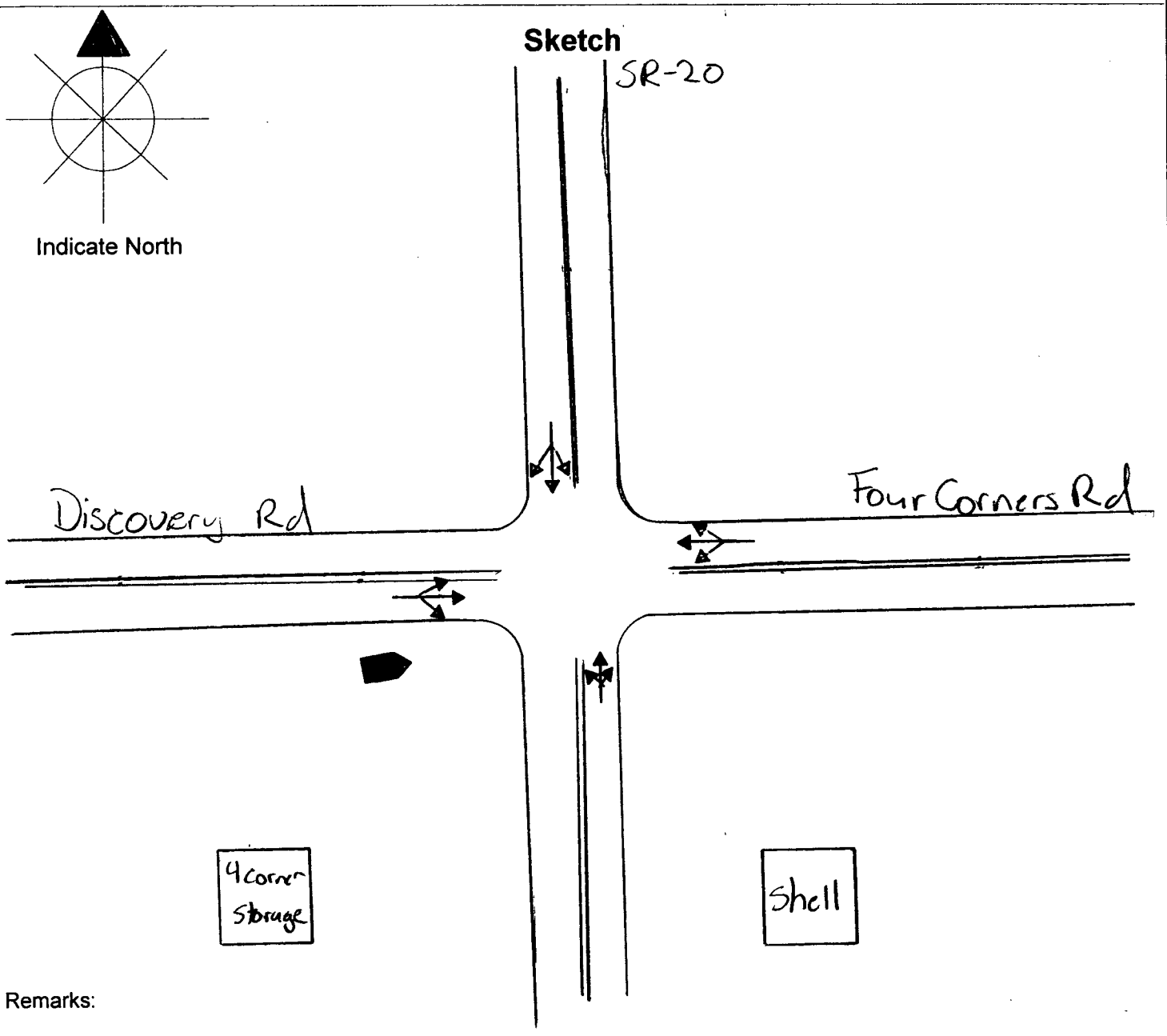
Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
SR-20	6 ● 25		17-006	3/21/2017

Station Location
JCT SR-20 & Four corners rd

Sketch



Indicate North

Remarks:

G:\17-006P 14-1800 #3969 3/21/17

G:\17-006Q 10-1400 #3970 3/22/17

G:\17-006R 06-1000 #3971 3/23/17

J. Mydlar
Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 08:18:56
PAGE: 1

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3969 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 18:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												54	6.25		864
THIS LEG NORTH															
NORTH TO SOUTH	614		9	3		2	13	3			1	31		74.65	645
NORTH TO EAST	117	12	5			4						21		15.97	138
NORTH TO WEST	79		2									2		9.38	81
SOUTH APPROACH												39	6.35		614
SOUTH TO NORTH	402	2	6	2		1	5	18			1	35		71.17	437
THIS LEG SOUTH															
SOUTH TO EAST	121	1										1		19.87	122
SOUTH TO WEST	52		3									3		8.96	55
EAST APPROACH												29	5.63		515
EAST TO NORTH	94	13	3		1	1						18		21.75	112
EAST TO SOUTH	121		3									3		24.08	124
THIS LEG EAST															
EAST TO WEST	271		7					1				8		54.17	279
WEST APPROACH												10	2.61		383
WEST TO NORTH	47		1									1		12.53	48
WEST TO SOUTH	91		1									1		24.02	92
WEST TO EAST	235	4	3			1						8		63.45	243
THIS LEG WEST															
															2376
														PCT SPLIT OUT/IN	
NORTH TOTAL	1353	27	26	5	1	8	18	21			2	108		59/41	1461
PERCENTAGE	92.61	1.85	1.78	0.34	0.07	0.55	1.23	1.44			0.14	7.39			
SOUTH TOTAL	1401	3	22	5		3	18	21			2	74		42/58	1475
PERCENTAGE	94.98	0.20	1.49	0.34		0.20	1.22	1.42			0.14	5.02			
EAST TOTAL	959	30	21		1	6		1				59		51/49	1018
PERCENTAGE	94.20	2.95	2.06		0.10	0.59		0.10				5.80			
WEST TOTAL	775	4	17			1		1				23		48/52	798
PERCENTAGE	97.12	0.50	2.13			0.13		0.13				2.88			
															4752

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	59	4.04	47	3.22	2	0.14	108	7.39	0.9447
SOUTH TOTAL	30	2.03	42	2.85	2	0.14	74	5.02	0.9488
EAST TOTAL	52	5.11	7	0.69			59	5.80	0.9912
WEST TOTAL	21	2.63	2	0.25			23	2.88	0.9962

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3969 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 15:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												14	7.14		196
THIS LEG NORTH															
NORTH TO SOUTH	132		4	1			2				1	8		71.43	140
NORTH TO EAST	25	5				1						6		15.82	31
NORTH TO WEST	25													12.76	25
SOUTH APPROACH												8	5.10		157
SOUTH TO NORTH	94		2	2				3			1	8		64.97	102
THIS LEG SOUTH															
SOUTH TO EAST	44													28.03	44
SOUTH TO WEST	11													7.01	11
EAST APPROACH												8	7.14		112
EAST TO NORTH	22	6	1									7		25.89	29
EAST TO SOUTH	34													30.36	34
THIS LEG EAST															
EAST TO WEST	48		1									1		43.75	49
WEST APPROACH															87
WEST TO NORTH	15													17.24	15
WEST TO SOUTH	18													20.69	18
WEST TO EAST	54													62.07	54
THIS LEG WEST															552
														PCT SPLIT OUT/IN	
NORTH TOTAL	313	11	7	3		1	2	3			2	29		57/43	342
PERCENTAGE	91.52	3.22	2.05	0.88		0.29	0.58	0.88			0.58	8.48			
SOUTH TOTAL	333		6	3			2	3			2	16		45/55	349
PERCENTAGE	95.42		1.72	0.86			0.57	0.86			0.57	4.58			
EAST TOTAL	227	11	2			1						14		46/54	241
PERCENTAGE	94.19	4.56	0.83			0.41						5.81			
WEST TOTAL	171		1									1		51/49	172
PERCENTAGE	99.42		0.58									0.58			
															1104

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3969 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 15:00 - 16:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												10	4.41		227
THIS LEG NORTH															
NORTH TO SOUTH	165			1			2					3		74.01	168
NORTH TO EAST	27	3	2			2						7		14.98	34
NORTH TO WEST	25													11.01	25
SOUTH APPROACH												10	6.21		161
SOUTH TO NORTH	102	1	3				2	3				9		68.94	111
THIS LEG SOUTH															
SOUTH TO EAST	29													18.01	29
SOUTH TO WEST	20		1									1		13.04	21
EAST APPROACH												5	3.52		142
EAST TO NORTH	24	3										3		19.01	27
EAST TO SOUTH	36		1									1		26.06	37
THIS LEG EAST															
EAST TO WEST	77		1									1		54.93	78
WEST APPROACH												4	3.77		106
WEST TO NORTH	13													12.26	13
WEST TO SOUTH	21		1									1		20.75	22
WEST TO EAST	68	3										3		66.98	71
THIS LEG WEST															
															636
														PCT SPLIT OUT/IN	
NORTH TOTAL	356	7	5	1		2	4	3				22		60/40	378
PERCENTAGE	94.18	1.85	1.32	0.26		0.53	1.06	0.79				5.82			
SOUTH TOTAL	373	1	6	1			4	3				15		41/59	388
PERCENTAGE	96.13	0.26	1.55	0.26			1.03	0.77				3.87			
EAST TOTAL	261	9	4			2						15		51/49	276
PERCENTAGE	94.57	3.26	1.45			0.72						5.43			
WEST TOTAL	224	3	3									6		46/54	230
PERCENTAGE	97.39	1.30	1.30									2.61			
															1272

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3969 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:00 - 17:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												17	8.02		212
THIS LEG NORTH															
NORTH TO SOUTH	157		2			1	6					9		78.30	166
NORTH TO EAST	24	3	3									6		14.15	30
NORTH TO WEST	14		2									2		7.55	16
SOUTH APPROACH												9	5.88		153
SOUTH TO NORTH	118	1	1			1	1	3				7		81.70	125
THIS LEG SOUTH															
SOUTH TO EAST	15	1										1		10.46	16
SOUTH TO WEST	11		1									1		7.84	12
EAST APPROACH												11	8.40		131
EAST TO NORTH	23	3	1			1						5		21.37	28
EAST TO SOUTH	31		2									2		25.19	33
THIS LEG EAST															
EAST TO WEST	66		3					1				4		53.44	70
WEST APPROACH												6	5.88		102
WEST TO NORTH	7		1									1		7.84	8
WEST TO SOUTH	24													23.53	24
WEST TO EAST	65	1	3			1						5		68.63	70
THIS LEG WEST															
															598
														PCT SPLIT OUT/IN	
NORTH TOTAL	343	7	10			3	7	3				30		57/43	373
PERCENTAGE	91.96	1.88	2.68			0.80	1.88	0.80				8.04			
SOUTH TOTAL	356	2	6			2	7	3				20		41/59	376
PERCENTAGE	94.68	0.53	1.60			0.53	1.86	0.80				5.32			
EAST TOTAL	224	8	12			2		1				23		53/47	247
PERCENTAGE	90.69	3.24	4.86			0.81		0.40				9.31			
WEST TOTAL	187	1	10			1		1				13		51/49	200
PERCENTAGE	93.50	0.50	5.00			0.50		0.50				6.50			
															1196

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3969 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 17:00 - 18:00
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												13	5.68		229
THIS LEG NORTH															
NORTH TO SOUTH	160		3	1		1	3	3				11		74.67	171
NORTH TO EAST	41	1				1						2		18.78	43
NORTH TO WEST	15													6.55	15
SOUTH APPROACH												12	8.39		143
SOUTH TO NORTH	88						2	9				11		69.23	99
THIS LEG SOUTH															
SOUTH TO EAST	33													23.08	33
SOUTH TO WEST	10		1									1		7.69	11
EAST APPROACH												5	3.85		130
EAST TO NORTH	25	1	1		1							3		21.54	28
EAST TO SOUTH	20													15.38	20
THIS LEG EAST															
EAST TO WEST	80		2									2		63.08	82
WEST APPROACH															88
WEST TO NORTH	12													13.64	12
WEST TO SOUTH	28													31.82	28
WEST TO EAST	48													54.55	48
THIS LEG WEST															590
														PCT SPLIT OUT/IN	
NORTH TOTAL	341	2	4	1	1	2	5	12				27		62/38	368
PERCENTAGE	92.66	0.54	1.09	0.27	0.27	0.54	1.36	3.26				7.34			
SOUTH TOTAL	339		4	1		1	5	12				23		40/60	362
PERCENTAGE	93.65		1.10	0.28		0.28	1.38	3.31				6.35			
EAST TOTAL	247	2	3		1	1						7		51/49	254
PERCENTAGE	97.24	0.79	1.18		0.39	0.39						2.76			
WEST TOTAL	193		3									3		45/55	196
PERCENTAGE	98.47		1.53									1.53			
															1180

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3969 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												14	6.19		226
THIS LEG NORTH															
NORTH TO SOUTH	171		2	1		1	3	2				9		79.65	180
NORTH TO EAST	30	2				1						3		14.60	33
NORTH TO WEST	11		2									2		5.75	13
SOUTH APPROACH												9	5.92		152
SOUTH TO NORTH	110		1			1	2	3				7		76.97	117
THIS LEG SOUTH															
SOUTH TO EAST	23	1										1		15.79	24
SOUTH TO WEST	10		1									1		7.24	11
EAST APPROACH												9	6.87		131
EAST TO NORTH	27	3			1	1						5		24.43	32
EAST TO SOUTH	29		1									1		22.90	30
THIS LEG EAST															
EAST TO WEST	66		2					1				3		52.67	69
WEST APPROACH												2	1.96		102
WEST TO NORTH	9		1									1		9.80	10
WEST TO SOUTH	24													23.53	24
WEST TO EAST	67					1						1		66.67	68
THIS LEG WEST															
															611
														PCT SPLIT OUT/IN	
NORTH TOTAL	358	5	6	1	1	4	5	5				27		59/41	385
PERCENTAGE	92.99	1.30	1.56	0.26	0.26	1.04	1.30	1.30				7.01			
SOUTH TOTAL	367	1	5	1		2	5	5				19		39/61	386
PERCENTAGE	95.08	0.26	1.30	0.26		0.52	1.30	1.30				4.92			
EAST TOTAL	242	6	3		1	3		1				14		51/49	256
PERCENTAGE	94.53	2.34	1.17		0.39	1.17		0.39				5.47			
WEST TOTAL	187		6			1		1				8		52/48	195
PERCENTAGE	95.90		3.08			0.51		0.51				4.10			
															1222

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3969 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:30 - 15:30
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												13	5.88		221
THIS LEG NORTH															
NORTH TO SOUTH	153		2				2					4		71.04	157
NORTH TO EAST	26	5	2			2						9		15.84	35
NORTH TO WEST	29													13.12	29
SOUTH APPROACH												12	6.90		174
SOUTH TO NORTH	107	1	3	1			2	3			1	11		67.82	118
THIS LEG SOUTH															
SOUTH TO EAST	35													20.11	35
SOUTH TO WEST	20		1									1		12.07	21
EAST APPROACH												7	5.11		137
EAST TO NORTH	22	4										4		18.98	26
EAST TO SOUTH	35		1									1		26.28	36
THIS LEG EAST															
EAST TO WEST	73		2									2		54.74	75
WEST APPROACH												2	1.96		102
WEST TO NORTH	15													14.71	15
WEST TO SOUTH	23		1									1		23.53	24
WEST TO EAST	62	1										1		61.76	63
THIS LEG WEST															
															634
														PCT SPLIT OUT/IN	
NORTH TOTAL	352	10	7	1		2	4	3			1	28		58/42	380
PERCENTAGE	92.63	2.63	1.84	0.26		0.53	1.05	0.79			0.26	7.37			
SOUTH TOTAL	373	1	8	1			4	3			1	18		45/55	391
PERCENTAGE	95.40	0.26	2.05	0.26			1.02	0.77			0.26	4.60			
EAST TOTAL	253	10	5			2						17		51/49	270
PERCENTAGE	93.70	3.70	1.85			0.74						6.30			
WEST TOTAL	222	1	4									5		45/55	227
PERCENTAGE	97.80	0.44	1.76									2.20			
															1268

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3969 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:45 - 15:45
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												12	5.36		224
THIS LEG NORTH															
NORTH TO SOUTH	155		1				2					3		70.54	158
NORTH TO EAST	30	5	2			2						9		17.41	39
NORTH TO WEST	27													12.05	27
SOUTH APPROACH												12	7.14		168
SOUTH TO NORTH	103	1	4				2	3			1	11		67.86	114
THIS LEG SOUTH															
SOUTH TO EAST	31													18.45	31
SOUTH TO WEST	22		1									1		13.69	23
EAST APPROACH												8	5.63		142
EAST TO NORTH	24	5										5		20.42	29
EAST TO SOUTH	34		1									1		24.65	35
THIS LEG EAST															
EAST TO WEST	76		2									2		54.93	78
WEST APPROACH												4	3.77		106
WEST TO NORTH	15													14.15	15
WEST TO SOUTH	20		1									1		19.81	21
WEST TO EAST	67	3										3		66.04	70
THIS LEG WEST															
															640
														PCT SPLIT OUT/IN	
NORTH TOTAL	354	11	7			2	4	3			1	28		59/41	382
PERCENTAGE	92.67	2.88	1.83			0.52	1.05	0.79			0.26	7.33			
SOUTH TOTAL	365	1	8				4	3			1	17		44/56	382
PERCENTAGE	95.55	0.26	2.09				1.05	0.79			0.26	4.45			
EAST TOTAL	262	13	5			2						20		50/50	282
PERCENTAGE	92.91	4.61	1.77			0.71						7.09			
WEST TOTAL	227	3	4									7		45/55	234
PERCENTAGE	97.01	1.28	1.71									2.99			
															1280

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3969 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:45 - 15:45
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												12	5.36		224
THIS LEG NORTH															
NORTH TO SOUTH	155		1				2					3		70.54	158
NORTH TO EAST	30	5	2			2						9		17.41	39
NORTH TO WEST	27													12.05	27
SOUTH APPROACH												12	7.14		168
SOUTH TO NORTH	103	1	4				2	3			1	11		67.86	114
THIS LEG SOUTH															
SOUTH TO EAST	31													18.45	31
SOUTH TO WEST	22		1									1		13.69	23
EAST APPROACH												8	5.63		142
EAST TO NORTH	24	5										5		20.42	29
EAST TO SOUTH	34		1									1		24.65	35
THIS LEG EAST															
EAST TO WEST	76		2									2		54.93	78
WEST APPROACH												4	3.77		106
WEST TO NORTH	15													14.15	15
WEST TO SOUTH	20		1									1		19.81	21
WEST TO EAST	67	3										3		66.04	70
THIS LEG WEST															640
														PCT SPLIT OUT/IN	
NORTH TOTAL	354	11	7			2	4	3			1	28		59/41	382
PERCENTAGE	92.67	2.88	1.83			0.52	1.05	0.79			0.26	7.33			
SOUTH TOTAL	365	1	8				4	3			1	17		44/56	382
PERCENTAGE	95.55	0.26	2.09				1.05	0.79			0.26	4.45			
EAST TOTAL	262	13	5			2						20		50/50	282
PERCENTAGE	92.91	4.61	1.77			0.71						7.09			
WEST TOTAL	227	3	4									7		45/55	234
PERCENTAGE	97.01	1.28	1.71									2.99			
															1280

SR 020 MP 006.25 OFF SYS ID COUNTER NUM 3969 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:45 - 15:45
LOCATION SR 20 & DISCOVERY RD & 4 CORNERS RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												12	5.36		224
THIS LEG NORTH															
NORTH TO SOUTH	155		1				2					3		70.54	158
NORTH TO EAST	30	5	2			2						9		17.41	39
NORTH TO WEST	27													12.05	27
SOUTH APPROACH												12	7.14		168
SOUTH TO NORTH	103	1	4				2	3			1	11		67.86	114
THIS LEG SOUTH															
SOUTH TO EAST	31													18.45	31
SOUTH TO WEST	22		1									1		13.69	23
EAST APPROACH												8	5.63		142
EAST TO NORTH	24	5										5		20.42	29
EAST TO SOUTH	34		1									1		24.65	35
THIS LEG EAST															
EAST TO WEST	76		2									2		54.93	78
WEST APPROACH												4	3.77		106
WEST TO NORTH	15													14.15	15
WEST TO SOUTH	20		1									1		19.81	21
WEST TO EAST	67	3										3		66.04	70
THIS LEG WEST															
															640
														PCT SPLIT OUT/IN	
NORTH TOTAL	354	11	7			2	4	3			1	28		59/41	382
PERCENTAGE	92.67	2.88	1.83			0.52	1.05	0.79			0.26	7.33			
SOUTH TOTAL	365	1	8				4	3			1	17		44/56	382
PERCENTAGE	95.55	0.26	2.09				1.05	0.79			0.26	4.45			
EAST TOTAL	262	13	5			2						20		50/50	282
PERCENTAGE	92.91	4.61	1.77			0.71						7.09			
WEST TOTAL	227	3	4									7		45/55	234
PERCENTAGE	97.01	1.28	1.71									2.99			
															1280

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	18	4.71	9	2.36	1	0.26	28	7.33	0.9585
SOUTH TOTAL	9	2.36	7	1.83	1	0.26	17	4.45	0.9634
EAST TOTAL	18	6.38	2	0.71			20	7.09	0.9929
WEST TOTAL	7	2.99					7	2.99	1.0000

PEAK HOUR FACTOR 0.936 151 171 169 149 640

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

(Block Diagram)

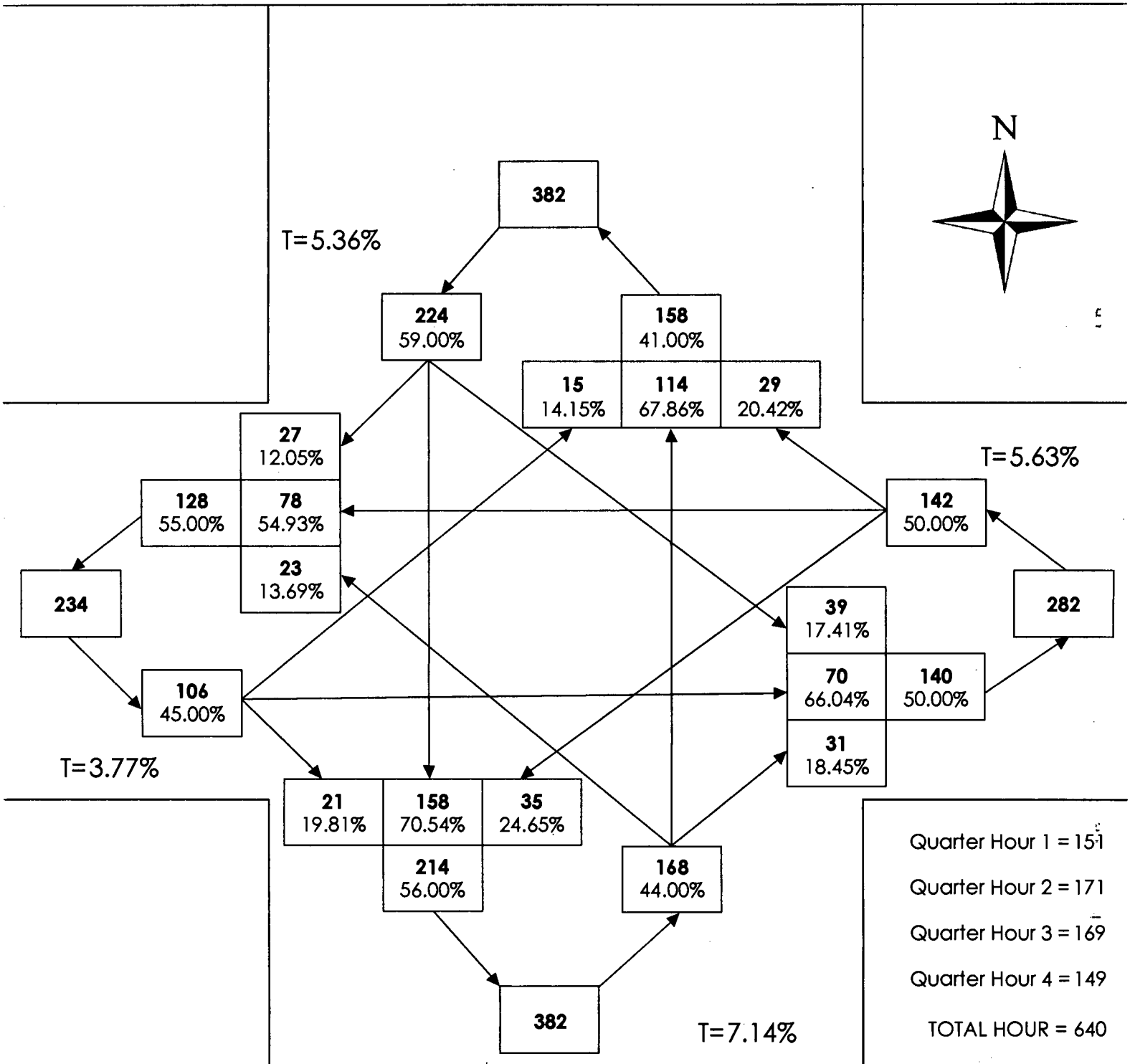
Date: 3/21/2017

Time Period: 14:45 - 15:45

SR: 020 MP: 006.25 Off Sys. ID: Count ID: 17-006

Location: SR 20 & DISCOVERY RD & 4 CORNERS RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 151

Quarter Hour 2 = 171

Quarter Hour 3 = 169

Quarter Hour 4 = 149

TOTAL HOUR = 640

PEAK HOUR FACTOR = 0.936

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

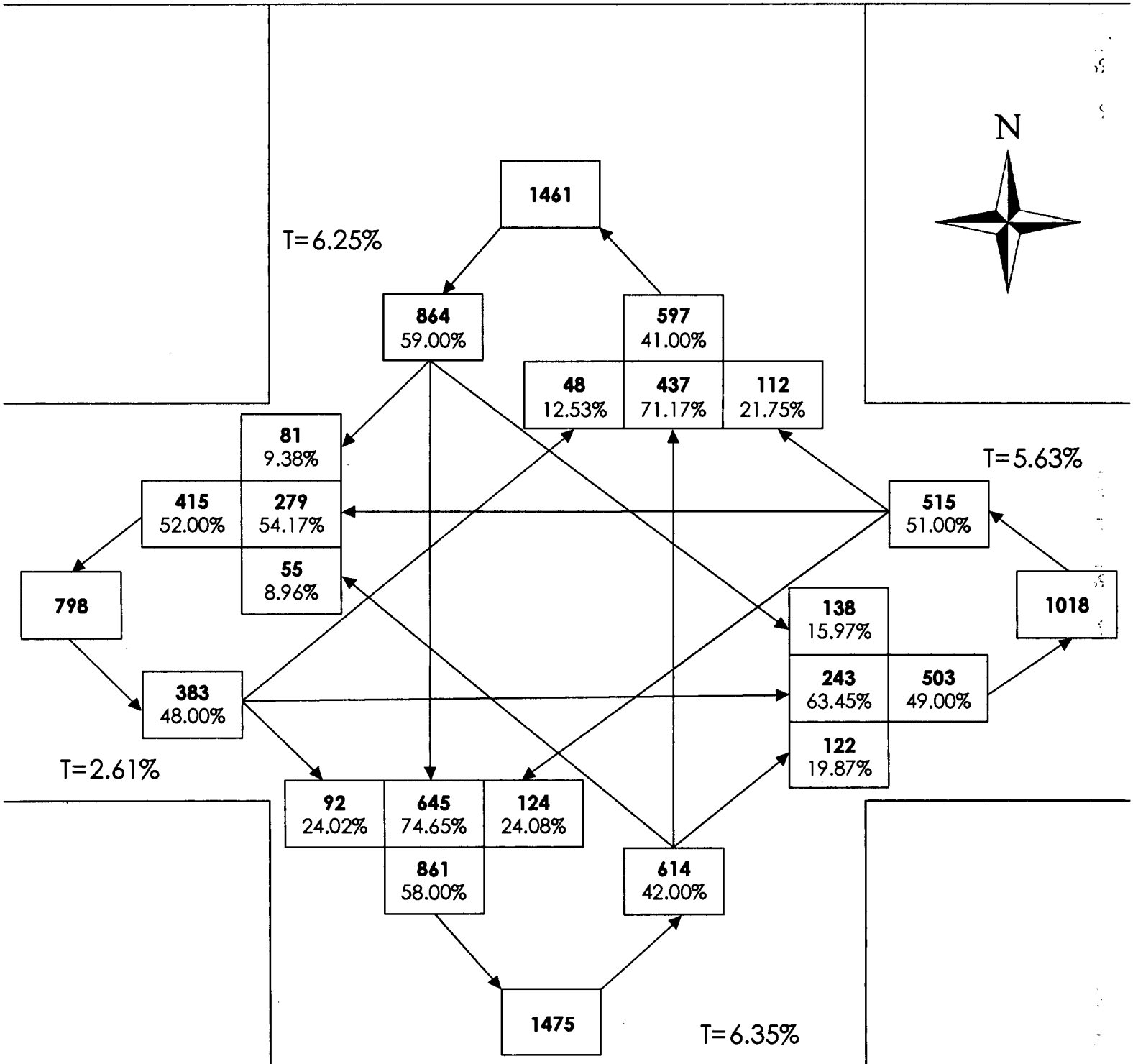
(Block Diagram)

Date: 3/21/2017
Time Period: 14:00 - 18:00

SR: 020 MP: 006.25 Off Sys. ID: Count ID: 17-006

Location: SR 20 & DISCOVERY RD & 4 CORNERS RD

ENTIRE COUNT VOLUMES



CB 5158
3969 - 2-6
ID 3970 10-2
3971 6-10

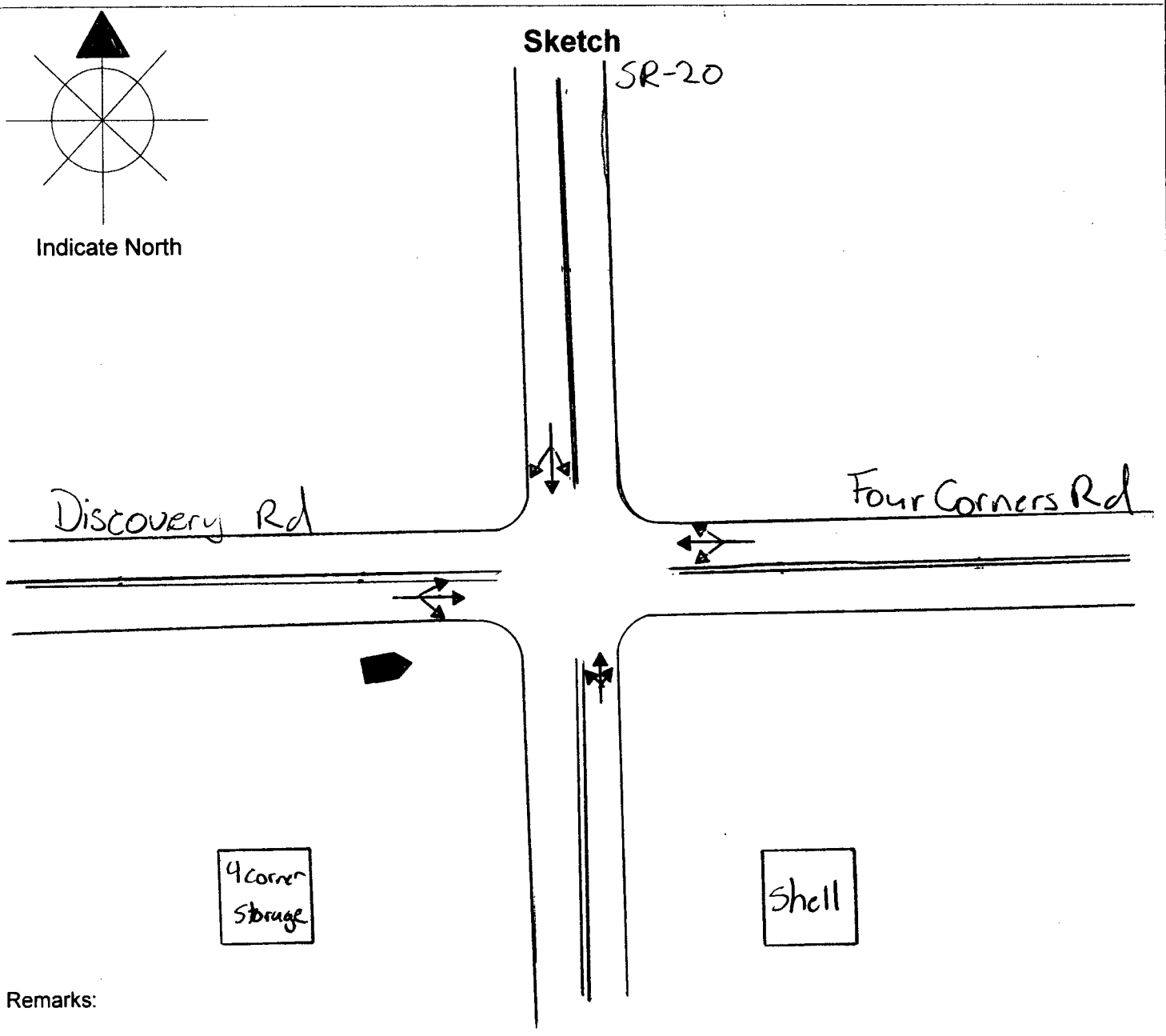
Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
SR-20	6 ● 25		17-006	3/21/2017

Station Location
JCT SR-20 & Four corners rd

Sketch



Indicate North

Remarks:

G:\17-006P 14-1800 #3969 3/21/17

G:\17-006Q 10-1400 #3970 3/22/17

G:\17-006R 06-1000 #3971 3/23/17

J. Mydlar
Signature

DOT Form 324-005 EF
Revised 2/2007

Peninsula Regional Transportation Planning Organization

SR 19 (Beaver Valley Road)/Irondale Road Intersection Operational Analysis



Prepared by

WSDOT
Washington State Department of Transportation
Olympic Region Planning

July 2017

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Introduction:

This operational analysis was prepared at the special request of the local jurisdiction and funded by the Peninsula Regional Transportation Planning Organization. Those intersections identified as operating below the Washington State Department of Transportation's policy for what is considered acceptable traffic operation level of service (LOS) will need to compete for funding with other intersections around the state based on the expected performance outcome for the proposed improvements.

SR 19 (Beaver Valley Road) is part of the National Highway System and designated as a Highway of Statewide Significance. SR 19 is a 2-lane rural minor arterial highway where the posted speed limits along the route varies from 50 mph, at either end of the route, to 35-40 mph in the vicinity of the tri-urban growth area of Chimacum, Irondale and Port Hadlock. SR 19 connects with SR 20 and SR 116 and is classified as T-3 in the 2015 Freight and Goods Transportation System with 2.66 million annual tonnage and 660 trucks using this route daily. The 2016 annual average daily traffic on SR 19 ranges from 6,400 near SR 104 to 14,000 before Theater Road located near the Jefferson County International Airport.

The intersection of SR 19 and Irondale Road is located in the unincorporated area of Port Hadlock in Jefferson County. This rural minor arterial features one twelve-foot lane in each direction, one twelve-foot two-way turn lane with 8-foot roadway shoulders. The posted speed limit at this location is 40 mph with a level terrain.

Methodology

Traffic Operations Model

The Highway Capacity Software 2010 was used to analyze the unsignalized intersection of SR 19/Irondale Road. The turning movement counts from the minor street that experiences the worst delay defines the level of service (LOS) for the intersection. LOS is based on the seconds per vehicle. The LOS criteria for automobiles at a two-way stopped controlled intersection as defined in the Highway Capacity Manual 2010 is as follows:

Highway Capacity Manual Exhibit 19-1 Two-way Stopped Controlled Intersection LOS Criteria

Control Delay (seconds/vehicle)	**LOS by Volume-to-Capacity Ratio** **Volume–to-Capacity ≤ 1.0**
0-10	A
>10-15	B
>15-25	C
>25-35	D
>35-50	E
>50	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major street approaches or for the intersection as a whole.

The Synchro 8/SimTraffic software and the Highway Capacity Software 2010 were used to determine the traffic queues at the intersection.

Traffic Volumes

In March 2017, WSDOT staff performed 12-hour turning movement manual counts at all legs of the SR 19/Irondale Road intersection.

Analysis

The intersection analysis applies a seasonal factor of 1.09 percent to the weekday traffic volumes collected. The seasonal factor adjusts the volumes to reflect the yearly average volume, and are only applied to the major approaches. The LOS and the delay in seconds for the SR 19/Irondale intersection are depicted in the table below.

Figure 2: Level of Service (Delay, Seconds)

LOCATION	AM	MID-DAY	PM
SR 19/Irondale	D (28.8)	E (38.0)	F (59.1)

Figure 2 portrays the traffic operation LOS at the SR 19/Irondale Road intersection. During the morning hours between 6 to 10 a.m., the intersection delay is designated a LOS D with an average delay of 28.8 seconds, meaning that motorists would wait on average 28.8 seconds at the intersection before they could proceed. Mid-day between the hours of 11 a.m. to 2 p.m., motorists would wait an average of 38.0 seconds. During the evening hours, between 2 p.m. to 6 p.m., motorists would be delayed at the intersection 59.1 seconds before they could proceed.

The Washington State Department of Transportation's policy for what is considered a minimal acceptable traffic operation LOS at this location is a LOS C designation for rural highways.

Summary

The analysis depicts the SR 19/Irondale Road intersection operating below the target level of LOS C designation for rural highways during the morning, mid-day and evening hours. As mentioned in the introduction, improvements must compete for funding based upon expected performance outcome. This location may or may not compete will with other intersections statewide.

