DKS Associates
TRANSPORTATION SOLUTIONS

1. SUMMARY

This Transportation System Plan (TSP) has been developed for the City of Coos Bay. The purpose of this TSP is to bring the City of Coos Bay into compliance with the Oregon Transportation Planning Rule.

The plan is a multi-modal plan, addressing improvement to existing roadways, new pedestrian and bicycle facilities, improvement in public transit service, and other modes (including air, rail, water and pipeline). The plan also includes a transportation improvement program, as well as changes to the City's codes and standards to implement the TSP recommendations.

Plan Organization

The plan is organized into four chapters and a Technical Appendix, as described below:

- **Chapter 1—Summary:** An overview of the plan elements, and key findings and recommendations from the plan.
- **Chapter 2—Goals and Policies:** Recommended transportation goals and policies to respond to issues identified through the study process, and to comply with relevant county, state and federal requirements.
- **Chapter 3—The Plan**: The transportation system plan is divided into travel modes (motor vehicle, pedestrian, bicycle, transit, and other) with system wide maps for each and recommended projects.
- **Chapter 4—Financing:** The estimated construction and maintenance costs for recommended transportation projects and program are identified along with the expected revenue from current sources. Suggestions are made to close the gaps in funding needed to implement the plan with the 20-year time horizon.
- **Technical Appendix (separate document)**: Background information, historical and observed data, and technical methods used to develop the plan. Includes chapters formerly included in the plan on Existing Conditions, Future Needs and Alternatives. Also, the city ordinances that are recommended to implement the plan goals, policies and standards are attached in an appendix.

Plan Elements

The Transportation System Plan includes the following major components:

- Modifications to the street functional classification system to reflect current street function and development patterns.
- Modifications to the city street standards, also including access spacing criteria.
- Signal system and intersection improvements, to increase capacity in the roadway system where traffic congestion will become substantial during the next 20 years.
- Expansion of the City's system of pedestrian and bicycle facilities, with the objective of sidewalks or pathways for pedestrians on all collector and arterial streets, and bike lanes or bikeways on major collectors and arterials.

- Street improvement projects mitigating existing and predicted safety, capacity, circulation and other deficiencies.

Seventy-one transportation improvement projects are recommended in Coos Bay over the 20-year planning horizon. These improvements, along with identified transportation enhancement programs (e.g., neighborhood traffic calming) total $64.2 million dollars over the next 20 years. Projects have been prioritized for implementation for the short-term and long-term time frames. To achieve this program, new transportation funding sources—federal, state and/or local—will be required. An added $40.7 million over the next 20 years (beyond the current funding programs) will be required. A summary of the number of projects, estimated costs, and balance of revenue versus plan funding needs is shown in Table 1-1.

Table 1-1: Transportation System Plan Cost Summary

Mode	Number of Projects	Estimated Cost (Million 2003 dollars)
Motor Vehicle	8	$7.4
Bicycle	15	$13.7
Pedestrian	34	$6.6
Other Programs		$3.2
Total		**$30.9**
Annual Existing Revenue (x 20 years)		**$16.0**
Current Plan Deficit Funding		**$14.9**

2. Goals and Policies

These goals and policies have been developed to guide the City's twenty-year vision of transportation system needs. This chapter summarizes the updated goals and policies by the City of Coos Bay and includes comments to date from the public, technical and citizen advisory committees. There are seven transportation goals with related policies organized under each goal. The goals and policies are not prioritized. These goals and policies have been developed, in part, based on previously developed plans, policies and standards for the City of Coos Bay. A review of these can be found in the Appendix.

The goals are brief guiding statements that describe a desired result. The policies describe the actions needed to move the community toward the goal. Below many of the policies, italic text provides details of the implementing actions and clarifies the intent of the policy. The transportation goals and policies are implemented by these actions, by the improvement projects included in the master plans and action plans for each transportation mode, and by the Development Code.

Street standards for improvements are typically found in the Development Code and Engineering Design Manual and Standard Drawings. Street standards have been prepared as part of this TSP process for both cities.

Goal #1: Transportation facilities designed and constructed in a manner to enhance Coos Bay's livability and meet federal, state, regional, and local requirements.

Policies:

a) Maintain the livability of Coos Bay through proper location and design of transportation facilities.

   Action:
   Design streets and highways to respect the characteristics of the surrounding land uses, natural features, and other community amenities.

   Recognizing that the magnitude and scale of capital facilities also affect aesthetics and environmental quality, the City will require design plans and impact analyses as specified in the Development Code.

   Potential Urban Growth Boundary areas (e.g., Bunker Hill area) will be integrated into the city system plan to provide adequate service.

b) Consider noise attenuation in the design, redesign, and reconstruction of arterial streets immediately adjacent to residential development.

c) Protect neighborhoods from excessive through traffic and travel speeds while providing reasonable access to and from residential areas. Build streets to minimize speeding.

   Action:
   Develop and maintain street design standards and criteria for neighborhood traffic management for use in new development and existing neighborhoods

d) New commercial and industrial development shall identify traffic plans for residential streets where increased cut-through traffic may occur due to the proposed development.

e) Designate major tourist routes for provisions of enhanced streetscape and directional markings.

Action:
Develop and maintain tourist route standards on major travel routes.

Goal #2: A balanced transportation system.

Policies:

a) Implement Coos Bay's public street standards that recognize the multi-purpose nature of the street right-of-way for utility, pedestrian, bicycle, transit, truck, and auto use, and recognize these streets as important to community identity as well as providing a needed service.

b) Develop and provide a safe, complete, attractive, efficient, and accessible system of pedestrian ways and bicycle ways, including bike lanes, shared roadways, multi-use paths, and sidewalks according to the pedestrian and bicycle system maps and the Development Code and Engineering Design Manual and Standard Drawings requirements.

c) Provide connectivity to each area of Coos Bay for convenient multi-modal access. Ensure pedestrian, bicycle, transit, and vehicle access to waterfront, schools, parks, employment and recreational areas by identifying and developing improvements that address connectivity needs.

d) Develop neighborhood and local connections to provide adequate circulation into and out of neighborhoods.

e) The permanent closure of an existing road in a developed neighborhood is not recommended and will be considered by the City only under the following circumstances: as a measure of last resort, when the quality of life in the neighborhood is being severely threatened by excessive traffic volumes or the presence of a traffic safety hazard; or as part of a plan reviewed through the City's land use and/or site development process(es), including capital improvement projects. Planned roads that have not been built in neighborhoods should be retained as indicated in the Local Street System Plan maps.

f) Design arterial and collector streets to accommodate pads for public transit and to provide convenient access to transit stops.

Action:
Work with Coos County Area Transit (CCAT) to improve transit service, pedestrian facilities leading to transit stop waiting areas, and to make the waiting areas themselves safe, comfortable, and attractive.

Goal #3: A safe transportation system.

Policies:

a) Improve traffic safety through a comprehensive program of engineering, education, and enforcement.

b) Design streets to serve anticipated function and intended uses as determined by the Comprehensive Plan.

Action:
Maintain a functional classification system that meets the City's needs and respects the needs of other agencies including but not limited to North Bend, Coos County, and ODOT.

c) Where on-street pedestrian and bicycle facilities cannot reasonably be provided on highways and arterials, identify parallel routes that comply with state and city planning and design standards.

d) Enhance safety by prioritizing and mitigating high collision locations within the City.

Action:
Work with ODOT and Coos County to periodically review traffic collision information in an effort to systematically identify, prioritize, and remedy safety problems.

e) Designate safe routes from residential areas to schools.

Action:
The City should work with area schools and the community in developing safe transit, pedestrian, and bicycle routes to schools. Communicate selected safe school route program to community. Improvement projects near schools shall consider school access and safety during project development.

f) Provide satisfactory levels of maintenance to the transportation system in order to preserve user safety, facility aesthetics, and the integrity of the system as a whole.

Action:
Periodically review pavement maintenance system data to update roadway paving budgets, and prioritize facilities with highest need for services.

g) Maintain access management standards for streets consistent with City, County, and State requirements to reduce conflicts between vehicles and trucks, and between vehicles and bicycles and pedestrians.

Action:
Preserve the functional integrity of the motor vehicle system by limiting access per City standards.

h) Ensure that adequate access for emergency services vehicles is provided throughout the City.

Action:
Develop Neighborhood Traffic Management standards based on functional classification to preserve primary response routes.

i) Meet federal and State safety compliance standards for operation, construction, and maintenance of the rail system.

j) Provide safe routing of hazardous materials consistent with federal guidelines, and provide for public involvement in the process.

Action:
Work with federal agencies, the Public Utility Commission, the Oregon Department of Environmental Quality, public safety providers, and ODOT to assure consistent routes, laws, and regulations for the transport of hazardous materials.

Goal #4: An efficient transportation system that reduces the number and length of trips, limits congestion, and improves air quality.

Policies:

a) Support and implement trip reduction strategies developed regionally, including employment, tourist, and recreational trip reduction programs.

Action:
Continue to implement the following action plan to work toward achieving these targets:

- *Encourage development that effectively mixes land uses to reduce vehicle trip generation.*
- *Develop consistent conditions for land use approval that require future employment related land use developments to agree to reduce peak hour trip making through transportation demand management strategies.*
- *Implement the bicycle, transit, pedestrian, and motor vehicle master improvement plans [to be developed in this study] to implement a convenient multimodal transportation system.*

b) Maintain levels of service consistent with the Oregon Transportation Plan. Reduce traffic congestion and enhance traffic flow through such measures as intersection improvements, intelligent transportation systems, signal synchronization, and other similar measures.

Action:
Adopt level of service standards that are consistent with State and County standards.

c) Maintain levels of service or minimum performance thresholds identified by responsible service providers for non-roadway facilities including rail, air, and marine activities.

Action:
Work with Port of Coos Bay, North Bend Municipal Airport, and Central Oregon Railroad to establish appropriate performance thresholds for their respective facilities.

d) Plan land uses to increase opportunities for multi-purpose trips (trip chaining).

e) Require land use approval of proposals for new or improved transportation facilities. The approval process shall identify and consider the project's identified impacts.

f) Support mixed-use development where zoning allows.

g) Work with Coos County Area Transit to encourage the development of transit improvements, improve access and frequency of service, and increase ridership potential and service area.

Goal #5: Transportation facilities that serve and are accessible to all members of the community.

Policies:

a) Construct transportation facilities to meet the requirements of the Americans with Disabilities Act.

b) Support Coos County Area Transit and other transit service provider's efforts that respond to the transit and transportation needs of the elderly and disabled.

Goal #6: Transportation facilities that provide efficient movement of goods and services.

Policies:

a) Designated arterial streets and highway access are essential for efficient movement of goods. Design these facilities and adjacent land uses to reflect the needs of goods movement.

b) Consider existing railroad and air transportation facilities to be City resources and reflect the needs of these facilities in land use decisions.

c) Develop a balanced freight system that takes advantage of the efficiencies of each transportation mode.

Goal #7: Implement the transportation plan by working cooperatively with federal, State, regional, and local governments, the private sector, and residents. Create a stable, flexible financial system.

Policies:

a) Coordinate transportation projects, policy issues, and development actions with all affected governmental units in the area. Key agencies for coordination include (North Bend), Port of Coos Bay, Coos County, ODOT, and Coos County Area Transit

b) Participate in implementing regional transportation, growth management, and air quality improvement policies. Work with agencies to assure adequate funding of transportation facilities to support these policies.

c) Monitor and update the Transportation Element of the Comprehensive Plan so that issues and opportunities are addressed in a timely manner. Maintain a current capital improvement program that establishes the City's construction and improvement priorities, and allocates the appropriate level of funding.

d) Develop and use the **street utility fees** as elements of an overall funding program to pay for adding capacity to the collector and arterial street system, and making safety improvements related to development impacts.

e) Establish rights-of-way at the time of site development and, where appropriate, officially secure them by dedication of property.

f) Working in partnership with ODOT, and other jurisdictions and agencies, develop a long-range financial strategy to make needed improvements to the transportation system and support operational and maintenance requirements.