Appendix

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: AM
Intersection: SR 19/Irondale Rd
Jurisdiction: Jefferson Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 19/Irondale Rd
East/West Street: Irondale Rd
North/South Street: SR 19
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		433	36	142	401	
Peak-Hour Factor, PHF		0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR		455	37	149	422	
Percent Heavy Vehicles		--	--	7	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	1	1	
Configuration			TR	L	T	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	22		230			
Peak Hour Factor, PHF	0.95		0.95			
Hourly Flow Rate, HFR	23		242			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		/
Lanes	1		1			
Configuration	L		R			

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		L	L		R			
v (vph)		149	23		242			
C(m) (vph)		1046	174		584			
v/c		0.14	0.13		0.41			
95% queue length		0.50	0.45		2.03			
Control Delay		9.0	28.8		15.5			
LOS		A	D		C			
Approach Delay				16.6				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: Mid-day
Intersection: SR 19/Irondale Rd
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 19/Irondale Rd
East/West Street: SR 19
North/South Street: Irondale Rd
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		440	36	209	484	
Peak-Hour Factor, PHF		0.98	0.98	0.98	0.98	
Hourly Flow Rate, HFR		448	36	213	493	
Percent Heavy Vehicles		--	--	6	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	1	1	
Configuration			TR	L	T	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	19		197			
Peak Hour Factor, PHF	0.98		0.98			
Hourly Flow Rate, HFR	19		201			
Percent Heavy Vehicles	0		6			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			/
Lanes	1		1			
Configuration	L		R			

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		L	L		R			
v (vph)		213	19		201			
C(m) (vph)		1058	128		588			
v/c		0.20	0.15		0.34			
95% queue length		0.75	0.50		1.51			
Control Delay		9.3	38.0		14.3			
LOS		A	E		B			
Approach Delay				16.3				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: PM
Intersection: SR 19/Irondale Rd
Jurisdiction: Jefferson Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 19/Irondale Rd
East/West Street: SR 19
North/South Street: Irondale Rd
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		493	58	238	581	
Peak-Hour Factor, PHF		0.98	0.98	0.98	0.98	
Hourly Flow Rate, HFR		503	59	242	592	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0		1	1
Configuration			TR		L	T
Upstream Signal?		No				No

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	20		183			
Peak Hour Factor, PHF	0.98		0.98			
Hourly Flow Rate, HFR	20		186			
Percent Heavy Vehicles	5		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		/
Lanes	1		1			
Configuration	L		R			

Delay, Queue Length, and Level of Service

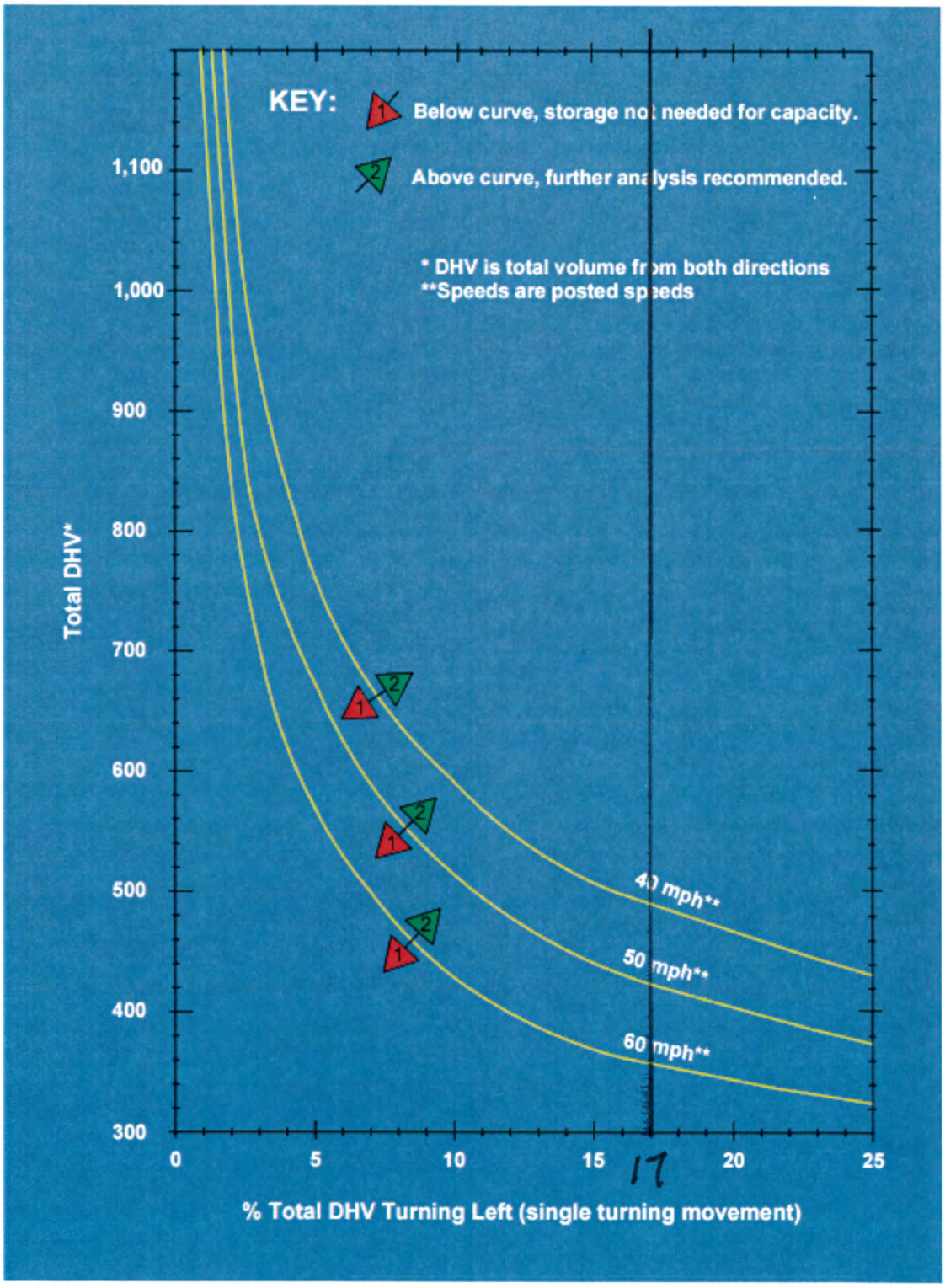
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		L	L		R			
v (vph)		242	20		186			
C(m) (vph)		1009	86		547			
v/c		0.24	0.23		0.34			
95% queue length		0.94	0.83		1.50			
Control Delay		9.7	59.1		14.9			
LOS		A	F		B			
Approach Delay				19.2				
Approach LOS				C				

SR 19/Irondale Rd
MP 11.61

40 mph

Exhibit 1310-7a Left-Turn Storage Guidelines: Two-Lane, Unsignalized

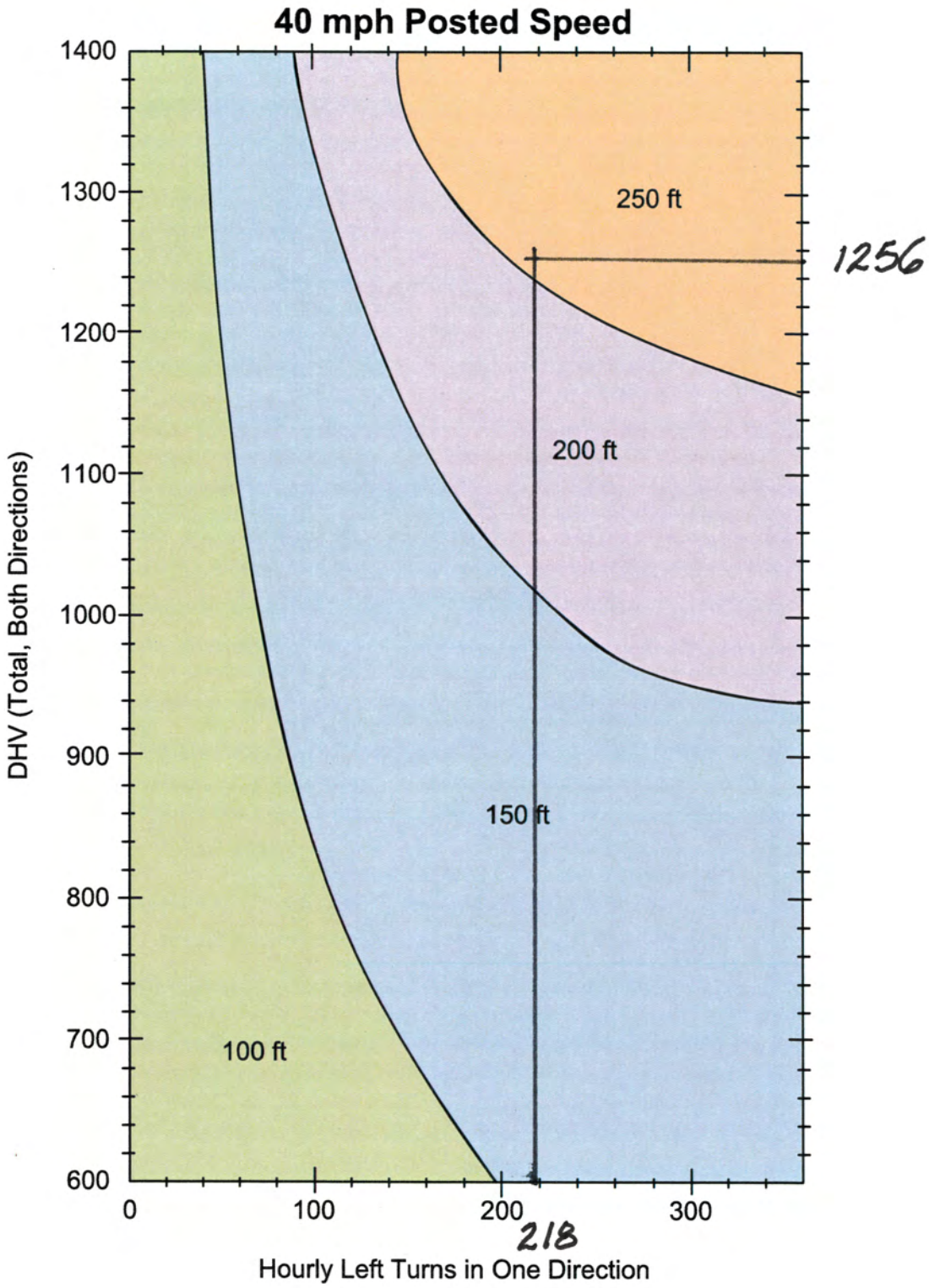
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17

SR 19 / IRONDALE RD
MP 11.61

Exhibit 1310-8a Left-Turn Storage Length: Two-Lane, Unsignalized (40mph)



VEHICLE VOLUME SUMMARY

Prepared By: jmn

State Route	19	MP	11.61	Count Date	3/23/17	Seasonal Factor	1.09
Intersection	Irondale Rd			85% Speed	40	Minor Leg 1 % Rt. Turns	0.00%
Major Lanes	2	Minor Lanes	1			Minor Leg 2 % Rt. Turns	0.00%

TIME	MAJOR LEG INC	MAJOR LEG DEC	MAJOR LEGS TOTAL	MINOR LEG 1 WB	SEASONAL FACTORS		MINOR LEG 2	SEASONAL FACTORS		Warrant #1 Cond. A 600/150	Warrant #1 Cond. B 900/75
00-0100	0	0	**0**	0	**0**			**0**			
01-0200	0	0	**0**	0	**0**			**0**			
02-0300	0	0	**0**	0	**0**			**0**			
03-0400	0	0	**0**	0	**0**			**0**			
04-0500	0	0	**0**	0	**0**			**0**			
05-0600	0	0	**0**	0	**0**			**0**			
06-0700	0	0	**0**	0	**0**			**0**			
07-0800	202	183	**420**	85	**93**			**0**			
08-0900	390	332	**787**	176	**192**			**0**		1	
09-1000	383	500	**962**	234	**255**			**0**		1	1
10-1100	445	477	**1005**	189	**206**			**0**		1	1
11-1200	354	491	**921**	175	**191**			**0**		1	1
12-1300	429	554	**1071**	165	**180**			**0**		1	1
13-1400	455	575	**1123**	207	**226**			**0**		1	1
14-1500	437	636	**1170**	197	**215**			**0**		1	1
15-1600	435	643	**1175**	167	**182**			**0**		1	1
16-1700	430	779	**1318**	154	**168**			**0**		1	1
17-1800	537	723	**1373**	174	**190**			**0**		1	1
18-1900	441	719	**1264**	156	**170**			**0**		1	1
19-2000	0	0	**0**	0	**0**			**0**			
20-2100	0	0	**0**	0	**0**			**0**			
21-2200	0	0	**0**	0	**0**			**0**			
22-2300	0	0	**0**	0	**0**			**0**			
23-2400	0	0	**0**	0	**0**			**0**			
TOTAL	4938	6612	**12590**	2079	**2266**		0	**0**		*Total Hours* 11	*Total Hours* 10

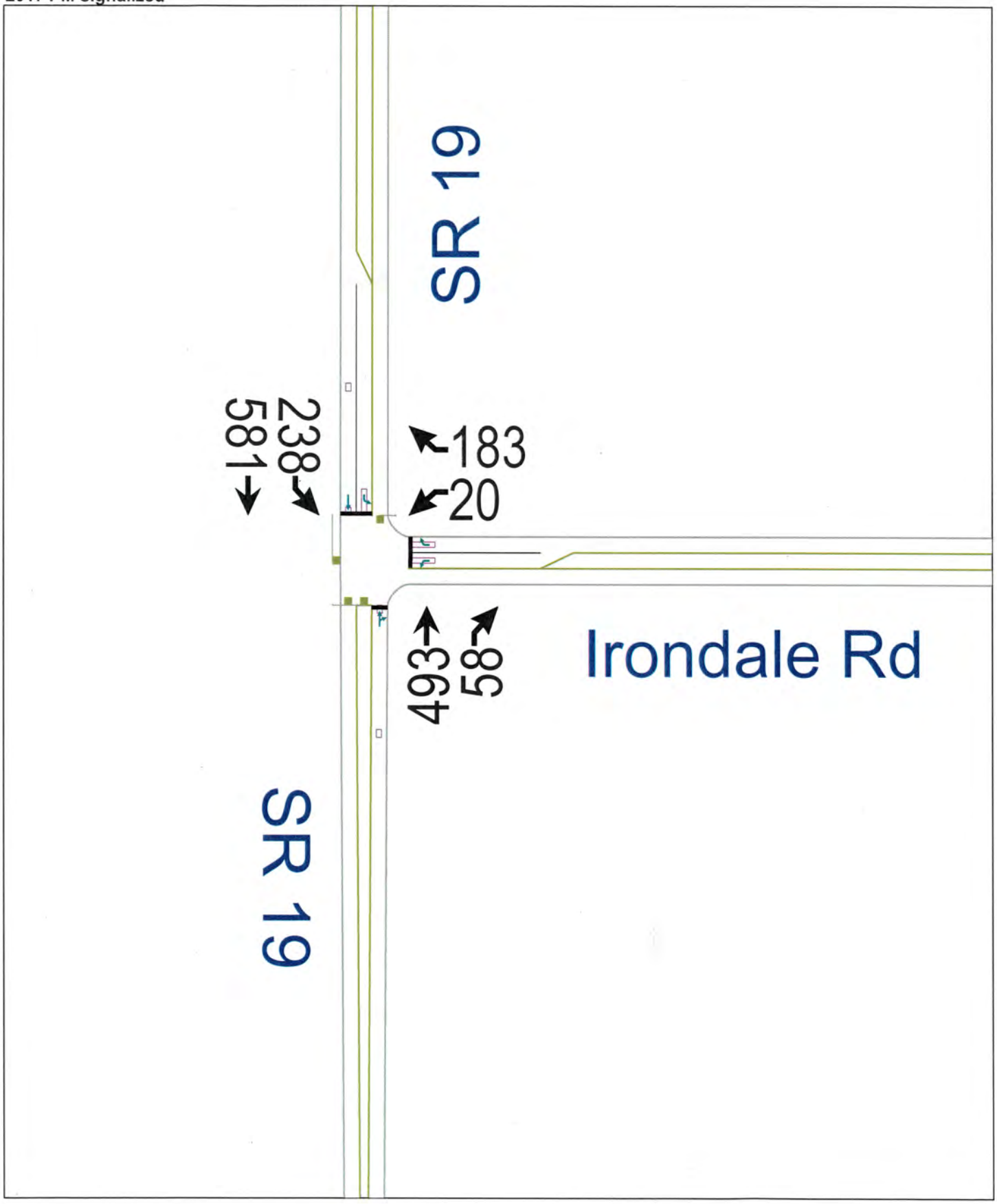
V_m = 1210 V_s = 158

WSDOT OLYMPIC REGION TRAFFIC

SIGNAL PRIORITY LIST

DATA SUMMARY SHEET

Map - SR 19/Irondale seasonal factored
2017 PM signalized



2017 PM signalized.syn

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	20	183	493	58	238	581
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1714	1765	1734	1800	1765	1748
Adj Flow Rate, veh/h	20	187	503	59	243	593
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	5	2	4	4	2	3
Cap, veh/h	257	236	669	78	292	1205
Arrive On Green	0.16	0.16	0.44	0.44	0.17	0.69
Sat Flow, veh/h	1633	1500	1524	179	1681	1748
Grp Volume(v), veh/h	20	187	0	562	243	593
Grp Sat Flow(s),veh/h/ln	1633	1500	0	1703	1681	1748
Q Serve(g_s), s	0.5	6.3	0.0	14.4	7.3	8.3
Cycle Q Clear(g_c), s	0.5	6.3	0.0	14.4	7.3	8.3
Prop In Lane	1.00	1.00		0.10	1.00	
Lane Grp Cap(c), veh/h	257	236	0	748	292	1205
V/C Ratio(X)	0.08	0.79	0.00	0.75	0.83	0.49
Avail Cap(c_a), veh/h	500	460	0	748	322	1205
HCM Platoon Ratio	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	1.00
Uniform Delay (d), s/veh	18.8	21.2	0.0	12.3	20.8	3.8
Incr Delay (d2), s/veh	0.1	5.9	0.0	6.9	15.6	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.0	0.0	8.1	4.6	4.4
LnGrp Delay(d),s/veh	18.9	27.1	0.0	19.1	36.4	5.3
LnGrp LOS	B	C		B	D	A
Approach Vol, veh/h	207		562			836
Approach Delay, s/veh	26.3		19.1			14.3
Approach LOS	C		B			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	13.1	26.9				40.0		12.2
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	10.0	22.0				36.0		16.0
Max Q Clear Time (g_c+I1), s	9.3	16.4				10.3		8.3
Green Ext Time (p_c), s	0.1	3.4				8.9		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	17.5
HCM 2010 LOS	B

Intersection: 3: SR 19 & Irondale Rd

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	39	89	209	163	124
Average Queue (ft)	14	55	131	99	59
95th Queue (ft)	41	89	212	161	124
Link Distance (ft)		1261	988		921
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100			175	
Storage Blk Time (%)		0		1	
Queuing Penalty (veh)		0		3	

Network Summary

Network wide Queuing Penalty: 4

MOVEMENT SUMMARY

Site: SR 19 & Irondale Peninsula RTPO Study 2017 - all single lane approaches

SR 19/SR Irondale Rd
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: SR 19											
8	T1	503	4.0	0.568	6.3	LOS A	4.2	107.1	0.60	0.64	35.6
18	R2	59	2.0	0.568	6.3	LOS A	4.2	107.1	0.60	0.64	34.6
Approach		562	3.8	0.568	6.3	LOS A	4.2	107.1	0.60	0.64	35.5
East: Irondale Rd											
1	L2	20	5.0	0.267	12.7	LOS B	1.5	39.2	0.66	0.75	35.2
16	R2	187	2.0	0.267	7.2	LOS A	1.5	39.2	0.66	0.75	34.4
Approach		207	2.3	0.267	7.7	LOS A	1.5	39.2	0.66	0.75	34.5
North: SR 19											
7	L2	243	2.0	0.690	9.7	LOS A	8.8	224.9	0.28	0.46	35.8
4	T1	593	3.0	0.690	4.4	LOS A	8.8	224.9	0.28	0.46	35.9
Approach		836	2.7	0.690	5.9	LOS A	8.8	224.9	0.28	0.46	35.8
All Vehicles		1605	3.0	0.690	6.3	LOS A	8.8	224.9	0.44	0.56	35.5

Level of Service (LOS) Method: Delay (HCM 2000).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 08:13:13
PAGE: 1

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4989 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 10:00
LOCATION SR 19 & IRONDALE RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												125	8.38		1492
THIS LEG NORTH															
NORTH TO SOUTH	1042	12	45	8		2	16	18			1	102		76.68	1144
NORTH TO EAST	325	4	11	7		1						23		23.32	348
NORTH TO WEST															
SOUTH APPROACH												101	7.11		1420
SOUTH TO NORTH	1245	14	46	4	1	5	12	16	2			100		94.72	1345
THIS LEG SOUTH															
SOUTH TO EAST	74	1										1		5.28	75
SOUTH TO WEST															
EAST APPROACH												44	5.58		788
EAST TO NORTH	648	1	22	3	10							36		86.80	684
EAST TO SOUTH	96	4	4									8		13.20	104
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															3700
														PCT SPLIT OUT/IN	
NORTH TOTAL	3260	31	124	22	11	8	28	34	2		1	261		42/58	3521
PERCENTAGE	92.59	0.88	3.52	0.62	0.31	0.23	0.80	0.97	0.06		0.03	7.41			
SOUTH TOTAL	2457	31	95	12	1	7	28	34	2		1	211		53/47	2668
PERCENTAGE	92.09	1.16	3.56	0.45	0.04	0.26	1.05	1.27	0.07		0.04	7.91			
EAST TOTAL	1143	10	37	10	10	1						68		65/35	1211
PERCENTAGE	94.38	0.83	3.06	0.83	0.83	0.08						5.62			
WEST TOTAL															
PERCENTAGE															
															7400

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	188	5.34	70	1.99	3	0.09	261	7.41	0.9603
SOUTH TOTAL	139	5.21	69	2.59	3	0.11	211	7.91	0.9537
EAST TOTAL	67	5.53	1	0.08			68	5.62	0.9869
WEST TOTAL									

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4989 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 07:00
LOCATION SR 19 & IRONDALE RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												16	8.74		183
THIS LEG NORTH															
NORTH TO SOUTH	129	3	2	1			3	6				15		78.69	144
NORTH TO EAST	38		1									1		21.31	39
NORTH TO WEST															
SOUTH APPROACH												23	11.39		202
SOUTH TO NORTH	172	6	7			1	2	6	1			23		96.53	195
THIS LEG SOUTH															
SOUTH TO EAST	7													3.47	7
SOUTH TO WEST															
EAST APPROACH												3	2.97		101
EAST TO NORTH	82		3									3		84.16	85
EAST TO SOUTH	16													15.84	16
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															486
														PCT SPLIT OUT/IN	
NORTH TOTAL	421	9	13	1		1	5	12	1			42		40/60	463
PERCENTAGE	90.93	1.94	2.81	0.22		0.22	1.08	2.59	0.22			9.07			
SOUTH TOTAL	324	9	9	1		1	5	12	1			38		56/44	362
PERCENTAGE	89.50	2.49	2.49	0.28		0.28	1.38	3.31	0.28			10.50			
EAST TOTAL	143		4									4		69/31	147
PERCENTAGE	97.28		2.72									2.72			
WEST TOTAL															
PERCENTAGE															
															972

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4989 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 19 & IRONDALE RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												23	6.93		332
THIS LEG NORTH															
NORTH TO SOUTH	230	1	8	1			2	5				17		74.40	247
NORTH TO EAST	79	3	2	1								6		25.60	85
NORTH TO WEST															
SOUTH APPROACH												35	8.97		390
SOUTH TO NORTH	337	6	14	2		1	6	5	1			35		95.38	372
THIS LEG SOUTH															
SOUTH TO EAST	18													4.62	18
SOUTH TO WEST															
EAST APPROACH												13	6.10		213
EAST TO NORTH	167		5	1	3							9		82.63	176
EAST TO SOUTH	33	2	2									4		17.37	37
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															935
														PCT SPLIT OUT/IN	
NORTH TOTAL	813	10	29	5	3	1	8	10	1			67		38/62	880
PERCENTAGE	92.39	1.14	3.30	0.57	0.34	0.11	0.91	1.14	0.11			7.61			
SOUTH TOTAL	618	9	24	3		1	8	10	1			56		58/42	674
PERCENTAGE	91.69	1.34	3.56	0.45		0.15	1.19	1.48	0.15			8.31			
EAST TOTAL	297	5	9	2	3							19		67/33	316
PERCENTAGE	93.99	1.58	2.85	0.63	0.95							6.01			
WEST TOTAL															
PERCENTAGE															
															1870

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4989 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:00 - 09:00
LOCATION SR 19 & IRONDALE RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												42	8.40		500
THIS LEG NORTH															
NORTH TO SOUTH	362	4	16	3		1	4	6				34		79.20	396
NORTH TO EAST	96	1	2	4		1						8		20.80	104
NORTH TO WEST															
SOUTH APPROACH												22	5.74		383
SOUTH TO NORTH	342	2	11			2	3	3				21		94.78	363
THIS LEG SOUTH															
SOUTH TO EAST	19	1										1		5.22	20
SOUTH TO WEST															
EAST APPROACH												13	5.00		260
EAST TO NORTH	223		6	1	4							11		90.00	234
EAST TO SOUTH	24	2										2		10.00	26
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1143
														PCT SPLIT OUT/IN	
NORTH TOTAL	1023	7	35	8	4	4	7	9				74		46/54	1097
PERCENTAGE	93.25	0.64	3.19	0.73	0.36	0.36	0.64	0.82				6.75			
SOUTH TOTAL	747	9	27	3		3	7	9				58		48/52	805
PERCENTAGE	92.80	1.12	3.35	0.37		0.37	0.87	1.12				7.20			
EAST TOTAL	362	4	8	5	4	1						22		68/32	384
PERCENTAGE	94.27	1.04	2.08	1.30	1.04	0.26						5.73			
WEST TOTAL															
PERCENTAGE															
															2286

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4989 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 19 & IRONDALE RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												44	9.22		477
THIS LEG NORTH															
NORTH TO SOUTH	321	4	19	3		1	7	1			1	36		74.84	357
NORTH TO EAST	112		6	2								8		25.16	120
NORTH TO WEST															
SOUTH APPROACH												21	4.72		445
SOUTH TO NORTH	394		14	2	1	1	1	2				21		93.26	415
THIS LEG SOUTH															
SOUTH TO EAST	30													6.74	30
SOUTH TO WEST															
EAST APPROACH												15	7.01		214
EAST TO NORTH	176	1	8	1	3							13		88.32	189
EAST TO SOUTH	23		2									2		11.68	25
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1136
														PCT SPLIT OUT/IN	
NORTH TOTAL	1003	5	47	8	4	2	8	3			1	78		44/56	1081
PERCENTAGE	92.78	0.46	4.35	0.74	0.37	0.19	0.74	0.28			0.09	7.22			
SOUTH TOTAL	768	4	35	5	1	2	8	3			1	59		54/46	827
PERCENTAGE	92.87	0.48	4.23	0.60	0.12	0.24	0.97	0.36			0.12	7.13			
EAST TOTAL	341	1	16	3	3							23		59/41	364
PERCENTAGE	93.68	0.27	4.40	0.82	0.82							6.32			
WEST TOTAL															
PERCENTAGE															
															2272

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4989 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:45 - 09:45
LOCATION SR 19 & IRONDALE RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												42	8.43		498
THIS LEG NORTH															
NORTH TO SOUTH	335	4	19	1			4	4			1	33		73.90	368
NORTH TO EAST	121		5	4								9		26.10	130
NORTH TO WEST															
SOUTH APPROACH												22	5.12		430
SOUTH TO NORTH	375		13	1	1	2	2	3				22		92.33	397
THIS LEG SOUTH															
SOUTH TO EAST	33													7.67	33
SOUTH TO WEST															
EAST APPROACH												13	5.16		252
EAST TO NORTH	218	1	8	1	2							12		91.27	230
EAST TO SOUTH	21		1									1		8.73	22
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1180
														PCT SPLIT OUT/IN	
NORTH TOTAL	1049	5	45	7	3	2	6	7			1	76		44/56	1125
PERCENTAGE	93.24	0.44	4.00	0.62	0.27	0.18	0.53	0.62			0.09	6.76			
SOUTH TOTAL	764	4	33	2	1	2	6	7			1	56		52/48	820
PERCENTAGE	93.17	0.49	4.02	0.24	0.12	0.24	0.73	0.85			0.12	6.83			
EAST TOTAL	393	1	14	5	2							22		61/39	415
PERCENTAGE	94.70	0.24	3.37	1.20	0.48							5.30			
WEST TOTAL															
PERCENTAGE															
															2360

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4989 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 19 & IRONDALE RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												44	9.22		477
THIS LEG NORTH															
NORTH TO SOUTH	321	4	19	3		1	7	1			1	36		74.84	357
NORTH TO EAST	112		6	2								8		25.16	120
NORTH TO WEST															
SOUTH APPROACH												21	4.72		445
SOUTH TO NORTH	394		14	2	1	1	1	2				21		93.26	415
THIS LEG SOUTH															
SOUTH TO EAST	30													6.74	30
SOUTH TO WEST															
EAST APPROACH												15	7.01		214
EAST TO NORTH	176	1	8	1	3							13		88.32	189
EAST TO SOUTH	23		2									2		11.68	25
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1136
														PCT SPLIT OUT/IN	
NORTH TOTAL	1003	5	47	8	4	2	8	3			1	78		44/56	1081
PERCENTAGE	92.78	0.46	4.35	0.74	0.37	0.19	0.74	0.28			0.09	7.22			
SOUTH TOTAL	768	4	35	5	1	2	8	3			1	59		54/46	827
PERCENTAGE	92.87	0.48	4.23	0.60	0.12	0.24	0.97	0.36			0.12	7.13			
EAST TOTAL	341	1	16	3	3							23		59/41	364
PERCENTAGE	93.68	0.27	4.40	0.82	0.82							6.32			
WEST TOTAL															
PERCENTAGE															
															2272

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4989 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:45 - 09:45
LOCATION SR 19 & IRONDALE RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												42	8.43		498
THIS LEG NORTH															
NORTH TO SOUTH	335	4	19	1			4	4			1	33		73.90	368
NORTH TO EAST	121		5	4								9		26.10	130
NORTH TO WEST															
SOUTH APPROACH												22	5.12		430
SOUTH TO NORTH	375		13	1	1	2	2	3				22		92.33	397
THIS LEG SOUTH															
SOUTH TO EAST	33													7.67	33
SOUTH TO WEST															
EAST APPROACH												13	5.16		252
EAST TO NORTH	218	1	8	1	2							12		91.27	230
EAST TO SOUTH	21		1									1		8.73	22
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1180
														PCT SPLIT OUT/IN	
NORTH TOTAL	1049	5	45	7	3	2	6	7			1	76		44/56	1125
PERCENTAGE	93.24	0.44	4.00	0.62	0.27	0.18	0.53	0.62			0.09	6.76			
SOUTH TOTAL	764	4	33	2	1	2	6	7			1	56		52/48	820
PERCENTAGE	93.17	0.49	4.02	0.24	0.12	0.24	0.73	0.85			0.12	6.83			
EAST TOTAL	393	1	14	5	2							22		61/39	415
PERCENTAGE	94.70	0.24	3.37	1.20	0.48							5.30			
WEST TOTAL															
PERCENTAGE															
															2360

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4989 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:45 - 09:45
LOCATION SR 19 & IRONDALE RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												42	8.43		498
THIS LEG NORTH															
NORTH TO SOUTH	335	4	19	1			4	4			1	33		73.90	368
NORTH TO EAST	121		5	4								9		26.10	130
NORTH TO WEST															
SOUTH APPROACH												22	5.12		430
SOUTH TO NORTH	375		13	1	1	2	2	3				22		92.33	397
THIS LEG SOUTH															
SOUTH TO EAST	33													7.67	33
SOUTH TO WEST															
EAST APPROACH												13	5.16		252
EAST TO NORTH	218	1	8	1	2							12		91.27	230
EAST TO SOUTH	21		1									1		8.73	22
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1180
														PCT SPLIT OUT/IN	
NORTH TOTAL	1049	5	45	7	3	2	6	7			1	76		44/56	1125
PERCENTAGE	93.24	0.44	4.00	0.62	0.27	0.18	0.53	0.62			0.09	6.76			
SOUTH TOTAL	764	4	33	2	1	2	6	7			1	56		52/48	820
PERCENTAGE	93.17	0.49	4.02	0.24	0.12	0.24	0.73	0.85			0.12	6.83			
EAST TOTAL	393	1	14	5	2							22		61/39	415
PERCENTAGE	94.70	0.24	3.37	1.20	0.48							5.30			
WEST TOTAL															
PERCENTAGE															
															2360

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	60	5.33	15	1.33	1	0.09	76	6.76	0.9706
SOUTH TOTAL	40	4.88	15	1.83	1	0.12	56	6.83	0.9652
EAST TOTAL	22	5.30					22	5.30	0.9892
WEST TOTAL									

PEAK HOUR FACTOR 0.952 306 271 293 310 1180

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

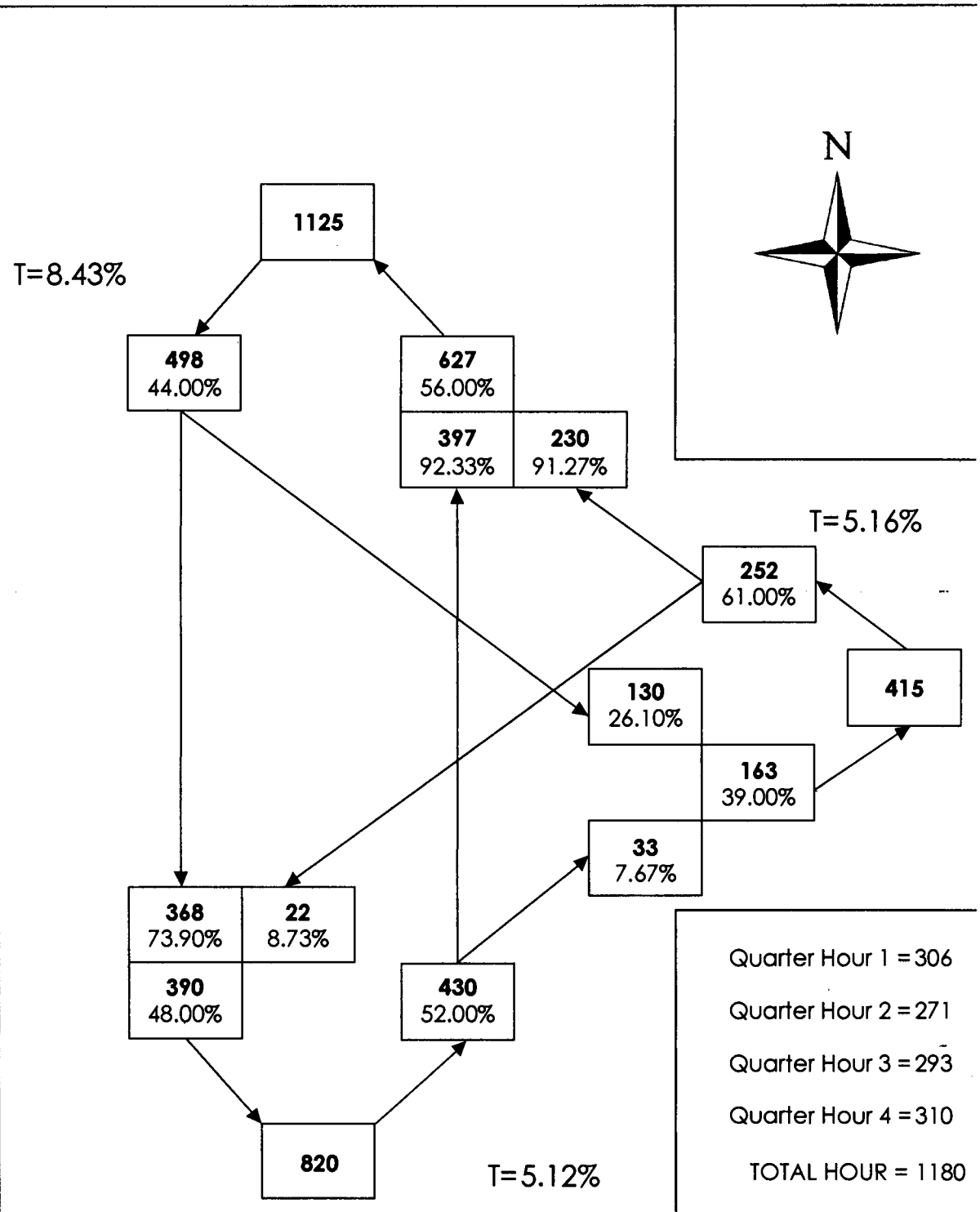
(Block Diagram)

Date: 3/23/2017
Time Period: 08:45 - 09:45

SR: 019 MP: 011.61 Off Sys. ID: Count ID: 17-006

Location: SR 19 & IRONDALE RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

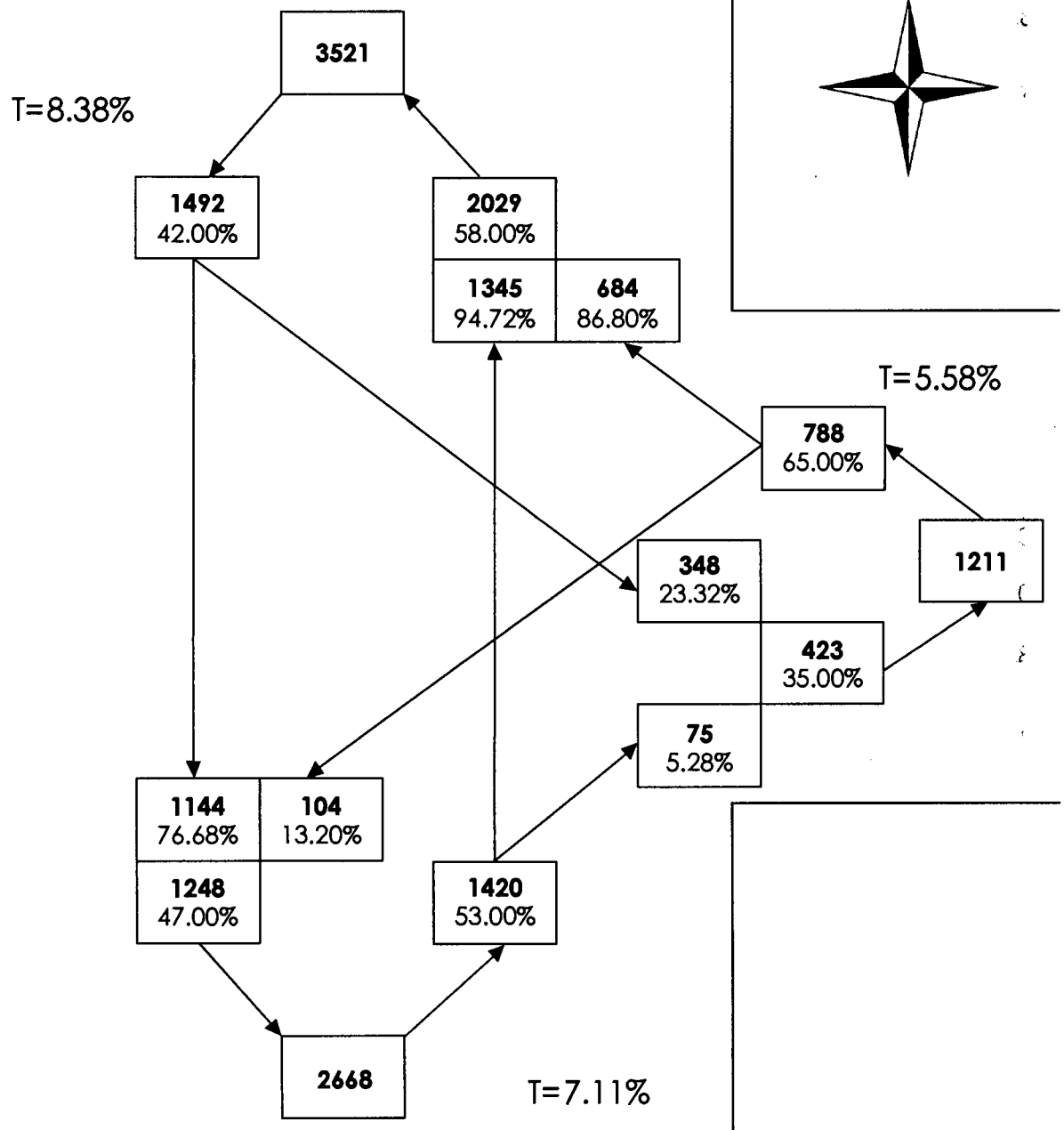
(Block Diagram)

Date: 3/23/2017
Time Period: 06:00 - 10:00

SR: 019 MP: 011.61 Off Sys. ID: Count ID: 17-006

Location: SR 19 & IRONDALE RD

ENTIRE COUNT VOLUMES



CB #1143 CB #'s 4987, 4988, 4989 ID

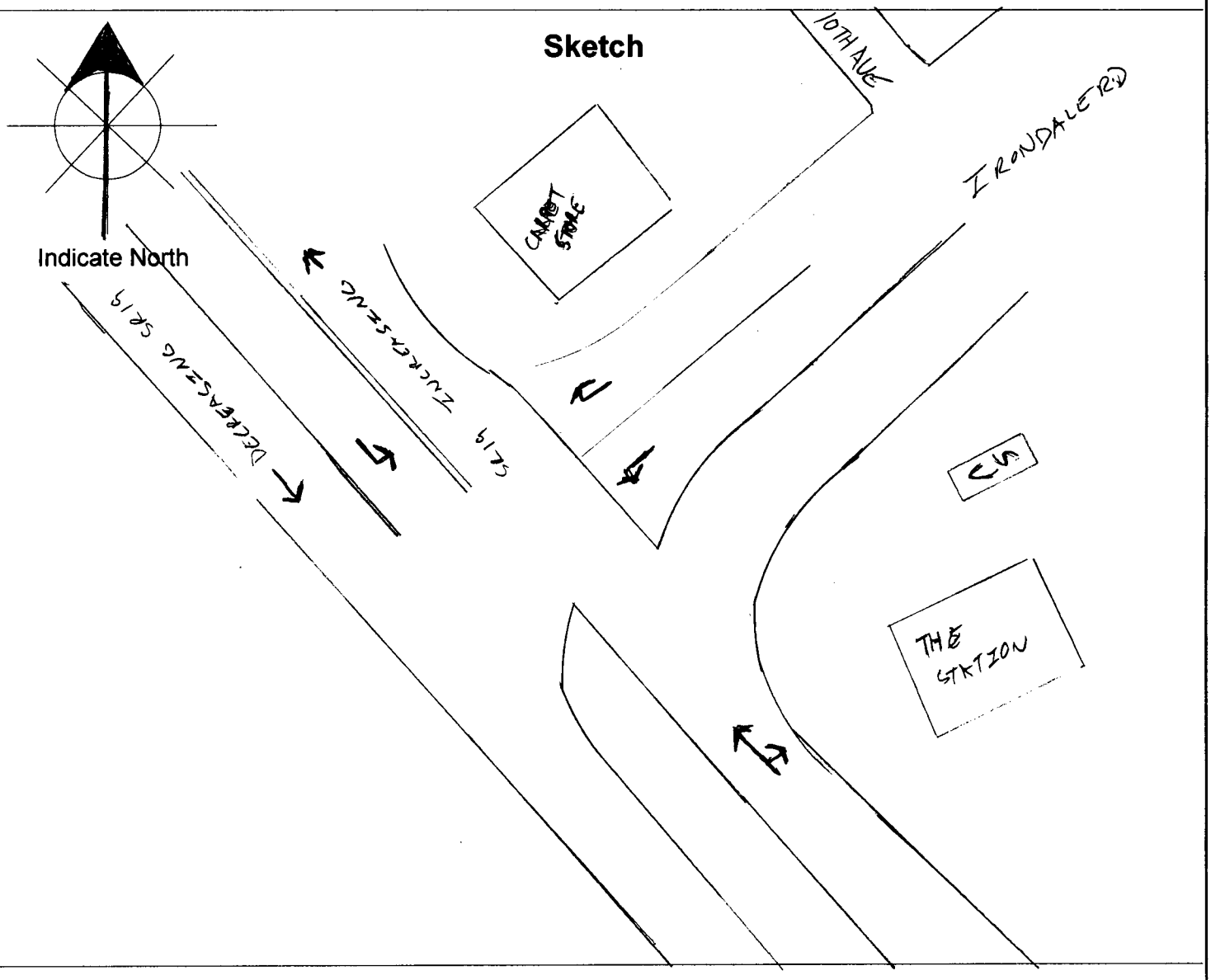
Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
019	11 ● 61		17-006	3/21 - 3/23

Station Location

JCT OF SR 019 & IRONDALE RD



Remarks:

G:\17-006S	14-1800	*4987	3/21/17
G:\17-006T	10-1400	*4988	3/22/17
G:\17-006U	06-1000	*4989	3/23/17

Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 08:09:18
PAGE: 1

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4988 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 14:00
LOCATION SR 19 & IRONDALE RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												146	6.47		2256
THIS LEG NORTH															
NORTH TO SOUTH	1490	10	64	12		6	14	11	1			118		71.28	1608
NORTH TO EAST	620	2	12	13		1						28		28.72	648
NORTH TO WEST															
SOUTH APPROACH												103	6.15		1675
SOUTH TO NORTH	1446	12	41	6	3		10	28				100		92.30	1546
THIS LEG SOUTH															
SOUTH TO EAST	126		3									3		7.70	129
SOUTH TO WEST															
EAST APPROACH												47	5.80		810
EAST TO NORTH	698	2	24	5	11	4						46		91.85	744
EAST TO SOUTH	65		1									1		8.15	66
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															4741
														PCT SPLIT OUT/IN	
NORTH TOTAL	4254	26	141	36	14	11	24	39	1			292		50/50	4546
PERCENTAGE	93.58	0.57	3.10	0.79	0.31	0.24	0.53	0.86	0.02			6.42			
SOUTH TOTAL	3127	22	109	18	3	6	24	39	1			222		50/50	3349
PERCENTAGE	93.37	0.66	3.25	0.54	0.09	0.18	0.72	1.16	0.03			6.63			
EAST TOTAL	1509	4	40	18	11	5						78		51/49	1587
PERCENTAGE	95.09	0.25	2.52	1.13	0.69	0.32						4.91			
WEST TOTAL															
PERCENTAGE															
															9482

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	217	4.77	74	1.63	1	0.02	292	6.42	0.9663
SOUTH TOTAL	152	4.54	69	2.06	1	0.03	222	6.63	0.9616
EAST TOTAL	73	4.60	5	0.32			78	4.91	0.9844
WEST TOTAL									

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4988 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 11:00
LOCATION SR 19 & IRONDALE RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												45	9.16		491
THIS LEG NORTH															
NORTH TO SOUTH	322	2	23	5		1	4	2	1			38		73.32	360
NORTH TO EAST	124	1	3	3								7		26.68	131
NORTH TO WEST															
SOUTH APPROACH												28	7.91		354
SOUTH TO NORTH	297	3	11	1	1		2	9				27		91.53	324
THIS LEG SOUTH															
SOUTH TO EAST	29		1									1		8.47	30
SOUTH TO WEST															
EAST APPROACH												14	7.29		192
EAST TO NORTH	161		8		5	1						14		91.15	175
EAST TO SOUTH	17													8.85	17
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1037
													PCT SPLIT OUT/IN		
NORTH TOTAL	904	6	45	9	6	2	6	11	1			86		50/50	990
PERCENTAGE	91.31	0.61	4.55	0.91	0.61	0.20	0.61	1.11	0.10			8.69			
SOUTH TOTAL	665	5	35	6	1	1	6	11	1			66		48/52	731
PERCENTAGE	90.97	0.68	4.79	0.82	0.14	0.14	0.82	1.50	0.14			9.03			
EAST TOTAL	331	1	12	3	5	1						22		54/46	353
PERCENTAGE	93.77	0.28	3.40	0.85	1.42	0.28						6.23			
WEST TOTAL															
PERCENTAGE															
															2074

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4988 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:00 - 12:00
LOCATION SR 19 & IRONDALE RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												30	5.42		554
THIS LEG NORTH															
NORTH TO SOUTH	364		11	3		2	7	3				26		70.40	390
NORTH TO EAST	160		1	3								4		29.60	164
NORTH TO WEST															
SOUTH APPROACH												25	5.83		429
SOUTH TO NORTH	374	4	12				2	6				24		92.77	398
THIS LEG SOUTH															
SOUTH TO EAST	30		1									1		7.23	31
SOUTH TO WEST															
EAST APPROACH												14	7.73		181
EAST TO NORTH	151	1	6	2	2	3						14		91.16	165
EAST TO SOUTH	16													8.84	16
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1164
														PCT SPLIT OUT/IN	
NORTH TOTAL	1049	5	30	8	2	5	9	9				68		50/50	1117
PERCENTAGE	93.91	0.45	2.69	0.72	0.18	0.45	0.81	0.81				6.09			
SOUTH TOTAL	784	4	24	3		2	9	9				51		51/49	835
PERCENTAGE	93.89	0.48	2.87	0.36		0.24	1.08	1.08				6.11			
EAST TOTAL	357	1	8	5	2	3						19		48/52	376
PERCENTAGE	94.95	0.27	2.13	1.33	0.53	0.80						5.05			
WEST TOTAL															
PERCENTAGE															
															2328

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4988 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 19 & IRONDALE RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												26	4.52		575
THIS LEG NORTH															
NORTH TO SOUTH	394	1	11	1		1	3	3				20		72.00	414
NORTH TO EAST	155		3	3								6		28.00	161
NORTH TO WEST															
SOUTH APPROACH												31	6.81		455
SOUTH TO NORTH	390	3	13	3	1		3	7				30		92.31	420
THIS LEG SOUTH															
SOUTH TO EAST	34		1									1		7.69	35
SOUTH TO WEST															
EAST APPROACH												7	3.17		221
EAST TO NORTH	201	1	4		1							6		93.67	207
EAST TO SOUTH	13		1									1		6.33	14
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1251
													PCT SPLIT OUT/IN		
NORTH TOTAL	1140	5	31	7	2	1	6	10				62		48/52	1202
PERCENTAGE	94.84	0.42	2.58	0.58	0.17	0.08	0.50	0.83				5.16			
SOUTH TOTAL	831	4	26	4	1	1	6	10				52		52/48	883
PERCENTAGE	94.11	0.45	2.94	0.45	0.11	0.11	0.68	1.13				5.89			
EAST TOTAL	403	1	9	3	1							14		53/47	417
PERCENTAGE	96.64	0.24	2.16	0.72	0.24							3.36			
WEST TOTAL															
PERCENTAGE															
															2502

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4988 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 19 & IRONDALE RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												45	7.08		636
THIS LEG NORTH															
NORTH TO SOUTH	410	7	19	3		2		3				34		69.81	444
NORTH TO EAST	181	1	5	4		1						11		30.19	192
NORTH TO WEST															
SOUTH APPROACH												19	4.35		437
SOUTH TO NORTH	385	2	5	2	1		3	6				19		92.45	404
THIS LEG SOUTH															
SOUTH TO EAST	33													7.55	33
SOUTH TO WEST															
EAST APPROACH												12	5.56		216
EAST TO NORTH	185		6	3	3							12		91.20	197
EAST TO SOUTH	19													8.80	19
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1289
														PCT SPLIT OUT/IN	
NORTH TOTAL	1161	10	35	12	4	3	3	9				76		51/49	1237
PERCENTAGE	93.86	0.81	2.83	0.97	0.32	0.24	0.24	0.73				6.14			
SOUTH TOTAL	847	9	24	5	1	2	3	9				53		49/51	900
PERCENTAGE	94.11	1.00	2.67	0.56	0.11	0.22	0.33	1.00				5.89			
EAST TOTAL	418	1	11	7	3	1						23		49/51	441
PERCENTAGE	94.78	0.23	2.49	1.59	0.68	0.23						5.22			
WEST TOTAL															
PERCENTAGE															
															2578

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4988 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 19 & IRONDALE RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												45	7.08		636
THIS LEG NORTH															
NORTH TO SOUTH	410	7	19	3		2		3				34		69.81	444
NORTH TO EAST	181	1	5	4		1						11		30.19	192
NORTH TO WEST															
SOUTH APPROACH												19	4.35		437
SOUTH TO NORTH	385	2	5	2	1		3	6				19		92.45	404
THIS LEG SOUTH															
SOUTH TO EAST	33													7.55	33
SOUTH TO WEST															
EAST APPROACH												12	5.56		216
EAST TO NORTH	185		6	3	3							12		91.20	197
EAST TO SOUTH	19													8.80	19
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1289
														PCT SPLIT OUT/IN	
NORTH TOTAL	1161	10	35	12	4	3	3	9				76		51/49	1237
PERCENTAGE	93.86	0.81	2.83	0.97	0.32	0.24	0.24	0.73				6.14			
SOUTH TOTAL	847	9	24	5	1	2	3	9				53		49/51	900
PERCENTAGE	94.11	1.00	2.67	0.56	0.11	0.22	0.33	1.00				5.89			
EAST TOTAL	418	1	11	7	3	1						23		49/51	441
PERCENTAGE	94.78	0.23	2.49	1.59	0.68	0.23						5.22			
WEST TOTAL															
PERCENTAGE															
															2578

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4988 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 19 & IRONDALE RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												45	7.08		636
THIS LEG NORTH															
NORTH TO SOUTH	410	7	19	3		2		3				34		69.81	444
NORTH TO EAST	181	1	5	4		1						11		30.19	192
NORTH TO WEST															
SOUTH APPROACH												19	4.35		437
SOUTH TO NORTH	385	2	5	2	1		3	6				19		92.45	404
THIS LEG SOUTH															
SOUTH TO EAST	33													7.55	33
SOUTH TO WEST															
EAST APPROACH												12	5.56		216
EAST TO NORTH	185		6	3	3							12		91.20	197
EAST TO SOUTH	19													8.80	19
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1289
													PCT SPLIT OUT/IN		
NORTH TOTAL	1161	10	35	12	4	3	3	9				76		51/49	1237
PERCENTAGE	93.86	0.81	2.83	0.97	0.32	0.24	0.24	0.73				6.14			
SOUTH TOTAL	847	9	24	5	1	2	3	9				53		49/51	900
PERCENTAGE	94.11	1.00	2.67	0.56	0.11	0.22	0.33	1.00				5.89			
EAST TOTAL	418	1	11	7	3	1						23		49/51	441
PERCENTAGE	94.78	0.23	2.49	1.59	0.68	0.23						5.22			
WEST TOTAL															
PERCENTAGE															
															2578

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4988 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:45 - 13:45
LOCATION SR 19 & IRONDALE RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												38	6.27		606
THIS LEG NORTH															
NORTH TO SOUTH	389	2	17	4		3		3				29		68.98	418
NORTH TO EAST	179	1	4	3		1						9		31.02	188
NORTH TO WEST															
SOUTH APPROACH												25	5.57		449
SOUTH TO NORTH	387	1	11	3	1		2	7				25		91.76	412
THIS LEG SOUTH															
SOUTH TO EAST	37													8.24	37
SOUTH TO WEST															
EAST APPROACH												9	4.17		216
EAST TO NORTH	195		4	1	3							8		93.98	203
EAST TO SOUTH	12		1									1		6.02	13
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1271
														PCT SPLIT OUT/IN	
NORTH TOTAL	1150	4	36	11	4	4	2	10				71		50/50	1221
PERCENTAGE	94.19	0.33	2.95	0.90	0.33	0.33	0.16	0.82				5.81			
SOUTH TOTAL	825	3	29	7	1	3	2	10				55		51/49	880
PERCENTAGE	93.75	0.34	3.30	0.80	0.11	0.34	0.23	1.14				6.25			
EAST TOTAL	423	1	9	4	3	1						18		49/51	441
PERCENTAGE	95.92	0.23	2.04	0.91	0.68	0.23						4.08			
WEST TOTAL															
PERCENTAGE															
															2542

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4988 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 19 & IRONDALE RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												45	7.08		636
THIS LEG NORTH															
NORTH TO SOUTH	410	7	19	3		2		3				34		69.81	444
NORTH TO EAST	181	1	5	4		1						11		30.19	192
NORTH TO WEST															
SOUTH APPROACH												19	4.35		437
SOUTH TO NORTH	385	2	5	2	1		3	6				19		92.45	404
THIS LEG SOUTH															
SOUTH TO EAST	33													7.55	33
SOUTH TO WEST															
EAST APPROACH												12	5.56		216
EAST TO NORTH	185		6	3	3							12		91.20	197
EAST TO SOUTH	19													8.80	19
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1289
														PCT SPLIT OUT/IN	
NORTH TOTAL	1161	10	35	12	4	3	3	9				76		51/49	1237
PERCENTAGE	93.86	0.81	2.83	0.97	0.32	0.24	0.24	0.73				6.14			
SOUTH TOTAL	847	9	24	5	1	2	3	9				53		49/51	900
PERCENTAGE	94.11	1.00	2.67	0.56	0.11	0.22	0.33	1.00				5.89			
EAST TOTAL	418	1	11	7	3	1						23		49/51	441
PERCENTAGE	94.78	0.23	2.49	1.59	0.68	0.23						5.22			
WEST TOTAL															
PERCENTAGE															
															2578

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	61	4.93	15	1.21			76	6.14	0.9721
SOUTH TOTAL	39	4.33	14	1.56			53	5.89	0.9698
EAST TOTAL	22	4.99	1	0.23			23	5.22	0.9832
WEST TOTAL									

PEAK HOUR FACTOR	0.977	311	330	318	330	1289

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

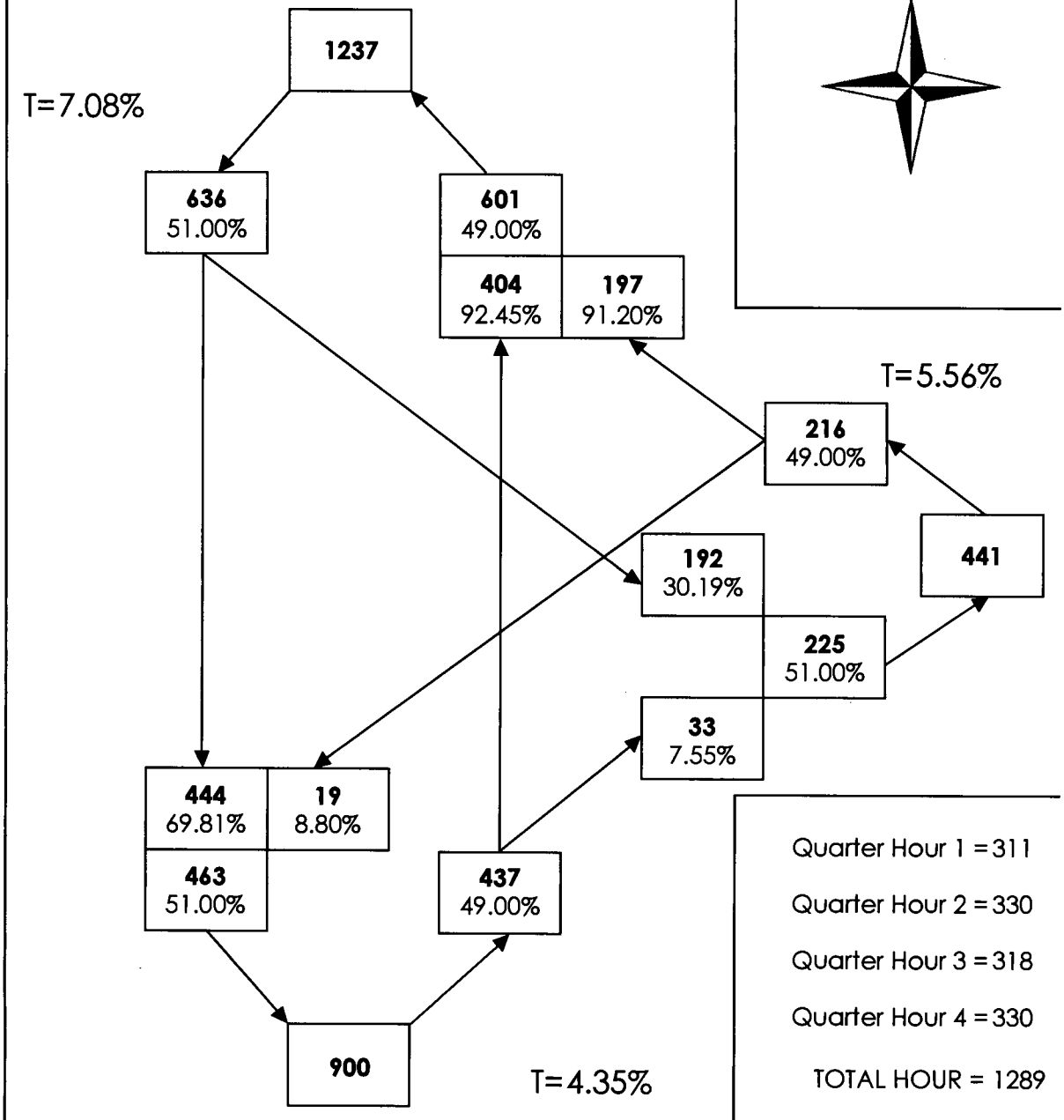
(Block Diagram)

Date: 3/22/2017
Time Period: 13:00 - 14:00

SR: 019 MP: 011.61 Off Sys. ID: Count ID: 17-006

Location: SR 19 & IRONDALE RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

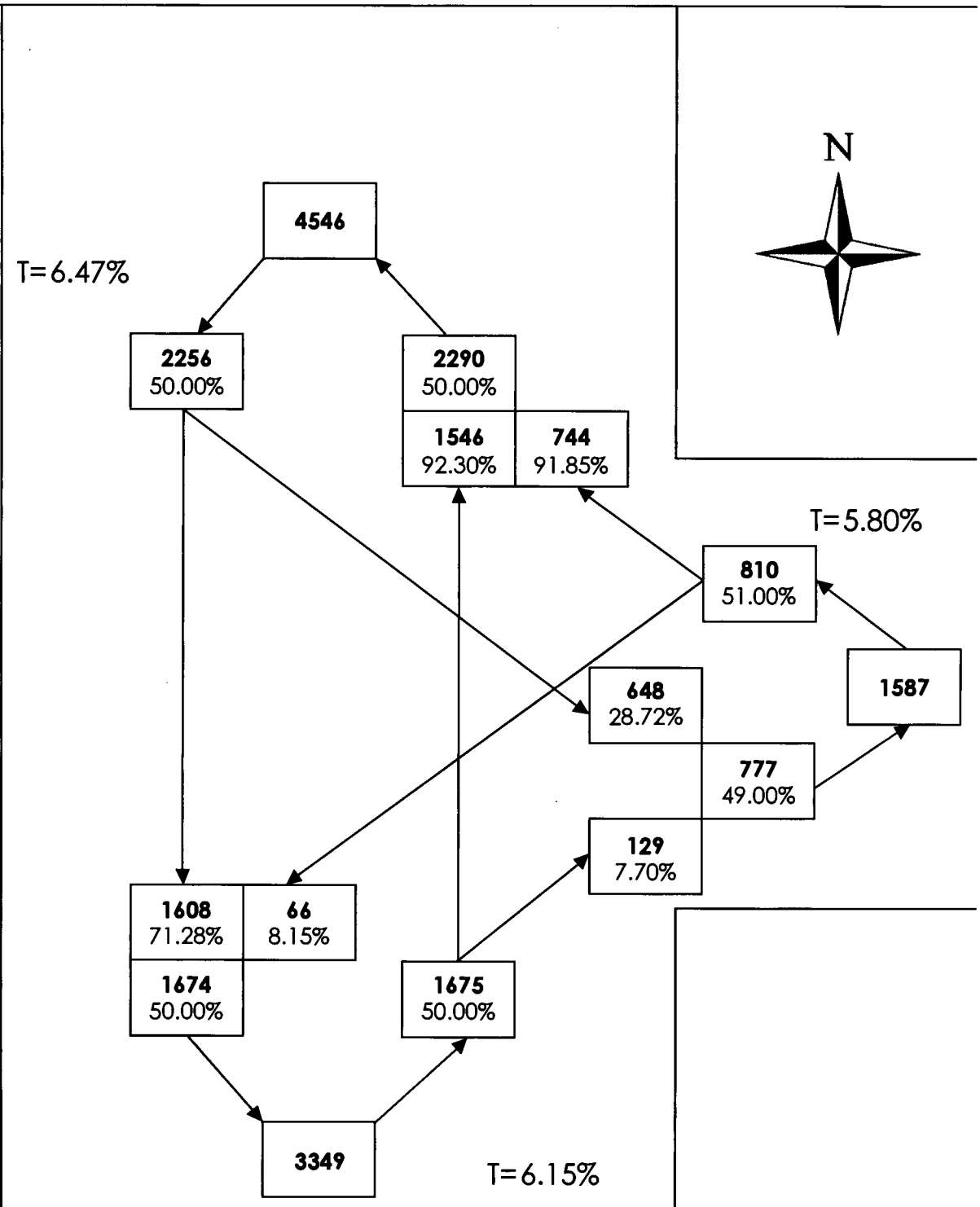
(Block Diagram)

Date: 3/22/2017
Time Period: 10:00 - 14:00

SR: 019 MP: 011.61 Off Sys. ID: Count ID: 17-006

Location: SR 19 & IRONDALE RD

ENTIRE COUNT VOLUMES



CB #1143 CB # S 4987, 4988, 4989 ID

Washington State Department of Transportation

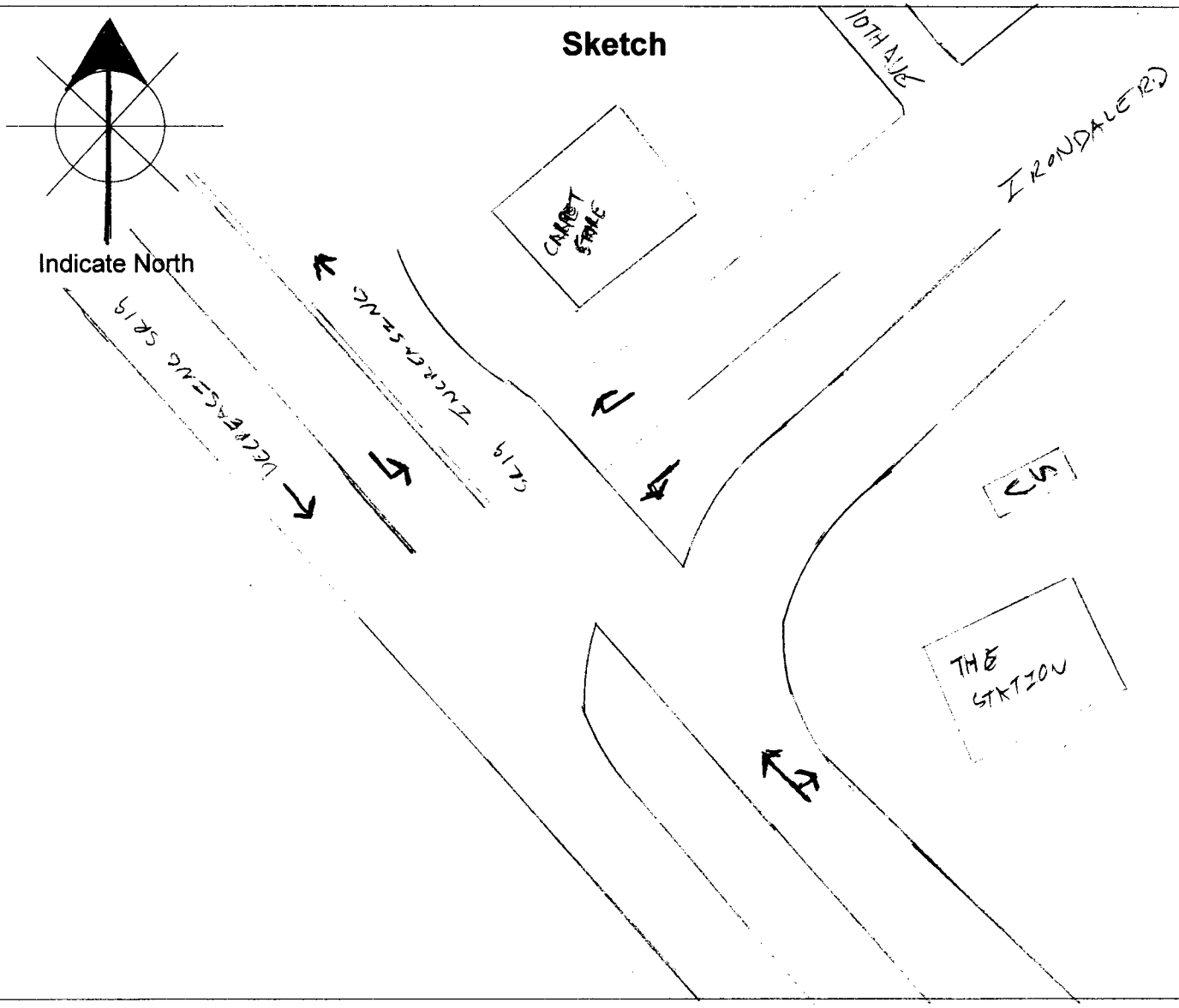
Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
019	11 ● 61		17-006	3/21 - 3/23

Station Location

JCT OF SR 019 & IRONDALE RD

Sketch



Remarks: G:\17-006S 14-1800 *4987 3/21/17

G:\17-006T 10-1400 *4988 3/22/17

G:\17-006U 06-1000 *4989 3/23/17

Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 08:01:08
PAGE: 1

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4987 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 18:00
LOCATION SR 19 & IRONDALE RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												103	3.60		2864
THIS LEG NORTH															
NORTH TO SOUTH	1932	18	35	9		6	10	4				82		70.32	2014
NORTH TO EAST	829	2	16	2		1						21		29.68	850
NORTH TO WEST															
SOUTH APPROACH												84	4.56		1843
SOUTH TO NORTH	1585	12	35	1	3	4	8	13			1	77		90.18	1662
THIS LEG SOUTH															
SOUTH TO EAST	174	2	5									7		9.82	181
SOUTH TO WEST															
EAST APPROACH												19	2.56		743
EAST TO NORTH	635	3	11	1	1							16		87.62	651
EAST TO SOUTH	89		3									3		12.38	92
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															5450
														PCT SPLIT OUT/IN	
NORTH TOTAL	4981	35	97	13	4	11	18	17			1	196		55/45	5177
PERCENTAGE	96.21	0.68	1.87	0.25	0.08	0.21	0.35	0.33			0.02	3.79			
SOUTH TOTAL	3780	32	78	10	3	10	18	17			1	169		47/53	3949
PERCENTAGE	95.72	0.81	1.98	0.25	0.08	0.25	0.46	0.43			0.03	4.28			
EAST TOTAL	1727	7	35	3	1	1						47		42/58	1774
PERCENTAGE	97.35	0.39	1.97	0.17	0.06	0.06						2.65			
WEST TOTAL															
PERCENTAGE															
															10900

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	149	2.88	46	0.89	1	0.02	196	3.79	0.9838
SOUTH TOTAL	123	3.11	45	1.14	1	0.03	169	4.28	0.9797
EAST TOTAL	46	2.59	1	0.06			47	2.65	0.9980
WEST TOTAL									

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4987. COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 15:00
LOCATION SR 19 & IRONDALE RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												31	4.82		643
THIS LEG NORTH															
NORTH TO SOUTH	440	2	13	5		1	3	2				26		72.47	466
NORTH TO EAST	172	1	3	1								5		27.53	177
NORTH TO WEST															
SOUTH APPROACH												26	5.98		435
SOUTH TO NORTH	389	6	8	1	2	2		4				23		94.71	412
THIS LEG SOUTH															
SOUTH TO EAST	20	1	2									3		5.29	23
SOUTH TO WEST															
EAST APPROACH												5	2.58		194
EAST TO NORTH	163	1	2		1							4		86.08	167
EAST TO SOUTH	26		1									1		13.92	27
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1272
														PCT SPLIT OUT/IN	
NORTH TOTAL	1164	10	26	7	3	3	3	6				58		53/47	1222
PERCENTAGE	95.25	0.82	2.13	0.57	0.25	0.25	0.25	0.49				4.75			
SOUTH TOTAL	875	9	24	6	2	3	3	6				53		47/53	928
PERCENTAGE	94.29	0.97	2.59	0.65	0.22	0.32	0.32	0.65				5.71			
EAST TOTAL	381	3	8	1	1							13		49/51	394
PERCENTAGE	96.70	0.76	2.03	0.25	0.25							3.30			
WEST TOTAL															
PERCENTAGE															
															2544

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4987 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 15:00 - 16:00
LOCATION SR 19 & IRONDALE RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												37	4.75		779
THIS LEG NORTH															
NORTH TO SOUTH	513	12	8	3		2	3	1				29		69.58	542
NORTH TO EAST	229		7	1								8		30.42	237
NORTH TO WEST															
SOUTH APPROACH												17	3.95		430
SOUTH TO NORTH	354	1	6		1	1	2	2			1	14		85.58	368
THIS LEG SOUTH															
SOUTH TO EAST	59	1	2									3		14.42	62
SOUTH TO WEST															
EAST APPROACH												3	1.68		179
EAST TO NORTH	151	1	2									3		86.03	154
EAST TO SOUTH	25													13.97	25
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1388
														PCT SPLIT OUT/IN	
NORTH TOTAL	1247	14	23	4	1	3	5	3			1	54		60/40	1301
PERCENTAGE	95.85	1.08	1.77	0.31	0.08	0.23	0.38	0.23			0.08	4.15			
SOUTH TOTAL	951	14	16	3	1	3	5	3			1	46		43/57	997
PERCENTAGE	95.39	1.40	1.60	0.30	0.10	0.30	0.50	0.30			0.10	4.61			
EAST TOTAL	464	2	11	1								14		37/63	478
PERCENTAGE	97.07	0.42	2.30	0.21								2.93			
WEST TOTAL															
PERCENTAGE															
															2776

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4987 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:00 - 17:00
LOCATION SR 19 & IRONDALE RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												22	3.04		723
THIS LEG NORTH															
NORTH TO SOUTH	498	2	9	1		1	2					15		70.95	513
NORTH TO EAST	203	1	5			1						7		29.05	210
NORTH TO WEST															
SOUTH APPROACH												22	4.10		537
SOUTH TO NORTH	464	3	9			1	4	4				21		90.32	485
THIS LEG SOUTH															
SOUTH TO EAST	51		1									1		9.68	52
SOUTH TO WEST															
EAST APPROACH												8	4.17		192
EAST TO NORTH	168	1	4	1								6		90.62	174
EAST TO SOUTH	16		2									2		9.38	18
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1452
													PCT SPLIT OUT/IN		
NORTH TOTAL	1333	7	27	2		3	6	4				49		52/48	1382
PERCENTAGE	96.45	0.51	1.95	0.14		0.22	0.43	0.29				3.55			
SOUTH TOTAL	1029	5	21	1		2	6	4				39		50/50	1068
PERCENTAGE	96.35	0.47	1.97	0.09		0.19	0.56	0.37				3.65			
EAST TOTAL	438	2	12	1		1						16		42/58	454
PERCENTAGE	96.48	0.44	2.64	0.22		0.22						3.52			
WEST TOTAL															
PERCENTAGE															
															2904

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4987 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 17:00 - 18:00
LOCATION SR 19 & IRONDALE RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												13	1.81		719
THIS LEG NORTH															
NORTH TO SOUTH	481	2	5			2	2	1				12		68.57	493
NORTH TO EAST	225		1									1		31.43	226
NORTH TO WEST															
SOUTH APPROACH												19	4.31		441
SOUTH TO NORTH	378	2	12				2	3				19		90.02	397
THIS LEG SOUTH															
SOUTH TO EAST	44													9.98	44
SOUTH TO WEST															
EAST APPROACH												3	1.69		178
EAST TO NORTH	153		3									3		87.64	156
EAST TO SOUTH	22													12.36	22
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1338
														PCT SPLIT OUT/IN	
NORTH TOTAL	1237	4	21			2	4	4				35		57/43	1272
PERCENTAGE	97.25	0.31	1.65			0.16	0.31	0.31				2.75			
SOUTH TOTAL	925	4	17			2	4	4				31		46/54	956
PERCENTAGE	96.76	0.42	1.78			0.21	0.42	0.42				3.24			
EAST TOTAL	444		4									4		40/60	448
PERCENTAGE	99.11		0.89									0.89			
WEST TOTAL															
PERCENTAGE															
															2676

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4987 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:30 - 17:30
LOCATION SR 19 & IRONDALE RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												17	2.18		779
THIS LEG NORTH															
NORTH TO SOUTH	513	2	9			1	3					15		67.78	528
NORTH TO EAST	249		2									2		32.22	251
NORTH TO WEST															
SOUTH APPROACH												18	3.66		492
SOUTH TO NORTH	430	1	7			1	5	3				17		90.85	447
THIS LEG SOUTH															
SOUTH TO EAST	44		1									1		9.15	45
SOUTH TO WEST															
EAST APPROACH												2	1.09		184
EAST TO NORTH	164		2									2		90.22	166
EAST TO SOUTH	18													9.78	18
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1455
														PCT SPLIT OUT/IN	
NORTH TOTAL	1356	3	20			2	8	3				36		56/44	1392
PERCENTAGE	97.41	0.22	1.44			0.14	0.57	0.22				2.59			
SOUTH TOTAL	1005	3	17			2	8	3				33		47/53	1038
PERCENTAGE	96.82	0.29	1.64			0.19	0.77	0.29				3.18			
EAST TOTAL	475		5									5		38/62	480
PERCENTAGE	98.96		1.04									1.04			
WEST TOTAL															
PERCENTAGE															
															2910

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4987 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:00 - 17:00
LOCATION SR 19 & IRONDALE RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												22	3.04		723
THIS LEG NORTH															
NORTH TO SOUTH	498	2	9	1		1	2					15		70.95	513
NORTH TO EAST	203	1	5			1						7		29.05	210
NORTH TO WEST															
SOUTH APPROACH												22	4.10		537
SOUTH TO NORTH	464	3	9			1	4	4				21		90.32	485
THIS LEG SOUTH															
SOUTH TO EAST	51		1									1		9.68	52
SOUTH TO WEST															
EAST APPROACH												8	4.17		192
EAST TO NORTH	168	1	4	1								6		90.62	174
EAST TO SOUTH	16		2									2		9.38	18
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1452
														PCT SPLIT OUT/IN	
NORTH TOTAL	1333	7	27	2		3	6	4				49		52/48	1382
PERCENTAGE	96.45	0.51	1.95	0.14		0.22	0.43	0.29				3.55			
SOUTH TOTAL	1029	5	21	1		2	6	4				39		50/50	1068
PERCENTAGE	96.35	0.47	1.97	0.09		0.19	0.56	0.37				3.65			
EAST TOTAL	438	2	12	1		1						16		42/58	454
PERCENTAGE	96.48	0.44	2.64	0.22		0.22						3.52			
WEST TOTAL															
PERCENTAGE															
															2904

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4987 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:30 - 17:30
LOCATION SR 19 & IRONDALE RD 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												17	2.18		779
THIS LEG NORTH															
NORTH TO SOUTH	513	2	9			1	3					15		67.78	528
NORTH TO EAST	249		2									2		32.22	251
NORTH TO WEST															
SOUTH APPROACH												18	3.66		492
SOUTH TO NORTH	430	1	7			1	5	3				17		90.85	447
THIS LEG SOUTH															
SOUTH TO EAST	44		1									1		9.15	45
SOUTH TO WEST															
EAST APPROACH												2	1.09		184
EAST TO NORTH	164		2									2		90.22	166
EAST TO SOUTH	18													9.78	18
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1455
														PCT SPLIT OUT/IN	
NORTH TOTAL	1356	3	20			2	8	3				36		56/44	1392
PERCENTAGE	97.41	0.22	1.44			0.14	0.57	0.22				2.59			
SOUTH TOTAL	1005	3	17			2	8	3				33		47/53	1038
PERCENTAGE	96.82	0.29	1.64			0.19	0.77	0.29				3.18			
EAST TOTAL	475		5									5		38/62	480
PERCENTAGE	98.96		1.04									1.04			
WEST TOTAL															
PERCENTAGE															
															2910

SR 019 MP 011.61 OFF SYS ID COUNTER NUM 4987 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 19 & IRONDALE RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												19	2.53		751
THIS LEG NORTH															
NORTH TO SOUTH	518	1	10			1	3					15		70.97	533
NORTH TO EAST	214	1	2			1						4		29.03	218
NORTH TO WEST															
SOUTH APPROACH												20	3.96		505
SOUTH TO NORTH	433	3	6			1	5	4				19		89.50	452
THIS LEG SOUTH															
SOUTH TO EAST	52		1									1		10.50	53
SOUTH TO WEST															
EAST APPROACH												4	1.97		203
EAST TO NORTH	180		3									3		90.15	183
EAST TO SOUTH	19		1									1		9.85	20
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															
WEST TO NORTH															
WEST TO SOUTH															
WEST TO EAST															
THIS LEG WEST															
															1459
														PCT SPLIT OUT/IN	
NORTH TOTAL	1345	5	21			3	8	4				41		54/46	1386
PERCENTAGE	97.04	0.36	1.52			0.22	0.58	0.29				2.96			
SOUTH TOTAL	1022	4	18			2	8	4				36		48/52	1058
PERCENTAGE	96.60	0.38	1.70			0.19	0.76	0.38				3.40			
EAST TOTAL	465	1	7			1						9		43/57	474
PERCENTAGE	98.10	0.21	1.48			0.21						1.90			
WEST TOTAL															
PERCENTAGE															
															2918

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	26	1.88	15	1.08			41	2.96	0.9836
SOUTH TOTAL	22	2.08	14	1.32			36	3.40	0.9796
EAST TOTAL	8	1.69	1	0.21			9	1.90	0.9978
WEST TOTAL									

PEAK HOUR FACTOR 0.975 354 374 359 372 1459

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

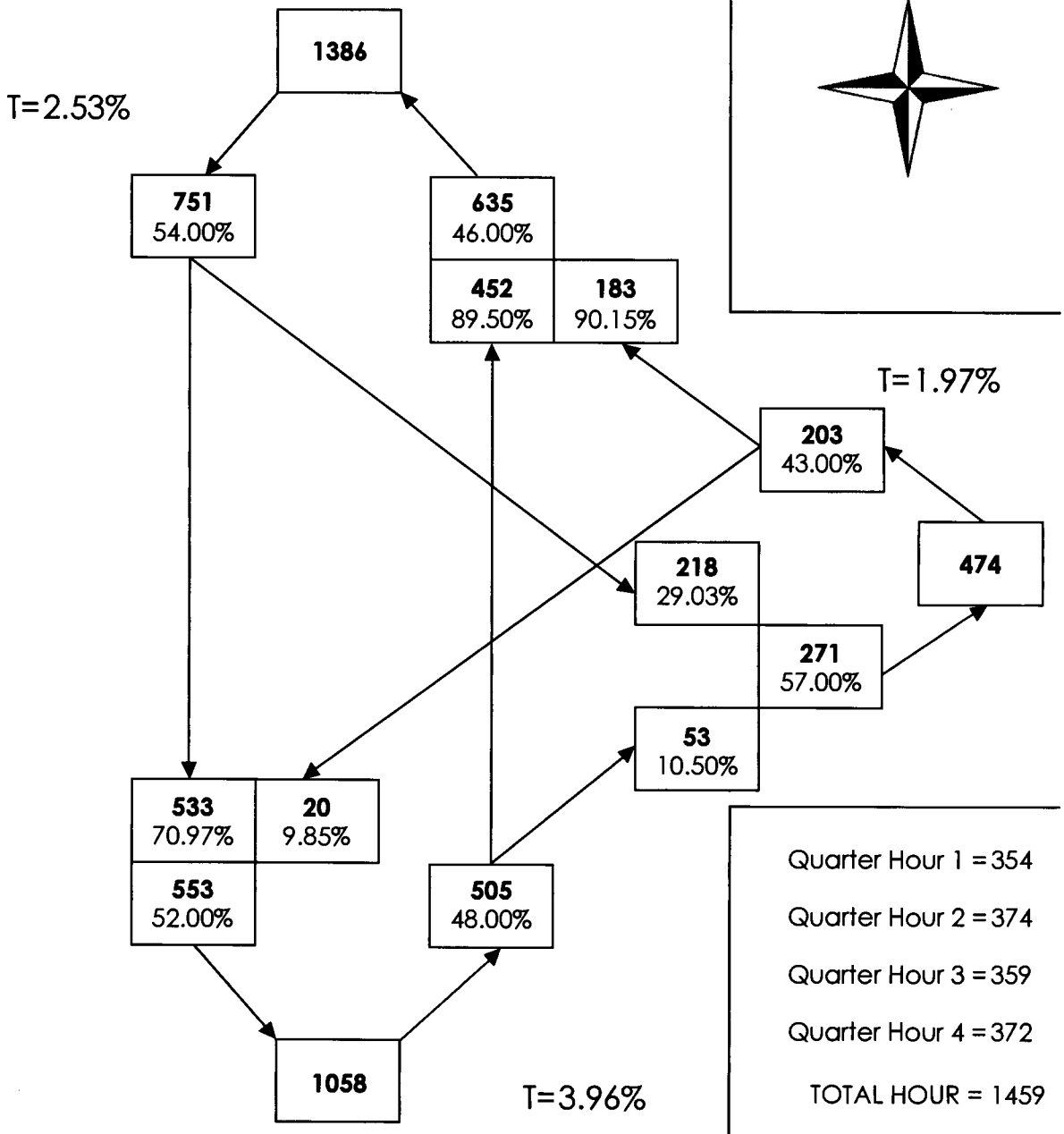
(Block Diagram)