Action:

The financial strategy should consider the appropriate elements [such as impact fees, property tax levies, and development contributions to balance needs, costs, and revenue]. *View the process of improving the transportation system as that of a partnership between the public (through fees and taxes) and private sectors (through exactions and conditions of development approval), each of which has appropriate roles in the financing of these improvements to meet present and projected needs.*

g) Provide adequate funding for maintenance of the capital investment in transportation facilities.

Action:

Develop a long-term financing program that provides a stable source of funds to ensure cost-effective maintenance of transportation facilities and efficient effective use of public funds.

3. THE PLAN

This chapter of the Coos Bay Transportation System Plan summarizes the plan for each mode, including the following:

- Motor Vehicle Related Plans: Elements include an updated functional classification system, street design standards for each functional class and street width, traffic signal master plan, street lane requirements (i.e. number of travel lanes to plan for), local street connectivity plan, future road improvement needs (circulation/segment and intersection), neighborhood traffic management, parking, access management, transportation demand management, transportation system management, and trucks)
- Bicycle Action Plan
- Pedestrian Action Plan
- Transit Plan
- Other Modal Plans (Rail, Air, Water, Pipeline)

Functional Classification

Roadways have two functions, to provide mobility and to provide access. From a design perspective, these functions can be incompatible since high or continuous speeds are desirable for mobility, while low speeds are more desirable for land access. Arterial facilities emphasize a high level of mobility for through movement; local facilities emphasize the land access function; and collectors offer a balance of both functions (Figure 3-1).

Functional classification has commonly been mistaken as a determinate for traffic volume, road size, urban design, land use and various other features that collectively are the elements of a roadway, but not its function. For example, the traffic on a roadway can be more directly related to land uses and because a roadway carries a lot or a little traffic does not necessarily determine its function. The traffic volume, design (including access standards) and size of the roadway are outcomes of function, but do not define function.

Function can be best defined by connectivity. Without connectivity, neither mobility nor access can be served. Roadways that provide the greatest reach of connectivity are the highest level facilities. Arterials can be defined by regional level connectivity. These routes go beyond the city limits in providing connectivity and can be defined into two groups: principal arterials (typically state routes) and arterials. The movement of persons, goods and services depends on an efficient arterial system. Collectors can be defined by citywide or district wide connectivity. These routes span large areas of the city but typically do not extend significantly into adjacent jurisdictions. They are important to city circulation. The past textbooks on functional classification then define all other routes as local streets, providing the highest level of access to adjoining land uses. These routes do not connect at any significant regional, citywide or district level.

Recent work in the area of neighborhoods and their specific street needs provides a fourth level of functional classification - neighborhood route. In many past plans, agencies defined a minor collector or a neighborhood collector; however, use of the term collector is not appropriate. Collectors provide citywide or large district connectivity and circulation. There is a level between collector and local streets that is unique due to its level of connectivity. Local streets can be cul-de-sacs or short streets that do not connect to anything.[1] Neighborhood routes are commonly used by residents to circulate into or out of their neighborhood. They have connections within the neighborhood and between neighborhoods. These routes have neighborhood connectivity, but do not serve as citywide streets. They have been the most sensitive routes to through and speeding traffic due to their residential frontages. Because they do provide some level of connectivity, they can commonly be used as cut-through routes in lieu of congested or less direct arterial or collector streets which are not performing adequately. Cut-through traffic has the highest propensity to speed, creating negative impacts on these neighborhood routes. By designating these routes, a more systematic citywide program of neighborhood traffic management can be undertaken to protect these sensitive routes.

In the past, traffic volume and roadway size were linked to functional classification. More recently, urban design and land use have also been tied to functional classification. The planning effort to identify connectivity of routes in Coos Bay is essential to preserve and protect future mobility and access, by all modes of travel. In Coos Bay, it is not possible to have a citywide neo-traditional layout. Past land use decisions, topography and environmental features preclude this[2]. Without defining the varying levels of connectivity now in the TSP, the future impact of the adopted Comprehensive Plan land uses will result in a degraded ability to move goods and people (existing and new) in Coos Bay. The outcome would be intolerable delays and much greater costs to address solutions later rather than sooner. By planning an effective functional classification of Coos Bay streets[3], the City can manage public facilities pragmatically and cost effectively.

These classifications do not mean that because a route is an arterial it is large and has lots of traffic. Nor do the definitions dictate that a local street should only be small with little traffic. Identification of connectivity does not dictate land use or demand for facilities. The demand for streets is directly related to the land use. The highest level connected streets have the greatest potential for higher traffic volumes, but do not necessarily have to have high volumes as an outcome, depending upon land uses in the area. Typically, a significant reason for high traffic volumes on surface streets at any point can be related to the level of land use intensity within a mile or two. Many arterials with the highest level of connectivity have only 33 to 67 percent “through traffic”. Without the connectivity provided by arterials and collectors, the impact of traffic intruding into neighborhoods and local streets goes up substantially.

If land use is a primary determinate of traffic volumes on streets, then how is it established? In Oregon, land use planning laws require the designation of land uses in the Comprehensive Plan. Coos Bay’s Comprehensive Plan land uses have been designated for over two decades. These land use designations are very important not only to the City for planning purposes, but to the people that own land in Coos Bay. The adopted land uses in Coos Bay have been used in this study, working with the ODOT regional forecasts for growth in the region for the next 20 years. If the outcome of this TSP is either too many streets or solutions that are viewed to be too expensive, it is possible to reconsider the core assumptions regarding Coos Bay’s livability - its adopted land uses or its service standards related to congestion. The charge of this TSP (as mandated by State law) is to develop a set of multi-modal transportation improvements to support the Comprehensive Plan land uses. Functional classification is key to this planning task.

Functional Classification Definitions

The proposed functional classification of streets in Coos Bay is represented by Figure 3-3. Any street

---

[1] Or in the case of neo-traditional grid systems, extensive redundancy in facilities results in local status to streets that have greater than local connectivity.

[2] While subdivisions or areas of neo-traditional development exist and are possible (even desirable), on the whole, the concept cannot be generically applied to the city in lieu of functional classification.

[3] Including definition of which routes connect through Coos Bay, within Coos Bay and which routes serve neighborhoods and the local level in the city.

not designated as an arterial, collector or neighborhood route is considered a local street.

Principal Arterials are typically freeways and state highways that provide the highest level of connectivity. These routes connect over the longest distance (sometimes miles long) and are less frequent than other arterials or collectors. These highways generally span several jurisdictions and many times have statewide importance (as defined in the ODOT Level of Importance categorization).[4]

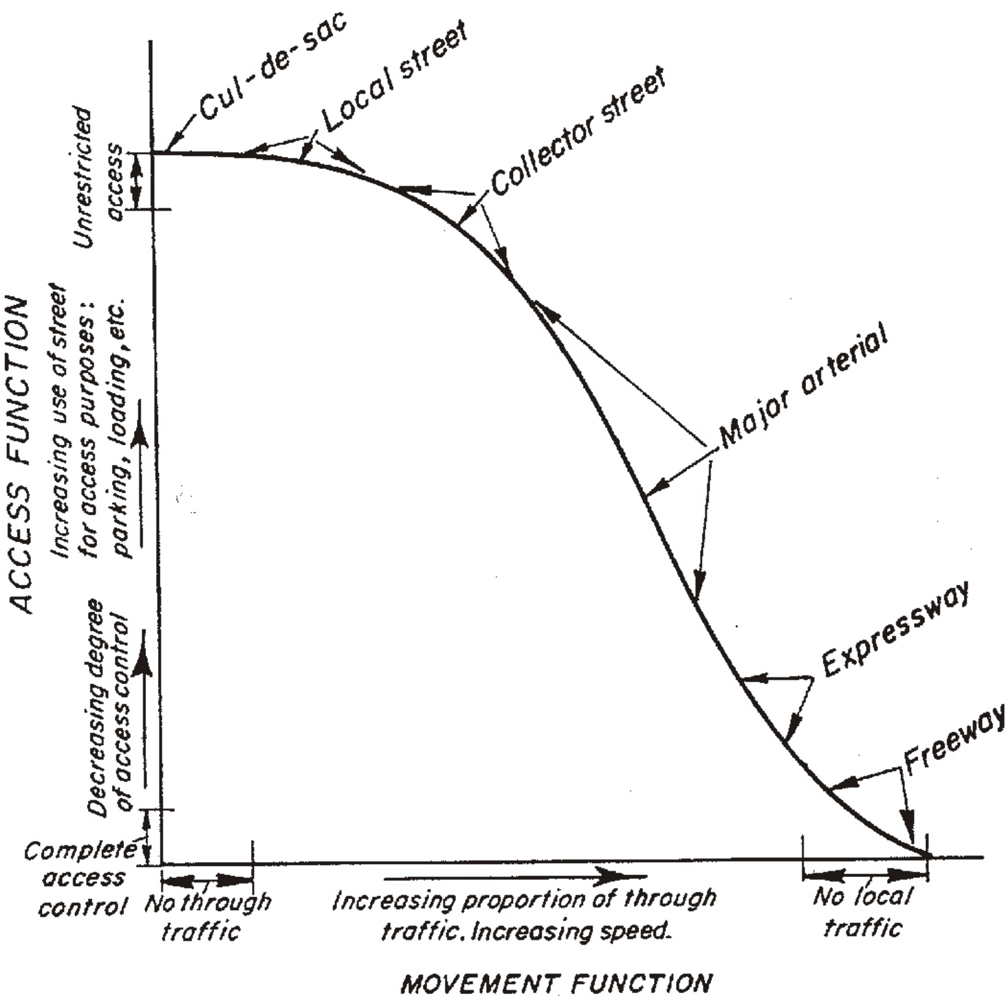
Arterial streets serve to interconnect and support the principal arterial highway system. These streets link major commercial, residential, industrial and institutional areas. Arterial streets are typically spaced about one mile apart to assure accessibility and reduce the incidence of traffic using collectors or local streets in lieu of a well placed arterial street. Many of these routes connect to Cities surrounding Coos Bay.

Collector streets provide both access and circulation within residential and commercial/industrial areas. Collectors differ from arterials in that they provide more of a citywide circulation function, do not require as extensive control of access and penetrate residential neighborhoods, distributing trips from the neighborhood and local street system.

Neighborhood Routes are usually long relative to local streets and provide connectivity to collectors or arterials. Because neighborhood routes have greater connectivity, they generally have more traffic than local streets and are used by residents in the area to get into and out of the neighborhood, but do not serve citywide/large area circulation. They are typically about a quarter to a half-mile in total length. Traffic from cul-de-sacs and other local streets may drain onto neighborhood routes to gain access to collectors or arterials. Because traffic needs are greater than a local street, certain measures should be considered to retain the neighborhood character and livability of these routes. Neighborhood traffic management measures are often appropriate (including devices such as speed humps, traffic circles and other devices **-** refer to later section in this chapter). However, it should **not** be construed that neighborhood routes automatically get speed humps or any other measures. While these routes have special needs, neighborhood traffic management is only one means of retaining neighborhood character and vitality.

Local Streets have the sole function of providing access to immediate adjacent land. Service to "through traffic movement" on local streets is deliberately discouraged by design.

[4] Oregon Highway Plan, ODOT, 1991, Appendix A.