Date: 3/21/2017
Time Period: 16:15 - 17:15

SR: 019 MP: 011.61 Off Sys. ID: Count ID: 17-006

Location: SR 19 & IRONDALE RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

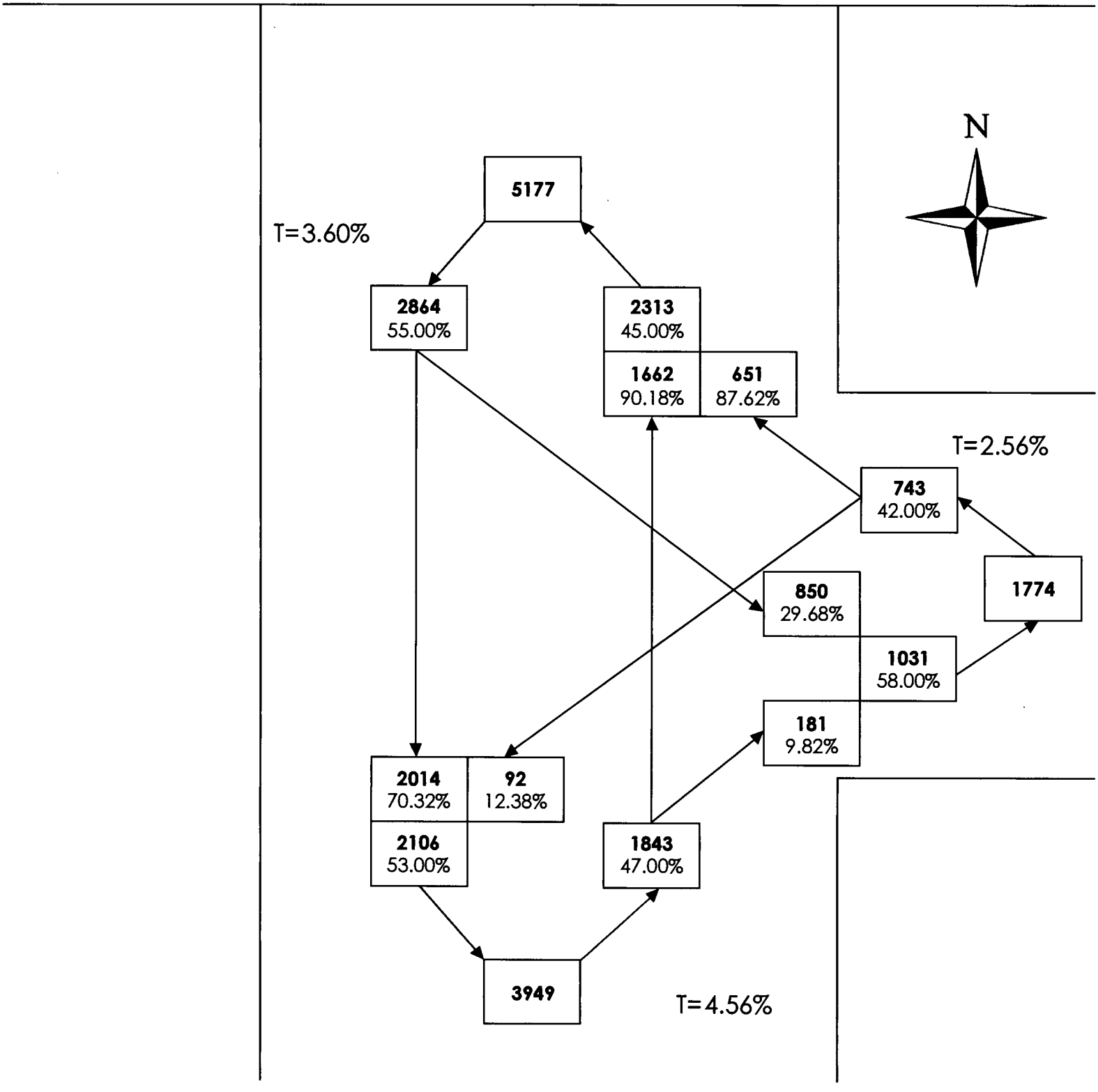
(Block Diagram)

Date: 3/21/2017
Time Period: 14:00 - 18:00

SR: 019 MP: 011.61 Off Sys. ID: Count ID: 17-006

Location: SR 19 & IRONDALE RD

ENTIRE COUNT VOLUMES



CB#1143 CB#'S 4987, 4988, 4989 ID

Washington State Department of Transportation

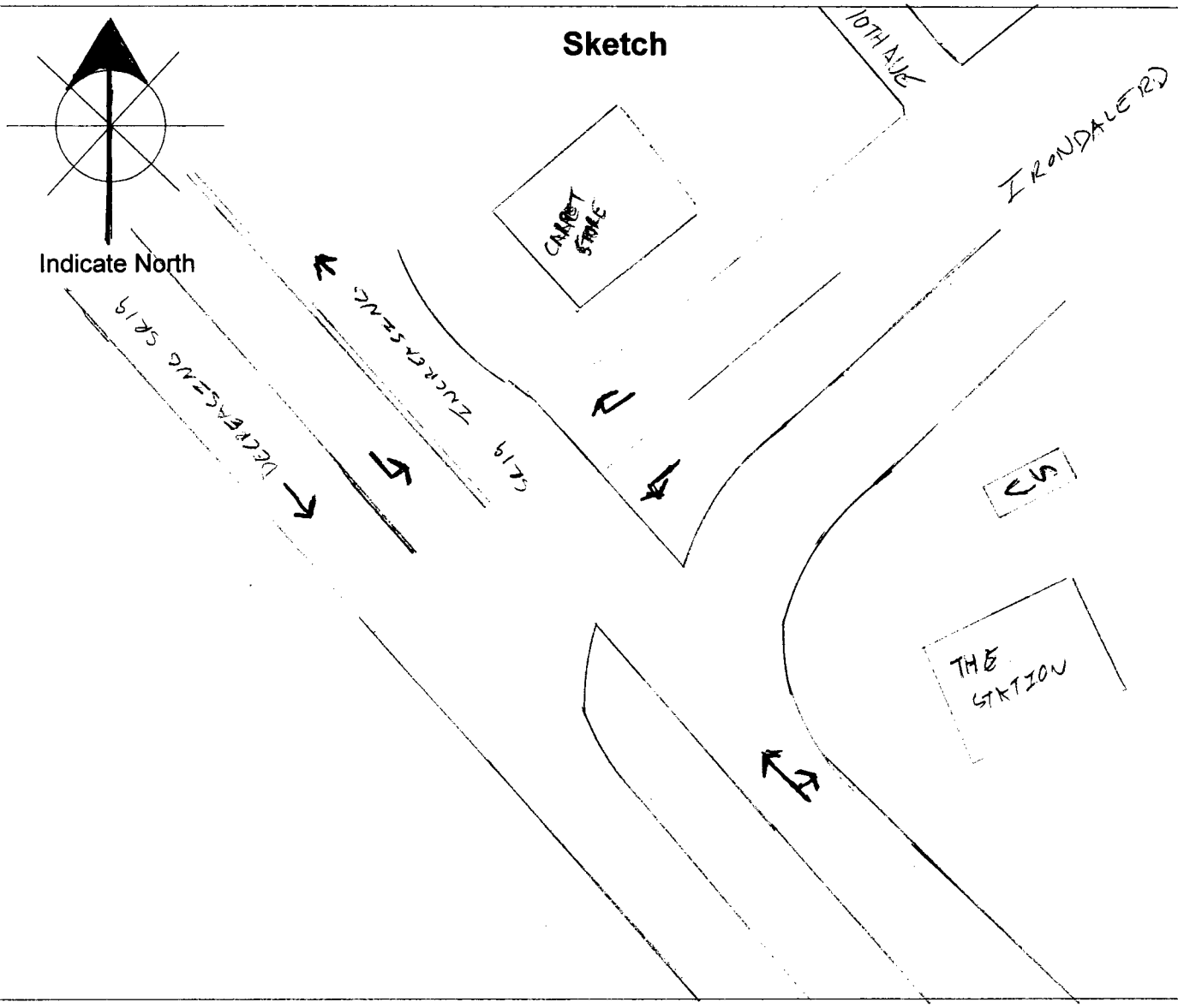
Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
019	11 ● 61		17-006	3/21-3/23

Station Location

JCT OF SR 019 & IRONDALE RD

Sketch



Remarks:

G:\17-006S	14-1800	*4987	3/21/17
G:\17-006T	10-1400	*4988	3/22/17
G:\17-006U	06-1000	*4989	3/23/17

Signature

DOT Form 324-005 EF
Revised 2/2007

Peninsula Regional Transportation Planning Organization

SR 19 (Beaver Valley Road)/SR 116 (Ness Corner Road) Intersection Operational Analysis



Prepared by

WSDOT
Washington State Department of Transportation
Olympic Region Planning

July 2017

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Introduction:

This operational analysis was prepared at the special request of the local jurisdiction and funded by the Peninsula Regional Transportation Planning Organization. Those intersections identified as operating below the Washington State Department of Transportation's policy for what is considered acceptable traffic operation level of service (LOS) will need to compete for funding with other intersections around the state based on the expected performance outcome for the proposed improvements.

SR 19 (Beaver Valley Road) is part of the National Highway System and designated as a Highway of Statewide Significance. SR 19 is a 2-lane rural minor arterial highway where the posted speed limits along the route varies from 50 mph, at either end of the route, to 35-40 mph in the vicinity of the tri-urban growth area of Chimacum, Irondale and Port Hadlock. SR 19 connects with SR 20 and SR 116 and is classified as T-3 in the 2015 Freight and Goods Transportation System with 2.66 million annual tonnage and 660 trucks using this route daily. SR 116 has a 0.68 million annual tonnage and 290 trucks using this route daily. The 2016 annual average daily traffic on SR 19 ranges from 6,400 near SR 104 to 14,000 before Theater Road located near the Jefferson County International Airport. The SR 19/SR 116 intersection has an annual average daily traffic of 6,700 vehicles.

The intersection of SR 19 and SR 116 (Ness Corner Road) is located in the unincorporated community of Port Hadlock in Jefferson County. This rural minor arterial features one twelve-foot lane in each direction, one twelve foot two-way turn lane, and 8-foot roadway shoulders. The posted speed limit at this location is 40 mph with a level terrain. SR 116 provides access to the Port Hadlock community as well as to the Indian Island Naval Reservation and the Fort Flagler State Park.

Methodology

Traffic Operations Model

The Highway Capacity Software 2010 was used to analyze the unsignalized intersection of SR 19/SR 116. The turning movement counts from the minor street that experiences the worst delay defines the level of service (LOS) for the intersection. LOS is based on the seconds per vehicle. The LOS criteria for automobiles at a two-way stopped controlled intersection as defined in the Highway Capacity Manual 2010 is as follows:

Highway Capacity Manual Exhibit 19-1 Two-way Stopped Controlled Intersection LOS Criteria

Control Delay (seconds/vehicle)	**LOS by Volume-to-Capacity Ratio** **Volume-to-Capacity ≤ 1.0**
0-10	A
>10-15	B

Control Delay (seconds/vehicle)	LOS by Volume-to-Capacity Ratio Volume-to-Capacity ≤ 1.0
>15-25	C
>25-35	D
>35-50	E
>50	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major street approaches or for the intersection as a whole.

The Synchro 8/SimTraffic software and the Highway Capacity Software 2010 were used to determine the traffic queues at the intersection.

Traffic Volumes

In March 2017, WSDOT staff performed 12-hour turning movement manual counts at all legs of the SR 19/SR 116 intersection.

Analysis

The intersection analysis applies a seasonal factor of 1.09 percent to the weekday traffic volumes collected. The seasonal factor adjusts the volumes to reflect the yearly average volume, and are only applied to the major approaches. The LOS and the delay in seconds for the SR 19/SR 116 intersection are depicted in the table below.

Figure 2: Level of Service (Delay, Seconds)

LOCATION	AM	MID-DAY	PM
SR 19/SR 116	D (30.2)	F (58.7)	F (119.1)

Figure 2 portrays the traffic operation LOS at the SR 19/SR 116 intersection. During the morning hours between 6 to 10 a.m., the intersection delay is designated an LOS D with an average delay of 30.2 seconds, meaning that motorists would wait on average 30.2 seconds at the intersection before they could proceed. Mid-Day between the hours of 11 a.m. to 2 p.m., motorists would wait an average of 58.7 seconds. During the evening hours, between 2 p.m. to 6 p.m., motorists would be delayed at the intersection 119.1 seconds before they could proceed.

The Washington State Department of Transportation's policy for what is considered a minimal acceptable traffic operation LOS at this location is a LOS C designation for rural highways.

Summary

The analysis depicts the SR 19/SR 116 intersection operating below the target level of LOS C designation for rural highways during the morning, mid-day and evening hours. As mentioned in the introduction, improvements must compete for funding based upon expected performance outcome. This location may or may not compete well with other intersections statewide.

Appendix

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: AM
Intersection:
Jurisdiction: Jefferson Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 19/SR 116
East/West Street: SR 116
North/South Street: SR 19
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	2	296	100	132	231	0
Peak-Hour Factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Hourly Flow Rate, HFR	2	314	106	140	245	0
Percent Heavy Vehicles	0	--	--	8	--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1	0	1	1	0
Configuration		LTR		L		TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	79	4	141	2	2	4
Peak Hour Factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Hourly Flow Rate, HFR	84	4	150	2	2	4
Percent Heavy Vehicles	10	0	4	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			No /
Lanes	1	1	0	0	1	0
Configuration	L		TR		LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	L	L		TR		LTR	
v (vph)	2	140	84		154		8	
C(m) (vph)	1333	1108	225		645		305	
v/c	0.00	0.13	0.37		0.24		0.03	
95% queue length	0.00	0.43	1.64		0.93		0.08	
Control Delay	7.7	8.7	30.2		12.3		17.1	
LOS	A	A	D		B		C	
Approach Delay				18.6			17.1	
Approach LOS				C			C	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: Mid-day
Intersection: SR 19/SR 116
Jurisdiction: Jefferson Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 19/SR 116
East/West Street: SR 116
North/South Street: SR 19
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	4	324	96	203	320	2
Peak-Hour Factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Hourly Flow Rate, HFR	4	348	103	218	344	2
Percent Heavy Vehicles	0	--	--	3	--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1	0	1	1	0
Configuration		LTR		L		TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	67	1	173	2	2	5
Peak Hour Factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Hourly Flow Rate, HFR	72	1	186	2	2	5
Percent Heavy Vehicles	3	0	1	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			No /
Lanes	1	1	0	0	1	0
Configuration	L		TR		LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	L	L		TR		LTR	
v (vph)	4	218	72		187		9	
C(m) (vph)	1224	1104	135		641		203	
v/c	0.00	0.20	0.53		0.29		0.04	
95% queue length	0.01	0.73	2.58		1.21		0.14	
Control Delay	8.0	9.1	58.7		12.9		23.6	
LOS	A	A	F		B		C	
Approach Delay			25.6				23.6	
Approach LOS			D				C	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: PM
Intersection: SR 19/SR 116
Jurisdiction: Jefferson Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: SR 19/SR 116
East/West Street: SR 116
North/South Street: SR 19
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	334	113	263	363	0
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR	1	347	117	273	378	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1	0	1	1	0
Configuration		LTR		L		TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	81	2	183	0	2	8
Peak Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR	84	2	190	0	2	8
Percent Heavy Vehicles	1	0	1	0	0	0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			No /
Lanes	1	1	0	0	1	0
Configuration	L		TR		LTR	

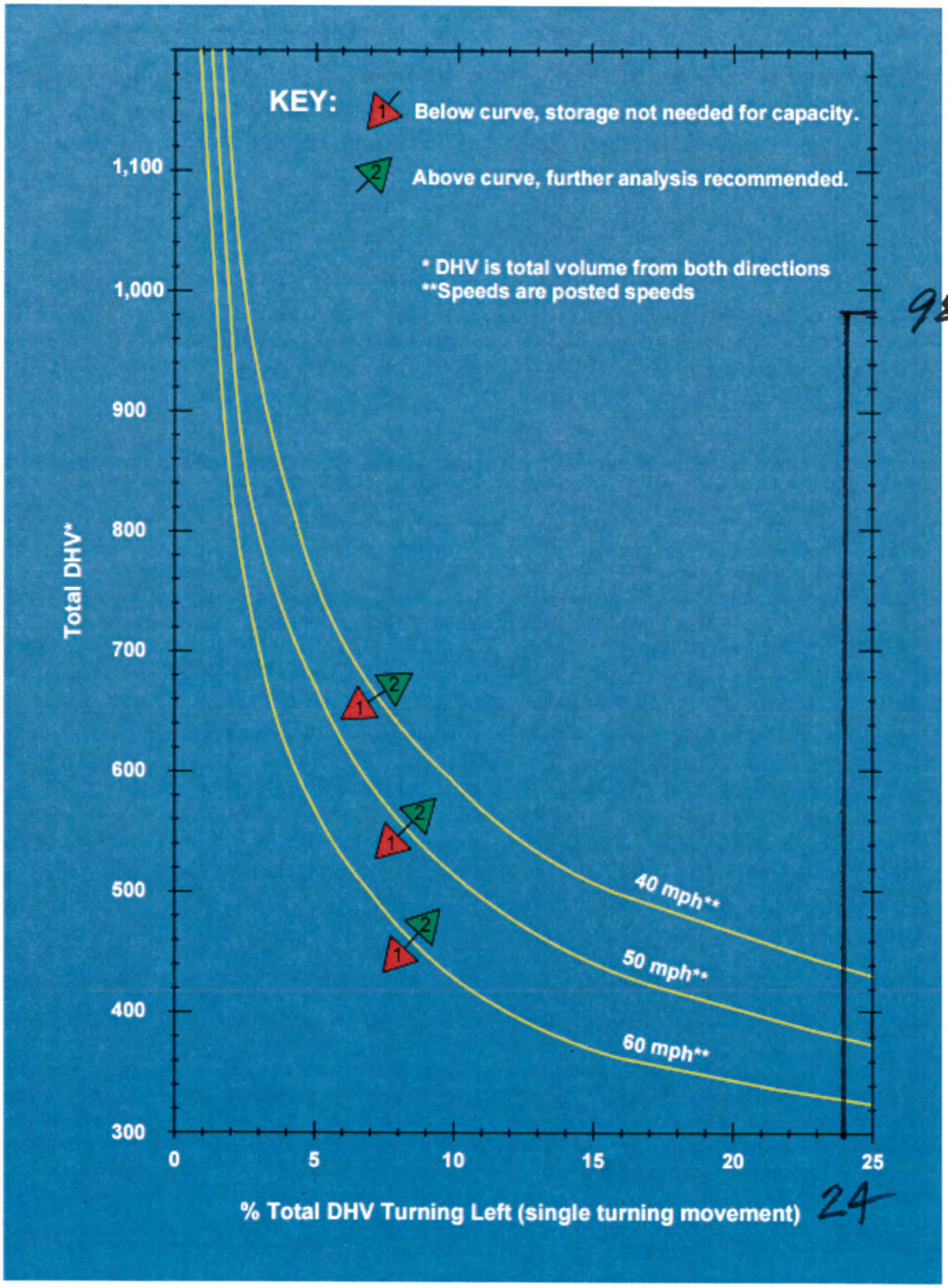
Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	L	L		TR		LTR	
v (vph)	1	273	84		192		10	
C(m) (vph)	1192	1097	103		618		329	
v/c	0.00	0.25	0.82		0.31		0.03	
95% queue length	0.00	0.98	4.55		1.32		0.09	
Control Delay	8.0	9.4	119.1		13.4		16.3	
LOS	A	A	F		B		C	
Approach Delay			45.6				16.3	
Approach LOS			E				C	

SR 19/SR 116
MP 10.68

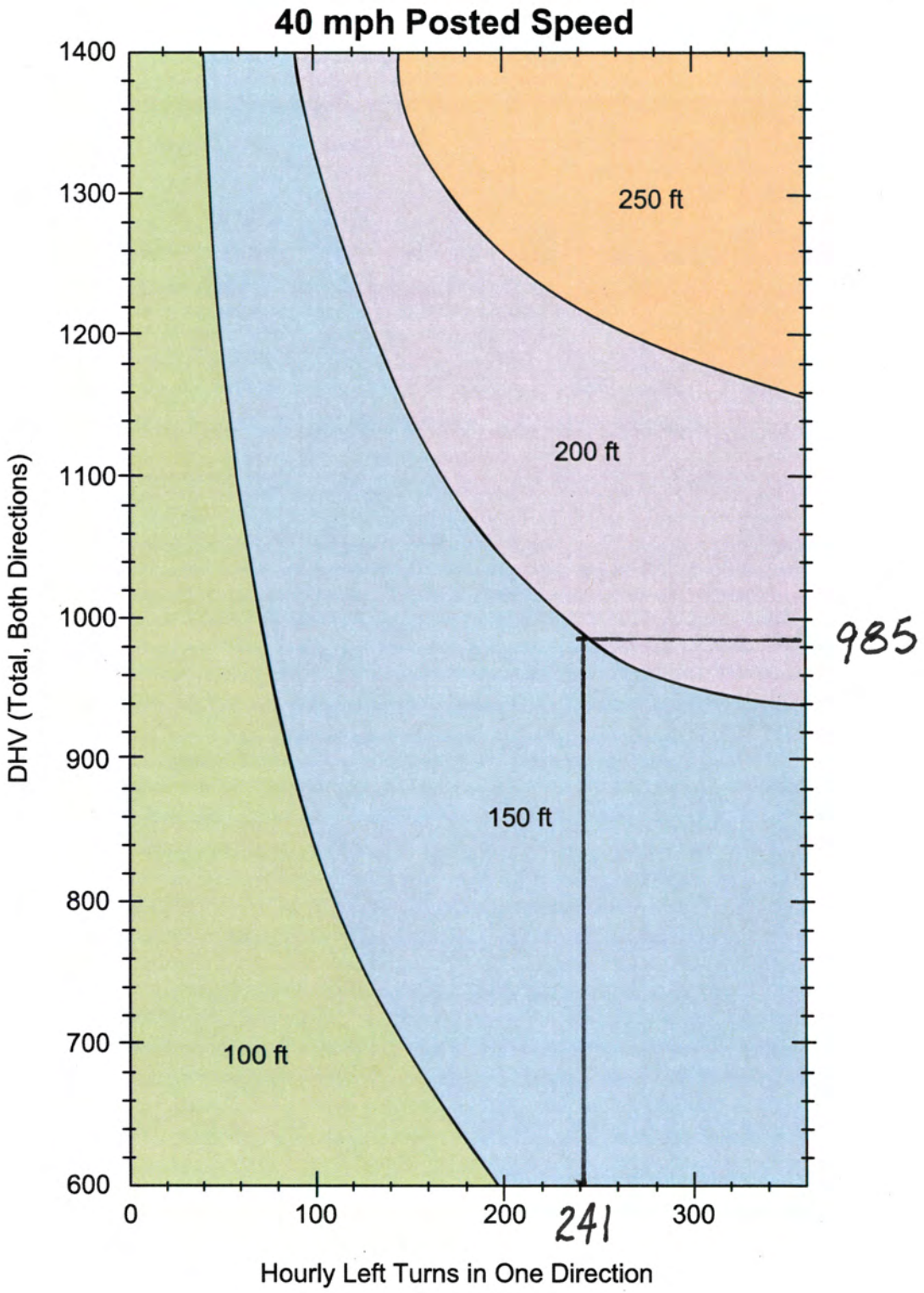
40mph

Exhibit 1310-7a Left-Turn Storage Guidelines: Two-Lane, Unsignalized



SR 19 / SR 116
MP 10.68

Exhibit 1310-8a Left-Turn Storage Length: Two-Lane, Unsignalized (40mph)



VEHICLE VOLUME SUMMARY

Prepared By: jmn

State Route 19 MP 10.68 Count Date 3/23/17

Intersection SR 116 85% Speed 40

Major Lanes 2 Minor Lanes 1

Seasonal Factor	1.09
Minor Leg 1 % Rt. Turns	0.00%
Minor Leg 2 % Rt. Turns	0.00%

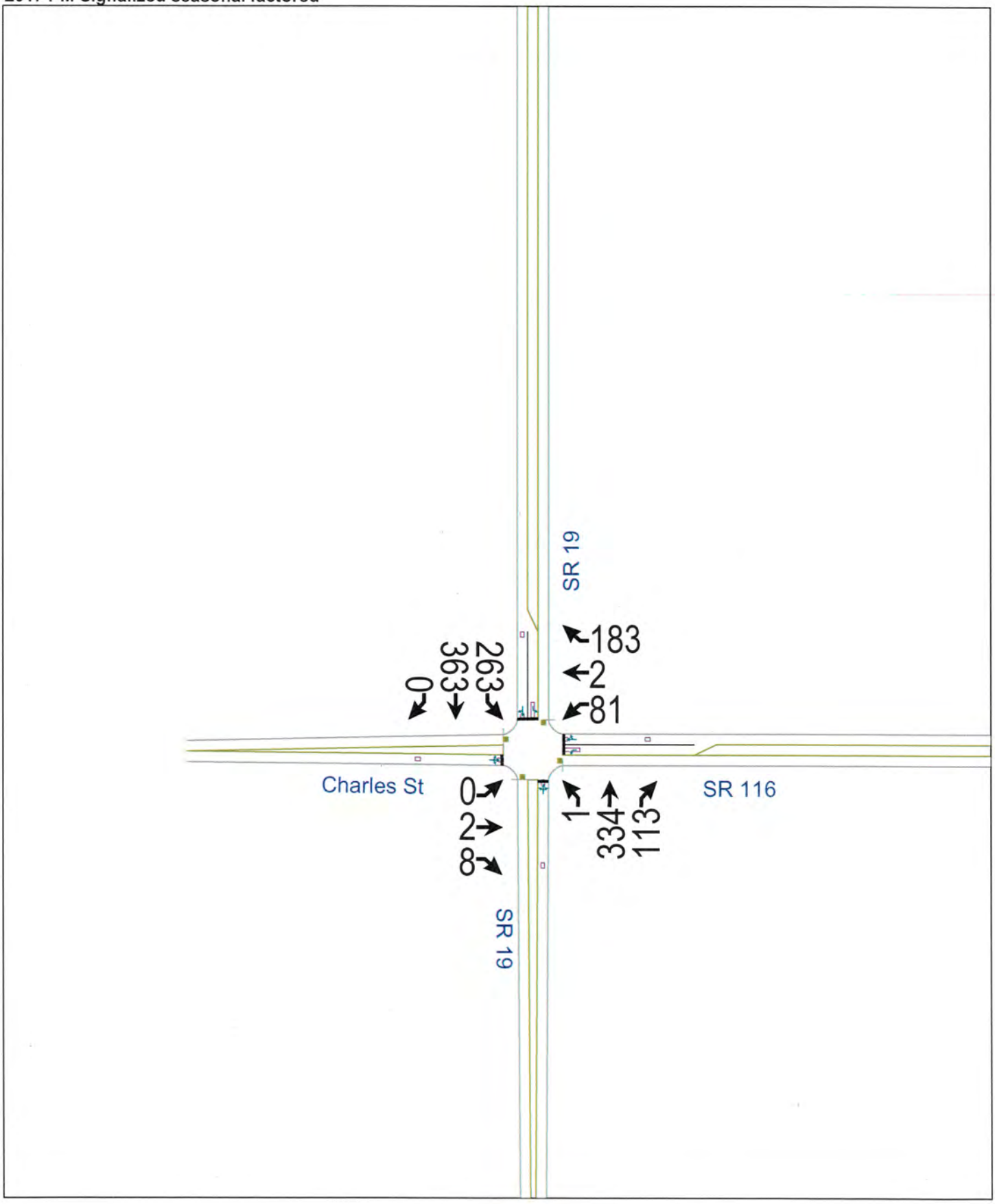
TIME	MAJOR LEG INC	MAJOR LEG DEC	MAJOR LEGS TOTAL	MINOR LEG 1 WB	SEASONAL FACTORS		MINOR LEG 2 EB	SEASONAL FACTORS		Warrant #1 Cond. A 600/150	Warrant #1 Cond. B 900/75
00-0100	0	0	**0**	0	**0**		22	**24**			
01-0200	0	0	**0**	1	**1**		3	**3**			
02-0300	0	0	**0**	2	**2**		1	**1**			
03-0400	0	0	**0**	2	**2**		14	**15**			
04-0500	0	0	**0**	5	**5**		30	**33**			
05-0600	0	0	**0**	12	**13**		61	**66**			
06-0700	171	151	**351**	61	**66**		3	**3**			
07-0800	305	278	**635**	104	**113**		4	**4**			
08-0900	304	349	**712**	125	**136**		4	**4**			
09-1000	373	335	**772**	139	**152**		7	**8**		1	
10-1100	306	379	**747**	162	**177**		8	**9**		1	
11-1200	344	437	**851**	163	**178**		9	**10**		1	
12-1300	372	436	**881**	175	**191**		10	**11**		1	
13-1400	389	481	**948**	179	**195**		8	**9**		1	1
14-1500	381	465	**922**	150	**164**		10	**11**		1	1
15-1600	319	555	**953**	207	**226**		8	**9**		1	1
16-1700	459	548	**1098**	171	**186**		5	**5**		1	1
17-1800	384	540	**1007**	153	**167**		7	**8**		1	1
18-1900	0	469	**511**	0	**0**		5	**5**			
19-2000	0	255	**278**	0	**0**		0	**0**			
20-2100	0	139	**152**	0	**0**		0	**0**			
21-2200	0	104	**113**	0	**0**		0	**0**			
22-2300	0	103	**112**	0	**0**		0	**0**			
23-2400	0	73	**80**	0	**0**		0	**0**			
TOTAL	4107	6097	**11122**	1811	**1974**		219	**239**		*Total Hours* 9	*Total Hours* 5

V_m = 1210 V_s = 158

WSDOT OLYMPIC REGION TRAFFIC

SIGNAL PRIORITY LIST ***DATA SUMMARY SHEET***

Map - SR 19/SR 116
2017 PM Signalized seasonal factored



2017 PM signalized sf.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	2	8	81	2	183	1	334	113	263	363	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1900	1900	1881	1881	1900	1900	1863	1900	1863	1827	1900
Adj Flow Rate, veh/h	0	2	8	84	2	191	1	348	118	274	378	0
Adj No. of Lanes	0	1	0	1	1	0	0	1	0	1	1	0
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, %	0	0	0	1	0	0	2	2	2	2	4	4
Cap, veh/h	0	59	237	418	3	282	88	837	283	795	1149	0
Arrive On Green	0.00	0.18	0.18	0.18	0.18	0.18	0.63	0.63	0.63	0.63	0.63	0.00
Sat Flow, veh/h	0	333	1332	1413	17	1585	0	1332	450	923	1827	0
Grp Volume(v), veh/h	0	0	10	84	0	193	467	0	0	274	378	0
Grp Sat Flow(s),veh/h/ln	0	0	1665	1413	0	1602	1783	0	0	923	1827	0
Q Serve(g_s), s	0.0	0.0	0.2	2.2	0.0	4.7	0.0	0.0	0.0	0.0	4.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.2	2.4	0.0	4.7	5.4	0.0	0.0	4.4	4.0	0.0
Prop In Lane	0.00		0.80	1.00		0.99	0.00		0.25	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	296	418	0	285	1208	0	0	795	1149	0
V/C Ratio(X)	0.00	0.00	0.03	0.20	0.00	0.68	0.39	0.00	0.00	0.34	0.33	0.00
Avail Cap(c_a), veh/h	0	0	644	714	0	620	1208	0	0	795	1149	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	14.1	15.0	0.0	15.9	3.9	0.0	0.0	3.7	3.6	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	2.8	0.9	0.0	0.0	1.2	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.9	0.0	2.3	2.9	0.0	0.0	1.7	2.2	0.0
LnGrp Delay(d),s/veh	0.0	0.0	14.1	15.3	0.0	18.7	4.8	0.0	0.0	4.9	4.4	0.0
LnGrp LOS			B	B		B	A			A	A	
Approach Vol, veh/h		10			277			467			652	
Approach Delay, s/veh		14.1			17.7			4.8			4.6	
Approach LOS		B			B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		30.0		11.4		30.0		11.4
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		26.0		16.0		26.0		16.0
Max Q Clear Time (g_c+I1), s		7.4		2.2		6.4		6.7
Green Ext Time (p_c), s		7.0		1.2		7.2		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	7.3
HCM 2010 LOS	A

Intersection: 3: SR 19 & Charles St/SR 116

Movement	EB	WB	WB	NB	SB	SB
Directions Served	LTR	L	TR	LTR	L	TR
Maximum Queue (ft)	31	64	76	145	122	241
Average Queue (ft)	10	38	46	76	82	81
95th Queue (ft)	33	68	76	136	127	197
Link Distance (ft)	360		1261	988		921
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		150			100	
Storage Blk Time (%)					9	1
Queuing Penalty (veh)					33	2

Network Summary

Network wide Queuing Penalty: 35

MOVEMENT SUMMARY

Site: SR 19 & SR 116 Peninsula RTPO Study 2017 - all single lane approaches

SR 19/SR 116
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: SR 19RoadName											
3	L2	1	100.0	0.496	15.9	LOS B	3.3	86.0	0.60	0.65	26.2
8	T1	348	6.0	0.496	6.3	LOS A	3.3	86.0	0.60	0.65	35.6
18	R2	118	1.0	0.496	6.1	LOS A	3.3	86.0	0.60	0.65	34.7
Approach		467	4.9	0.496	6.3	LOS A	3.3	86.0	0.60	0.65	35.4
East: SR 116											
1	L2	84	1.0	0.307	11.6	LOS B	1.8	45.0	0.58	0.71	35.2
6	T1	2	0.0	0.307	6.2	LOS A	1.8	45.0	0.58	0.71	27.3
16	R2	191	1.0	0.307	6.3	LOS A	1.8	45.0	0.58	0.71	34.3
Approach		277	1.0	0.307	7.9	LOS A	1.8	45.0	0.58	0.71	34.5
North: SR 19											
7	L2	274	2.0	0.579	10.2	LOS B	5.1	129.6	0.44	0.55	35.1
4	T1	378	4.0	0.579	4.9	LOS A	5.1	129.6	0.44	0.55	35.1
14	R2	1	0.0	0.579	4.9	LOS A	5.1	129.6	0.44	0.55	28.7
Approach		653	3.2	0.579	7.2	LOS A	5.1	129.6	0.44	0.55	35.1
West: Charles St											
5	L2	1	0.0	0.017	13.0	LOS B	0.1	2.3	0.67	0.64	32.5
2	T1	2	0.0	0.017	7.6	LOS A	0.1	2.3	0.67	0.64	32.6
12	R2	8	0.0	0.017	7.7	LOS A	0.1	2.3	0.67	0.64	31.3
Approach		11	0.0	0.017	8.2	LOS A	0.1	2.3	0.67	0.64	31.6
All Vehicles		1408	3.3	0.579	7.0	LOS A	5.1	129.6	0.52	0.62	35.0

Level of Service (LOS) Method: Delay (HCM 2000).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 07:35:55
PAGE: 1

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5425 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/24/2017 DAY OF WEEK 6 TIME PERIOD HOUR 06:00 - 10:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												109	9.79		1113
THIS LEG NORTH															
NORTH TO SOUTH	692	13	35	4	1	1	14	11				79		69.27	771
NORTH TO EAST	311	7	16	2		3	1				1	30		30.64	341
NORTH TO WEST	1													0.09	1
SOUTH APPROACH												89	7.72		1153
SOUTH TO NORTH	844	11	35	4	1	1	9	9	3		2	75		79.71	919
THIS LEG SOUTH															
SOUTH TO EAST	200	8	5	1								14		18.56	214
SOUTH TO WEST	20													1.73	20
EAST APPROACH												35	5.24		668
EAST TO NORTH	410	4	11	1		1	2					19		64.22	429
EAST TO SOUTH	208	12	4									16		33.53	224
THIS LEG EAST															
EAST TO WEST	15													2.25	15
WEST APPROACH												2	11.11		18
WEST TO NORTH	3													16.67	3
WEST TO SOUTH	7		2									2		50.00	9
WEST TO EAST	6													33.33	6
THIS LEG WEST															
															2952
														PCT SPLIT OUT/IN	
NORTH TOTAL	2261	35	97	11	2	6	26	20	3		3	203		45/55	2464
PERCENTAGE	91.76	1.42	3.94	0.45	0.08	0.24	1.06	0.81	0.12		0.12	8.24			
SOUTH TOTAL	1971	44	81	9	2	2	23	20	3		2	186		53/47	2157
PERCENTAGE	91.38	2.04	3.76	0.42	0.09	0.09	1.07	0.93	0.14		0.09	8.62			
EAST TOTAL	1150	31	36	4		4	3				1	79		54/46	1229
PERCENTAGE	93.57	2.52	2.93	0.33		0.33	0.24				0.08	6.43			
WEST TOTAL	52		2									2		33/67	54
PERCENTAGE	96.30		3.70									3.70			
															5904

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	145	5.88	52	2.11	6	0.24	203	8.24	0.9593
SOUTH TOTAL	136	6.31	45	2.09	5	0.23	186	8.62	0.9588
EAST TOTAL	71	5.78	7	0.57	1	0.08	79	6.43	0.9895
WEST TOTAL	2	3.70					2	3.70	1.0000

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5425 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/24/2017 DAY OF WEEK 6 TIME PERIOD HOUR 06:00 - 07:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												21	13.91		151
THIS LEG NORTH															
NORTH TO SOUTH	90	1	2				6	6				15		69.54	105
NORTH TO EAST	39	2	3	1								6		29.80	45
NORTH TO WEST	1													0.66	1
SOUTH APPROACH												20	11.70		171
SOUTH TO NORTH	123	7	4	1			3	1	1		1	18		82.46	141
THIS LEG SOUTH															
SOUTH TO EAST	25	2										2		15.79	27
SOUTH TO WEST	3													1.75	3
EAST APPROACH												2	2.08		96
EAST TO NORTH	60			1								1		63.54	61
EAST TO SOUTH	33	1										1		35.42	34
THIS LEG EAST															
EAST TO WEST	1													1.04	1
WEST APPROACH												2	66.67		3
WEST TO NORTH	1													33.33	1
WEST TO SOUTH			2									2		66.67	2
WEST TO EAST															
THIS LEG WEST															
															421
														PCT SPLIT OUT/IN	
NORTH TOTAL	314	10	9	3			9	7	1		1	40		43/57	354
PERCENTAGE	88.70	2.82	2.54	0.85			2.54	1.98	0.28		0.28	11.30			
SOUTH TOTAL	274	11	8	1			9	7	1		1	38		55/45	312
PERCENTAGE	87.82	3.53	2.56	0.32			2.88	2.24	0.32		0.32	12.18			
EAST TOTAL	158	5	3	2								10		57/43	168
PERCENTAGE	94.05	2.98	1.79	1.19								5.95			
WEST TOTAL	6		2									2		38/62	8
PERCENTAGE	75.00		25.0									25.00			
															842

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5425 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/24/2017 DAY OF WEEK 6 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												21	7.55		278
THIS LEG NORTH															
NORTH TO SOUTH	200	2	10	1			1	1				15		77.34	215
NORTH TO EAST	57	2	4									6		22.66	63
NORTH TO WEST															
SOUTH APPROACH												20	6.56		305
SOUTH TO NORTH	235	3	7	1		1	1	3	1			17		82.62	252
THIS LEG SOUTH															
SOUTH TO EAST	39	1	2									3		13.77	42
SOUTH TO WEST	11													3.61	11
EAST APPROACH												9	5.20		173
EAST TO NORTH	99	1	4									5		60.12	104
EAST TO SOUTH	56	3	1									4		34.68	60
THIS LEG EAST															
EAST TO WEST	9													5.20	9
WEST APPROACH															4
WEST TO NORTH															
WEST TO SOUTH	2													50.00	2
WEST TO EAST	2													50.00	2
THIS LEG WEST															
															760
														PCT SPLIT OUT/IN	
NORTH TOTAL	591	8	25	2		1	2	4	1			43		44/56	634
PERCENTAGE	93.22	1.26	3.94	0.32		0.16	0.32	0.63	0.16			6.78			
SOUTH TOTAL	543	9	20	2		1	2	4	1			39		52/48	582
PERCENTAGE	93.30	1.55	3.44	0.34		0.17	0.34	0.69	0.17			6.70			
EAST TOTAL	262	7	11									18		62/38	280
PERCENTAGE	93.57	2.50	3.93									6.43			
WEST TOTAL	24													17/83	24
PERCENTAGE	100.00														
															1520

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5425 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/24/2017 DAY OF WEEK 6 TIME PERIOD HOUR 08:00 - 09:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												34	9.74		349
THIS LEG NORTH															
NORTH TO SOUTH	199	9	6	3			5	2				25		64.18	224
NORTH TO EAST	116	1	5	1		1					1	9		35.82	125
NORTH TO WEST															
SOUTH APPROACH												15	4.93		304
SOUTH TO NORTH	204	1	4		1		2		1			9		70.07	213
THIS LEG SOUTH															
SOUTH TO EAST	82	4	2									6		28.95	88
SOUTH TO WEST	3													0.99	3
EAST APPROACH												15	7.58		198
EAST TO NORTH	119	2	2			1	1					6		63.13	125
EAST TO SOUTH	62	7	2									9		35.86	71
THIS LEG EAST															
EAST TO WEST	2													1.01	2
WEST APPROACH															4
WEST TO NORTH															
WEST TO SOUTH	2													50.00	2
WEST TO EAST	2													50.00	2
THIS LEG WEST															
															855
														PCT SPLIT OUT/IN	
NORTH TOTAL	638	13	17	4	1	2	8	2	1		1	49		51/49	687
PERCENTAGE	92.87	1.89	2.47	0.58	0.15	0.29	1.16	0.29	0.15		0.15	7.13			
SOUTH TOTAL	552	21	14	3	1		7	2	1			49		51/49	601
PERCENTAGE	91.85	3.49	2.33	0.50	0.17		1.16	0.33	0.17			8.15			
EAST TOTAL	383	14	11	1		2	1				1	30		48/52	413
PERCENTAGE	92.74	3.39	2.66	0.24		0.48	0.24				0.24	7.26			
WEST TOTAL	9													44/56	9
PERCENTAGE	100.00														
															1710

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5425 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/24/2017 DAY OF WEEK 6 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												33	9.85		335
THIS LEG NORTH															
NORTH TO SOUTH	203	1	17		1	1	2	2				24		67.76	227
NORTH TO EAST	99	2	4			2	1					9		32.24	108
NORTH TO WEST															
SOUTH APPROACH												34	9.12		373
SOUTH TO NORTH	282		20	2			3	5			1	31		83.91	313
THIS LEG SOUTH															
SOUTH TO EAST	54	1	1	1								3		15.28	57
SOUTH TO WEST	3													0.80	3
EAST APPROACH												9	4.48		201
EAST TO NORTH	132	1	5				1					7		69.15	139
EAST TO SOUTH	57	1	1									2		29.35	59
THIS LEG EAST															
EAST TO WEST	3													1.49	3
WEST APPROACH															7
WEST TO NORTH	2													28.57	2
WEST TO SOUTH	3													42.86	3
WEST TO EAST	2													28.57	2
THIS LEG WEST															
															916
														PCT SPLIT OUT/IN	
NORTH TOTAL	718	4	46	2	1	3	7	7			1	71		42/58	789
PERCENTAGE	91.00	0.51	5.83	0.25	0.13	0.38	0.89	0.89			0.13	9.00			
SOUTH TOTAL	602	3	39	3	1	1	5	7			1	60		56/44	662
PERCENTAGE	90.94	0.45	5.89	0.45	0.15	0.15	0.76	1.06			0.15	9.06			
EAST TOTAL	347	5	11	1		2	2					21		55/45	368
PERCENTAGE	94.29	1.36	2.99	0.27		0.54	0.54					5.71			
WEST TOTAL	13													54/46	13
PERCENTAGE	100.00														
															1832

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5425 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/24/2017 DAY OF WEEK 6 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												33	9.85		335
THIS LEG NORTH															
NORTH TO SOUTH	203	1	17		1	1	2	2				24		67.76	227
NORTH TO EAST	99	2	4			2	1					9		32.24	108
NORTH TO WEST															
SOUTH APPROACH												34	9.12		373
SOUTH TO NORTH	282		20	2			3	5			1	31		83.91	313
THIS LEG SOUTH															
SOUTH TO EAST	54	1	1	1								3		15.28	57
SOUTH TO WEST	3													0.80	3
EAST APPROACH												9	4.48		201
EAST TO NORTH	132	1	5				1					7		69.15	139
EAST TO SOUTH	57	1	1									2		29.35	59
THIS LEG EAST															
EAST TO WEST	3													1.49	3
WEST APPROACH															7
WEST TO NORTH	2													28.57	2
WEST TO SOUTH	3													42.86	3
WEST TO EAST	2													28.57	2
THIS LEG WEST															
															916
														PCT SPLIT OUT/IN	
NORTH TOTAL	718	4	46	2	1	3	7	7			1	71		42/58	789
PERCENTAGE	91.00	0.51	5.83	0.25	0.13	0.38	0.89	0.89			0.13	9.00			
SOUTH TOTAL	602	3	39	3	1	1	5	7			1	60		56/44	662
PERCENTAGE	90.94	0.45	5.89	0.45	0.15	0.15	0.76	1.06			0.15	9.06			
EAST TOTAL	347	5	11	1		2	2					21		55/45	368
PERCENTAGE	94.29	1.36	2.99	0.27		0.54	0.54					5.71			
WEST TOTAL	13													54/46	13
PERCENTAGE	100.00														
															1832

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5425 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/24/2017 DAY OF WEEK 6 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												33	9.85		335
THIS LEG NORTH															
NORTH TO SOUTH	203	1	17		1	1	2	2				24		67.76	227
NORTH TO EAST	99	2	4			2	1					9		32.24	108
NORTH TO WEST															
SOUTH APPROACH												34	9.12		373
SOUTH TO NORTH	282		20	2			3	5			1	31		83.91	313
THIS LEG SOUTH															
SOUTH TO EAST	54	1	1	1								3		15.28	57
SOUTH TO WEST	3													0.80	3
EAST APPROACH												9	4.48		201
EAST TO NORTH	132	1	5				1					7		69.15	139
EAST TO SOUTH	57	1	1									2		29.35	59
THIS LEG EAST															
EAST TO WEST	3													1.49	3
WEST APPROACH															7
WEST TO NORTH	2													28.57	2
WEST TO SOUTH	3													42.86	3
WEST TO EAST	2													28.57	2
THIS LEG WEST															
															916
														PCT SPLIT OUT/IN	
NORTH TOTAL	718	4	46	2	1	3	7	7			1	71		42/58	789
PERCENTAGE	91.00	0.51	5.83	0.25	0.13	0.38	0.89	0.89			0.13	9.00			
SOUTH TOTAL	602	3	39	3	1	1	5	7			1	60		56/44	662
PERCENTAGE	90.94	0.45	5.89	0.45	0.15	0.15	0.76	1.06			0.15	9.06			
EAST TOTAL	347	5	11	1		2	2					21		55/45	368
PERCENTAGE	94.29	1.36	2.99	0.27		0.54	0.54					5.71			
WEST TOTAL	13													54/46	13
PERCENTAGE	100.00														
															1832

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5425 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/24/2017 DAY OF WEEK 6 TIME PERIOD HOUR 08:15 - 09:15
LOCATION SR 19 & SR 116 & CHARLES ST 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												39	11.47		340
THIS LEG NORTH															
NORTH TO SOUTH	183	6	10	3			6	3				28		62.06	211
NORTH TO EAST	118	2	6	1		1					1	11		37.94	129
NORTH TO WEST															
SOUTH APPROACH												22	6.45		341
SOUTH TO NORTH	224	1	8				3	2	1			15		70.09	239
THIS LEG SOUTH															
SOUTH TO EAST	94	5	2									7		29.62	101
SOUTH TO WEST	1													0.29	1
EAST APPROACH												15	7.01		214
EAST TO NORTH	124		3			1	1					5		60.28	129
EAST TO SOUTH	72	7	3									10		38.32	82
THIS LEG EAST															
EAST TO WEST	3													1.40	3
WEST APPROACH															7
WEST TO NORTH															
WEST TO SOUTH	4													57.14	4
WEST TO EAST	3													42.86	3
THIS LEG WEST															
															902
														PCT SPLIT OUT/IN	
NORTH TOTAL	649	9	27	4		2	10	5	1		1	59		48/52	708
PERCENTAGE	91.67	1.27	3.81	0.56		0.28	1.41	0.71	0.14		0.14	8.33			
SOUTH TOTAL	578	19	23	3			9	5	1			60		53/47	638
PERCENTAGE	90.60	2.98	3.61	0.47			1.41	0.78	0.16			9.40			
EAST TOTAL	414	14	14	1		2	1				1	33		48/52	447
PERCENTAGE	92.62	3.13	3.13	0.22		0.45	0.22				0.22	7.38			
WEST TOTAL	11													64/36	11
PERCENTAGE	100.00														
															1804

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5425 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/24/2017 DAY OF WEEK 6 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												21	7.55		278
THIS LEG NORTH															
NORTH TO SOUTH	200	2	10	1			1	1				15		77.34	215
NORTH TO EAST	57	2	4									6		22.66	63
NORTH TO WEST															
SOUTH APPROACH												20	6.56		305
SOUTH TO NORTH	235	3	7	1		1	1	3	1			17		82.62	252
THIS LEG SOUTH															
SOUTH TO EAST	39	1	2									3		13.77	42
SOUTH TO WEST	11													3.61	11
EAST APPROACH												9	5.20		173
EAST TO NORTH	99	1	4									5		60.12	104
EAST TO SOUTH	56	3	1									4		34.68	60
THIS LEG EAST															
EAST TO WEST	9													5.20	9
WEST APPROACH															4
WEST TO NORTH															
WEST TO SOUTH	2													50.00	2
WEST TO EAST	2													50.00	2
THIS LEG WEST															
															760
														PCT SPLIT OUT/IN	
NORTH TOTAL	591	8	25	2		1	2	4	1			43		44/56	634
PERCENTAGE	93.22	1.26	3.94	0.32		0.16	0.32	0.63	0.16			6.78			
SOUTH TOTAL	543	9	20	2		1	2	4	1			39		52/48	582
PERCENTAGE	93.30	1.55	3.44	0.34		0.17	0.34	0.69	0.17			6.70			
EAST TOTAL	262	7	11									18		62/38	280
PERCENTAGE	93.57	2.50	3.93									6.43			
WEST TOTAL	24													17/83	24
PERCENTAGE	100.00														
															1520

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5425 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/24/2017 DAY OF WEEK 6 TIME PERIOD HOUR 08:30 - 09:30
LOCATION SR 19 & SR 116 & CHARLES ST 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												37	11.11		333
THIS LEG NORTH															
NORTH TO SOUTH	185	5	11	2	1		5	3				27		63.66	212
NORTH TO EAST	111	2	7	1								10		36.34	121
NORTH TO WEST															
SOUTH APPROACH												27	7.38		366
SOUTH TO NORTH	251	1	12	1			3	4				21		74.32	272
THIS LEG SOUTH															
SOUTH TO EAST	86	4	2									6		25.14	92
SOUTH TO WEST	2													0.55	2
EAST APPROACH												14	6.25		224
EAST TO NORTH	135		5			1						6		62.95	141
EAST TO SOUTH	71	6	2									8		35.27	79
THIS LEG EAST															
EAST TO WEST	4													1.79	4
WEST APPROACH															8
WEST TO NORTH	2													25.00	2
WEST TO SOUTH	4													50.00	4
WEST TO EAST	2													25.00	2
THIS LEG WEST															
															931
														PCT SPLIT OUT/IN	
NORTH TOTAL	684	8	35	4	1	1	8	7				64		45/55	748
PERCENTAGE	91.44	1.07	4.68	0.53	0.13	0.13	1.07	0.94				8.56			
SOUTH TOTAL	599	16	27	3	1		8	7				62		55/45	661
PERCENTAGE	90.62	2.42	4.08	0.45	0.15		1.21	1.06				9.38			
EAST TOTAL	409	12	16	1		1						30		51/49	439
PERCENTAGE	93.17	2.73	3.64	0.23		0.23						6.83			
WEST TOTAL	14													57/43	14
PERCENTAGE	100.00														
															1862

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	48	6.42	16	2.14			64	8.56	0.9614
SOUTH TOTAL	47	7.11	15	2.27			62	9.38	0.9586
EAST TOTAL	29	6.61	1	0.23			30	6.83	0.9965
WEST TOTAL									1.0000

PEAK HOUR FACTOR 0.935 224 249 243 215 931

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

(Block Diagram)

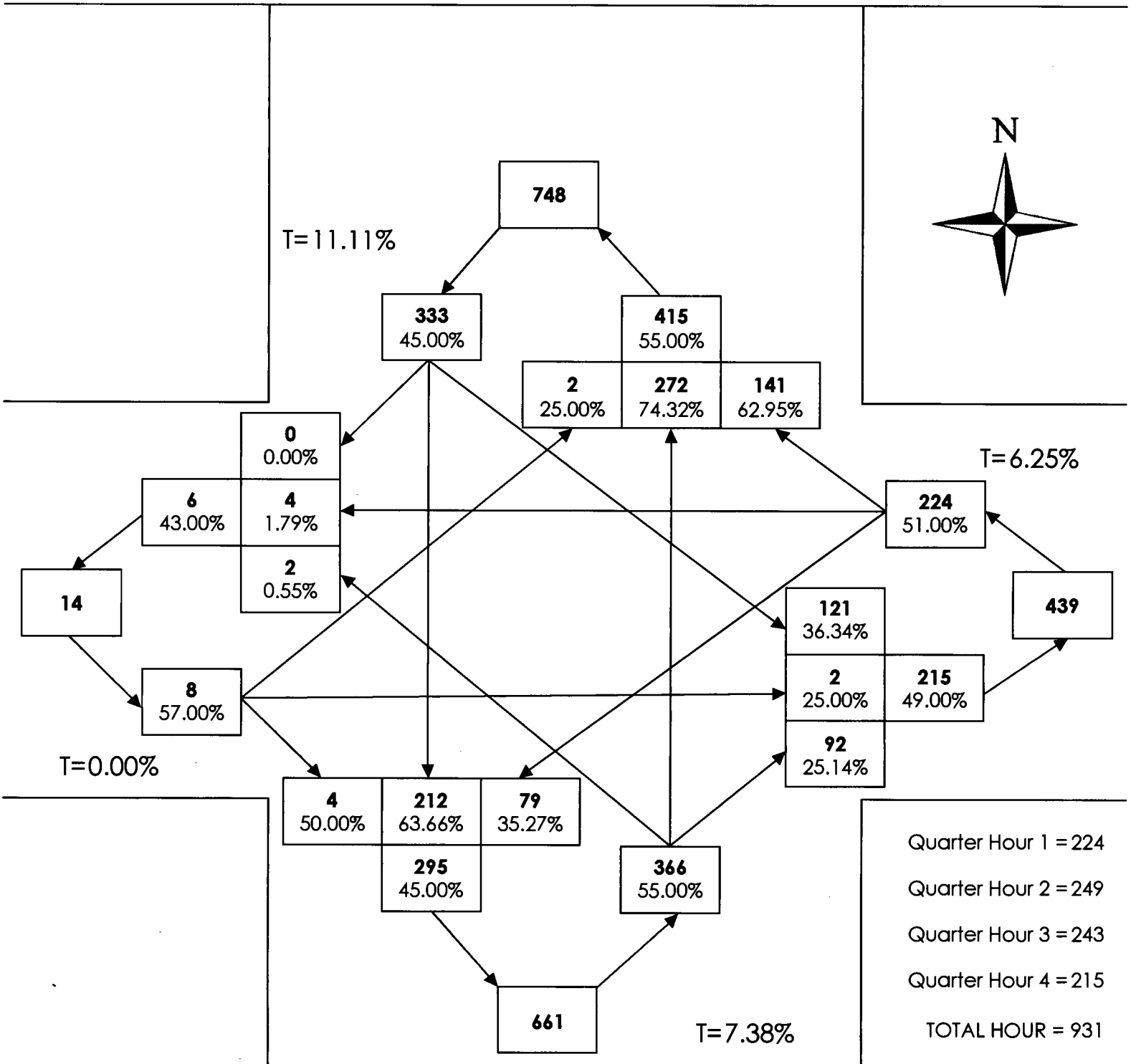
Date: 3/24/2017

Time Period: 08:30 - 09:30

SR: 019 MP: 010.68 Off Sys. ID: Count ID: 17-006

Location: SR 19 & SR 116 & CHARLES ST

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 224

Quarter Hour 2 = 249

Quarter Hour 3 = 243

Quarter Hour 4 = 215

TOTAL HOUR = 931

PEAK HOUR FACTOR = 0.935

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

(Block Diagram)

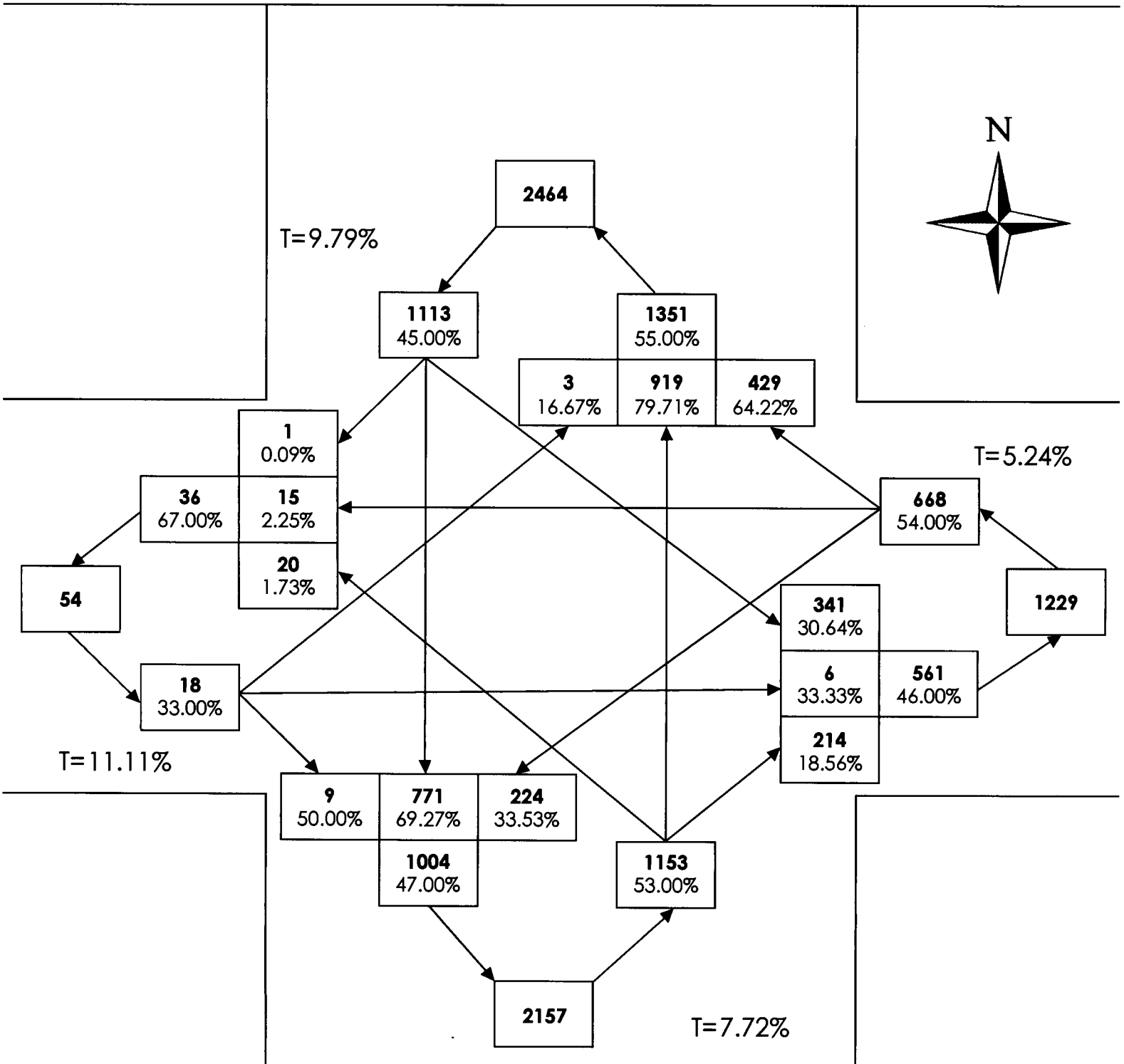
Date: 3/24/2017

Time Period: 06:00 - 10:00

SR: 019 MP: 010.68 Off Sys. ID: Count ID: 17-006

Location: SR 19 & SR 116 & CHARLES ST

ENTIRE COUNT VOLUMES



2891 5423
8910 5424 5425

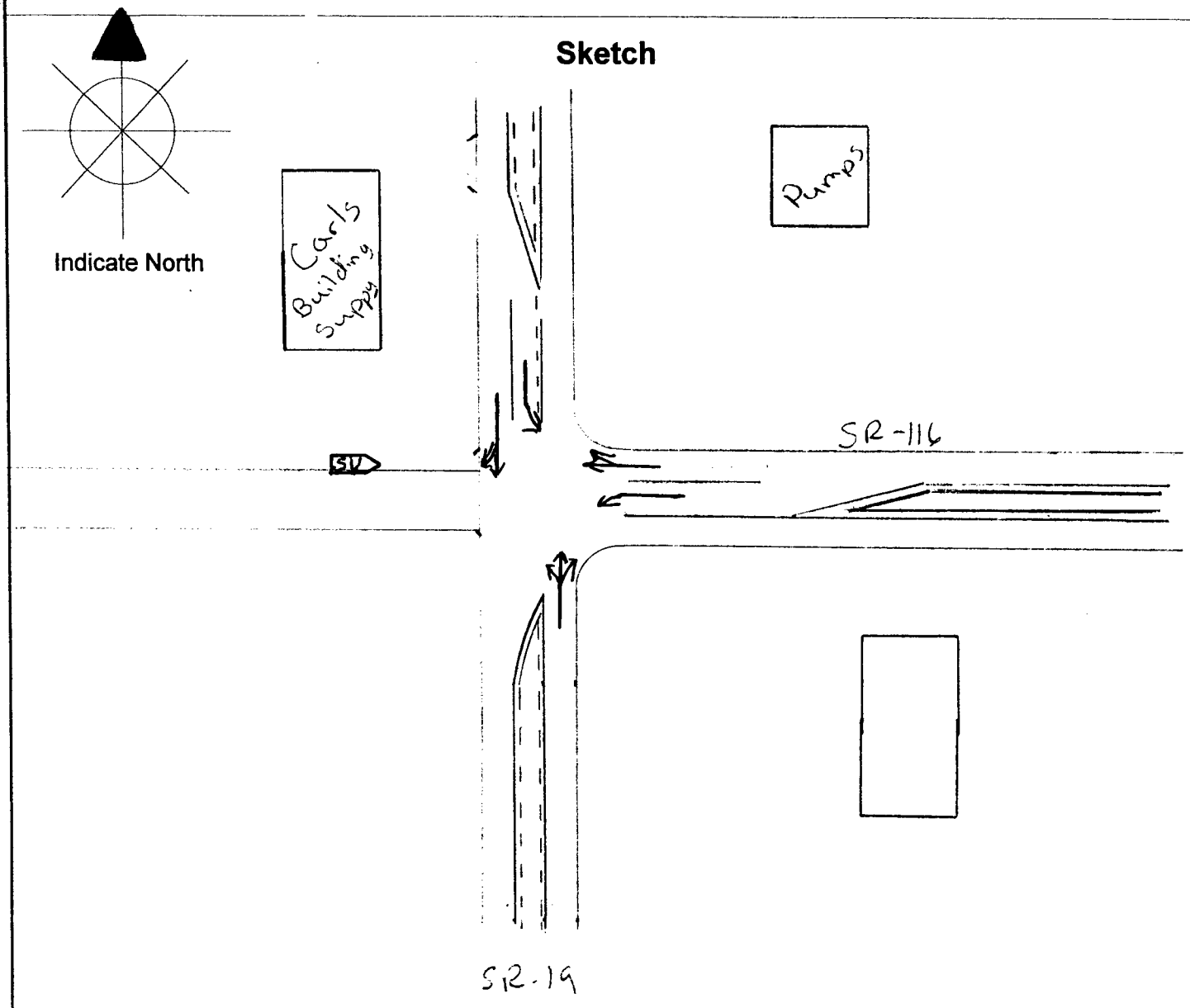
Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
19	10 ● 68		HPMS	3-21-2017 14:00-18:00 3-23-2017 10:00-14:00 3-24-2017 6:00-10:00

Station Location Jct SR 19 + SR 116

Sketch



Remarks:

G:\17-006G 14-1800 #5423 3/21/17

G:\17-006H 10-1400 #5424 3/23/17

G:\17-006I 06-1000 #5425 3/24/17

CP
Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5424 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 10:00 - 14:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												107	6.17		1733
THIS LEG NORTH															
NORTH TO SOUTH	967	4	37	2		12	12	14	2		1	84		60.65	1051
NORTH TO EAST	652		14	6		1	2					23		38.95	675
NORTH TO WEST	7													0.40	7
SOUTH APPROACH												111	7.87		1411
SOUTH TO NORTH	1006	9	33	4		4	13	31	1		1	96		78.10	1102
THIS LEG SOUTH															
SOUTH TO EAST	284	1	12			2						15		21.19	299
SOUTH TO WEST	10													0.71	10
EAST APPROACH												33	3.61		915
EAST TO NORTH	657	1	17	2			2					22		74.21	679
EAST TO SOUTH	214	1	7			2		1				11		24.59	225
THIS LEG EAST															
EAST TO WEST	11													1.20	11
WEST APPROACH												1	2.86		35
WEST TO NORTH	6													17.14	6
WEST TO SOUTH	21		1									1		62.86	22
WEST TO EAST	7													20.00	7
THIS LEG WEST															
															4094
														PCT SPLIT OUT/IN	
NORTH TOTAL	3295	14	101	14		17	29	45	3		2	225		49/51	3520
PERCENTAGE	93.61	0.40	2.87	0.40		0.48	0.82	1.28	0.09		0.06	6.39			
SOUTH TOTAL	2502	15	90	6		20	25	46	3		2	207		52/48	2709
PERCENTAGE	92.36	0.55	3.32	0.22		0.74	0.92	1.70	0.11		0.07	7.64			
EAST TOTAL	1825	3	50	8		5	4	1				71		48/52	1896
PERCENTAGE	96.26	0.16	2.64	0.42		0.26	0.21	0.05				3.74			
WEST TOTAL	62		1									1		56/44	63
PERCENTAGE	98.41		1.59									1.59			
															8188

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	129	3.66	91	2.59	5	0.14	225	6.39	0.9547
SOUTH TOTAL	111	4.10	91	3.36	5	0.18	207	7.64	0.9435
EAST TOTAL	61	3.22	10	0.53			71	3.74	0.9911
WEST TOTAL	1	1.59					1	1.59	1.0000

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5424 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 10:00 - 11:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												27	7.12		379
THIS LEG NORTH															
NORTH TO SOUTH	217		11	1		6	1	2	1			22		63.06	239
NORTH TO EAST	134		2	3								5		36.68	139
NORTH TO WEST	1													0.26	1
SOUTH APPROACH												29	9.48		306
SOUTH TO NORTH	225	3	10	1		1	5	4			1	25		81.70	250
THIS LEG SOUTH															
SOUTH TO EAST	49	1	3									4		17.32	53
SOUTH TO WEST	3													0.98	3
EAST APPROACH												9	4.35		207
EAST TO NORTH	157		5									5		78.26	162
EAST TO SOUTH	39		3					1				4		20.77	43
THIS LEG EAST															
EAST TO WEST	2													0.97	2
WEST APPROACH												1	12.50		8
WEST TO NORTH	1													12.50	1
WEST TO SOUTH	6		1									1		87.50	7
WEST TO EAST															
THIS LEG WEST															
															900
														PCT SPLIT OUT/IN	
NORTH TOTAL	735	3	28	5		7	6	6	1		1	57		48/52	792
PERCENTAGE	92.80	0.38	3.54	0.63		0.88	0.76	0.76	0.13		0.13	7.20			
SOUTH TOTAL	539	4	28	2		7	6	7	1		1	56		51/49	595
PERCENTAGE	90.59	0.67	4.71	0.34		1.18	1.01	1.18	0.17		0.17	9.41			
EAST TOTAL	381	1	13	3				1				18		52/48	399
PERCENTAGE	95.49	0.25	3.26	0.75				0.25				4.51			
WEST TOTAL	13		1									1		57/43	14
PERCENTAGE	92.86		7.14									7.14			
															1800

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5424 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 11:00 - 12:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												24	5.49		437
THIS LEG NORTH															
NORTH TO SOUTH	242	1	8				6	3	1			19		59.73	261
NORTH TO EAST	169		4				1					5		39.82	174
NORTH TO WEST	2													0.46	2
SOUTH APPROACH												27	7.85		344
SOUTH TO NORTH	248	1	7	2			1	11	1			23		78.78	271
THIS LEG SOUTH															
SOUTH TO EAST	68		3			1						4		20.93	72
SOUTH TO WEST	1													0.29	1
EAST APPROACH												7	2.94		238
EAST TO NORTH	157	1	3				2					6		68.49	163
EAST TO SOUTH	72					1						1		30.67	73
THIS LEG EAST															
EAST TO WEST	2													0.84	2
WEST APPROACH															9
WEST TO NORTH	1													11.11	1
WEST TO SOUTH	7													77.78	7
WEST TO EAST	1													11.11	1
THIS LEG WEST															
															1028
														PCT SPLIT OUT/IN	
NORTH TOTAL	819	3	22	2			10	14	2			53		50/50	872
PERCENTAGE	93.92	0.34	2.52	0.23			1.15	1.61	0.23			6.08			
SOUTH TOTAL	638	2	18	2		2	7	14	2			47		50/50	685
PERCENTAGE	93.14	0.29	2.63	0.29		0.29	1.02	2.04	0.29			6.86			
EAST TOTAL	469	1	10			2	3					16		49/51	485
PERCENTAGE	96.70	0.21	2.06			0.41	0.62					3.30			
WEST TOTAL	14													64/36	14
PERCENTAGE	100.00														
															2056

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5424 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												26	5.96		436
THIS LEG NORTH															
NORTH TO SOUTH	259	2	9			3	2	3			1	20		63.99	279
NORTH TO EAST	149		6									6		35.55	155
NORTH TO WEST	2													0.46	2
SOUTH APPROACH												23	6.18		372
SOUTH TO NORTH	268	2	7			1	4	6				20		77.42	288
THIS LEG SOUTH															
SOUTH TO EAST	76		3									3		21.24	79
SOUTH TO WEST	5													1.34	5
EAST APPROACH												8	3.46		231
EAST TO NORTH	172		3									3		75.76	175
EAST TO SOUTH	49	1	3			1						5		23.38	54
THIS LEG EAST															
EAST TO WEST	2													0.87	2
WEST APPROACH															10
WEST TO NORTH	2													20.00	2
WEST TO SOUTH	5													50.00	5
WEST TO EAST	3													30.00	3
THIS LEG WEST															
															1049
														PCT SPLIT OUT/IN	
NORTH TOTAL	852	4	25			4	6	9			1	49		48/52	901
PERCENTAGE	94.56	0.44	2.77			0.44	0.67	1.00			0.11	5.44			
SOUTH TOTAL	662	5	22			5	6	9			1	48		52/48	710
PERCENTAGE	93.24	0.70	3.10			0.70	0.85	1.27			0.14	6.76			
EAST TOTAL	451	1	15			1						17		49/51	468
PERCENTAGE	96.37	0.21	3.21			0.21						3.63			
WEST TOTAL	19													53/47	19
PERCENTAGE	100.00														
															2098

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5424 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												30	6.24		481
THIS LEG NORTH															
NORTH TO SOUTH	249	1	9	1		3	3	6				23		56.55	272
NORTH TO EAST	200		2	3		1	1					7		43.04	207
NORTH TO WEST	2													0.42	2
SOUTH APPROACH												32	8.23		389
SOUTH TO NORTH	265	3	9	1		2	3	10				28		75.32	293
THIS LEG SOUTH															
SOUTH TO EAST	91		3			1						4		24.42	95
SOUTH TO WEST	1													0.26	1
EAST APPROACH												9	3.77		239
EAST TO NORTH	171		6	2								8		74.90	179
EAST TO SOUTH	54		1									1		23.01	55
THIS LEG EAST															
EAST TO WEST	5													2.09	5
WEST APPROACH															8
WEST TO NORTH	2													25.00	2
WEST TO SOUTH	3													37.50	3
WEST TO EAST	3													37.50	3
THIS LEG WEST															
															1117
														PCT SPLIT OUT/IN	
NORTH TOTAL	889	4	26	7		6	7	16				66		50/50	955
PERCENTAGE	93.09	0.42	2.72	0.73		0.63	0.73	1.68				6.91			
SOUTH TOTAL	663	4	22	2		6	6	16				56		54/46	719
PERCENTAGE	92.21	0.56	3.06	0.28		0.83	0.83	2.23				7.79			
EAST TOTAL	524		12	5		2	1					20		44/56	544
PERCENTAGE	96.32		2.21	0.92		0.37	0.18					3.68			
WEST TOTAL	16													50/50	16
PERCENTAGE	100.00														
															2234

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5424 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												30	6.24		481
THIS LEG NORTH															
NORTH TO SOUTH	249	1	9	1		3	3	6				23		56.55	272
NORTH TO EAST	200		2	3		1	1					7		43.04	207
NORTH TO WEST	2													0.42	2
SOUTH APPROACH												32	8.23		389
SOUTH TO NORTH	265	3	9	1		2	3	10				28		75.32	293
THIS LEG SOUTH															
SOUTH TO EAST	91		3			1						4		24.42	95
SOUTH TO WEST	1													0.26	1
EAST APPROACH												9	3.77		239
EAST TO NORTH	171		6	2								8		74.90	179
EAST TO SOUTH	54		1									1		23.01	55
THIS LEG EAST															
EAST TO WEST	5													2.09	5
WEST APPROACH															8
WEST TO NORTH	2													25.00	2
WEST TO SOUTH	3													37.50	3
WEST TO EAST	3													37.50	3
THIS LEG WEST															
															1117
														PCT SPLIT OUT/IN	
NORTH TOTAL	889	4	26	7		6	7	16				66		50/50	955
PERCENTAGE	93.09	0.42	2.72	0.73		0.63	0.73	1.68				6.91			
SOUTH TOTAL	663	4	22	2		6	6	16				56		54/46	719
PERCENTAGE	92.21	0.56	3.06	0.28		0.83	0.83	2.23				7.79			
EAST TOTAL	524		12	5		2	1					20		44/56	544
PERCENTAGE	96.32		2.21	0.92		0.37	0.18					3.68			
WEST TOTAL	16													50/50	16
PERCENTAGE	100.00														
															2234

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5424 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 12:15 - 13:15
LOCATION SR 19 & SR 116 & CHARLES ST 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												28	6.32		443
THIS LEG NORTH															
NORTH TO SOUTH	263	3	7	1		3	3	4			1	22		64.33	285
NORTH TO EAST	148		5	1								6		34.76	154
NORTH TO WEST	4													0.90	4
SOUTH APPROACH												25	6.07		412
SOUTH TO NORTH	293	2	7	1		2	3	7				22		76.46	315
THIS LEG SOUTH															
SOUTH TO EAST	90		3									3		22.57	93
SOUTH TO WEST	4													0.97	4
EAST APPROACH												8	3.42		234
EAST TO NORTH	173		3									3		75.21	176
EAST TO SOUTH	50	1	3			1						5		23.50	55
THIS LEG EAST															
EAST TO WEST	3													1.28	3
WEST APPROACH															7
WEST TO NORTH	1													14.29	1
WEST TO SOUTH	4													57.14	4
WEST TO EAST	2													28.57	2
THIS LEG WEST															
															1096
														PCT SPLIT OUT/IN	
NORTH TOTAL	882	5	22	3		5	6	11			1	53		47/53	935
PERCENTAGE	94.33	0.53	2.35	0.32		0.53	0.64	1.18			0.11	5.67			
SOUTH TOTAL	704	6	20	2		6	6	11			1	52		54/46	756
PERCENTAGE	93.12	0.79	2.65	0.26		0.79	0.79	1.46			0.13	6.88			
EAST TOTAL	466	1	14	1		1						17		48/52	483
PERCENTAGE	96.48	0.21	2.90	0.21		0.21						3.52			
WEST TOTAL	18													39/61	18
PERCENTAGE	100.00														
															2192

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5424 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												30	6.24		481
THIS LEG NORTH															
NORTH TO SOUTH	249	1	9	1		3	3	6				23		56.55	272
NORTH TO EAST	200		2	3		1	1					7		43.04	207
NORTH TO WEST	2													0.42	2
SOUTH APPROACH												32	8.23		389
SOUTH TO NORTH	265	3	9	1		2	3	10				28		75.32	293
THIS LEG SOUTH															
SOUTH TO EAST	91		3			1						4		24.42	95
SOUTH TO WEST	1													0.26	1
EAST APPROACH												9	3.77		239
EAST TO NORTH	171		6	2								8		74.90	179
EAST TO SOUTH	54		1									1		23.01	55
THIS LEG EAST															
EAST TO WEST	5													2.09	5
WEST APPROACH															8
WEST TO NORTH	2													25.00	2
WEST TO SOUTH	3													37.50	3
WEST TO EAST	3													37.50	3
THIS LEG WEST															
															1117
														PCT SPLIT OUT/IN	
NORTH TOTAL	889	4	26	7		6	7	16				66		50/50	955
PERCENTAGE	93.09	0.42	2.72	0.73		0.63	0.73	1.68				6.91			
SOUTH TOTAL	663	4	22	2		6	6	16				56		54/46	719
PERCENTAGE	92.21	0.56	3.06	0.28		0.83	0.83	2.23				7.79			
EAST TOTAL	524		12	5		2	1					20		44/56	544
PERCENTAGE	96.32		2.21	0.92		0.37	0.18					3.68			
WEST TOTAL	16													50/50	16
PERCENTAGE	100.00														
															2234

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5424 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												26	5.96		436
THIS LEG NORTH															
NORTH TO SOUTH	259	2	9			3	2	3			1	20		63.99	279
NORTH TO EAST	149		6									6		35.55	155
NORTH TO WEST	2													0.46	2
SOUTH APPROACH												23	6.18		372
SOUTH TO NORTH	268	2	7			1	4	6				20		77.42	288
THIS LEG SOUTH															
SOUTH TO EAST	76		3									3		21.24	79
SOUTH TO WEST	5													1.34	5
EAST APPROACH												8	3.46		231
EAST TO NORTH	172		3									3		75.76	175
EAST TO SOUTH	49	1	3			1						5		23.38	54
THIS LEG EAST															
EAST TO WEST	2													0.87	2
WEST APPROACH															10
WEST TO NORTH	2													20.00	2
WEST TO SOUTH	5													50.00	5
WEST TO EAST	3													30.00	3
THIS LEG WEST															
															1049
														PCT SPLIT OUT/IN	
NORTH TOTAL	852	4	25			4	6	9			1	49		48/52	901
PERCENTAGE	94.56	0.44	2.77			0.44	0.67	1.00			0.11	5.44			
SOUTH TOTAL	662	5	22			5	6	9			1	48		52/48	710
PERCENTAGE	93.24	0.70	3.10			0.70	0.85	1.27			0.14	6.76			
EAST TOTAL	451	1	15			1						17		49/51	468
PERCENTAGE	96.37	0.21	3.21			0.21						3.63			
WEST TOTAL	19													53/47	19
PERCENTAGE	100.00														
															2098

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5424 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 11:45 - 12:45
LOCATION SR 19 & SR 116 & CHARLES ST 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												32	6.64		482
THIS LEG NORTH															
NORTH TO SOUTH	268	2	12			2	5	4			1	26		61.00	294
NORTH TO EAST	180		5				1					6		38.59	186
NORTH TO WEST	2													0.41	2
SOUTH APPROACH												23	5.91		389
SOUTH TO NORTH	275	2	7	1			3	8	1			22		76.35	297
THIS LEG SOUTH															
SOUTH TO EAST	87		1									1		22.62	88
SOUTH TO WEST	4													1.03	4
EAST APPROACH												4	1.66		241
EAST TO NORTH	171		2									2		71.78	173
EAST TO SOUTH	65		1			1						2		27.80	67
THIS LEG EAST															
EAST TO WEST	1													0.41	1
WEST APPROACH															9
WEST TO NORTH	2													22.22	2
WEST TO SOUTH	5													55.56	5
WEST TO EAST	2													22.22	2
THIS LEG WEST															
															1121
														PCT SPLIT OUT/IN	
NORTH TOTAL	898	4	26	1		2	9	12	1		1	56		51/49	954
PERCENTAGE	94.13	0.42	2.73	0.10		0.21	0.94	1.26	0.10		0.10	5.87			
SOUTH TOTAL	704	4	21	1		3	8	12	1		1	51		52/48	755
PERCENTAGE	93.25	0.53	2.78	0.13		0.40	1.06	1.59	0.13		0.13	6.75			
EAST TOTAL	506		9			1	1					11		47/53	517
PERCENTAGE	97.87		1.74			0.19	0.19					2.13			
WEST TOTAL	16													56/44	16
PERCENTAGE	100.00														
															2242

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	31	3.25	23	2.41	2	0.21	56	5.87	0.9559
SOUTH TOTAL	26	3.44	23	3.05	2	0.26	51	6.75	0.9455
EAST TOTAL	9	1.74	2	0.39			11	2.13	0.9951
WEST TOTAL									1.0000