Source: University of California,
'Fundamentals of Traffic Engineering'
Wolfgang S. Homburger and
James H. Kell

Figure 3-1
STREET FUNCTION RELATIONSHIP

Functional Classification Changes

The proposed functional classification differs from the existing approved functional classification. Neighborhood routes were not defined in the existing functional classification. The proposed functional classification was developed following detailed review of Coos Bay and Coos County's functional classification. Table 3-2 summarizes the major differences between the proposed functional classification and the existing designations for streets in Coos Bay. This table also outlines the streets that were previously designated collectors that are now identified as neighborhood routes. Additionally, this figure identifies circulation/realignment study areas. These are areas where no clear solution has been identified. There are a variety of options that need to be explored in these areas and they will require further study.

The criteria used to assess connectivity have two components: the extent of connectivity (as defined previously) and the frequency of the facility type. Maps can be used to determine regional, city/district and neighborhood connections. The frequency or need for facilities of certain classifications is not routine or easy to package into a single criterion. While planning textbooks call for arterial spacing of a mile, collector spacing of a quarter to a half mile, and neighborhood connections at an eighth to a sixteenth of a mile, this does not form the only basis for defining functional classification. Changes in land use, environmental issues or barriers, topographic constraints, and demand for facilities can change the frequency for routes of certain functional classifications. While spacing standards can be a guide, they must consider other features and potential long term uses in the area (some areas would not experience significant changes in demand, where others will). Linkages to regional centers and town centers are another consideration for addressing frequency of routes of a certain functional classification. Connectivity to these areas is important, whereas linkages that do not connect any of these centers could be classified as lower levels in the functional classification.

Table 3-2: Proposed Changes to Existing Roadway Functional Classification

Street	*Existing Class*	*Proposed Class*
1st St	Major Arterial	Principal Arterial
2nd St	Collector	Local
5th St	Minor Arterial	Local
7th St	Minor Arterial	Neighborhood Route
10th St	Collector	Neighborhood Route
10th St	Minor Arterial	Arterial
11th St	Collector	Neighborhood Route
Anderson Ave	Major Arterial	Arterial
Bayshore Dr	Major Arterial	Principal Arterial
Broadway St	Major Arterial	Principal Arterial
Central Ave	Major Arterial	Arterial
Commercial Ave	Major Arterial	Arterial
Coos River H.V. Rd	Minor Arterial	Arterial
Ellen Rd	Major Arterial	Arterial
Elrod Ave	Collector	Neighborhood Route
Empire Blvd	Major Arterial	Arterial
Evans Blvd	Major Arterial	Principal Arterial

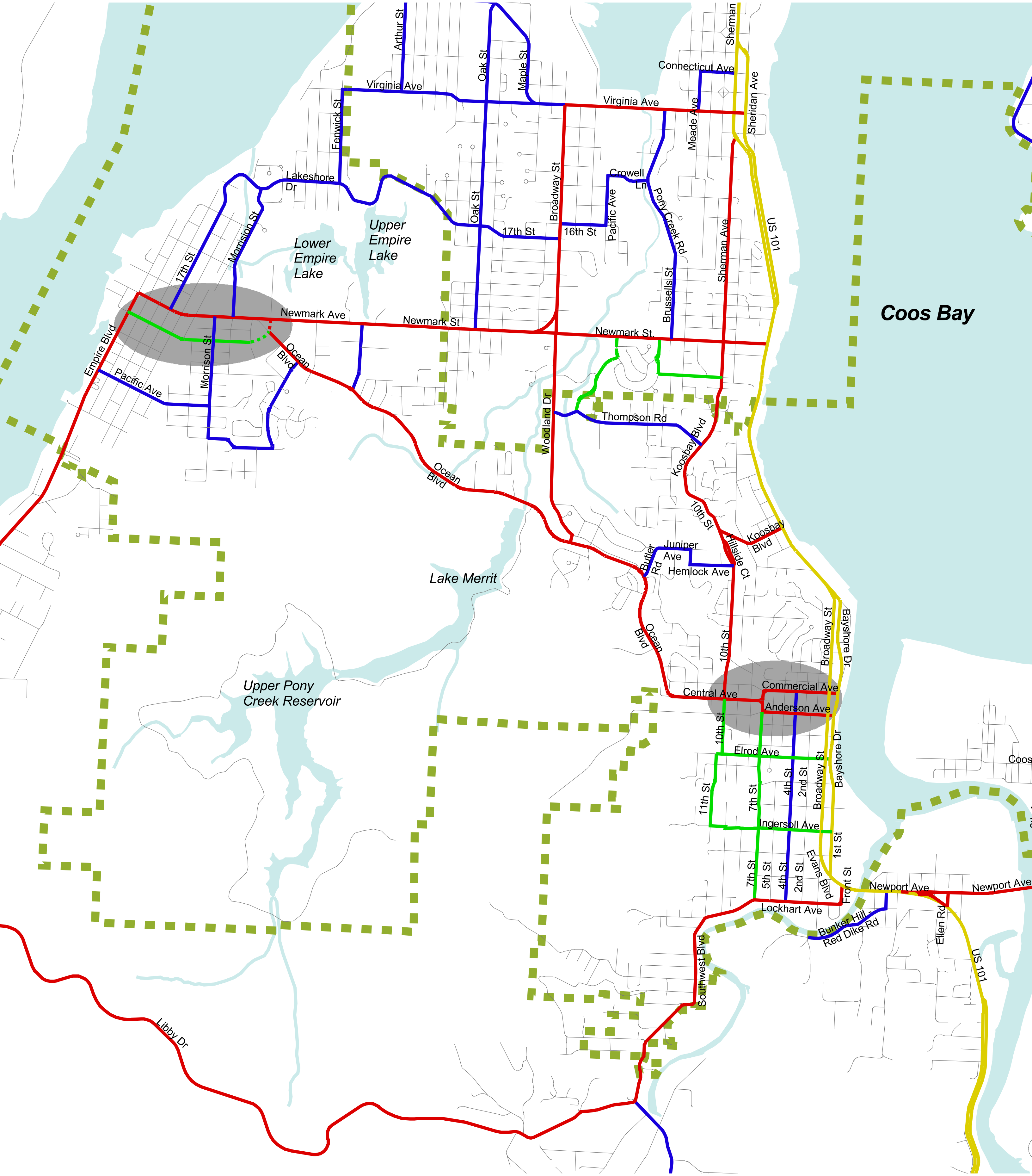
Street	*Existing Class*	*Proposed Class*
Front St	Collector	Arterial
Ingersoll Ave	Minor Arterial	Neighborhood Route
Koosbay Blvd	Minor Arterial	Arterial
Lockhart Ave	Collector	Arterial
Newmark Ave	Major Arterial	Arterial
Newport Ave	Minor Arterial	Arterial
Ocean Blvd	Major Arterial	Arterial
Southwest Blvd	Minor Arterial	Arterial
US 101	Major Arterial	Principal Arterial
Woodland Drive	Minor Arterial	Arterial
LaClair Street	Not Classified	Collector

Street Design Standards

The design characteristics of streets in Coos Bay were developed to meet the function and demand for each facility type. Because the actual design of a roadway can vary, the objective was to define a system that allows standardization of key characteristics to provide consistency, but also to provide criteria for application that provides some flexibility, while meeting standards. Figure 3-3 shows streets where right-of-way should be reserved for more than two lanes. Figures 3-4 to 3-6 depict sample street cross-sections and design criteria for arterials, collectors, neighborhood routes and local streets. The arterial street section indicates a range of sidewalk width. The actual width constructed would reflect right-of-way constraints and land use policies.

The analysis of capacity and circulation needs for Coos Bay outlines several roadway cross sections. The most common are 2, 3 and 5 lanes wide. Where center left turn lanes are identified (3 and 5 lane sections), the actual design of the street may include sections without center turn lanes (2 or 4 lane sections) or with median treatments, where feasible. The actual treatment will be determined within the design and public process for implementation of each project. The plan outlines requirements which will be used in establishing right-of-way needs for the development review process.

> Wherever arterial or collectors cross each other, planning for additional right-of-way to accommodate turn lanes should be considered within 500 feet of the intersection. Figure 3-3 summarizes the Coos Bay streets which are anticipated within the TSP planning horizon to require right-of-way for more than two lanes. Planning level right-of-way needs can be determined utilizing Figures 3-3 to 3-5. Specific right-of-way needs will need to be monitored continuously through the development review process to reflect current needs and conditions (that is to say that more specific detail may become evident in development review which requires improvements other than these outlined in this 20 year general planning assessment of street needs).
>
> These cross sections are provided for guiding discussions that will update the City of Coos Bay Standard Specifications for Public Works Construction. The City of Coos Bay will need to coordinate with other regional agencies to assure consistency in cross section planning as the County Transportation Plan moves forward.



Coos Bay
Lower Empire Lake
Upper Empire Lake
Lake Merrit
Upper Pony Creek Reservoir
Virginia Ave
Arthur St
Oak St
Maple St
Fenwick St
Lakeshore Dr
Morrison St
17th St
16th St
Broadway St
Pacific Ave
Crowell Ln
Pony Creek Rd
Connecticut Ave
Meade Ave
Sherman Ave
Sheridan Ave
US 101
Brussells St
Newmark Ave
Newmark St
Empire Blvd
Pacific Ave
Ocean Blvd
Woodland Dr
Thompson Rd
Koosbay Blvd
10th St
Hillside Ct
Juniper Ave
Butler Rd
Hemlock Ave
Libby Dr
Central Ave
Commercial Ave
Anderson Ave
Bayshore Dr
Elrod Ave
11th St
7th St
5th St
4th St
2nd St
1st St
Ingersoll Ave
Evans Blvd
Front St
Newport Ave
Lockhart Ave
Bunker Hill
Red Dike Rd
Ellen Rd
Southwest Blvd
Coos

DKS *Associates*

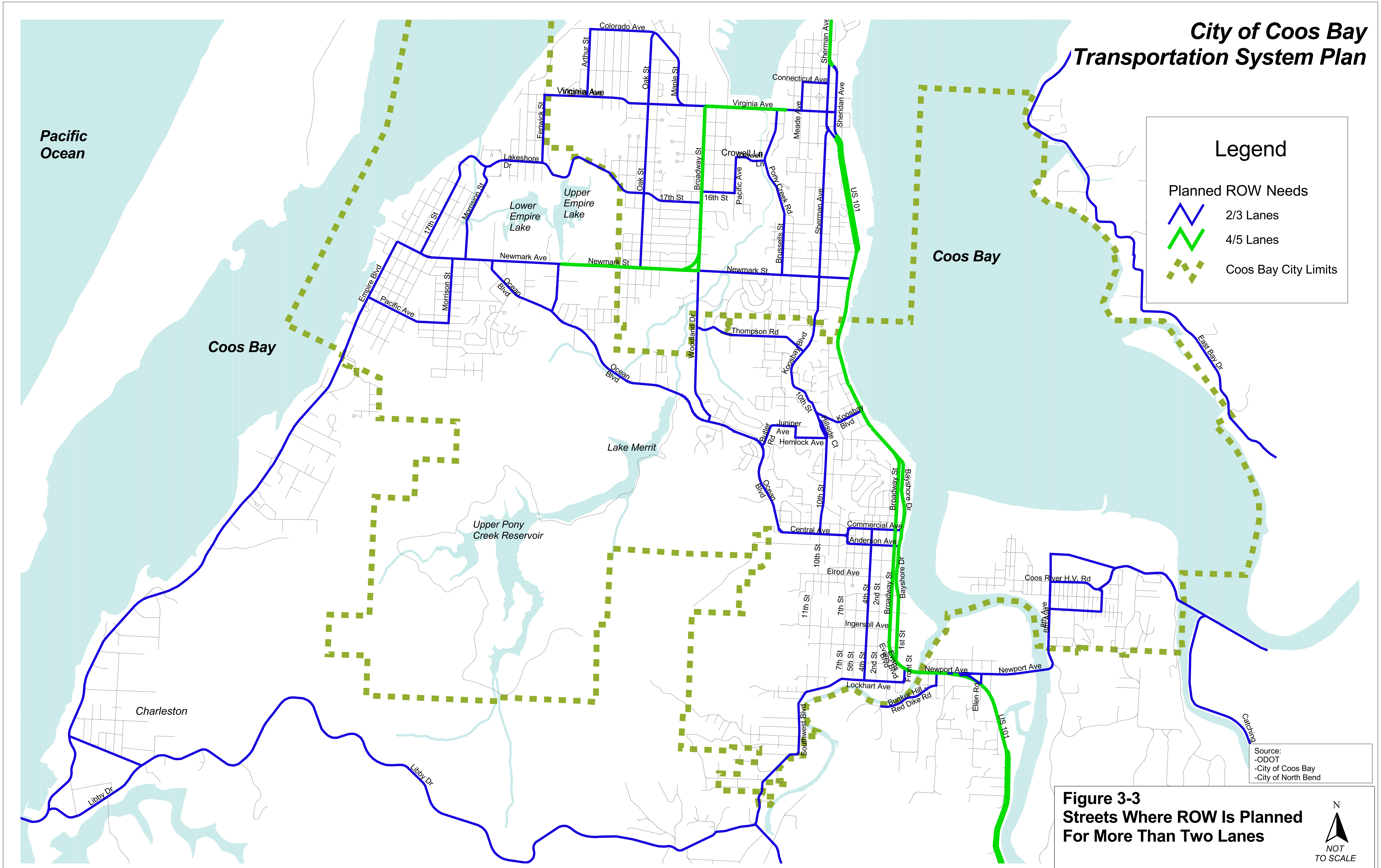
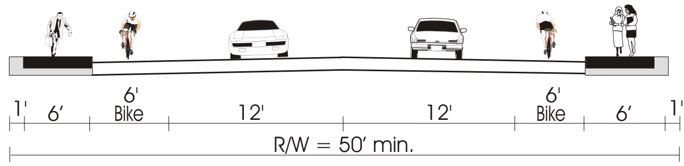
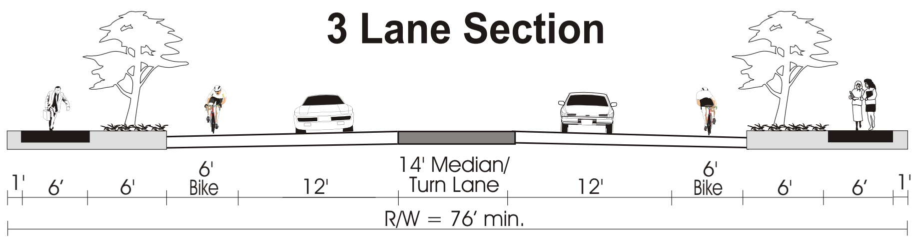


Figure 3-3
Streets Where ROW Is Planned For More Than Two Lanes

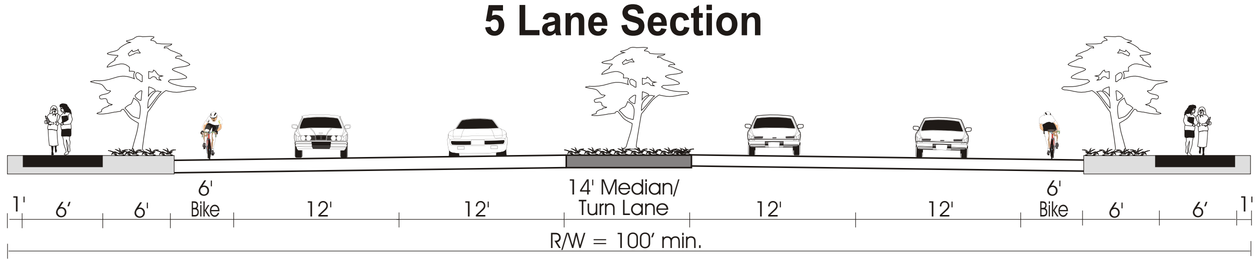
2 Lane Section



3 Lane Section



5 Lane Section



Arterial & Collector Proposed Street Design Characteristics
(typically minimums unless stated otherwise)

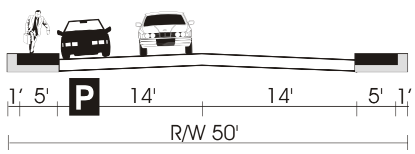
Characteristic	Arterials	Collectors
Vehicle Lane Widths (Truck Route - 12 ft.) (Bus Route - 11 ft.) (Turn Lane - 12-14 ft.)*1	12 ft.	11 ft.
On-Street Parking	8 ft.	
Bicycle Lanes (minimums)	New Construction - 6 ft. Reconstruction - 5-6 ft.	
Sidewalks (minimums)	6-10 ft.	5-8 ft.
Landscape Strips	Optional (compensate with wider sidewalk on arterials & collectors if omitted)	
Medians	5-Lane - Required 3-Lane - Optional	
Neighborhood Traffic Management (NTM)	Only Under Special Conditions	Under Special Conditions
Transit	Appropriate	
Turn Lanes	When Warranted *2	
Access Control	See Later Discussion	

Notes:

1. *In constrained conditions on collectors, neighborhood and local routes, a minimum width of 10 feet may be considered (except on bus routes). 14-feet is desirable for continuous two-way left turn lanes.*
2. *Turn lane warrants should be reviewed using Highway Research Record No. 211, NCHRP Report No. 279 or other updated/superseding reference.*

Figure 3-4
ARTERIAL/COLLECTOR STREETS COOS BAY RECOMMENDED STREET CROSS SECTIONS

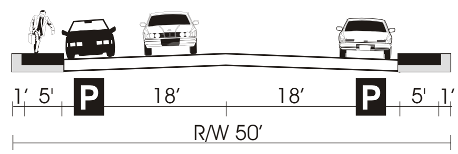
28' Standard Residential



50' Right-of-way

<1,000 vpd *1

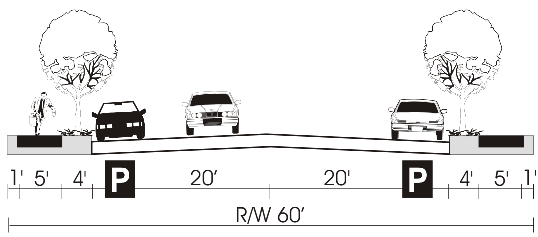
36' Neighborhood Residential



50' Right-of-way

<1,000 vpd *1

40' Standard Commercial/Industrial



60' Right-of-way

Local Proposed Street Design Characteristics

(typically minimums unless stated otherwise)

Characteristic	Neighborhoods	Locals
Vehicle Lane Widths (Bus Route - 11 ft.)	10 ft.*2	10 ft.*2
On-Street Parking	8 ft.	
Sidewalks (minimums)	5 ft.	5 ft.
Medians		
Neighborhood Traffic Management (NTM)	Should Consider	Should Not be Necessary
Transit	Special Circumstances	Not Appropriate
Turn Lanes		
Access Control		

Notes:

1. Local residential streets typically carry <1,000 vehicles per day, but it is not intended as a design capacity or limit.
2. In constrained conditions on collectors, neighborhood and local routes, a minimum width of 10 feet may be considered (except on bus routes).

Legend

P - On-street Parking Lane

Figure 3-5
LOCAL STREETS
COOS BAY RECOMMENDED
STREET CROSS SECTIONS

Flags and Flowers Program[5]

In considering the transportation picture, it is important not to discount the importance of an aesthetically pleasing, safe, well maintained streetscape. Improvements in this area – in line with design guidelines that combine visual appeal with access and practicality – help to jump-start the chain reaction of business refurbishment, development and growth, by contributing to an environment that encourages positive change.

The Flags & Flowers program developed by the South Coast Development Council's Tourism Committee targets both appearance and access along our community's major traffic corridor (Highway 101) and at key gateway points such as the city limits and the airport terminal. Strategic placements of attractive lighting and flower baskets, seasonal flags and banners, and landscaping elements will lend a needed boost to business districts while visually "softening" industrial properties. As foot traffic to these areas can be expected to increase, the plan also includes greatly improved pedestrian facilities, with new or upgraded sidewalks and better handicap access. This pedestrian improvement helps to diversify the area's transportation mix and is very much in line with this Transportation System Plan.

All Flags & Flowers components are designed to be implemented in phases, allowing for minimal disruptions in the initial stages and easy expansion to other areas as development increases. These design elements will enhance both transportation flow and economic development, and inclusion of the Flags & Flowers standards in the Transportation Plan is strongly recommended.

The proposed elements of these designs will need to be coordinated with ODOT since there are strict standards that must be followed for many of these items.

Connectivity / Local Street Plan

Much of the local street network in Coos Bay already exists and, in many cases, it is fairly well connected. In other words, multiple access opportunities exist for entering or exiting neighborhoods. A good example of this is the area in Coos Bay southwest of downtown, where a "grid" street system is in place. However, there are several locations in Coos Bay where, due to the lack of connection points, the majority of neighborhood traffic is funneled onto one single street. This type of street network results in out-of-direction travel for motorists and an imbalance of traffic volumes that impacts residential frontage. By providing connectivity between neighborhoods, out-of-direction travel and vehicle miles traveled (VMT) can be reduced, accessibility between various modes can be enhanced and traffic levels can be balanced out between various streets. Several goals and policies established by this TSP are intended to accomplish these objectives.

In Coos Bay, some of these local connections can contribute with other street improvements to mitigate capacity deficiencies by better dispersing traffic. Several roadway connections will be needed within neighborhood areas to reduce out of direction travel for vehicles, pedestrians and bicyclists. This is most important in the areas where there is a significant amount of undeveloped land. Figure 3-6 shows the proposed Local Street Connectivity Plan for Coos Bay. In some cases, the connector alignments are not specific and are aimed at reducing potential neighborhood traffic impacts by better balancing traffic flows on neighborhood routes. The dashed lines shown in the figures represent potential connections and the general direction for the placement of the connection. In each case, the specific alignments and design will be better determined upon development review. In other cases, the arrow reflects a pending in-fill development project's proposed street alignment.

[5] Text provided by South Coast Development Council's Tourism Committee, June, 2003.

The criteria used for providing connections is as follows[6]:

- Every 300 to 500 foot grid for pedestrians and bicycles
- Every 500-1,000 foot grid for automobiles

To protect existing neighborhoods from potential traffic impacts of extending stub end streets, connector roadways should incorporate neighborhood traffic management into their design and construction. Neighborhood traffic management is described later in this chapter.

The dashed lines shown on the local connectivity figures indicate priority connections only. Topography, railroads and environmental conditions limit the level of connectivity in Coos Bay. Other stub end streets in the City's road network may become cul-de-sacs, extended cul-de-sacs or provide local connections. Connections from these stub end streets could be deemed appropriate and beneficial to the public, as future development occurs. The goal would continue to be improved city connectivity for all modes of transportation.

[6] Metro Functional Plan Title 6 calls for pedestrian/bicycle connectivity every 330 feet and motor vehicle connectivity every 530 feet.