PEAK HOUR FACTOR 0.925 303 252 273 293 1121

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

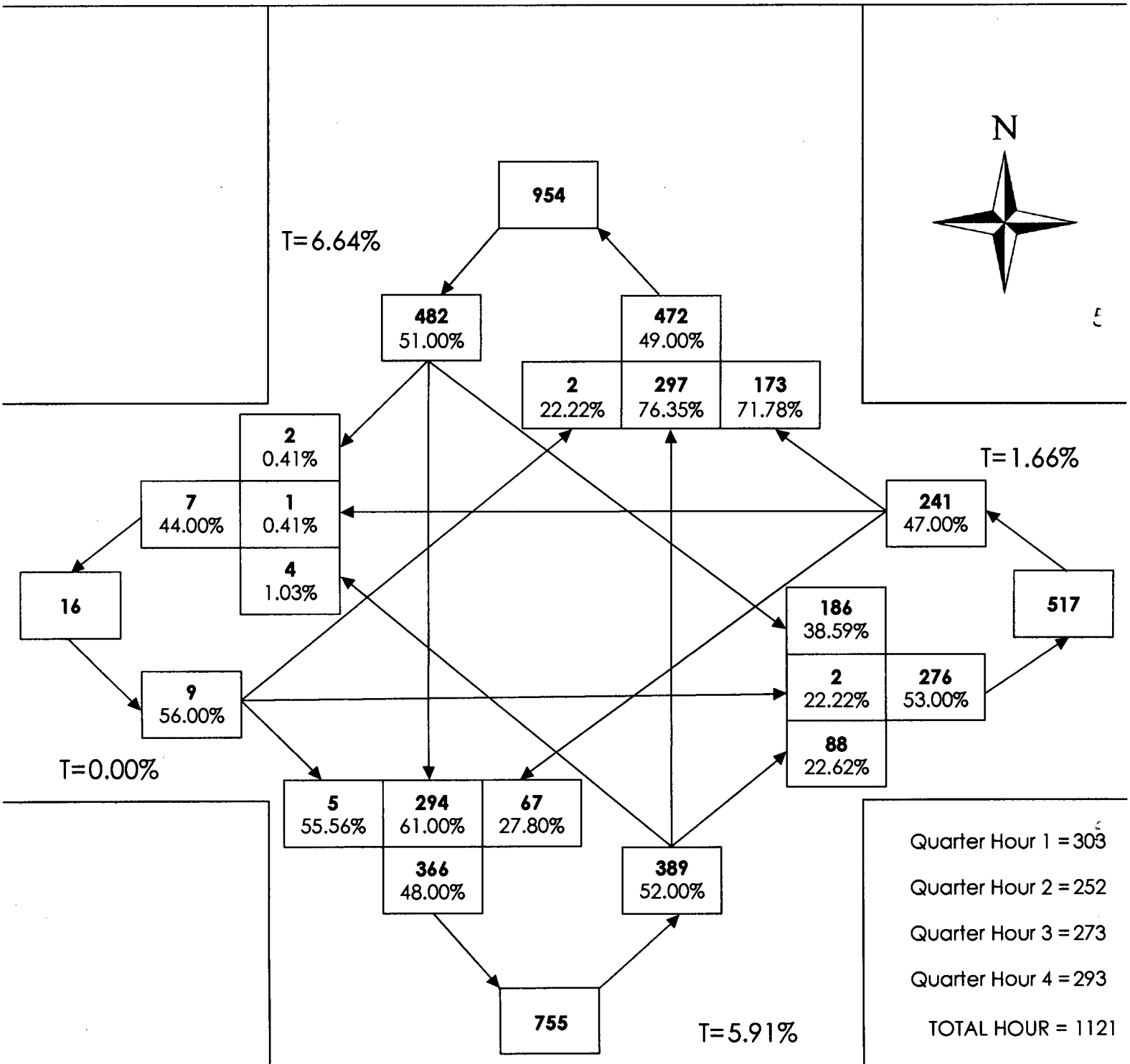
Vehicle Volume Summary
(Block Diagram)

Date: 3/23/2017
Time Period: 11:45 - 12:45

SR: 019 MP: 010.68 Off Sys. ID: Count ID: 17-006

Location: SR 19 & SR 116 & CHARLES ST

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 303
Quarter Hour 2 = 252
Quarter Hour 3 = 273
Quarter Hour 4 = 293

TOTAL HOUR = 1121

PEAK HOUR FACTOR = 0.925

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

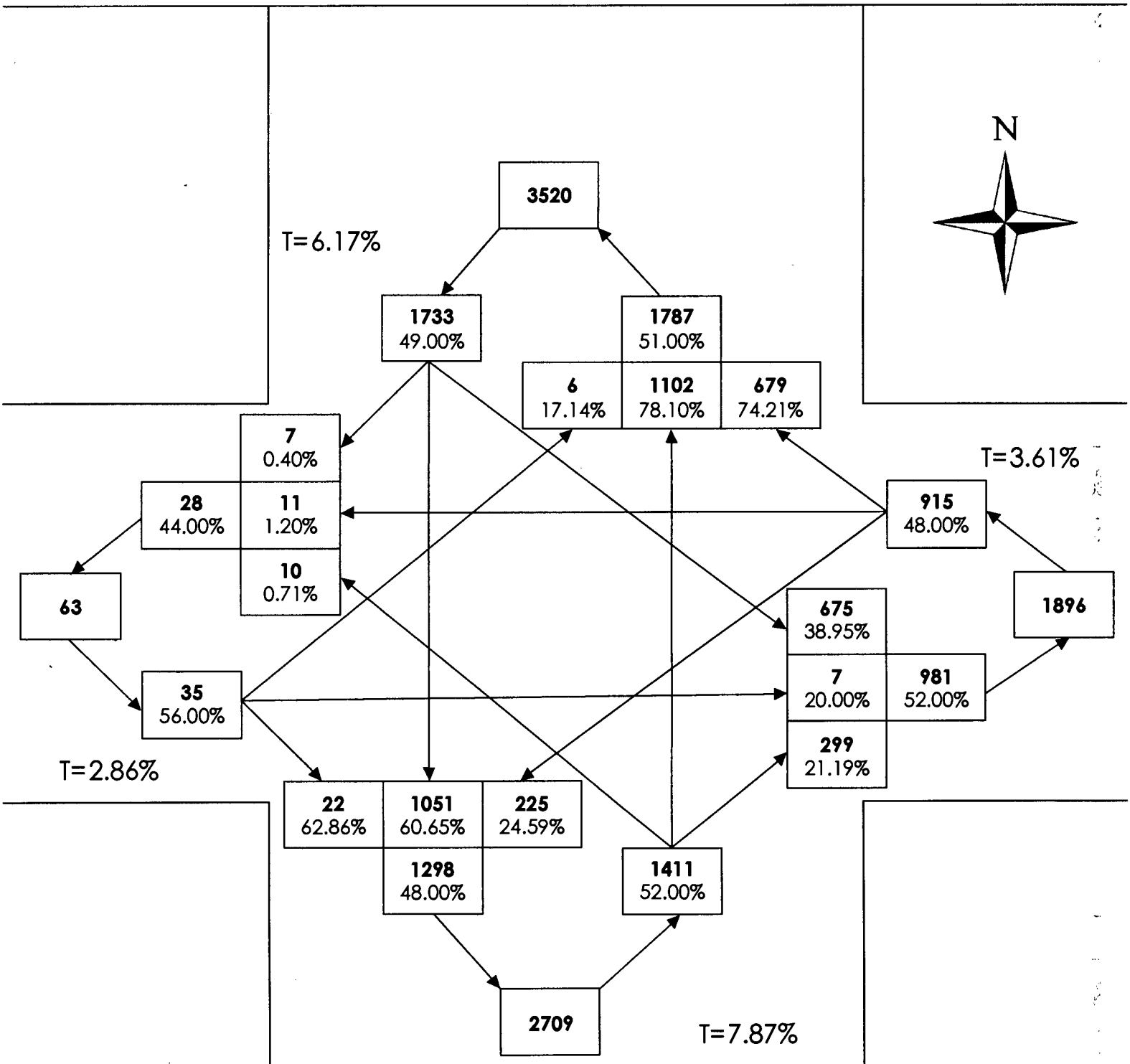
(Block Diagram)

Date: 3/23/2017
Time Period: 10:00 - 14:00

SR: 019 MP: 010.68 Off Sys. ID: Count ID: 17-006

Location: SR 19 & SR 116 & CHARLES ST

ENTIRE COUNT VOLUMES



2891 5423
8910 5424 5425

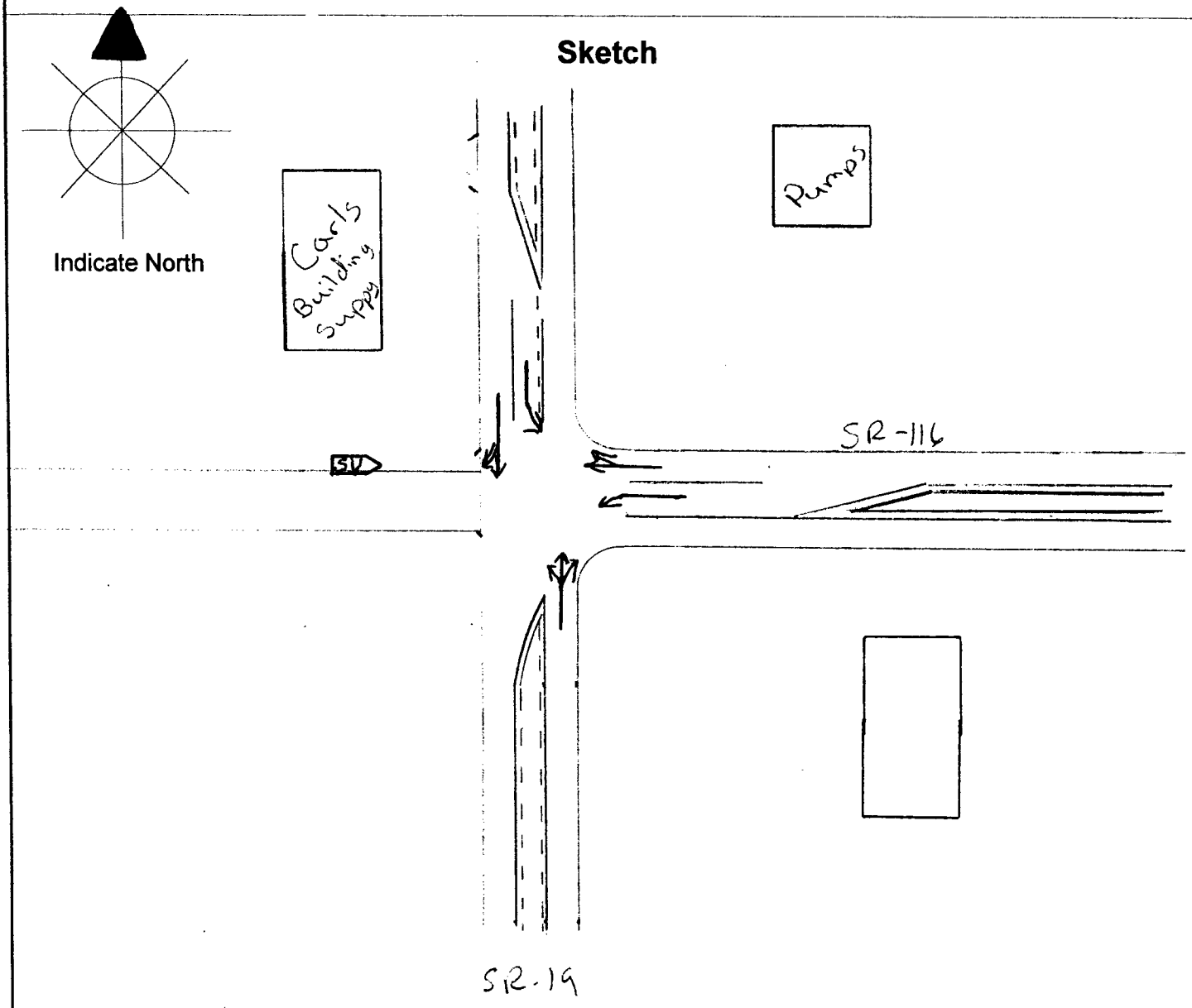
Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
19	10 ● 68		HPMS	3-21-2017 14:00-18:00 3-23-2017 10:00-14:00 3-24-2017 6:00-10:00

Station Location Jct SR 19 + SR 116

Sketch



Remarks:

G:\17-006G 14-1800 #5423 3/21/17

G:\17-006H 10-1400 #5424 3/23/17

G:\17-006I 06-1000 #5425 3/24/17

CP
Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 07:46:28
PAGE: 1

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5423 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 18:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												89	4.22		2108
THIS LEG NORTH															
NORTH TO SOUTH	1225	14	29	7		2	11	4				67		61.29	1292
NORTH TO EAST	793	5	10	3		4						22		38.66	815
NORTH TO WEST	1													0.05	1
SOUTH APPROACH												86	5.57		1543
SOUTH TO NORTH	1073	9	34	1		3	9	13				69		74.01	1142
THIS LEG SOUTH															
SOUTH TO EAST	379	10	5			1						16		25.60	395
SOUTH TO WEST	5			1								1		0.39	6
EAST APPROACH												33	3.32		994
EAST TO NORTH	660	5	8	2	3	2					1	21		68.51	681
EAST TO SOUTH	297	5	5	1		1						12		31.09	309
THIS LEG EAST	1													0.10	1
EAST TO WEST	3													0.30	3
WEST APPROACH												1	3.33		30
WEST TO NORTH	3		1									1		13.33	4
WEST TO SOUTH	19													63.33	19
WEST TO EAST	7													23.33	7
THIS LEG WEST															
															4675
														PCT SPLIT OUT/IN	
NORTH TOTAL	3755	33	82	13	3	11	20	17			1	180		54/46	3935
PERCENTAGE	95.43	0.84	2.08	0.33	0.08	0.28	0.51	0.43			0.03	4.57			
SOUTH TOTAL	2998	38	73	10		7	20	17				165		49/51	3163
PERCENTAGE	94.78	1.20	2.31	0.32		0.22	0.63	0.54				5.22			
EAST TOTAL	2140	25	28	6	3	8					1	71		45/55	2211
PERCENTAGE	96.79	1.13	1.27	0.27	0.14	0.36					0.05	3.21			
WEST TOTAL	38		1	1								2		75/25	40
PERCENTAGE	95.00		2.50	2.50								5.00			
															9349

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	131	3.33	48	1.22	1	0.03	180	4.57	0.9783
SOUTH TOTAL	121	3.83	44	1.39			165	5.22	0.9765
EAST TOTAL	62	2.80	8	0.36	1	0.05	71	3.21	0.9925
WEST TOTAL	2	5.00					2	5.00	0.9876

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5423 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 15:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												23	4.95		465
THIS LEG NORTH															
NORTH TO SOUTH	276		8	2		1	3	2				16		62.80	292
NORTH TO EAST	166	1	3	3								7		37.20	173
NORTH TO WEST															
SOUTH APPROACH												23	6.04		381
SOUTH TO NORTH	275	5	9			1		5				20		77.43	295
THIS LEG SOUTH															
SOUTH TO EAST	81	2	1									3		22.05	84
SOUTH TO WEST	2													0.52	2
EAST APPROACH												9	3.91		230
EAST TO NORTH	145	1		1	2	1						5		65.22	150
EAST TO SOUTH	75	2	1	1								4		34.35	79
THIS LEG EAST															
EAST TO WEST	1													0.43	1
WEST APPROACH															10
WEST TO NORTH	2													20.00	2
WEST TO SOUTH	6													60.00	6
WEST TO EAST	2													20.00	2
THIS LEG WEST															
															1086
														PCT SPLIT OUT/IN	
NORTH TOTAL	864	7	20	6	2	3	3	7				48		51/49	912
PERCENTAGE	94.74	0.77	2.19	0.66	0.22	0.33	0.33	0.77				5.26			
SOUTH TOTAL	715	9	19	3		2	3	7				43		50/50	758
PERCENTAGE	94.33	1.19	2.51	0.40		0.26	0.40	0.92				5.67			
EAST TOTAL	470	6	5	5	2	1						19		47/53	489
PERCENTAGE	96.11	1.23	1.02	1.02	0.41	0.20						3.89			
WEST TOTAL	13													77/23	13
PERCENTAGE	100.00														
															2172

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5423 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 15:00 - 16:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												32	5.77		555
THIS LEG NORTH															
NORTH TO SOUTH	329	11	8	4		1	3					27		64.14	356
NORTH TO EAST	194	2	2			1						5		35.86	199
NORTH TO WEST															
SOUTH APPROACH												22	6.90		319
SOUTH TO NORTH	205	1	8				2	1				12		68.03	217
THIS LEG SOUTH															
SOUTH TO EAST	90	7	3									10		31.35	100
SOUTH TO WEST	2													0.63	2
EAST APPROACH												15	5.02		299
EAST TO NORTH	198	2	3	1	1	1					1	9		69.23	207
EAST TO SOUTH	85	2	3			1						6		30.43	91
THIS LEG EAST	1													0.33	1
EAST TO WEST															
WEST APPROACH												1	12.50		8
WEST TO NORTH	1		1									1		25.00	2
WEST TO SOUTH	3													37.50	3
WEST TO EAST	3													37.50	3
THIS LEG WEST															
															1181
														PCT SPLIT OUT/IN	
NORTH TOTAL	927	16	22	5	1	3	5	1			1	54		57/43	981
PERCENTAGE	94.50	1.63	2.24	0.51	0.10	0.31	0.51	0.10			0.10	5.50			
SOUTH TOTAL	714	21	22	4		2	5	1				55		41/59	769
PERCENTAGE	92.85	2.73	2.86	0.52		0.26	0.65	0.13				7.15			
EAST TOTAL	571	13	11	1	1	3					1	30		50/50	601
PERCENTAGE	95.01	2.16	1.83	0.17	0.17	0.50					0.17	4.99			
WEST TOTAL	9		1									1		80/20	10
PERCENTAGE	90.00		10.0									10.00			
															2361

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5423 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:00 - 17:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												19	3.47		548
THIS LEG NORTH															
NORTH TO SOUTH	319	3	9	1			3	1				17		61.31	336
NORTH TO EAST	209		1			1						2		38.50	211
NORTH TO WEST	1													0.18	1
SOUTH APPROACH												23	5.01		459
SOUTH TO NORTH	328	2	6	1		2	5	4				20		75.82	348
THIS LEG SOUTH															
SOUTH TO EAST	107	1	1			1						3		23.97	110
SOUTH TO WEST	1													0.22	1
EAST APPROACH												5	2.02		247
EAST TO NORTH	168	1	2									3		69.23	171
EAST TO SOUTH	73	1	1									2		30.36	75
THIS LEG EAST															
EAST TO WEST	1													0.40	1
WEST APPROACH															5
WEST TO NORTH															
WEST TO SOUTH	4													80.00	4
WEST TO EAST	1													20.00	1
THIS LEG WEST															
															1259
														PCT SPLIT OUT/IN	
NORTH TOTAL	1025	6	18	2		3	8	5				42		51/49	1067
PERCENTAGE	96.06	0.56	1.69	0.19		0.28	0.75	0.47				3.94			
SOUTH TOTAL	832	7	17	2		3	8	5				42		53/47	874
PERCENTAGE	95.19	0.80	1.95	0.23		0.34	0.92	0.57				4.81			
EAST TOTAL	559	3	5			2						10		43/57	569
PERCENTAGE	98.24	0.53	0.88			0.35						1.76			
WEST TOTAL	8													62/38	8
PERCENTAGE	100.00														
															2518

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5423 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 17:00 - 18:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												15	2.78		540
THIS LEG NORTH															
NORTH TO SOUTH	301		4				2	1				7		57.04	308
NORTH TO EAST	224	2	4			2						8		42.96	232
NORTH TO WEST															
SOUTH APPROACH												18	4.69		384
SOUTH TO NORTH	265	1	11				2	3				17		73.44	282
THIS LEG SOUTH															
SOUTH TO EAST	101													26.30	101
SOUTH TO WEST				1								1		0.26	1
EAST APPROACH												4	1.83		218
EAST TO NORTH	149	1	3									4		70.18	153
EAST TO SOUTH	64													29.36	64
THIS LEG EAST															
EAST TO WEST	1													0.46	1
WEST APPROACH															7
WEST TO NORTH															
WEST TO SOUTH	6													85.71	6
WEST TO EAST	1													14.29	1
THIS LEG WEST															
															1149
														PCT SPLIT OUT/IN	
NORTH TOTAL	939	4	22			2	4	4				36		55/45	975
PERCENTAGE	96.31	0.41	2.26			0.21	0.41	0.41				3.69			
SOUTH TOTAL	737	1	15	1			4	4				25		50/50	762
PERCENTAGE	96.72	0.13	1.97	0.13			0.52	0.52				3.28			
EAST TOTAL	540	3	7			2						12		39/61	552
PERCENTAGE	97.83	0.54	1.27			0.36						2.17			
WEST TOTAL	8			1								1		78/22	9
PERCENTAGE	88.89			11.1								11.11			
															2298

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5423 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:00 - 17:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												19	3.47		548
THIS LEG NORTH															
NORTH TO SOUTH	319	3	9	1			3	1				17		61.31	336
NORTH TO EAST	209		1			1						2		38.50	211
NORTH TO WEST	1													0.18	1
SOUTH APPROACH												23	5.01		459
SOUTH TO NORTH	328	2	6	1		2	5	4				20		75.82	348
THIS LEG SOUTH															
SOUTH TO EAST	107	1	1			1						3		23.97	110
SOUTH TO WEST	1													0.22	1
EAST APPROACH												5	2.02		247
EAST TO NORTH	168	1	2									3		69.23	171
EAST TO SOUTH	73	1	1									2		30.36	75
THIS LEG EAST															
EAST TO WEST	1													0.40	1
WEST APPROACH															5
WEST TO NORTH															
WEST TO SOUTH	4													80.00	4
WEST TO EAST	1													20.00	1
THIS LEG WEST															
															1259
														PCT SPLIT OUT/IN	
NORTH TOTAL	1025	6	18	2		3	8	5				42		51/49	1067
PERCENTAGE	96.06	0.56	1.69	0.19		0.28	0.75	0.47				3.94			
SOUTH TOTAL	832	7	17	2		3	8	5				42		53/47	874
PERCENTAGE	95.19	0.80	1.95	0.23		0.34	0.92	0.57				4.81			
EAST TOTAL	559	3	5			2						10		43/57	569
PERCENTAGE	98.24	0.53	0.88			0.35						1.76			
WEST TOTAL	8													62/38	8
PERCENTAGE	100.00														
															2518

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5423 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:00 - 17:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												19	3.47		548
THIS LEG NORTH															
NORTH TO SOUTH	319	3	9	1			3	1				17		61.31	336
NORTH TO EAST	209		1			1						2		38.50	211
NORTH TO WEST	1													0.18	1
SOUTH APPROACH												23	5.01		459
SOUTH TO NORTH	328	2	6	1		2	5	4				20		75.82	348
THIS LEG SOUTH															
SOUTH TO EAST	107	1	1			1						3		23.97	110
SOUTH TO WEST	1													0.22	1
EAST APPROACH												5	2.02		247
EAST TO NORTH	168	1	2									3		69.23	171
EAST TO SOUTH	73	1	1									2		30.36	75
THIS LEG EAST															
EAST TO WEST	1													0.40	1
WEST APPROACH															5
WEST TO NORTH															
WEST TO SOUTH	4													80.00	4
WEST TO EAST	1													20.00	1
THIS LEG WEST															
															1259
														PCT SPLIT OUT/IN	
NORTH TOTAL	1025	6	18	2		3	8	5				42		51/49	1067
PERCENTAGE	96.06	0.56	1.69	0.19		0.28	0.75	0.47				3.94			
SOUTH TOTAL	832	7	17	2		3	8	5				42		53/47	874
PERCENTAGE	95.19	0.80	1.95	0.23		0.34	0.92	0.57				4.81			
EAST TOTAL	559	3	5			2						10		43/57	569
PERCENTAGE	98.24	0.53	0.88			0.35						1.76			
WEST TOTAL	8													62/38	8
PERCENTAGE	100.00														
															2518

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5423 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:30 - 17:30
LOCATION SR 19 & SR 116 & CHARLES ST 03

EAST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												16	2.79		574
THIS LEG NORTH															
NORTH TO SOUTH	321	1	8				3					12		58.01	333
NORTH TO EAST	237	1	2			1						4		41.99	241
NORTH TO WEST															
SOUTH APPROACH												18	4.38		411
SOUTH TO NORTH	289	1	8			1	4	3				17		74.45	306
THIS LEG SOUTH															
SOUTH TO EAST	104													25.30	104
SOUTH TO WEST				1								1		0.24	1
EAST APPROACH												2	0.75		266
EAST TO NORTH	182		1									1		68.80	183
EAST TO SOUTH	80		1									1		30.45	81
THIS LEG EAST															
EAST TO WEST	2													0.75	2
WEST APPROACH															10
WEST TO NORTH															
WEST TO SOUTH	8													80.00	8
WEST TO EAST	2													20.00	2
THIS LEG WEST															
															1261
														PCT SPLIT OUT/IN	
NORTH TOTAL	1029	3	19			2	7	3				34		54/46	1063
PERCENTAGE	96.80	0.28	1.79			0.19	0.66	0.28				3.20			
SOUTH TOTAL	802	2	17	1		1	7	3				31		49/51	833
PERCENTAGE	96.28	0.24	2.04	0.12		0.12	0.84	0.36				3.72			
EAST TOTAL	607	1	4			1						6		43/57	613
PERCENTAGE	99.02	0.16	0.65			0.16						0.98			
WEST TOTAL	12			1								1		77/23	13
PERCENTAGE	92.31			7.69								7.69			
															2522

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5423 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 15:00
LOCATION SR 19 & SR 116 & CHARLES ST 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												23	4.95		465
THIS LEG NORTH															
NORTH TO SOUTH	276		8	2		1	3	2				16		62.80	292
NORTH TO EAST	166	1	3	3								7		37.20	173
NORTH TO WEST															
SOUTH APPROACH												23	6.04		381
SOUTH TO NORTH	275	5	9			1		5				20		77.43	295
THIS LEG SOUTH															
SOUTH TO EAST	81	2	1									3		22.05	84
SOUTH TO WEST	2													0.52	2
EAST APPROACH												9	3.91		230
EAST TO NORTH	145	1		1	2	1						5		65.22	150
EAST TO SOUTH	75	2	1	1								4		34.35	79
THIS LEG EAST															
EAST TO WEST	1													0.43	1
WEST APPROACH															10
WEST TO NORTH	2													20.00	2
WEST TO SOUTH	6													60.00	6
WEST TO EAST	2													20.00	2
THIS LEG WEST															
															1086
														PCT SPLIT OUT/IN	
NORTH TOTAL	864	7	20	6	2	3	3	7				48		51/49	912
PERCENTAGE	94.74	0.77	2.19	0.66	0.22	0.33	0.33	0.77				5.26			
SOUTH TOTAL	715	9	19	3		2	3	7				43		50/50	758
PERCENTAGE	94.33	1.19	2.51	0.40		0.26	0.40	0.92				5.67			
EAST TOTAL	470	6	5	5	2	1						19		47/53	489
PERCENTAGE	96.11	1.23	1.02	1.02	0.41	0.20						3.89			
WEST TOTAL	13													77/23	13
PERCENTAGE	100.00														
															2172

SR 019 MP 010.68 OFF SYS ID COUNTER NUM 5423 COUNT ID 17-006 SR 116 MP 000.00
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:30 - 17:30
LOCATION SR 19 & SR 116 & CHARLES ST 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												16	2.79		574
THIS LEG NORTH															
NORTH TO SOUTH	321	1	8				3					12		58.01	333
NORTH TO EAST	237	1	2			1						4		41.99	241
NORTH TO WEST															
SOUTH APPROACH												18	4.38		411
SOUTH TO NORTH	289	1	8			1	4	3				17		74.45	306
THIS LEG SOUTH															
SOUTH TO EAST	104													25.30	104
SOUTH TO WEST				1								1		0.24	1
EAST APPROACH												2	0.75		266
EAST TO NORTH	182		1									1		68.80	183
EAST TO SOUTH	80		1									1		30.45	81
THIS LEG EAST															
EAST TO WEST	2													0.75	2
WEST APPROACH															10
WEST TO NORTH															
WEST TO SOUTH	8													80.00	8
WEST TO EAST	2													20.00	2
THIS LEG WEST															
															1261
														PCT SPLIT OUT/IN	
NORTH TOTAL	1029	3	19			2	7	3				34		54/46	1063
PERCENTAGE	96.80	0.28	1.79			0.19	0.66	0.28				3.20			
SOUTH TOTAL	802	2	17	1		1	7	3				31		49/51	833
PERCENTAGE	96.28	0.24	2.04	0.12		0.12	0.84	0.36				3.72			
EAST TOTAL	607	1	4			1						6		43/57	613
PERCENTAGE	99.02	0.16	0.65			0.16						0.98			
WEST TOTAL	12			1								1		77/23	13
PERCENTAGE	92.31			7.69								7.69			
															2522

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	22	2.07	12	1.13			34	3.20	0.9828
SOUTH TOTAL	20	2.40	11	1.32			31	3.72	0.9788
EAST TOTAL	5	0.82	1	0.16			6	0.98	0.9983
WEST TOTAL	1	7.69					1	7.69	0.9629

PEAK HOUR FACTOR 0.961 319 328 310 304 1261

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

(Block Diagram)

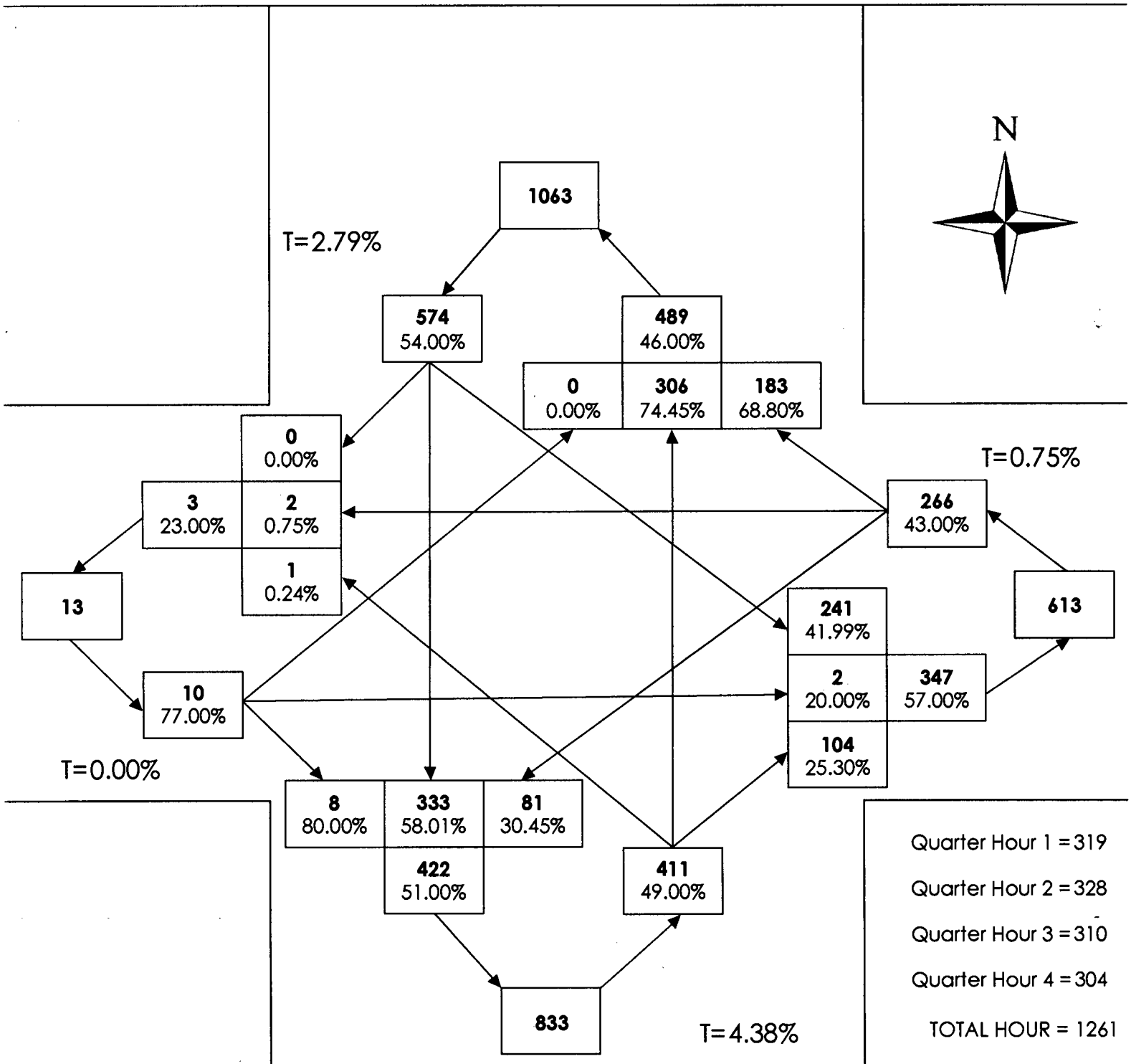
Date: 3/21/2017

Time Period: 16:30 - 17:30

SR: 019 MP: 010.68 Off Sys. ID: Count ID: 17-006

Location: SR 19 & SR 116 & CHARLES ST

INTERSECTIONAL PEAK HOUR AND VOLUMES



Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

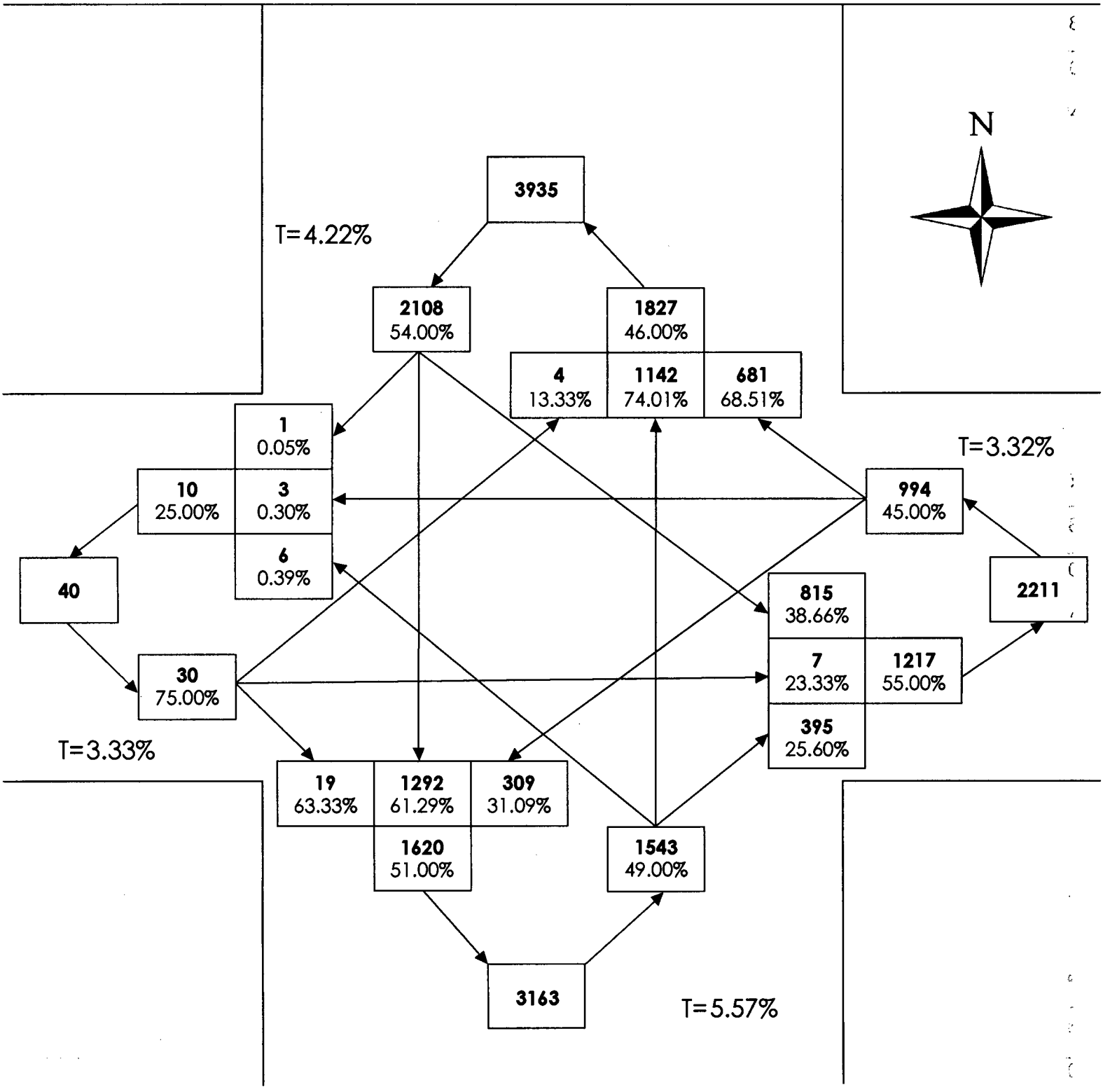
(Block Diagram)

Date: 3/21/2017
Time Period: 14:00 - 18:00

SR: 019 MP: 010.68 Off Sys. ID: Count ID: 17-006

Location: SR 19 & SR 116 & CHARLES ST

ENTIRE COUNT VOLUMES



2897 5423
8910 5424 5425

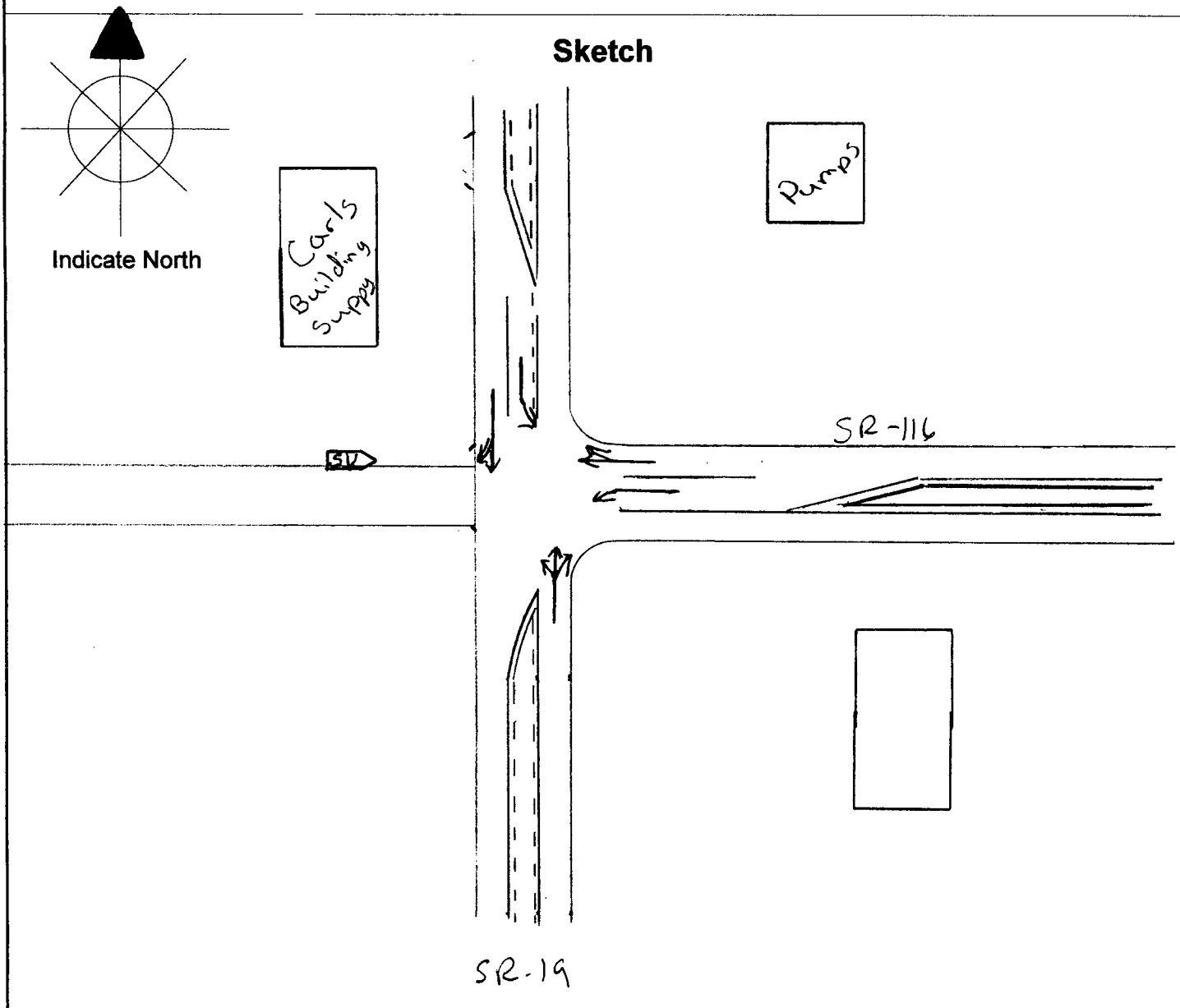
Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
19	10 ● 68		HPMS	3-21-2017 14:00-18:00 3-23-2017 10:00-14:00 3-24-2017 6:00-10:00

Station Location Jct SR 19 + SR 116

Sketch



Remarks:

G:\17-006G 14-1800 #5423 3/21/17

G:\17-006H 10-1400 #5424 3/23/17

G:\17-006I 06-1000 #5425 3/24/17

CP
Signature

DOT Form 324-005 EF
Revised 2/2007

Peninsula Regional Transportation Planning Organization

US 101 Louella Road

Intersection Operational Analysis



Prepared by

WSDOT
Washington State Department of Transportation
Olympic Region Planning

July 2017

Title VI Notice to the Public

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Introduction:

This operational analysis was prepared at the special request of the local jurisdiction and funded by the Peninsula Regional Transportation Planning Organization. Those intersections identified as operating below the Washington State Department of Transportation's policy for what is considered acceptable traffic operation level of service (LOS) will need to compete for funding with other intersections around the state based on the expected performance outcome for the proposed improvements.