DKS *Associates*

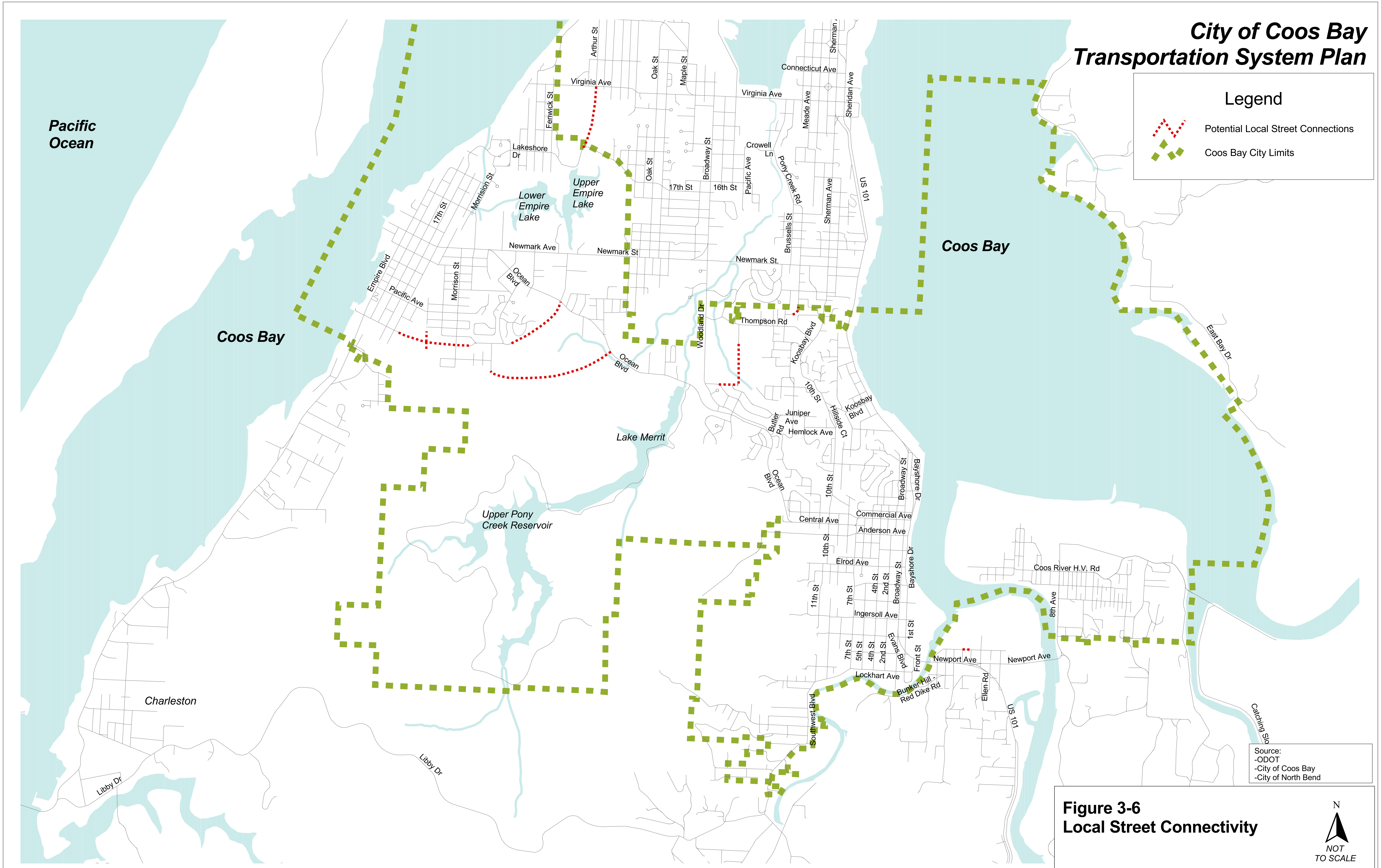


Figure 3-6
Local Street Connectivity

Motor Vehicle Improvement Plans

Circulation/Capacity Needs

The motor vehicle capacity and circulation needs in Coos Bay were determined for existing and future conditions. The process used for analysis is described in Technical Memorandum entitled "Existing and Future Traffic Volumes", which can be found in the appendix of this plan. The findings and recommendations of the analysis are presented below. The extent and nature of the street improvements for Coos Bay are generally consistent with current transportation plans. This section outlines the type of street improvements that would be necessary as part of a long-range master plan. Phasing of implementation will be necessary since all the improvements cannot be done at once. This will require prioritization of projects and periodic updating to reflect current needs. Most importantly, it should be understood that the improvements outlined in the following section are a guide to managing growth in Coos Bay, defining the types of right-of-way and street needs that will be required as development occurs.

Model Forecasts

Existing conditions were identified in Chapter 3. Future capacity needs were developed using a detailed travel demand forecast tool, based on a travel demand model developed for the Coos Bay area by ODOT. Evening peak hour traffic volumes were forecast for the future (year 2020) scenario for the Coos Bay area. The 2020 test was performed on a street network which included existing roads, plus those improvements which are currently funded and would likely be implemented before the 2020 scenario is reached. In Coos Bay, the only improvement included was the following:

- Newmark Avenue: Widening from two lanes to three lanes (two travel lanes and a center left turn lane) between LaClair Street and Ocean Boulevard.

In general, traffic volumes were typically up around 15 percent citywide over the 20 year horizon.

Future Needs

Future transportation conditions were evaluated in a similar manner to existing conditions. Improvements to intersections, roadways between intersections and brand new or extended facilities were considered and a package of recommended improvements was determined.

Forecasts of 2020 traffic volumes were developed using the forecast model. These data were reviewed and refined to produce detailed year 2020 PM peak hour traffic forecasts at intersections. When assigned to the roadway network, this level of traffic growth is expected to create the need for improvements at only a few locations. Intersection levels of service under year 2020 base future conditions (see Chapter B in the Technical Appendix) and have been incorporated into the recommended street improvements described below.

System Alternatives

The transportation improvements and programs developed through the existing and future needs analyses of the transportation system plan process were reviewed to consider effectiveness and priorities for implementation. Three groups of system alternatives were assembled for this purpose:

1) **No Build** – Only projects with previously committed funding from city, county or state would be included;
2) **Priority** – Projects with relatively higher benefits and relatively lower implementation costs to the city would be included;
3) **Full Build** – All the projects and programs identified in the transportation system plan would be included, with the assumption that necessary funding could be secured.

The first and third groups of projects were readily identified from the previous analysis. The middle group (Priority) was assembled based on how well each proposed project or program element influence compliance with the seven transportation goals established for the city, and previous analysis about project need. Table 3-3 summarizes these influences for the city based on the general types of projects proposed. The most influential projects across all of the goals relate to pedestrian, bicycle and safety/access management improvements. The next most influential is roadway capacity improvements. In addition to these policy compliance considerations, the system improvements for pedestrian, bicycle and motor vehicle were divided into near-term (Action Plan) and long-term (Master Plan) categories based on performance standards (e.g., distance to major ped/bike generator, or the estimated year where demands would exceed minimum v/c ratio standards). The elements of each System Alternative are described in the next section.

Table 3-3: Influence of Recommended Transportation Improvements on Transportation Goals

Transportation Goals	Roadway Capacity	Safety / Access Mgmt,	Sidewalk Construction / Pedestrian Crossings	Bike Facilities	Neighborhood Traffic Mgmt.	Transportation System Management
Goal #1: Transportation facilities designed and constructed in a manner to enhance Coos Bay's livability and meet federal, state, regional, and local requirements.						
Goal #2: A balanced transportation system.						
Goal #3: A safe transportation system						
Goal #4: An efficient transportation system that reduces the number and length of trips, limits congestion, and improves air quality.						
Goal #5: Transportation facilities that serve and are accessible to all members of the community.						
Goal #6: Transportation facilities that provide efficient movement of goods and services.						
Goal #7: Implement the transportation plan by working cooperatively with federal, State, regional, and local governments, the private sector, and residents. Create a stable, flexible financial system.						○

Substantial Influence

Moderate Influence

Minimal Influence

Road Improvements

The improvements that would mitigate 2020 conditions are described in Table 3-3. Projects have been categorized as Action Plan (high priority near-term projects) and Master Plan (longer-term) projects. The Action Plan (Table 3-4) consists of projects that the City should actively try to fund in the next ten years. More specific prioritization should occur in coordination with the CIP process. All improvements on arterials and collectors shall include sidewalks, bike lanes and transit facilities.

Based upon the evaluation of intersection level of service, none of the study intersections operate at worse than level of service D in the 2020 evening peak hour with planned improvements. In general, the existing roadway network will be sufficient to accommodate the growth predicted for the 20-year period. The primary needs in Coos Bay are to correct existing safety deficiencies as identified previously in the plan and to plan for and accommodate other modes of transportation, including bicycles, pedestrians and transit. Table 3-4 and Figure 3-7 summarize the future street and intersection improvements that will be required in the next 20 years. These improvements are not listed in priority order.

Table 3-4: Future Street/Intersection Improvements

No.	Location	Description	Funding Status
Action Plan Projects			
3	Newmark Avenue between Norman and Ocean Boulevard	Widen to provide two travel lanes with a center left turn lane/median. Consolidate driveways where possible to maintain facility capacity.	Current Project
6	Woodland Drive/Thompson Road	Install traffic signal. Realign Thompson Road approach to improve sight distance at intersection.	Not Funded
7	7th Street/Anderson Avenue	Construct median/barrier precluding access from Central/Anderson to 7th Street south of Anderson or to Anderson Street west of 7th Street	Not Funded
8	Central/Anderson between 10th Street and Broadway	Restrict parking near intersections (paint curbs), install curb extensions on corners with major pedestrian crossings, restripe to include bike lane on south side, remove in-road traffic diverters at 4th Street and 2nd Street	Not Funded
13	Anderson Avenue Traffic Flow	Linked with project 8, described previously	Not Funded
14	US 101/Central Avenue	Modify traffic signal to be pedestrian-actuated	Not Fuded
15	US 101 Southbound from Central Avenue to Elrod Avenue	Upgrade outdated traffic signal heads and controllers. Install interconnect and coordinate signals between Commercial Avenue and Elrod Avenue	Not Funded
17	Ocean Boulevard	Restripe entire length to include 3 lanes (two travel lanes and a center left turn lane) and bike lanes	Not Funded
18	Lakeshore Drive	Consider traffic calming measures to reduce motor vehicle speeds on long straight road segments.	Not Funded
20	Prefontaine/K-Mart Connection	Conduct feasibility study to determine ability to construct local street connection given topography and right-of-way considerations.	Not Funded
21	Michigan Avenue Extension to Ocean Boulevard	Conduct feasibility study to determine ability to construct local street connection given existing land development and right-of-way requirements	Not Funded
Master Plan Projects			
1	Newmark/Ocean Boulevard	Realign Ocean Boulevard to meet Newmark opposite Ackerman Street. Relocate traffic signal	Not Funded
2	Newmark between Ocean Boulevard and Cape Arago	Extend local street connection via Michigan Avenue connecting to Ocean Boulevard via one of two	Not Funded

	Highway	possible alignments.	
4	Coos River Highway/Olive Barber	Install traffic signal with advance signal head and eliminate southbound to westbound "slip" lane	Not Funded
5	US 101 at Bunker Hill/Coos River Highway	Incorporate ODOT recommendations into TSP when available	Study in Process
9	Central/Anderson between 6th and 7th Avenue	-- Project eliminated --	N/A
10	Bayshore Drive/North Front Street Area	Create and implement access management plan	Not Funded
11	Bayshore/Johnson Avenue	Explore options for improving this intersection. Issues include potential need for eastbound left turn protection, confusion to westbound through traffic and a right-turn drop lane immediately east of the intersection.	Not Funded
12	Isthmus Slough Bridge	Incorporate ODOT recommendations into TSP when available	Study in Process—Design and Construction Not Funded
16	2nd/Golden	Explore options to help reduce high collision rate	Not Funded
19	Central Avenue/Ocean Boulevard	Further examination of this location will be required. The stop sign on southbound Ocean Boulevard creates backups. Potential solutions should be explored and evaluated.	Not Funded

Note: All projects include sidewalks, bicycle lanes and transit accommodations as required.

DKS Associates

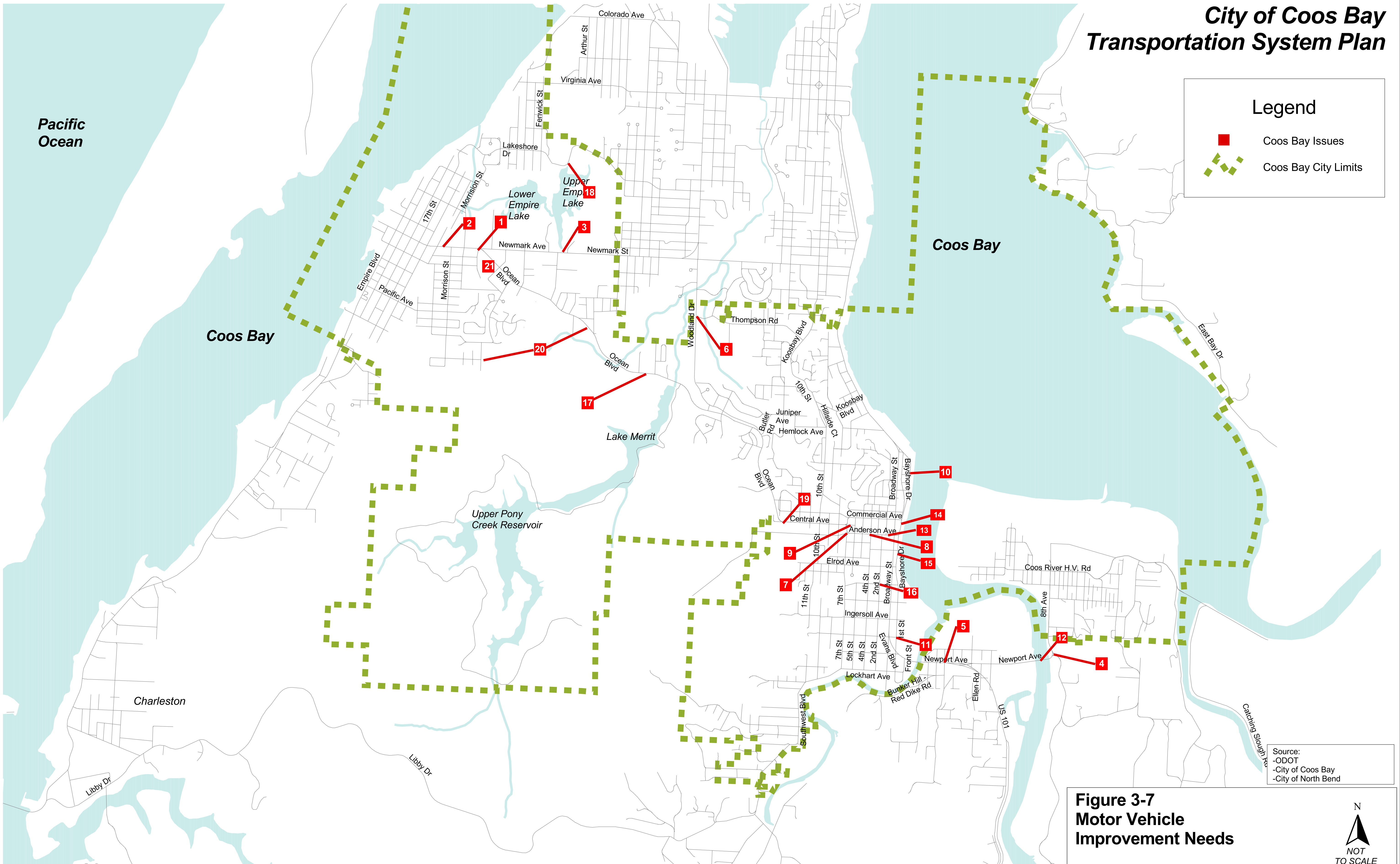


Figure 3-7
Motor Vehicle Improvement Needs

Traffic Control Master Plan

To guide future implementation of traffic signals to locations which have the maximum public benefit by serving arterial/collector/neighborhood routes, a framework master plan of traffic signal locations was developed (Figure 3-8). The intent of this plan is to outline potential locations where future traffic signals would be placed to avoid conflicts with other development site oriented signal placement. To maintain the best opportunity for efficient traffic signal coordination on arterials, spacing of up to 1,000 feet should be considered. No traffic signal should be installed unless it meets **Manual of Uniform Traffic Control Devices** warrants. The following key traffic signal issue should be addressed within the transportation policy of Coos Bay:

- Establish a traffic signal spacing standard of 1,000 feet and a traffic signal master plan to guide future traffic signal placements. When this standard is not met, additional evaluation should be prepared to assure signal progression could be efficiently maintained.

Traffic signals disrupt traffic flow. Their placement is important for neighborhood access, pedestrian access and traffic control. To not utilize the limited placement of traffic signals to serve private land holdings will limit the potential for use that will generally benefit the public, neighborhoods and pedestrian access. Limiting placement of traffic signals to locations that are public streets would minimize or eliminate the potential for traffic signals solely serving private access.

<u>Emergency Vehicle Preemption</u> – The existing traffic signals do not have the capability to be preempted by emergency vehicles. This is a significant asset to reducing emergency response time. This technology is readily available and includes receivers at each intersection, transmitters in emergency vehicles, and control units attached to the existing signal controllers. The existing controllers may require upgrades to enable this feature. The general cost for adding these units is $10,000 per intersection. This type of installation is recommended for every traffic signal in the city.

<u>Traffic Signal Coordination</u> – The existing traffic signals along US 101 generally are configured to provide progressive traffic flow through town. They have hardwire interconnect and have time-based coordinated settings. Modern interconnect is preferred and could be either modem interconnect or radio interconnect, depending upon the specific conditions. There are no loop detectors, so during peak periods when volume fluctuates, the controllers are not responsive to changes in demand. To upgrade these signals will likely require new controllers, upgraded communication (either modem or radio interconnect), traffic detector loops and new signal timing plans. The upgrade cost may range up to $50,000 per signal, depending on the state of the existing equipment.

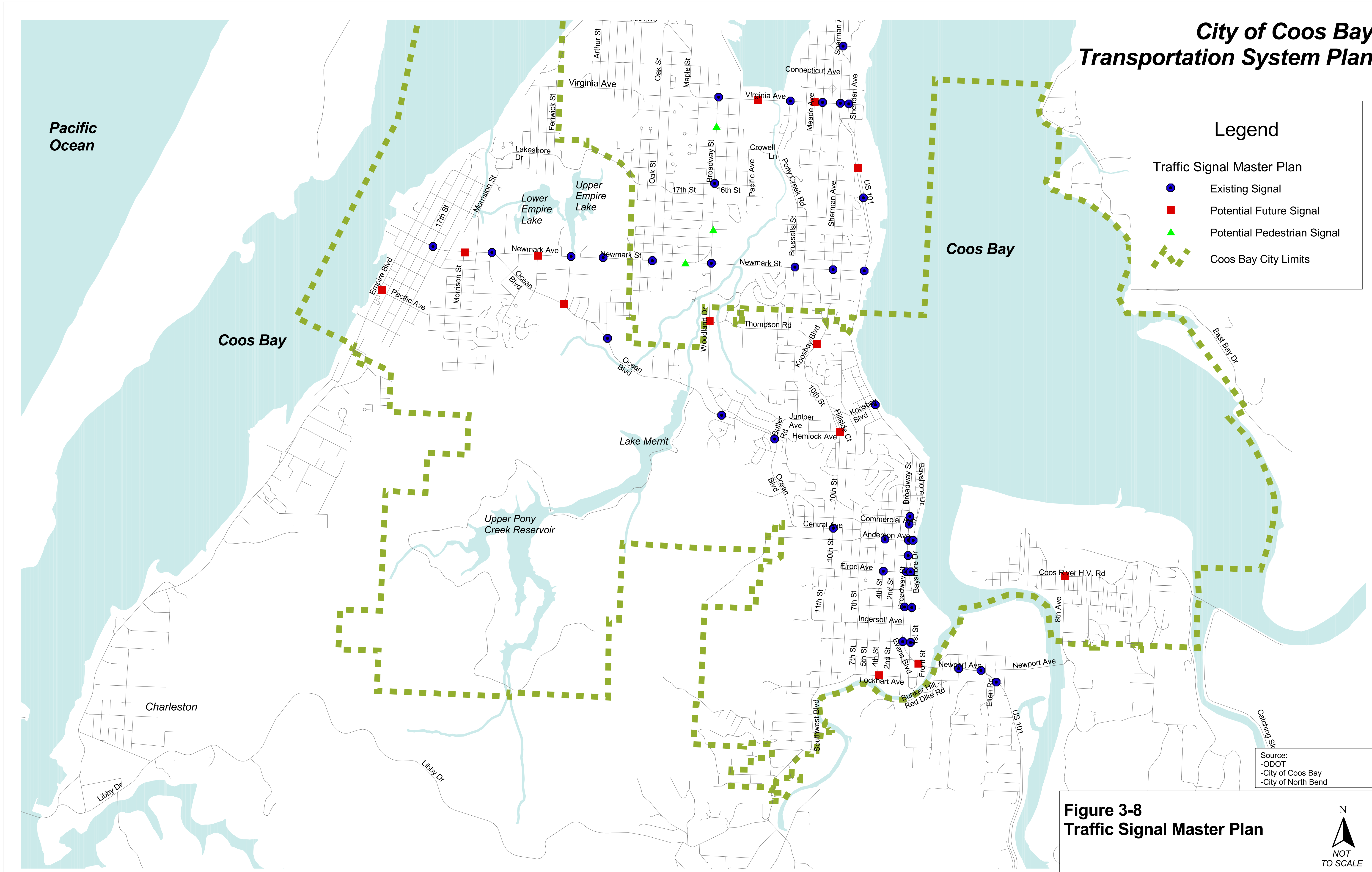


Figure 3-8
Traffic Signal Master Plan

Safety Needs

Accident data was obtained for the City of Coos Bay from ODOT. Appendix A provides detailed data regarding motor vehicle accidents in Coos Bay. Several strategies are suggested for improving safety in these City. These strategies are aimed at providing the City with priorities that meet the goals and policies of the City.

- Work with other agencies such as Coos County and ODOT to help prioritize and fund safety programs - coordinated approach
- Develop a citywide safety priority system which identifies high accident locations, ranks the locations and identifies safety mitigation measures
- Address safety issues on an as needed basis

Suggested Improvements

Most of these high accident locations are included in future street improvements listed previously. In the short term, specific action plans should be prepared to address whether beneficial improvements at these locations can be made without negatively affecting future plans.

A future issue with regard to safety involves the decision to go to three lanes from two lanes or five lanes from four lanes. National research has clearly demonstrated the benefits of providing a turning lane when daily traffic volumes exceed 15,000 vehicles per day[7]. While widening the street can commonly be viewed as pedestrian unfriendly, the potential impact of not having a turning lane is that accident rates will increase substantially (11 to 35 percent) on two lane roads compared to three lane roads.

One safety action that can have an immediate impact is to condition all land use development projects that require access on city streets to maintain adequate sight distance. This should address all fixed or temporary objects (plants, poles, buildings, signs, etc.) that potentially obstruct sight distance. Any property owner, business, agency or utility that places or maintains fixed or temporary objects in the sight distance of vehicles, bicycles or pedestrians should be required to demonstrate that adequate sight distance is provided (per American Association of State Highway and Transportation Officials).[8]

Another safety action that can have an immediate impact is to reprogram traffic signals to include a one-second all-red clearance phase at intersections that have a high number of crossing conflicts. This allows vehicles extra time to clear the intersection before crossing vehicles enter.

Maintenance

Preservation, maintenance and operation are essential to protect the City's investment in transportation facilities. The majority of current gas tax revenues are used to maintain the transportation system. With an increasing road inventory and the need for greater maintenance of older facilities, protecting and expanding funds for maintenance is critical.