US 101 in Washington State is designated as the Pacific Coast Scenic Byway, three hundred and fifty miles around the Olympic Peninsula and down the Pacific Coast. Washington's longest byway encompasses the glacially sculpted peaks and immense forests of the Olympic Peninsula. Travelers are drawn to the old growth forests, and unique plants and wildlife of the Olympic National Park, the living tribal cultures, or the lifestyle of contemporary forestry and fishing communities. US 101 is a rural freight and commuter route that regionally connects Port Angeles and Sequim with the Hood Canal Bridge and Kitsap County, providing a critical east-west link on the northern Olympic Peninsula and provides a gateway to the peninsula's natural and scenic resources.

The intersection of US 101 and Louella Road is located in Clallam County within the city limits of Sequim. This rural principal arterial features one twelve-foot lane in each direction with eight-foot roadway shoulders. The posted speed limit at this location is 55 miles per hour with a rolling terrain that may cause commercial trucks to frequently slow down.

Methodology

Traffic Operations Model

The Highway Capacity Software 2010 was used to analyze the unsignalized intersection of US 101/Louella Road. The turning movement counts from the minor street that experiences the worst delay defines the level of service (LOS) for the intersection. LOS is based on the seconds per vehicle. The LOS criteria for automobiles at a two-way stopped controlled intersection as defined in the Highway Capacity Manual 2010 is as follows:

Control Delay (seconds/vehicle)	**LOS by Volume-to-Capacity Ratio Volume-to-Capacity ≤ 1.0**
0-10	A
>10-15	B
>15-25	C
>25-35	D
>35-50	E
>50	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major street approaches or for the intersection as a whole.

The Synchro 8/SimTraffic software and the Highway Capacity Software 2010 were used to determine the traffic queues at the intersection.

Traffic Volumes

In March 2017, WSDOT staff performed 12-hour turning movement manual counts at all legs of the US 101/Louella Road intersection.

Analysis

The intersection analysis applies a seasonal factor of 1.16 percent to the weekday traffic volumes collected. The seasonal factor adjusts the volume to reflect the yearly average volume and are only applied to the major approaches. The LOS and the delay in seconds for the US 101/Louella Road intersection is shown in the table below.

Figure 2: Level of Service (Delay, Seconds)

LOCATION	AM	MID-DAY	PM
US 101/Louella Road	C (23.6)	D (25.4)	D (28.7)

Figure 2 depicts the traffic operation Level of Service at the US 101/Louella Road intersection. During the morning hours between 6 to 10 a.m., the intersection delay is designated a LOS C. with an average delay of 23.6 seconds, meaning that motorists would wait on average 23.6 seconds at the intersection before they could proceed. Between the hours of 11 a.m. to 2 p.m., motorists would wait an average of 25.4 seconds. During the evening hours, between 2 p.m. to 6 p.m., motorists would be delayed at the intersection 28.7 seconds before they could proceed.

The Washington State Department of Transportation's policy for what is considered a minimal acceptable traffic operation level of service (LOS) for this location is LOS C.

Summary

The analysis depicts the intersection of US 101/Louella Road operating at the target level of LOS C during the morning commute hours, and below the target level LOS C during the mid-day and evening hours. As mentioned in the introduction, improvements must compete for funding based upon expected performance outcome. This location may or may not compete well with other intersections statewide.

Appendix

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: AM
Intersection: US 101/Louella Rd
Jurisdiction: Clallam Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: US 101/Louella Rd
East/West Street: US 101
North/South Street: Louella Rd
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	2	545			583	12
Peak-Hour Factor, PHF	0.92	0.92			0.92	0.92
Hourly Flow Rate, HFR	2	592			633	13
Percent Heavy Vehicles	50	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				20		6
Peak Hour Factor, PHF				0.92		0.92
Hourly Flow Rate, HFR				21		6
Percent Heavy Vehicles				5		0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	2						27	
C(m) (vph)	748						220	
v/c	0.00						0.12	
95% queue length	0.01						0.41	
Control Delay	9.8						23.6	
LOS	A						C	
Approach Delay							23.6	
Approach LOS							C	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: Mid-day
Intersection: US 101/Louella Rd
Jurisdiction: Clallam Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: US 101/Louella Rd
East/West Street: US 101
North/South Street: Louella Rd
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	6	594			648	6
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Hourly Flow Rate, HFR	6	625			682	6
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				19		6
Peak Hour Factor, PHF				0.95		0.95
Hourly Flow Rate, HFR				20		6
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	6						26	
C(m) (vph)	916						202	
v/c	0.01						0.13	
95% queue length	0.02						0.43	
Control Delay	9.0						25.4	
LOS	A						D	
Approach Delay							25.4	
Approach LOS							D	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: jmn
Agency/Co.: wsdot
Date Performed: 5/8/2017
Analysis Time Period: PM
Intersection: US 101/Louella Rd
Jurisdiction: Clallam Co
Units: U. S. Customary
Analysis Year: 2017
Project ID: US 101/Louella Rd
East/West Street: US 101
North/South Street: Louella Rd
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	7	900			612	9
Peak-Hour Factor, PHF	0.94	0.94			0.94	0.94
Hourly Flow Rate, HFR	7	957			651	9
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				8		6
Peak Hour Factor, PHF				0.94		0.94
Hourly Flow Rate, HFR				8		6
Percent Heavy Vehicles				0		17
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

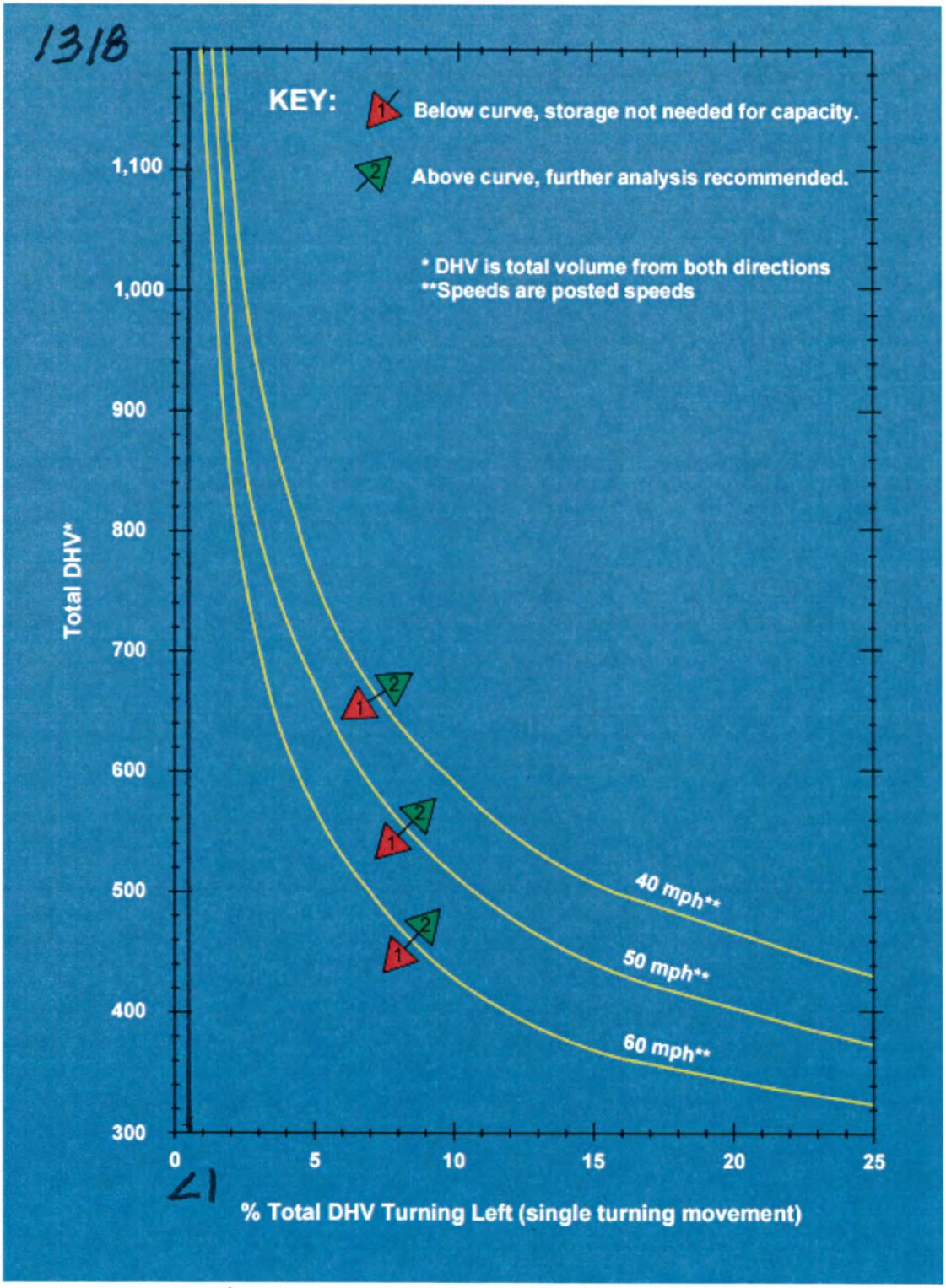
Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	7						14	
C(m) (vph)	938						166	
v/c	0.01						0.08	
95% queue length	0.02						0.27	
Control Delay	8.9						28.7	
LOS	A						D	
Approach Delay							28.7	
Approach LOS							D	

US 101/Louella Rd
MP 269.21

55 mph

Exhibit 1310-7a Left-Turn Storage Guidelines: Two-Lane, Unsignalized



STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 09:10:19
PAGE: 1

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2949 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 10:00
LOCATION SR 101 & LOUELLA RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												212	12.38		1712
THIS LEG NORTH															
NORTH TO SOUTH	1477	12	85	18	6	17	33	36			3	210		98.54	1687
NORTH TO EAST															
NORTH TO WEST	23		1			1						2		1.46	25
SOUTH APPROACH												186	12.94		1437
SOUTH TO NORTH	1241	8	68	8	2	15	37	37	1	2	7	185		99.23	1426
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	10		1									1		0.77	11
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	1.47		68
WEST TO NORTH	50		1									1		75.00	51
WEST TO SOUTH	17													25.00	17
WEST TO EAST															
THIS LEG WEST															
															3217
														PCT SPLIT OUT/IN	
NORTH TOTAL	2791	20	155	26	8	33	70	73	1	2	10	398		54/46	3189
PERCENTAGE	87.52	0.63	4.86	0.82	0.25	1.03	2.20	2.29	0.03	0.06	0.31	12.48			
SOUTH TOTAL	2745	20	154	26	8	32	70	73	1	2	10	396		46/54	3141
PERCENTAGE	87.39	0.64	4.90	0.83	0.25	1.02	2.23	2.32	0.03	0.06	0.32	12.61			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	100		3			1						4		65/35	104
PERCENTAGE	96.15		2.88			0.96						3.85			
															6434

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	209	6.55	176	5.52	13	0.41	398	12.48	0.9048
SOUTH TOTAL	208	6.62	175	5.57	13	0.41	396	12.61	0.9037
EAST TOTAL									
WEST TOTAL	3	2.88	1	0.96			4	3.85	0.9904

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2949 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 06:00 - 07:00
LOCATION SR 101 & LOUELLA RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												43	15.03		286
THIS LEG NORTH															
NORTH TO SOUTH	240	7	15	4	1	2	6	8				43		98.95	283
NORTH TO EAST															
NORTH TO WEST	3													1.05	3
SOUTH APPROACH												27	15.70		172
SOUTH TO NORTH	142	1	7			3	9	6		1		27		98.26	169
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	3													1.74	3
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															9
WEST TO NORTH	7													77.78	7
WEST TO SOUTH	2													22.22	2
WEST TO EAST															
THIS LEG WEST															
															467
														PCT SPLIT OUT/IN	
NORTH TOTAL	392	8	22	4	1	5	15	14		1		70		62/38	462
PERCENTAGE	84.85	1.73	4.76	0.87	0.22	1.08	3.25	3.03		0.22		15.15			
SOUTH TOTAL	387	8	22	4	1	5	15	14		1		70		38/62	457
PERCENTAGE	84.68	1.75	4.81	0.88	0.22	1.09	3.28	3.06		0.22		15.32			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	15													60/40	15
PERCENTAGE	100.00														
															934

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2949 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 07:00 - 08:00
LOCATION SR 101 & LOUELLA RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												45	11.25		400
THIS LEG NORTH															
NORTH TO SOUTH	351	4	13	5	3	4	7	8			1	45		99.00	396
NORTH TO EAST															
NORTH TO WEST	4													1.00	4
SOUTH APPROACH												54	14.63		369
SOUTH TO NORTH	313	5	17	2	1	6	6	12	1	1	3	54		99.46	367
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	2													0.54	2
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															19
WEST TO NORTH	15													78.95	15
WEST TO SOUTH	4													21.05	4
WEST TO EAST															
THIS LEG WEST															
															788
														PCT SPLIT OUT/IN	
NORTH TOTAL	683	9	30	7	4	10	13	20	1	1	4	99		51/49	782
PERCENTAGE	87.34	1.15	3.84	0.90	0.51	1.28	1.66	2.56	0.13	0.13	0.51	12.66			
SOUTH TOTAL	670	9	30	7	4	10	13	20	1	1	4	99		48/52	769
PERCENTAGE	87.13	1.17	3.90	0.91	0.52	1.30	1.69	2.60	0.13	0.13	0.52	12.87			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	25													76/24	25
PERCENTAGE	100.00														
															1576

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2949 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 08:00 - 09:00
LOCATION SR 101 & LOUELLA RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												56	10.92		513
THIS LEG NORTH															
NORTH TO SOUTH	449		24	5	1	6	11	8			1	56		98.44	505
NORTH TO EAST															
NORTH TO WEST	8													1.56	8
SOUTH APPROACH												57	13.44		424
SOUTH TO NORTH	363	1	23	4	1	4	13	9			2	57		99.06	420
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	4													0.94	4
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															14
WEST TO NORTH	9													64.29	9
WEST TO SOUTH	5													35.71	5
WEST TO EAST															
THIS LEG WEST															
															951
														PCT SPLIT OUT/IN	
NORTH TOTAL	829	1	47	9	2	10	24	17			3	113		54/46	942
PERCENTAGE	88.00	0.11	4.99	0.96	0.21	1.06	2.55	1.80			0.32	12.00			
SOUTH TOTAL	821	1	47	9	2	10	24	17			3	113		45/55	934
PERCENTAGE	87.90	0.11	5.03	0.96	0.21	1.07	2.57	1.82			0.32	12.10			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	26													54/46	26
PERCENTAGE	100.00														
															1902

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2949 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 101 & LOUELLA RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												68	13.26		513
THIS LEG NORTH															
NORTH TO SOUTH	437	1	33	4	1	5	9	12			1	66		98.05	503
NORTH TO EAST															
NORTH TO WEST	8		1			1						2		1.95	10
SOUTH APPROACH												48	10.17		472
SOUTH TO NORTH	423	1	21	2		2	9	10			2	47		99.58	470
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	1		1									1		0.42	2
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	3.85		26
WEST TO NORTH	19		1									1		76.92	20
WEST TO SOUTH	6													23.08	6
WEST TO EAST															
THIS LEG WEST															
															1011
														PCT SPLIT OUT/IN	
NORTH TOTAL	887	2	56	6	1	8	18	22			3	116		51/49	1003
PERCENTAGE	88.43	0.20	5.58	0.60	0.10	0.80	1.79	2.19			0.30	11.57			
SOUTH TOTAL	867	2	55	6	1	7	18	22			3	114		48/52	981
PERCENTAGE	88.38	0.20	5.61	0.61	0.10	0.71	1.83	2.24			0.31	11.62			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	34		3			1						4		68/32	38
PERCENTAGE	89.47		7.89			2.63						10.53			
															2022

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2949 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 101 & LOUELLA RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												68	13.26		513
THIS LEG NORTH															
NORTH TO SOUTH	437	1	33	4	1	5	9	12			1	66		98.05	503
NORTH TO EAST															
NORTH TO WEST	8		1			1						2		1.95	10
SOUTH APPROACH												48	10.17		472
SOUTH TO NORTH	423	1	21	2		2	9	10			2	47		99.58	470
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	1		1									1		0.42	2
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	3.85		26
WEST TO NORTH	19		1									1		76.92	20
WEST TO SOUTH	6													23.08	6
WEST TO EAST															
THIS LEG WEST															
															1011
														PCT SPLIT OUT/IN	
NORTH TOTAL	887	2	56	6	1	8	18	22			3	116		51/49	1003
PERCENTAGE	88.43	0.20	5.58	0.60	0.10	0.80	1.79	2.19			0.30	11.57			
SOUTH TOTAL	867	2	55	6	1	7	18	22			3	114		48/52	981
PERCENTAGE	88.38	0.20	5.61	0.61	0.10	0.71	1.83	2.24			0.31	11.62			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	34		3			1						4		68/32	38
PERCENTAGE	89.47		7.89			2.63						10.53			
															2022

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2949 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 101 & LOUELLA RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												68	13.26		513
THIS LEG NORTH															
NORTH TO SOUTH	437	1	33	4	1	5	9	12			1	66		98.05	503
NORTH TO EAST															
NORTH TO WEST	8		1			1						2		1.95	10
SOUTH APPROACH												48	10.17		472
SOUTH TO NORTH	423	1	21	2		2	9	10			2	47		99.58	470
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	1		1									1		0.42	2
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	3.85		26
WEST TO NORTH	19		1									1		76.92	20
WEST TO SOUTH	6													23.08	6
WEST TO EAST															
THIS LEG WEST															
															1011
														PCT SPLIT OUT/IN	
NORTH TOTAL	887	2	56	6	1	8	18	22			3	116		51/49	1003
PERCENTAGE	88.43	0.20	5.58	0.60	0.10	0.80	1.79	2.19			0.30	11.57			
SOUTH TOTAL	867	2	55	6	1	7	18	22			3	114		48/52	981
PERCENTAGE	88.38	0.20	5.61	0.61	0.10	0.71	1.83	2.24			0.31	11.62			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	34		3			1						4		68/32	38
PERCENTAGE	89.47		7.89			2.63						10.53			
															2022

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2949 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 101 & LOUELLA RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												68	13.26		513
THIS LEG NORTH															
NORTH TO SOUTH	437	1	33	4	1	5	9	12			1	66		98.05	503
NORTH TO EAST															
NORTH TO WEST	8		1			1						2		1.95	10
SOUTH APPROACH												48	10.17		472
SOUTH TO NORTH	423	1	21	2		2	9	10			2	47		99.58	470
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	1		1									1		0.42	2
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	3.85		26
WEST TO NORTH	19		1									1		76.92	20
WEST TO SOUTH	6													23.08	6
WEST TO EAST															
THIS LEG WEST															
															1011
														PCT SPLIT OUT/IN	
NORTH TOTAL	887	2	56	6	1	8	18	22			3	116		51/49	1003
PERCENTAGE	88.43	0.20	5.58	0.60	0.10	0.80	1.79	2.19			0.30	11.57			
SOUTH TOTAL	867	2	55	6	1	7	18	22			3	114		48/52	981
PERCENTAGE	88.38	0.20	5.61	0.61	0.10	0.71	1.83	2.24			0.31	11.62			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	34		3			1						4		68/32	38
PERCENTAGE	89.47		7.89			2.63						10.53			
															2022

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2949 COUNT ID 17-006
DATE 3/23/2017 DAY OF WEEK 5 TIME PERIOD HOUR 09:00 - 10:00
LOCATION SR 101 & LOUELLA RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												68	13.26		513
THIS LEG NORTH															
NORTH TO SOUTH	437	1	33	4	1	5	9	12			1	66		98.05	503
NORTH TO EAST															
NORTH TO WEST	8		1			1						2		1.95	10
SOUTH APPROACH												48	10.17		472
SOUTH TO NORTH	423	1	21	2		2	9	10			2	47		99.58	470
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	1		1									1		0.42	2
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	3.85		26
WEST TO NORTH	19		1									1		76.92	20
WEST TO SOUTH	6													23.08	6
WEST TO EAST															
THIS LEG WEST															
															1011
														PCT SPLIT OUT/IN	
NORTH TOTAL	887	2	56	6	1	8	18	22			3	116		51/49	1003
PERCENTAGE	88.43	0.20	5.58	0.60	0.10	0.80	1.79	2.19			0.30	11.57			
SOUTH TOTAL	867	2	55	6	1	7	18	22			3	114		48/52	981
PERCENTAGE	88.38	0.20	5.61	0.61	0.10	0.71	1.83	2.24			0.31	11.62			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	34		3			1						4		68/32	38
PERCENTAGE	89.47		7.89			2.63						10.53			
															2022

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	65	6.48	48	4.79	3	0.30	116	11.57	0.9172
SOUTH TOTAL	64	6.52	47	4.79	3	0.31	114	11.62	0.9163
EAST TOTAL									
WEST TOTAL	3	7.89	1	2.63			4	10.53	0.9743

PEAK HOUR FACTOR 0.916 237 260 238 276 1011

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

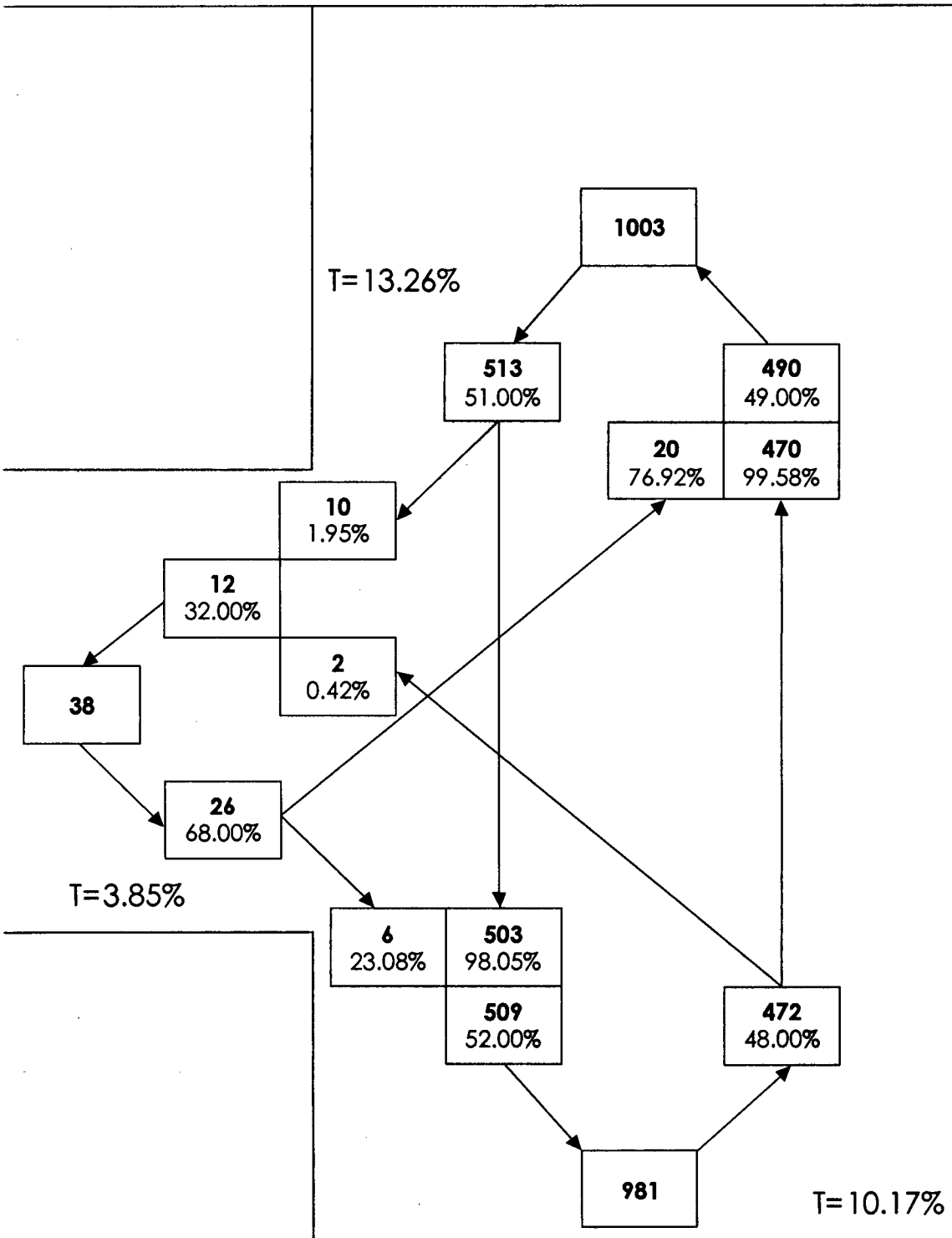
(Block Diagram)

Date: 3/23/2017
Time Period: 09:00 - 10:00

SR: 101 MP: 269.21 Off Sys. ID: Count ID: 17-006

Location: SR 101 & LOUELLA RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



N

Quarter Hour 1 = 237
Quarter Hour 2 = 260
Quarter Hour 3 = 238
Quarter Hour 4 = 276

TOTAL HOUR = 1011

PEAK HOUR FACTOR = 0.916

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

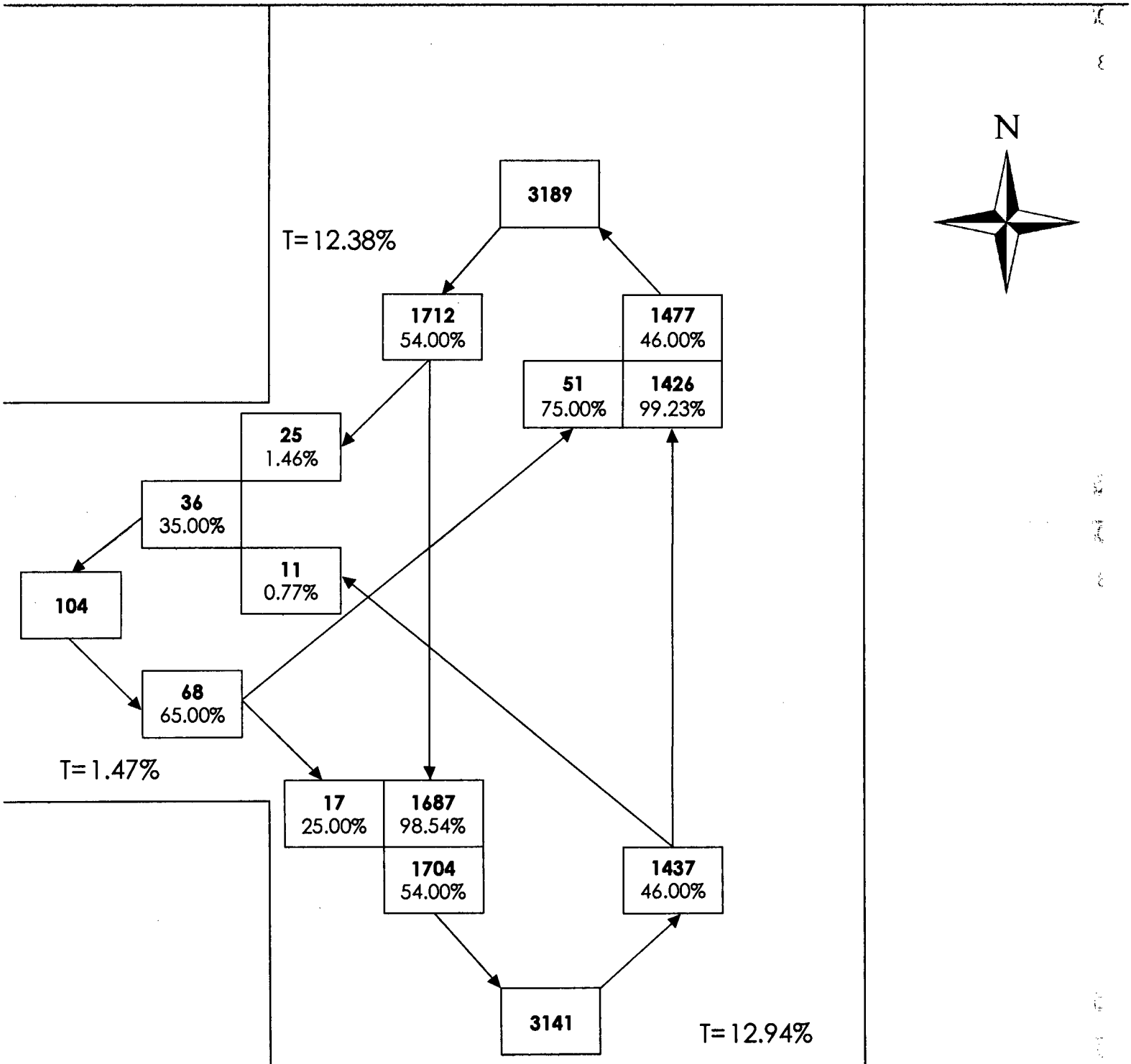
(Block Diagram)

Date: 3/23/2017
Time Period: 06:00 - 10:00

SR: 101 MP: 269.21 Off Sys. ID: Count ID: 17-006

Location: SR 101 & LOUELLA RD

ENTIRE COUNT VOLUMES



BRD 2896 #D 2947 PM 3-21
2948 MID 3-22
2949 AM 3-23

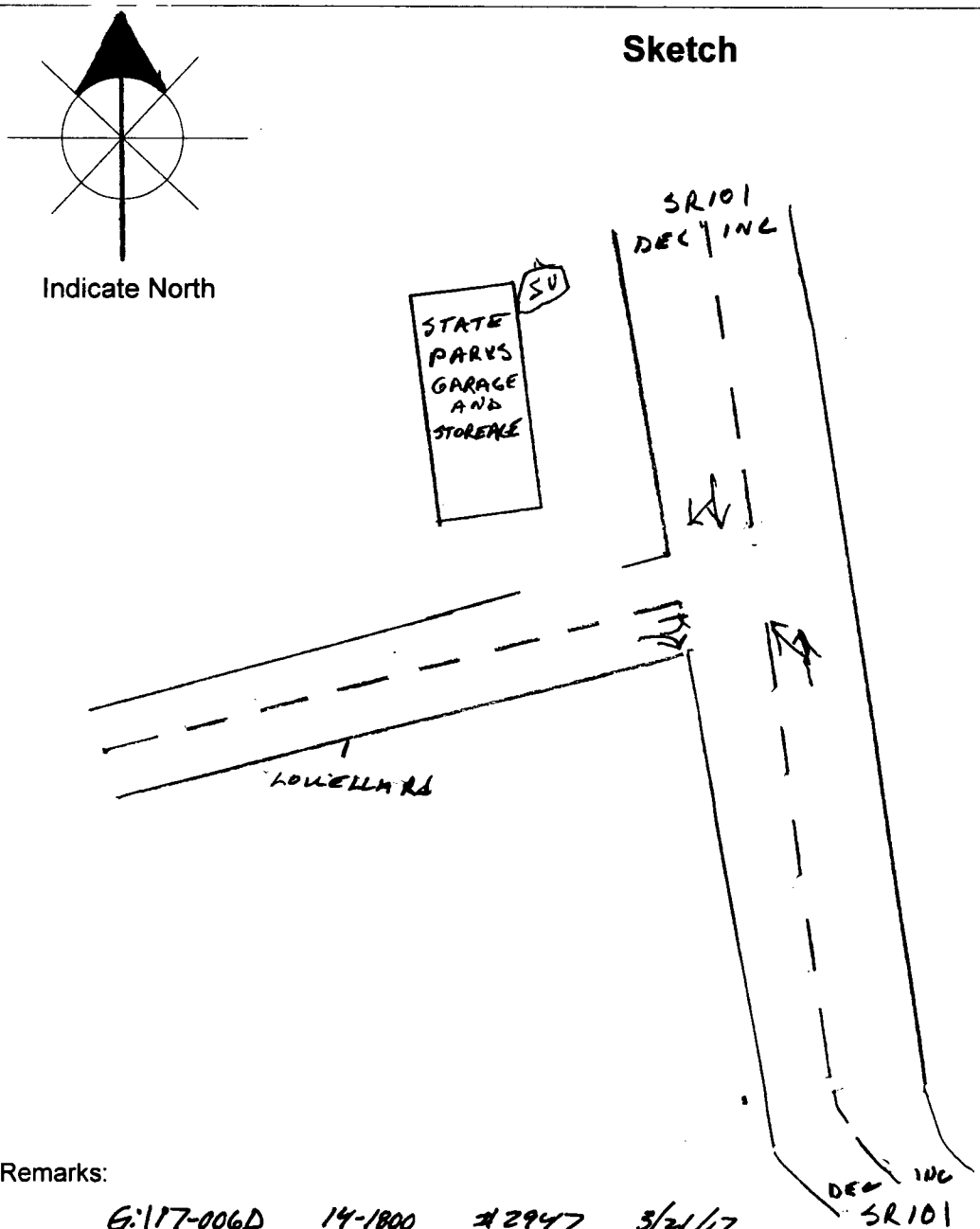
Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
SR101	269 • 21		SP#17-006	3-21,22,23-17

Station Location AT INTERSECTION OF SR101 AND LOWELLA Rd

Sketch



Remarks:

G:\17-006D 14-1800 #2947 3/21/17

G:\17-006E 10-1400 #2948 3/22/17

G:\17-006F 06-1000 #2949 3/23/17

BS

Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2948 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 14:00
LOCATION SR 101 & LOUELLA RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												233	10.65		2187
THIS LEG NORTH															
NORTH TO SOUTH	1924	7	108	22	3	13	40	37	1		1	232		98.58	2156
NORTH TO EAST															
NORTH TO WEST	30		1									1		1.42	31
SOUTH APPROACH												186	9.30		2000
SOUTH TO NORTH	1801	7	73	13	1	17	27	40	1		6	185		99.30	1986
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	13		1									1		0.70	14
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	1.04		96
WEST TO NORTH	75													78.12	75
WEST TO SOUTH	20		1									1		21.88	21
WEST TO EAST															
THIS LEG WEST															
															4283
														PCT SPLIT OUT/IN	
NORTH TOTAL	3830	14	182	35	4	30	67	77	2		7	418		51/49	4248
PERCENTAGE	90.16	0.33	4.28	0.82	0.09	0.71	1.58	1.81	0.05		0.16	9.84			
SOUTH TOTAL	3758	14	183	35	4	30	67	77	2		7	419		48/52	4177
PERCENTAGE	89.97	0.34	4.38	0.84	0.10	0.72	1.60	1.84	0.05		0.17	10.03			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	138		3									3		68/32	141
PERCENTAGE	97.87		2.13									2.13			
															8566

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	235	5.53	174	4.10	9	0.21	418	9.84	0.9286
SOUTH TOTAL	236	5.65	174	4.17	9	0.22	419	10.03	0.9275
EAST TOTAL									
WEST TOTAL	3	2.13					3	2.13	1.0000

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2948 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 10:00 - 11:00
LOCATION SR 101 & LOUELLA RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												69	13.29		519
THIS LEG NORTH															
NORTH TO SOUTH	444	2	35	5	1	4	8	13	1			69		98.84	513
NORTH TO EAST															
NORTH TO WEST	6													1.16	6
SOUTH APPROACH												48	9.54		503
SOUTH TO NORTH	454		20	4	1	4	7	10	1		1	48		99.80	502
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	1													0.20	1
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															23
WEST TO NORTH	18													78.26	18
WEST TO SOUTH	5													21.74	5
WEST TO EAST															
THIS LEG WEST															
															1045
														PCT SPLIT OUT/IN	
NORTH TOTAL	922	2	55	9	2	8	15	23	2		1	117		50/50	1039
PERCENTAGE	88.74	0.19	5.29	0.87	0.19	0.77	1.44	2.21	0.19		0.10	11.26			
SOUTH TOTAL	904	2	55	9	2	8	15	23	2		1	117		49/51	1021
PERCENTAGE	88.54	0.20	5.39	0.88	0.20	0.78	1.47	2.25	0.20		0.10	11.46			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	30													77/23	30
PERCENTAGE	100.00														
															2090

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2948 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 11:00 - 12:00
LOCATION SR 101 & LOUELLA RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												61	11.28		541
THIS LEG NORTH															
NORTH TO SOUTH	472		28	6	1	4	9	13				61		98.52	533
NORTH TO EAST															
NORTH TO WEST	8													1.48	8
SOUTH APPROACH												46	9.50		484
SOUTH TO NORTH	434	4	13	2		5	7	13			2	46		99.17	480
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	4													0.83	4
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															22
WEST TO NORTH	17													77.27	17
WEST TO SOUTH	5													22.73	5
WEST TO EAST															
THIS LEG WEST															
															1047
														PCT SPLIT OUT/IN	
NORTH TOTAL	931	4	41	8	1	9	16	26			2	107		52/48	1038
PERCENTAGE	89.69	0.39	3.95	0.77	0.10	0.87	1.54	2.50			0.19	10.31			
SOUTH TOTAL	915	4	41	8	1	9	16	26			2	107		47/53	1022
PERCENTAGE	89.53	0.39	4.01	0.78	0.10	0.88	1.57	2.54			0.20	10.47			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	34													65/35	34
PERCENTAGE	100.00														
															2094

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2948 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 101 & LOUELLA RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												55	9.75		564
THIS LEG NORTH															
NORTH TO SOUTH	504	1	26	7		3	11	6			1	55		99.11	559
NORTH TO EAST															
NORTH TO WEST	5													0.89	5
SOUTH APPROACH												43	8.32		517
SOUTH TO NORTH	469	3	16	1		5	6	11			1	43		99.03	512
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	5													0.97	5
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															25
WEST TO NORTH	19													76.00	19
WEST TO SOUTH	6													24.00	6
WEST TO EAST															
THIS LEG WEST															
															1106
														PCT SPLIT OUT/IN	
NORTH TOTAL	997	4	42	8		8	17	17			2	98		52/48	1095
PERCENTAGE	91.05	0.37	3.84	0.73		0.73	1.55	1.55			0.18	8.95			
SOUTH TOTAL	984	4	42	8		8	17	17			2	98		48/52	1082
PERCENTAGE	90.94	0.37	3.88	0.74		0.74	1.57	1.57			0.18	9.06			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	35													71/29	35
PERCENTAGE	100.00														
															2212

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2948 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 13:00 - 14:00
LOCATION SR 101 & LOUELLA RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												48	8.53		563
THIS LEG NORTH															
NORTH TO SOUTH	504	4	19	4	1	2	12	5				47		97.87	551
NORTH TO EAST															
NORTH TO WEST	11		1									1		2.13	12
SOUTH APPROACH												49	9.88		496
SOUTH TO NORTH	444		24	6		3	7	6			2	48		99.19	492
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	3		1									1		0.81	4
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	3.85		26
WEST TO NORTH	21													80.77	21
WEST TO SOUTH	4		1									1		19.23	5
WEST TO EAST															
THIS LEG WEST															
															1085
														PCT SPLIT OUT/IN	
NORTH TOTAL	980	4	44	10	1	5	19	11			2	96		52/48	1076
PERCENTAGE	91.08	0.37	4.09	0.93	0.09	0.46	1.77	1.02			0.19	8.92			
SOUTH TOTAL	955	4	45	10	1	5	19	11			2	97		47/53	1052
PERCENTAGE	90.78	0.38	4.28	0.95	0.10	0.48	1.81	1.05			0.19	9.22			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	39		3									3		62/38	42
PERCENTAGE	92.86		7.14									7.14			
															2170

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2948 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 101 & LOUELLA RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												55	9.75		564
THIS LEG NORTH															
NORTH TO SOUTH	504	1	26	7		3	11	6			1	55		99.11	559
NORTH TO EAST															
NORTH TO WEST	5													0.89	5
SOUTH APPROACH												43	8.32		517
SOUTH TO NORTH	469	3	16	1		5	6	11			1	43		99.03	512
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	5													0.97	5
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															25
WEST TO NORTH	19													76.00	19
WEST TO SOUTH	6													24.00	6
WEST TO EAST															
THIS LEG WEST															
															1106
														PCT SPLIT OUT/IN	
NORTH TOTAL	997	4	42	8		8	17	17			2	98		52/48	1095
PERCENTAGE	91.05	0.37	3.84	0.73		0.73	1.55	1.55			0.18	8.95			
SOUTH TOTAL	984	4	42	8		8	17	17			2	98		48/52	1082
PERCENTAGE	90.94	0.37	3.88	0.74		0.74	1.57	1.57			0.18	9.06			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	35													71/29	35
PERCENTAGE	100.00														
															2212