A Pavement Management Program is a systematic method of organizing and analyzing information about pavement conditions to develop the most cost effective maintenance treatments and strategies. As a management tool, it aids the decision-making process by determining the magnitude of the

[7] Multilane Design Alternatives for Improving Suburban Highways, TRB NCHRP Report No. 282, March 1986.

[8] "A Policy on Geometric Design of Highways and Streets", Green Book American Association of State Highway and Transportation Officials, 1994.

problem, the optimum way to spend funds for the greatest return on the dollar, and the consequences of not spending money wisely. Coos Bay should maintain an annual program of pavement management and monitor conditions in setting priorities for overlays, slurry seals and joint sealing.

A pavement management program can be a major factor in improving performance in an environment of limited revenues. A pavement management program is not and should not be considered the answer to every maintenance question. It is a tool that enables the public works professional to determine the most cost-effective maintenance program. The concept behind a pavement management system is to identify the optimal rehabilitation time and to pinpoint the type of repair that makes the most sense. With a pavement management program, professional judgment is enhanced, not replaced.

Coos Bay has an Overlay Projects schedule for the next 10 years. This schedule was most recently updated in March, 2001 and can be found in the appendix of this plan.

A critical concept is that pavements deteriorate 40 percent in quality in the first 75 percent of their life. However, there is a rapid acceleration of this deterioration later, so that in the next 12 percent of life, there is another 40 percent drop in quality. A pavement management system can identify when pavements will begin to deteriorate before rapid deterioration starts, to focus preventative maintenance efforts cost effectively. These solutions are generally one-fifth to one-tenth the cost required after a pavement is 80 percent deteriorated. Figure 3-9 illustrates the pavement life cycle. For this reason, support of gradual increases to the gas tax to support maintenance is critical.

Neighborhood Traffic Management (NTM)

Neighborhood Traffic Management (NTM) is a term that has been used to describe traffic control devices typically used in residential neighborhoods to slow traffic or possibly reduce the volume of traffic. NTM is descriptively called traffic calming due to its ability to improve neighborhood livability. Coos Bay has done very little in the way of testing and implementing NTM measures such as speed humps, chokers, pavement texturing, circles, chicanes and other elements. It is recommended that a neighborhood traffic management program be established to take a more proactive position in managing neighborhood concerns. This would include establishing minimum performance criteria, a ranking system, and preferred conditions for implementing other control devices and strategies. The following are examples of neighborhood traffic management strategies:

- speed wagon (reader board that displays vehicle speed)
- speed humps
- traffic circles
- medians
- landscaping
- curb extensions
- chokers (narrows roadway at spots in street)
- narrow streets
- closing streets
- photo radar
- on-street parking
- selective enforcement
- neighborhood watch

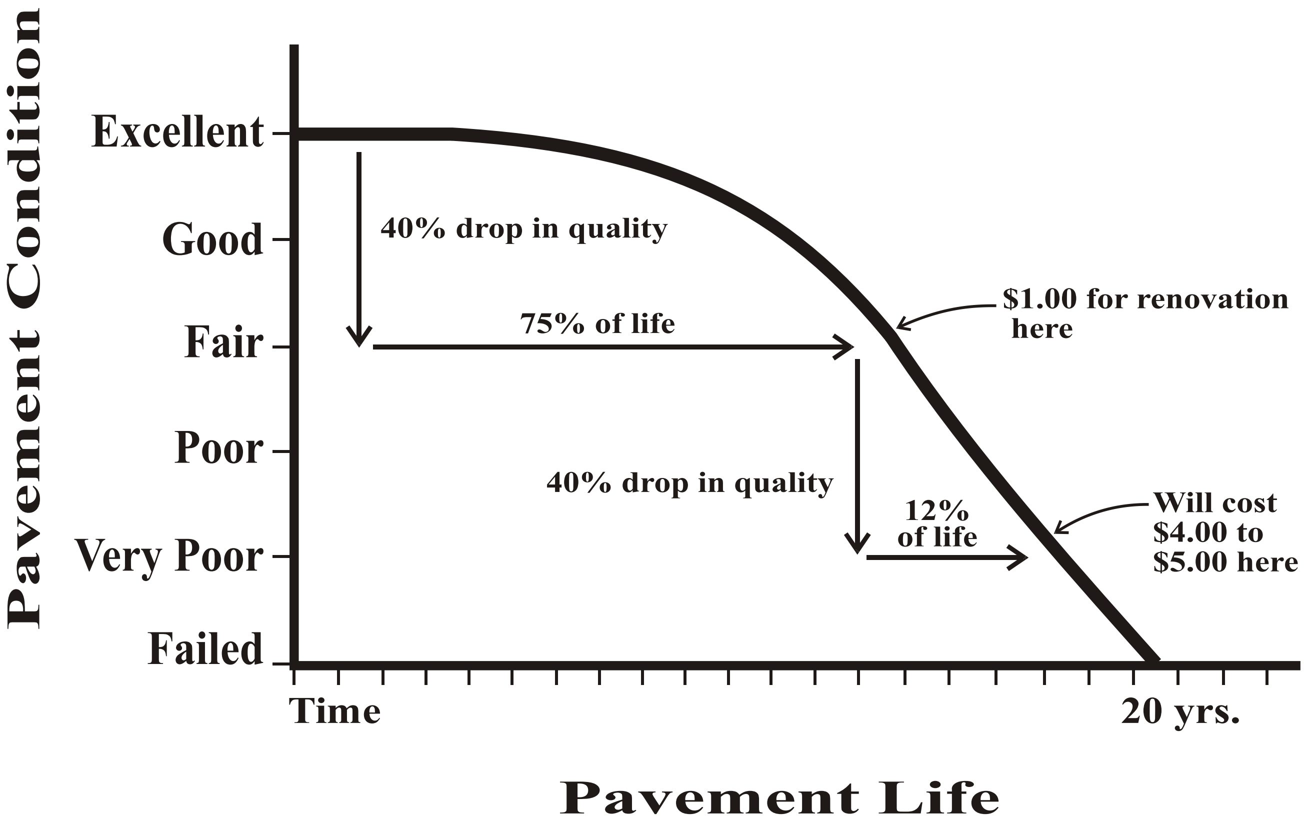


Figure 3-9
PAVEMENT LIFE CYCLE

Typically, NTM can receive a favorable reception by residents adjacent to streets where vehicles travel at speeds above 30 MPH. However, NTM can also be a very contentious issue within and between neighborhoods, being viewed as moving the problem rather than solving it, impacting emergency travel or raising liability issues. A number of streets in Coos Bay have been identified in the proposed functional classification as neighborhood routes. These streets are typically longer than the average local street and would be appropriate locations for discussion of NTM applications. A wide range of traffic control devices are being tested around the state, including such devices as chokers, medians, traffic circles and speed humps. NTM traffic control devices should be tested within the confines of Coos Bay before guidelines are developed for implementation criteria and applicability. Also, NTM may be considered in an area wide manner to avoid shifting impacts between areas and should only be applied where a majority of neighborhood residents agree that it should be done. Strategies for NTM seek to reduce traffic speeds on neighborhood routes, thereby improving livability. Research of traffic calming measures demonstrates their effectiveness in reducing vehicle speeds. Table 3-5 summarizes nationwide research of over 120 agencies in North America.

Table 3-5: Neighborhood Traffic Management Performance

		Speed Reduction (MPH)			*Volume Change (ADT)*			
Measures	No. of Studies	Low	High	Ave.	Low	High	Ave.	Public Satisfaction
Speed Humps	262	1	11.3	7.3	0	2922	328	79%
Speed Trailer	63	1.8	5.5	4.2	0	0	0	90%
Diverters	39	-	-	.4	85	3000	1102	72%
Circles	26	2.2	15	5.7	50	2000	280	72%
Enforcement	16	0	2	2	0	0	0	71%
Traffic Watch	85	.5	8.5	3.3	0	0	0	98%
Chokers	32	2.2	4.6	3.3	45	4100	597	79%
Narrow Streets	4	5	7	4.5	0	0	0	83%

SOURCE: *Survey of Neighborhood Traffic Management Performance and Results, ITE District 6 Annual Meeting, by R S. McCourt, July 1997.*

It is recommended that the City of Coos Bay explore the development of a NTM program. This program can use statewide experience and success to help prioritize implementation and address issues on a systematic basis rather than a reactive basis. Criteria should be established for the appropriate application of NTM in the City. This would address warrants, standards for design, funding, special conditions for functional classifications other than neighborhood routes and the required public process. NTM applications on state highways, though unlikely because of their typically arterial status, would require approval from the state highway engineer.

Access Management

Access management is control or limiting of access on arterial and collector facilities to preserve their functional capacity. Numerous driveways erode the capacity of arterial and collector roadways. Preservation of capacity is particularly important on higher volume roadways for maintaining traffic flow and mobility. Whereas local and neighborhood streets function to provide access, collector and arterials streets serve greater traffic volume. Numerous driveways or street intersections increase the number of conflicts and potential for accidents and decrease mobility and traffic flow. Coos Bay, as with every city, need a balance of streets that provide access with streets that serve mobility.

Proposed Access Management Strategies

Several access management strategies were identified to improve access and mobility in Coos Bay:

- Provide left turn lanes where warranted[9] for access onto cross streets
- Work with land use development applications to consolidate driveways where feasible
- Meet ODOT access requirements on arterials
- Establish City access standards for new developments on collectors and arterials
- New single family accesses should be prohibited on arterials and collectors, with provisions made for land locked parcels with no alternative access
- Driveways should not be placed in the influence area of intersections. The influence area is that area where queues of traffic commonly form on the approach to an intersection (typically between 100 and 300 feet)[10].
- Use of ODOT standards for access on arterials and collectors under their jurisdiction.
- Specific access management plans be developed for arterial streets in Coos Bay to maximize the capacity of the existing facilities and protect their functional integrity (in particular, Newmark Avenue between Broadway and Fir Street and Virginia Avenue between US 101 and Harrison). New development should meet the requirements shown in Table 3-6.

Table 3-6: Proposed Access Spacing Guidelines

Functional Classification	*Minimum Spacing Between Access Points**
Arterial	500 ft
Collector	300 ft

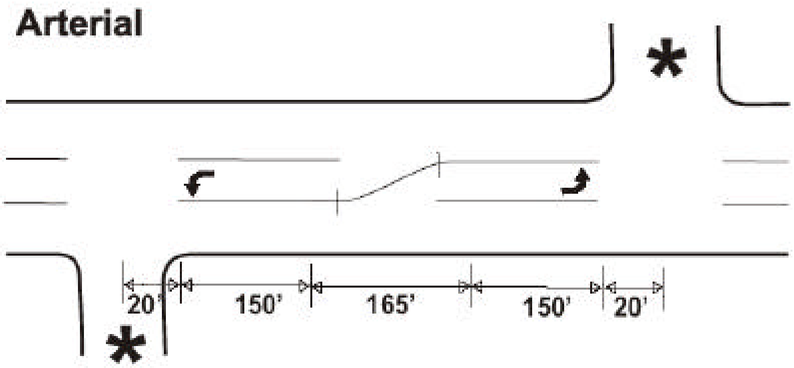
* Access spacing at intersections may be slightly less, see discussion below. Also, ODOT standards supercede City and County standards on state facilities. On higher classified state facilities, standards may be more stringent (i.e. longer minimum spacing between access points).

[9] Highway Research Record Number 211, Volume Warrants for Left-Turn Storage Lanes at Unsignalized Grade Intersections.

[10] In a case where a project has less than 100 feet of frontage, the site would need to explore potential shared access, or if that were not practical, place driveway as far from the intersection as the frontage would allow (permitting for 5 feet from the property line).