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2948 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 101 & LOUELLA RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												55	9.75		564
THIS LEG NORTH															
NORTH TO SOUTH	504	1	26	7		3	11	6			1	55		99.11	559
NORTH TO EAST															
NORTH TO WEST	5													0.89	5
SOUTH APPROACH												43	8.32		517
SOUTH TO NORTH	469	3	16	1		5	6	11			1	43		99.03	512
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	5													0.97	5
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															25
WEST TO NORTH	19													76.00	19
WEST TO SOUTH	6													24.00	6
WEST TO EAST															
THIS LEG WEST															1106
														PCT SPLIT OUT/IN	
NORTH TOTAL	997	4	42	8		8	17	17			2	98		52/48	1095
PERCENTAGE	91.05	0.37	3.84	0.73		0.73	1.55	1.55			0.18	8.95			
SOUTH TOTAL	984	4	42	8		8	17	17			2	98		48/52	1082
PERCENTAGE	90.94	0.37	3.88	0.74		0.74	1.57	1.57			0.18	9.06			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	35													71/29	35
PERCENTAGE	100.00														
															2212

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2948 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:45 - 13:45
LOCATION SR 101 & LOUELLA RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												51	8.96		569
THIS LEG NORTH															
NORTH TO SOUTH	505	3	22	4		3	12	5			1	50		97.54	555
NORTH TO EAST															
NORTH TO WEST	13		1									1		2.46	14
SOUTH APPROACH												49	9.92		494
SOUTH TO NORTH	441		27	6		3	6	5			1	48		98.99	489
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	4		1									1		1.01	5
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	3.57		28
WEST TO NORTH	23													82.14	23
WEST TO SOUTH	4		1									1		17.86	5
WEST TO EAST															
THIS LEG WEST															
															1091
														PCT SPLIT OUT/IN	
NORTH TOTAL	982	3	50	10		6	18	10			2	99		53/47	1081
PERCENTAGE	90.84	0.28	4.63	0.93		0.56	1.67	0.93			0.19	9.16			
SOUTH TOTAL	954	3	51	10		6	18	10			2	100		47/53	1054
PERCENTAGE	90.51	0.28	4.84	0.95		0.57	1.71	0.95			0.19	9.49			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	44		3									3		60/40	47
PERCENTAGE	93.62		6.38									6.38			
															2182

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2948 COUNT ID 17-006
DATE 3/22/2017 DAY OF WEEK 4 TIME PERIOD HOUR 12:00 - 13:00
LOCATION SR 101 & LOUELLA RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												55	9.75		564
THIS LEG NORTH															
NORTH TO SOUTH	504	1	26	7		3	11	6			1	55		99.11	559
NORTH TO EAST															
NORTH TO WEST	5													0.89	5
SOUTH APPROACH												43	8.32		517
SOUTH TO NORTH	469	3	16	1		5	6	11			1	43		99.03	512
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	5													0.97	5
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															25
WEST TO NORTH	19													76.00	19
WEST TO SOUTH	6													24.00	6
WEST TO EAST															
THIS LEG WEST															
															1106
														PCT SPLIT OUT/IN	
NORTH TOTAL	997	4	42	8		8	17	17			2	98		52/48	1095
PERCENTAGE	91.05	0.37	3.84	0.73		0.73	1.55	1.55			0.18	8.95			
SOUTH TOTAL	984	4	42	8		8	17	17			2	98		48/52	1082
PERCENTAGE	90.94	0.37	3.88	0.74		0.74	1.57	1.57			0.18	9.06			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	35													71/29	35
PERCENTAGE	100.00														
															2212

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	54	4.93	42	3.84	2	0.18	98	8.95	0.9346
SOUTH TOTAL	54	4.99	42	3.88	2	0.18	98	9.06	0.9339
EAST TOTAL									
WEST TOTAL									1.0000

PEAK HOUR FACTOR 0.953 258 273 285 290 1106

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

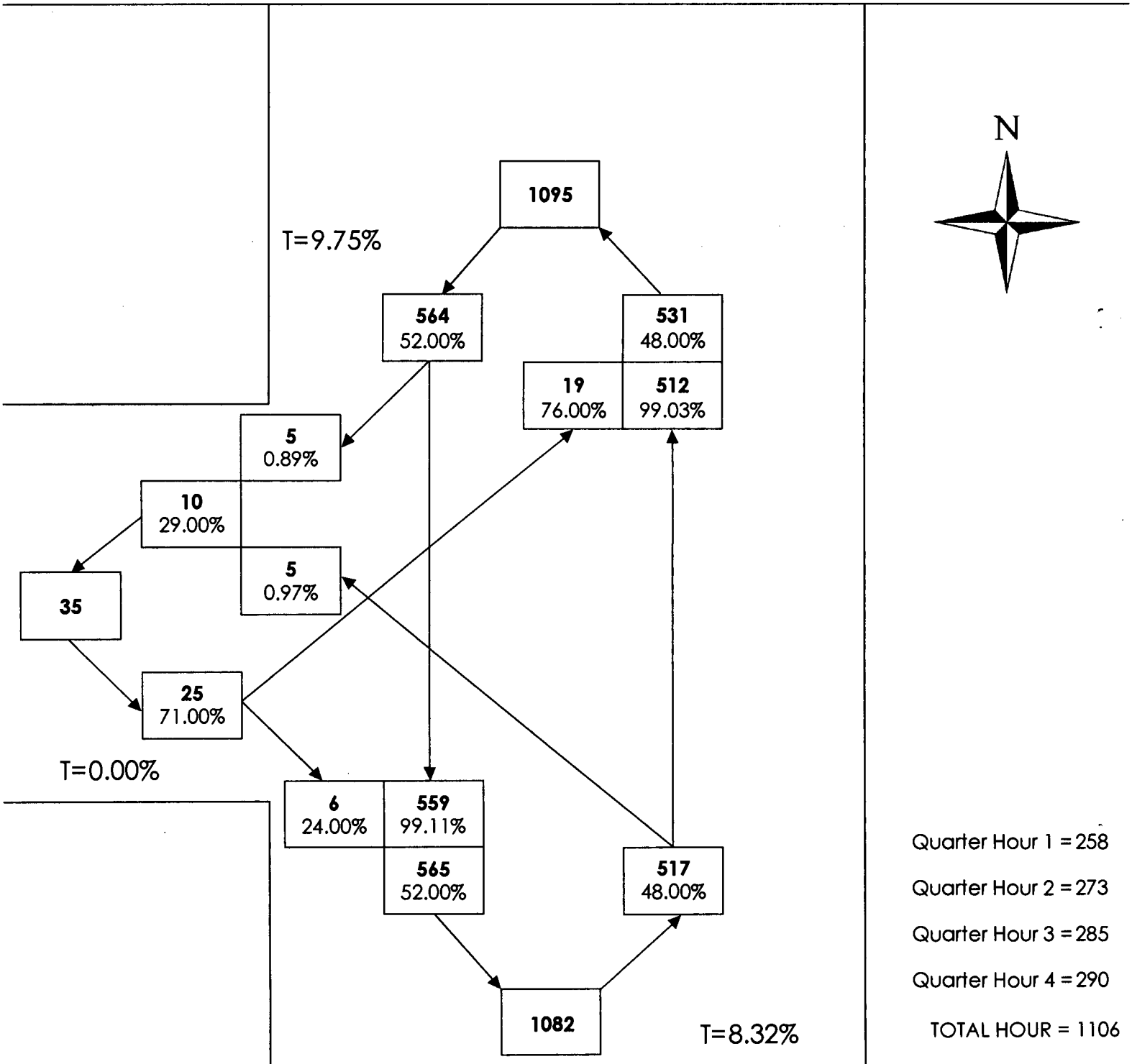
(Block Diagram)

Date: 3/22/2017
Time Period: 12:00 - 13:00

SR: 101 MP: 269.21 Off Sys. ID: Count ID: 17-006

Location: SR 101 & LOUELLA RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 258

Quarter Hour 2 = 273

Quarter Hour 3 = 285

Quarter Hour 4 = 290

TOTAL HOUR = 1106

PEAK HOUR FACTOR = 0.953

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

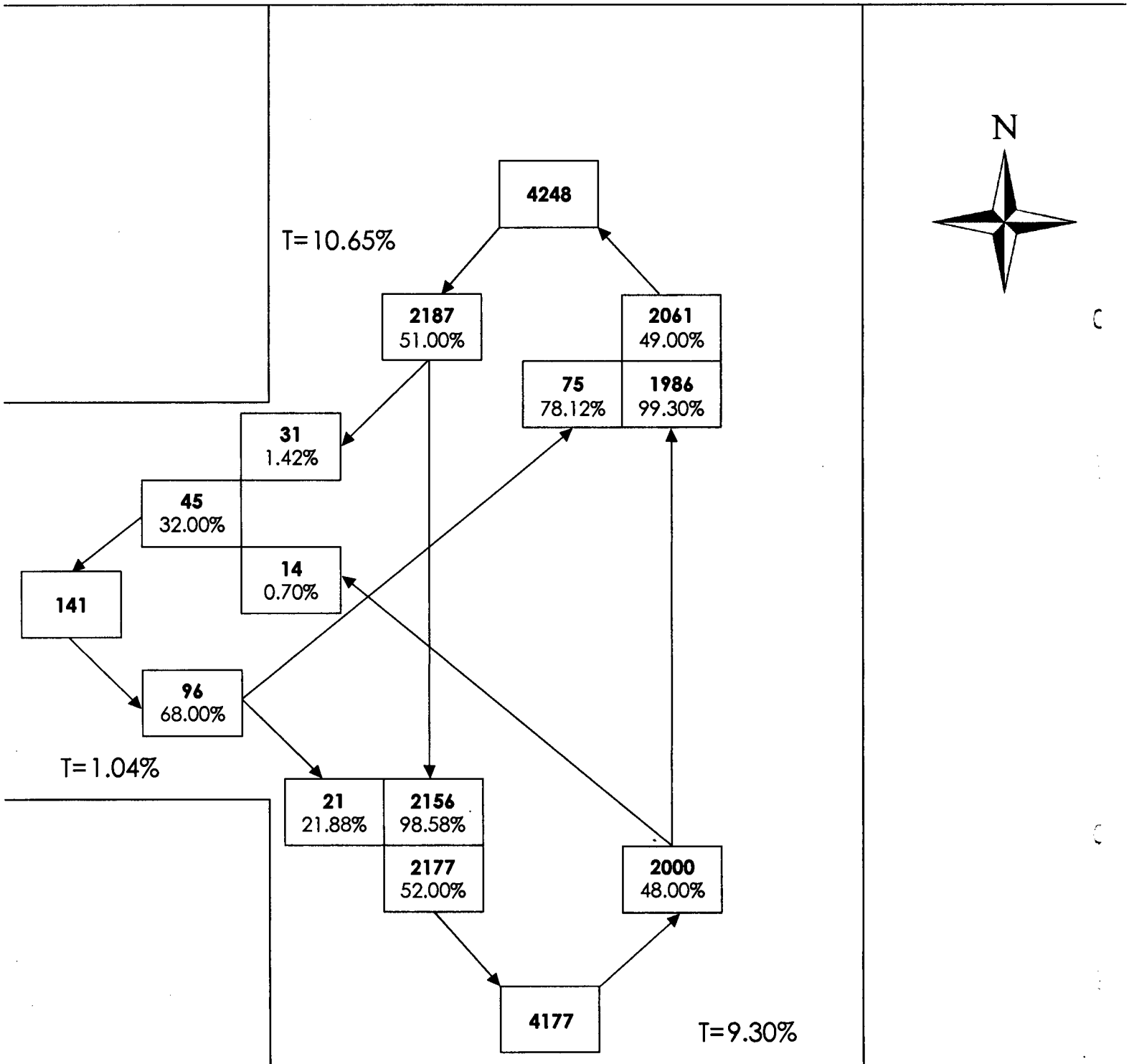
(Block Diagram)

Date: 3/22/2017
Time Period: 10:00 - 14:00

SR: 101 MP: 269.21 Off Sys. ID: Count ID: 17-006

Location: SR 101 & LOUELLA RD

ENTIRE COUNT VOLUMES



BRV 2076 +V
2948 MID 3-22
2949 AM 3-23

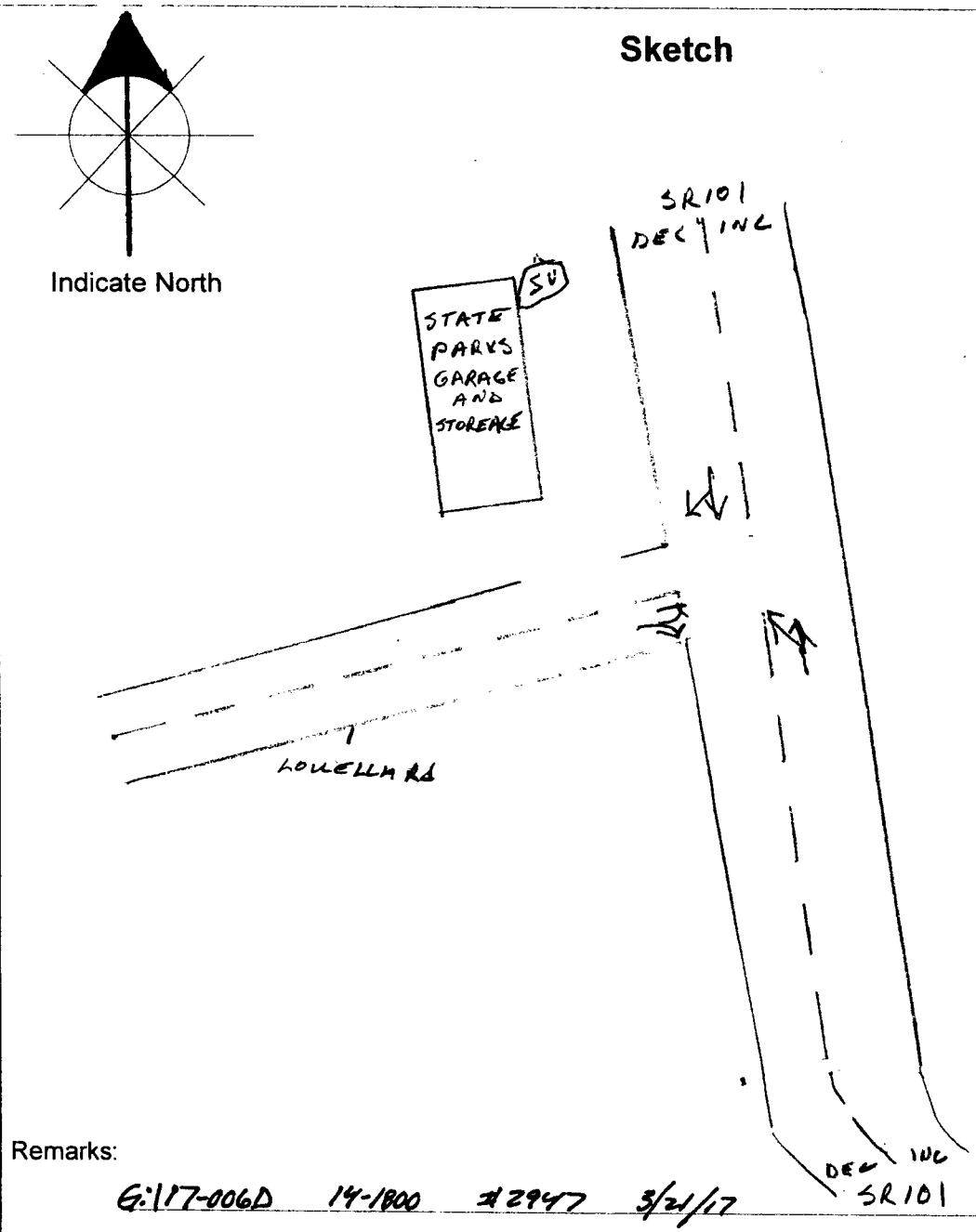
Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
SR101	269 • 21		SP#17-006	3-21,22,23-17

Station Location AT INTERSECTION OF SR101 AND LOWELLA Rd

Sketch



Remarks:

G:\17-006D 14-1800 #2947 3/21/17

G:\17-006E 10-1400 #2948 3/22/17

G:\17-006F 06-1000 #2949 3/23/17

Signature

DOT Form 324-005 EF
Revised 2/2007

STATE OF WASHINGTON - DEPARTMENT OF TRANSPORTATION
T R I P S S Y S T E M
SHORT DURATION CLASSIFICATION 4-WAY

DATE: 4/5/2017
TIME: 09:09:19
PAGE: 1

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2947 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 18:00
LOCATION SR 101 & LOUELLA RD 03

ENTIRE COUNT VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												148	6.65		2225
THIS LEG NORTH															
NORTH TO SOUTH	2029	15	68	7		15	16	22	1		3	147		97.80	2176
NORTH TO EAST															
NORTH TO WEST	48					1						1		2.20	49
SOUTH APPROACH												179	7.77		2303
SOUTH TO NORTH	2105	10	82	5	1	17	30	29			3	177		99.09	2282
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	19		2									2		0.91	21
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												2	2.50		80
WEST TO NORTH	50					1						1		63.75	51
WEST TO SOUTH	28		1									1		36.25	29
WEST TO EAST															
THIS LEG WEST															
															4608
														PCT SPLIT OUT/IN	
NORTH TOTAL	4232	25	150	12	1	34	46	51	1		6	326		49/51	4558
PERCENTAGE	92.85	0.55	3.29	0.26	0.02	0.75	1.01	1.12	0.02		0.13	7.15			
SOUTH TOTAL	4181	25	153	12	1	32	46	51	1		6	327		51/49	4508
PERCENTAGE	92.75	0.55	3.39	0.27	0.02	0.71	1.02	1.13	0.02		0.13	7.25			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	145		3			2						5		53/47	150
PERCENTAGE	96.67		2.00			1.33						3.33			
															9216

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	188	4.12	131	2.87	7	0.15	326	7.15	0.9522
SOUTH TOTAL	191	4.24	129	2.86	7	0.16	327	7.25	0.9521
EAST TOTAL									
WEST TOTAL	3	2.00	2	1.33			5	3.33	0.9868

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2947 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:00 - 15:00
LOCATION SR 101 & LOUELLA RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												48	7.68		625
THIS LEG NORTH															
NORTH TO SOUTH	567	3	27	2		3	5	7				47		98.24	614
NORTH TO EAST															
NORTH TO WEST	10					1						1		1.76	11
SOUTH APPROACH												41	7.71		532
SOUTH TO NORTH	489		17		1	3	7	12			1	41		99.62	530
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	2													0.38	2
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	3.85		26
WEST TO NORTH	17					1						1		69.23	18
WEST TO SOUTH	8													30.77	8
WEST TO EAST															
THIS LEG WEST															
															1183
														PCT SPLIT OUT/IN	
NORTH TOTAL	1083	3	44	2	1	8	12	19			1	90		53/47	1173
PERCENTAGE	92.33	0.26	3.75	0.17	0.09	0.68	1.02	1.62			0.09	7.67			
SOUTH TOTAL	1066	3	44	2	1	6	12	19			1	88		46/54	1154
PERCENTAGE	92.37	0.26	3.81	0.17	0.09	0.52	1.04	1.65			0.09	7.63			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	37					2						2		67/33	39
PERCENTAGE	94.87					5.13						5.13			
															2366

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2947 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 15:00 - 16:00
LOCATION SR 101 & LOUELLA RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												41	7.35		558
THIS LEG NORTH															
NORTH TO SOUTH	501	7	18	2		5	3	6				41		97.13	542
NORTH TO EAST															
NORTH TO WEST	16													2.87	16
SOUTH APPROACH												45	10.61		424
SOUTH TO NORTH	376	5	18			7	11	3			1	45		99.29	421
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	3													0.71	3
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															23
WEST TO NORTH	15													65.22	15
WEST TO SOUTH	8													34.78	8
WEST TO EAST															
THIS LEG WEST															
															1005
														PCT SPLIT OUT/IN	
NORTH TOTAL	908	12	36	2		12	14	9			1	86		56/44	994
PERCENTAGE	91.35	1.21	3.62	0.20		1.21	1.41	0.91			0.10	8.65			
SOUTH TOTAL	888	12	36	2		12	14	9			1	86		44/56	974
PERCENTAGE	91.17	1.23	3.70	0.21		1.23	1.44	0.92			0.10	8.83			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	42													55/45	42
PERCENTAGE	100.00														
															2010

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2947 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:00 - 17:00
LOCATION SR 101 & LOUELLA RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												38	7.09		536
THIS LEG NORTH															
NORTH TO SOUTH	489	3	17	2		5	5	4			2	38		98.32	527
NORTH TO EAST															
NORTH TO WEST	9													1.68	9
SOUTH APPROACH												51	6.72		759
SOUTH TO NORTH	703	4	24	1		4	7	10				50		99.21	753
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	5		1									1		0.79	6
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	6.67		15
WEST TO NORTH	10													66.67	10
WEST TO SOUTH	4		1									1		33.33	5
WEST TO EAST															
THIS LEG WEST															
															1310
														PCT SPLIT OUT/IN	
NORTH TOTAL	1211	7	41	3		9	12	14			2	88		41/59	1299
PERCENTAGE	93.23	0.54	3.16	0.23		0.69	0.92	1.08			0.15	6.77			
SOUTH TOTAL	1201	7	43	3		9	12	14			2	90		59/41	1291
PERCENTAGE	93.03	0.54	3.33	0.23		0.70	0.93	1.08			0.15	6.97			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	28		2									2		50/50	30
PERCENTAGE	93.33		6.67									6.67			
															2620

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2947 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 17:00 - 18:00
LOCATION SR 101 & LOUELLA RD 03

HOURLY VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												21	4.15		506
THIS LEG NORTH															
NORTH TO SOUTH	472	2	6	1		2	3	5	1		1	21		97.43	493
NORTH TO EAST															
NORTH TO WEST	13													2.57	13
SOUTH APPROACH												42	7.14		588
SOUTH TO NORTH	537	1	23	4		3	5	4			1	41		98.30	578
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	9		1									1		1.70	10
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH															16
WEST TO NORTH	8													50.00	8
WEST TO SOUTH	8													50.00	8
WEST TO EAST															
THIS LEG WEST															
															1110
														PCT SPLIT OUT/IN	
NORTH TOTAL	1030	3	29	5		5	8	9	1		2	62		46/54	1092
PERCENTAGE	94.32	0.27	2.66	0.46		0.46	0.73	0.82	0.09		0.18	5.68			
SOUTH TOTAL	1026	3	30	5		5	8	9	1		2	63		54/46	1089
PERCENTAGE	94.21	0.28	2.75	0.46		0.46	0.73	0.83	0.09		0.18	5.79			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	38		1									1		41/59	39
PERCENTAGE	97.44		2.56									2.56			
															2220

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2947 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 101 & LOUELLA RD 03

NORTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												37	6.90		536
THIS LEG NORTH															
NORTH TO SOUTH	491	4	16	2		3	5	6			1	37		98.51	528
NORTH TO EAST															
NORTH TO WEST	8													1.49	8
SOUTH APPROACH												46	5.88		782
SOUTH TO NORTH	730	2	24	2		5	5	8				46		99.23	776
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	6													0.77	6
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	7.14		14
WEST TO NORTH	8													57.14	8
WEST TO SOUTH	5		1									1		42.86	6
WEST TO EAST															
THIS LEG WEST															
															1332
														PCT SPLIT OUT/IN	
NORTH TOTAL	1237	6	40	4		8	10	14			1	83		41/59	1320
PERCENTAGE	93.71	0.45	3.03	0.30		0.61	0.76	1.06			0.08	6.29			
SOUTH TOTAL	1232	6	41	4		8	10	14			1	84		59/41	1316
PERCENTAGE	93.62	0.46	3.12	0.30		0.61	0.76	1.06			0.08	6.38			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	27		1									1		50/50	28
PERCENTAGE	96.43		3.57									3.57			
															2664

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2947 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 101 & LOUELLA RD 03

SOUTH LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												37	6.90		536
THIS LEG NORTH															
NORTH TO SOUTH	491	4	16	2		3	5	6			1	37		98.51	528
NORTH TO EAST															
NORTH TO WEST	8													1.49	8
SOUTH APPROACH												46	5.88		782
SOUTH TO NORTH	730	2	24	2		5	5	8				46		99.23	776
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	6													0.77	6
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	7.14		14
WEST TO NORTH	8													57.14	8
WEST TO SOUTH	5		1									1		42.86	6
WEST TO EAST															
THIS LEG WEST															
															1332
														PCT SPLIT OUT/IN	
NORTH TOTAL	1237	6	40	4		8	10	14			1	83		41/59	1320
PERCENTAGE	93.71	0.45	3.03	0.30		0.61	0.76	1.06			0.08	6.29			
SOUTH TOTAL	1232	6	41	4		8	10	14			1	84		59/41	1316
PERCENTAGE	93.62	0.46	3.12	0.30		0.61	0.76	1.06			0.08	6.38			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	27		1									1		50/50	28
PERCENTAGE	96.43		3.57									3.57			
															2664

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2947 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 14:15 - 15:15
LOCATION SR 101 & LOUELLA RD 03

WEST LEG PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												41	6.84		599
THIS LEG NORTH															
NORTH TO SOUTH	546	6	22	2		3	4	4				41		98.00	587
NORTH TO EAST															
NORTH TO WEST	12													2.00	12
SOUTH APPROACH												49	8.80		557
SOUTH TO NORTH	506	1	18		1	5	12	12				49		99.64	555
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	2													0.36	2
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	3.23		31
WEST TO NORTH	19					1						1		64.52	20
WEST TO SOUTH	11													35.48	11
WEST TO EAST															
THIS LEG WEST															
															1187
														PCT SPLIT OUT/IN	
NORTH TOTAL	1083	7	40	2	1	9	16	16				91		51/49	1174
PERCENTAGE	92.25	0.60	3.41	0.17	0.09	0.77	1.36	1.36				7.75			
SOUTH TOTAL	1065	7	40	2	1	8	16	16				90		48/52	1155
PERCENTAGE	92.21	0.61	3.46	0.17	0.09	0.69	1.39	1.39				7.79			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	44					1						1		69/31	45
PERCENTAGE	97.78					2.22						2.22			
															2374

SR 101 MP 269.21 OFF SYS ID COUNTER NUM 2947 COUNT ID 17-006
DATE 3/21/2017 DAY OF WEEK 3 TIME PERIOD HOUR 16:15 - 17:15
LOCATION SR 101 & LOUELLA RD 03

INTERSECTIONAL PEAK HOUR AND VOLUMES

MOVEMENT	CARS AND PICKUPS	---SINGLE UNITS--- BUS	MED	HVY	4+	-DOUBLE UNITS- 4-	5	6+	-TRIPLE UNITS- 5-	6	7+	TOTAL TRUCK	PERCENT TRUCK	PERCENT TURNS	TOTAL
NORTH APPROACH												37	6.90		536
THIS LEG NORTH															
NORTH TO SOUTH	491	4	16	2		3	5	6			1	37		98.51	528
NORTH TO EAST															
NORTH TO WEST	8													1.49	8
SOUTH APPROACH												46	5.88		782
SOUTH TO NORTH	730	2	24	2		5	5	8				46		99.23	776
THIS LEG SOUTH															
SOUTH TO EAST															
SOUTH TO WEST	6													0.77	6
EAST APPROACH															
EAST TO NORTH															
EAST TO SOUTH															
THIS LEG EAST															
EAST TO WEST															
WEST APPROACH												1	7.14		14
WEST TO NORTH	8													57.14	8
WEST TO SOUTH	5		1									1		42.86	6
WEST TO EAST															
THIS LEG WEST															
															1332
														PCT SPLIT OUT/IN	
NORTH TOTAL	1237	6	40	4		8	10	14			1	83		41/59	1320
PERCENTAGE	93.71	0.45	3.03	0.30		0.61	0.76	1.06			0.08	6.29			
SOUTH TOTAL	1232	6	41	4		8	10	14			1	84		59/41	1316
PERCENTAGE	93.62	0.46	3.12	0.30		0.61	0.76	1.06			0.08	6.38			
EAST TOTAL															
PERCENTAGE															
WEST TOTAL	27		1									1		50/50	28
PERCENTAGE	96.43		3.57									3.57			
															2664

TRUCK PERCENTAGE:

LEGS	S/U	%	D/U	%	TRAIN	%	TRUCK	%	AXLE FACTOR
NORTH TOTAL	50	3.79	32	2.42	1	0.08	83	6.29	0.9596
SOUTH TOTAL	51	3.88	32	2.43	1	0.08	84	6.38	0.9595
EAST TOTAL									
WEST TOTAL	1	3.57					1	3.57	1.0000

PEAK HOUR FACTOR 0.941 311 354 333 334 1332

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

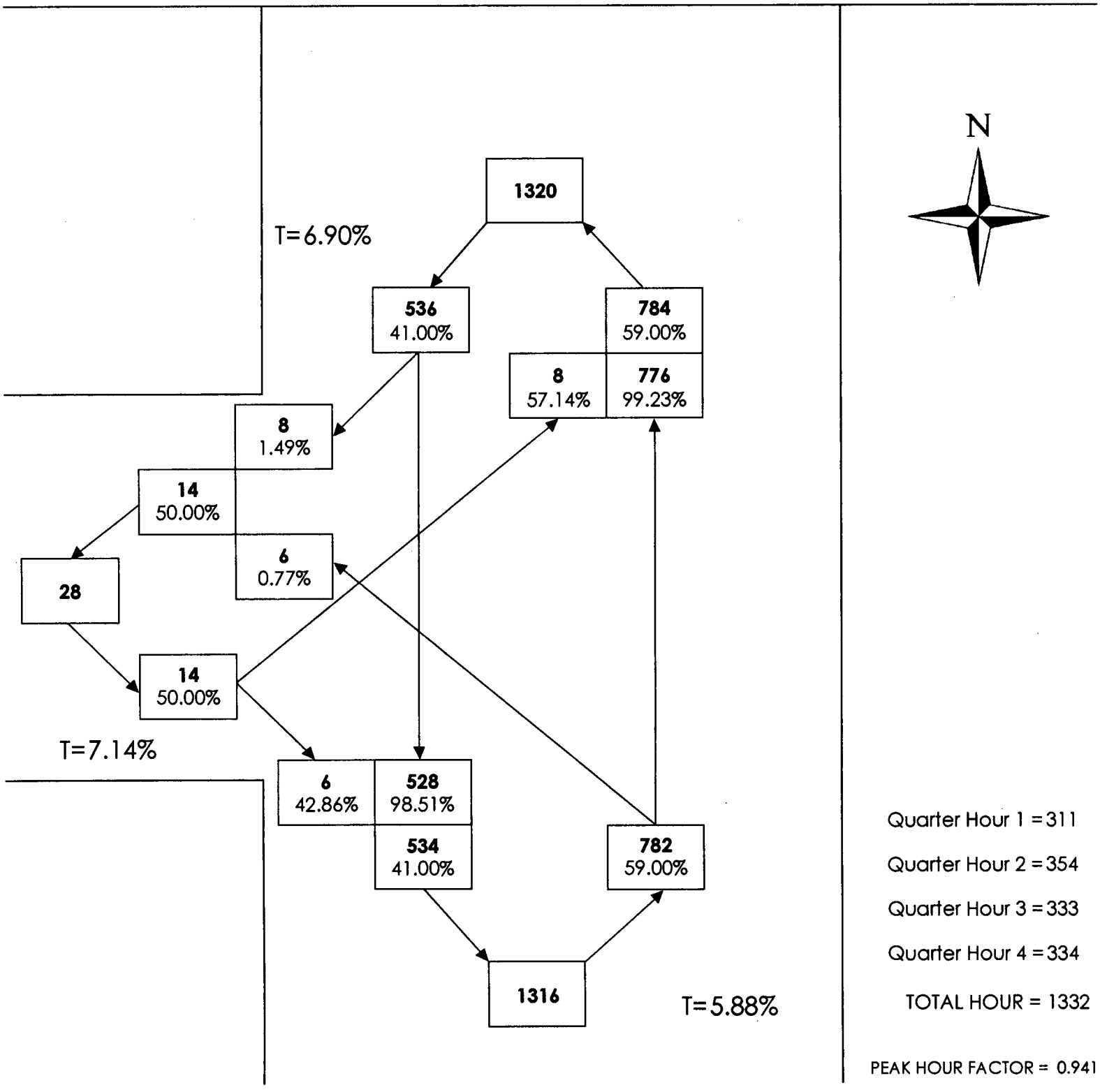
Vehicle Volume Summary
(Block Diagram)

Date: 3/21/2017
Time Period: 16:15 - 17:15

SR: 101 MP: 269.21 Off Sys. ID: Count ID: 17-006

Location: SR 101 & LOUELLA RD

INTERSECTIONAL PEAK HOUR AND VOLUMES



Quarter Hour 1 = 311

Quarter Hour 2 = 354

Quarter Hour 3 = 333

Quarter Hour 4 = 334

TOTAL HOUR = 1332

PEAK HOUR FACTOR = 0.941

Washington State Department of Transportation
Transit, Research, and Intermodal Planning

Vehicle Volume Summary

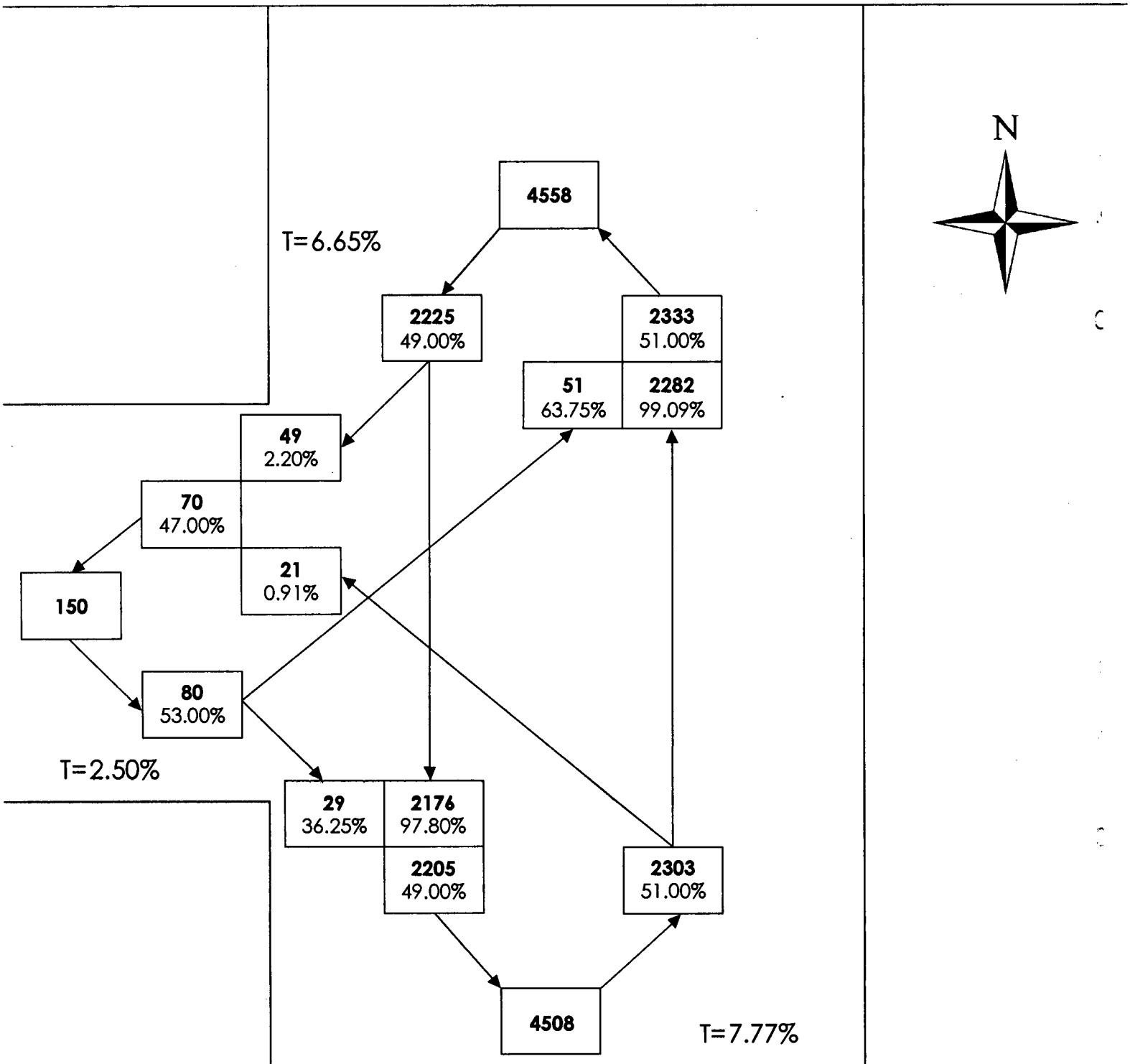
(Block Diagram)

Date: 3/21/2017
Time Period: 14:00 - 18:00

SR: 101 MP: 269.21 Off Sys. ID: Count ID: 17-006

Location: SR 101 & LOUELLA RD

ENTIRE COUNT VOLUMES



BRV 2070 [illegible]
2948 MID 3-22
2949 AM 3-23

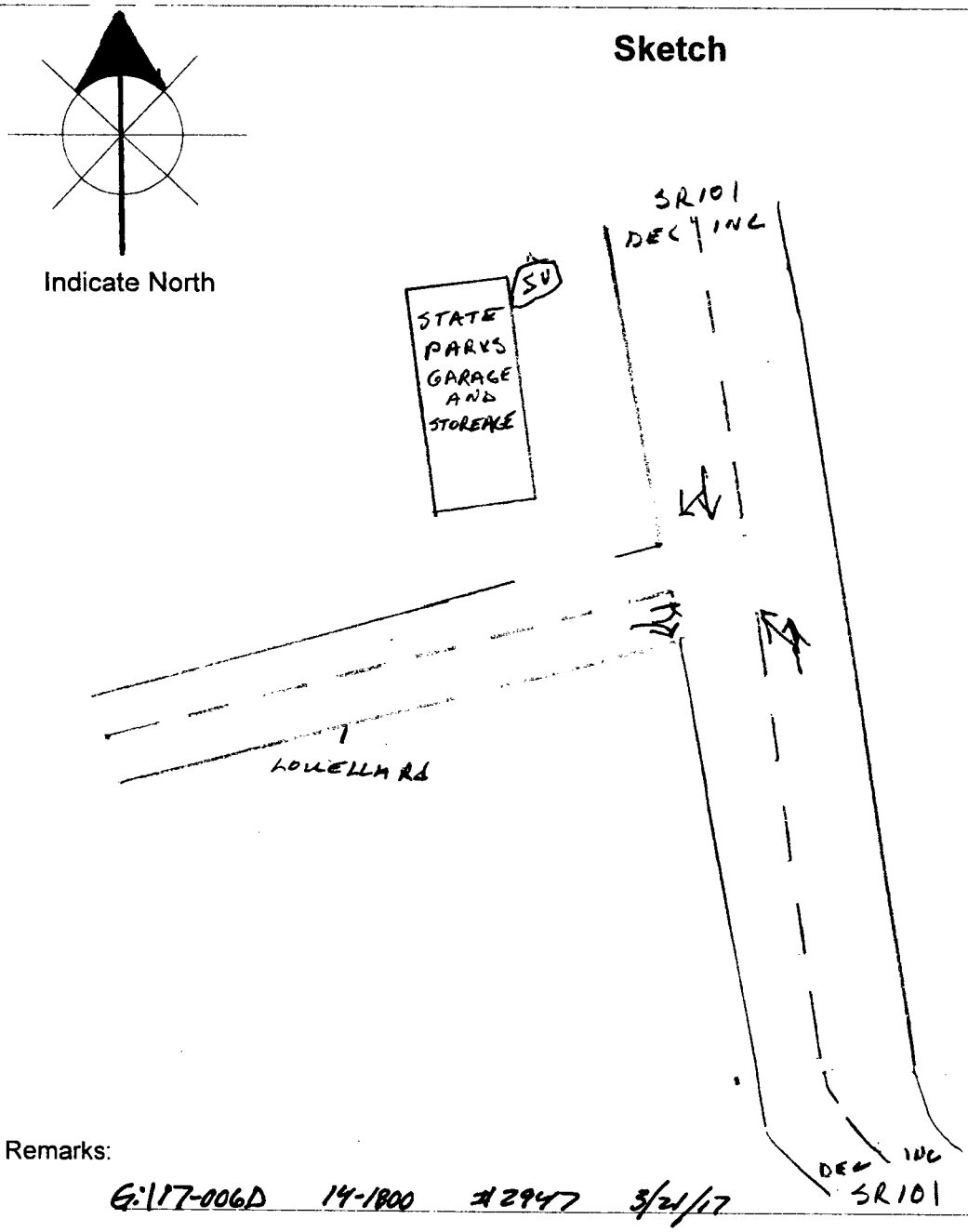
Washington State Department of Transportation

Traffic Station Sketch

SR #	MP	OSID	Count ID	Date
SR101	269 • 21		SP#17-006	3-21,22,23-17

Station Location AT INTERSECTION OF SR101 AND LOWELLA Rd

Sketch



Remarks:

G:\17-006D 14-1800 #2947 3/21/17

G:\17-006E 10-1400 #2948 3/22/17

G:\17-006F 06-1000 #2949 3/23/17

BS

Signature

DOT Form 324-005 EF
Revised 2/2007