Access Spacing

The access spacing criteria presented in Table 3-7 was developed based on creating safe back-to-back deceleration tapers and adequate storage length for vehicles queuing for left turns on opposite sides of the street. 500 feet was chosen for arterials because it adequately allows for two 150 foot left turn storage pockets as well as a 165 foot transition taper in between. While left turn pockets and transition tapers may not actually be striped on the roadway, 500 feet would allow adequate space for vehicles to function as if they were. For collectors, slower speeds require a shorter transition taper and lower volumes would require shorter storage pockets. Overall, the minimum length needed between access points on a collector would be more like 300 feet.



Intersection Setback

The basis for establishing intersection setback requirements is founded in allowing for adequate vehicle queuing and providing adequate sight distance. At congested arterial/arterial and arterial/collector intersections, vehicle queues commonly extend up to 300 feet from the intersection. These congested intersections typically have dedicated turn lanes, which can create additional conflict points for side-street turning vehicles. Therefore, arterial/arterial and arterial/collector intersections should have a minimum access setback of 300 feet based on vehicle queues.

At collector/collector intersections, vehicle queuing is commonly not a controlling design factor for access spacing. However, maintaining sight distance to access points near the intersection is crucial. The curb radius and turn speed of the intersection controls the required sight distance for this scenario. For turn design speeds of 20 mph or less, access points should be set back at least 100 feet from the intersection. AASHTO stopping sight distance standards can be applied to increase the required setback for higher turn speed designs. Table 3-7 summarizes access spacing guidelines adjacent to intersections.

Existing lots that are currently undeveloped cannot be "land locked." The maximum access spacing possible should be provided, even if the entire lot frontage is less than the desired access spacing. When corner lots front on two differently classified roadways, all attempts should be made to provide access on the lesser classified street, even if the available frontage is less (assuming the frontage available falls short of the standards on both street classifications). For example, if a residential lot has 50 feet of frontage on a collector and 100 feet of frontage on an arterial, the access should be provided 50 feet from the intersection on the collector, even though the access could be provided further from the intersection on the arterial.

Table 3-7: Proposed Access Spacing Guidelines at Intersections

Intersection Type	*Minimum Access Spacing From Intersection*
Arterial/Arterial	300 feet
Arterial/Collector	300 feet
Collector/Collector	100 feet-150 feet*

* 150 feet is desired, 100 feet is minimum for 20 mph design speed.

How Does Access Management Work on Non-Compliant Built Roadways?

Access management is not easy to implement and requires long institutional memory of the impacts of short access spacing—increased collisions, reduced capacity, poor sight distance and greater pedestrian exposure to vehicle conflicts.

Access management polices are applied in two cases:

- **New Development** – New development on a vacant parcel (or soon to be vacant parcel with demolition), which requires some sort of land use permit,
- **Re-Development/Re-Use** – A re-development or remodel project makes application for approval that may only require a building permit.

Depending on the City's land use compliance review process, there may or may not already be a mechanism for enforcing access management for the second category. If the current land use compliance process is not required for building-only improvements, this step should be added into the process. The land use review will then trigger the street and access management standards.

Added Policy Narrative Enable Requirements

The foundation for authorizing the City to require street improvements, stub streets, access consolidation will lie in the purpose statement of the standards section. The purpose statement should include language such as *"Proposed development shall provided necessary street improvements and access management to maintain an adequate level of service and safety of abutting public streets as required by the TSP."*

A section could be added in the standards that gives the City explicit powers to do so. Some codes include a section titled: Conditions of Approval - The City may require the closing of existing curb cuts, consolidation of vehicle access points, recording of reciprocal access easements for shared driveways, street improvements, installation of traffic control devices, and/or other mitigation measures to ensure the safe and efficient operation of the transportation system.

Reciprocal access easements are an exaction or condition of approval and grant it for free, but are complicated by timing. You have to get them one at time. The first parcel in may have to stub a connection to adjacent parcel and record an easement, but have temporary access elsewhere with a condition that it be closed when alternative access becomes available. Then, when the adjacent parcel comes in for a permit, they are required to grant an access easement and complete the connection. If the first parcel has no alternative access, then it is up to them to acquire an access easement prior to development.

The same is true for street stubs in a subdivision. Street stubs are required to adjacent vacant property, but are by their nature secondary access. The first development gets to set the stub points, unless they have been predetermined in the TSP. If it is a public street, then there is no access easement issue. Private streets will require a reciprocal access agreement. Then, it is a waiting game for the future development. The second development must connect to stubs and, if private streets, grant reciprocal access as a condition of approval. The authority to require stubs and access, if private streets, goes back to authority to implement TSP, which ultimately is a public safety issue.

Transportation Demand Management

The Transportation Planning Rule outlines a goal of reducing vehicle miles traveled (VMT) per capita. Transportation Demand Management is the general term used to describe any action that removes single occupant vehicle trips from the roadway network during peak travel demand periods. The following are examples of TDM measures:

- Work with employers to install bicycle racks
- Work with property owners to place parking stalls for carpoolers near building entrances
- Provide information regarding commute options to larger employers
- Encourage linkage of housing, retail and employment centers
- Encourage flexible working hours
- Encourage telecommuting
- Provide incentives to take transit and use other modes (i.e. free transit pass)
- Schedule deliveries outside of peak hours

Transportation System Management

Transportation System Management (TSM) focuses on low cost strategies to enhance operational performance of the transportation system. Measures that can optimize performance of the transportation system include signal improvements, intersection channelization, access management (noted in prior section), HOV lanes, ramp metering, rapid incident response, and programs that smooth transit operation. The most significant measure that can provide tangible benefits to the traveling public is traffic signal coordination and systems. Traffic signal system improvements can reduce the number of stops by 35 percent, delay by 20 to 30 percent, fuel consumption by 12.5 percent and emissions by 10 percent[11]. This can be done without the major cost of roadway widening.

Several of the strategies are elements of an Intelligent Transportation System (ITS) plan being implemented regionally by ODOT and participating agencies. ITS focuses on a coordinated, systematic approach toward managing the region's transportation multi-modal infrastructure. ITS is the application of new technologies with proven management techniques to reduce congestion, increase safety, reduce fuel consumption and improve air quality. One element of ITS is Advanced Traffic Management Systems (ATMS). ATMS collects, processes and disseminates real-time data on congestion alerting travelers and operating agencies, allowing them to make better transportation decisions. Examples of future ITS applications include routine measures such as automated vehicle performance (tested recently in San Diego), improved traffic signal systems, improved transit priority options and better trip information prior to making a vehicle trip (condition of roads - weather or congestion, alternative mode options - a current "real time" schedule status, availability/pricing of retail goods). Most of this information will be developed by ODOT or other ITS partners (private and public). The information will be available to drivers in vehicles, people at home, at work, at events or shopping.

Trucks

Efficient truck movement plays a vital role in maintaining and developing Coos Bay's economic base. Well planned truck routes can provide for the economical movement of raw materials, finished products and services. Trucks moving from industrial areas to regional highways or traveling through Coos Bay are different than trucks making local deliveries. The transportation system should be

[11] *Portland Regionwide Advanced Traffic Management System Plan,* ODOT, by DKS Associates, October 1993.

planned to accommodate this goods movement need. The establishment of through truck routes provides for this efficient movement while at the same time maintaining neighborhood livability, public safety and minimizing maintenance costs of the roadway system. A map of proposed through truck routes in Coos Bay/North was developed (Figure 3-10) based on ODOT's existing freight route designations and logical origins and destinations for trucks in the Coos Bay area. This is aimed at addressing the through movement of trucks, not local deliveries. The objective of this route designation is to allow these routes to focus on design criteria that is "truck friendly", i.e., 12 foot travel lanes, longer access spacing, 35 foot (or larger) curb returns and pavement design that accommodates a larger share of trucks.

DKS *Associates*

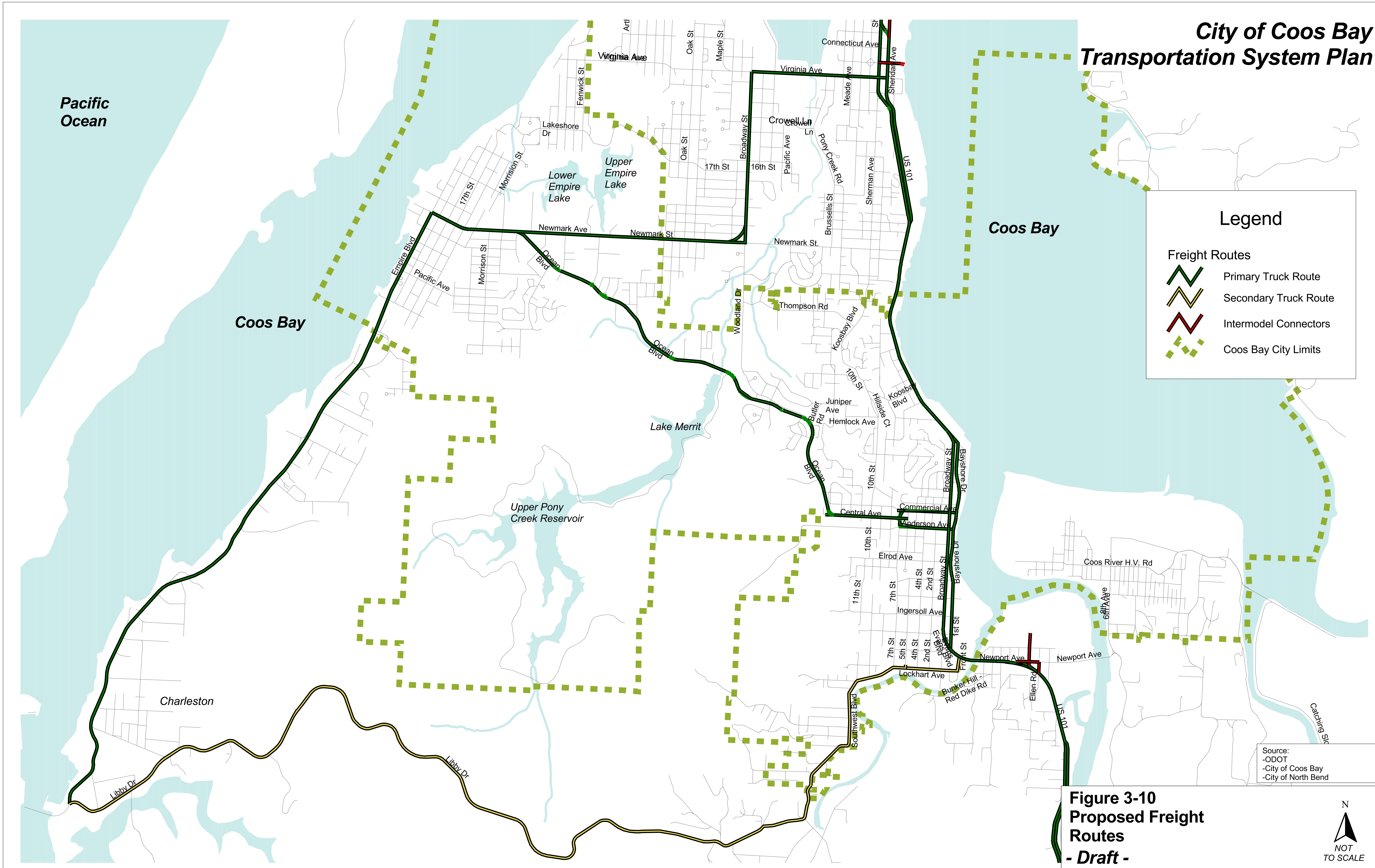


Figure 3-10 Proposed Freight Routes
- Draft -

Table 3-8: ODOT Freight Designations (Proposed Truck Routes)

Facility	*ODOT Freight Designation*
US 101	Road Connector
Newport Avenue between Edwards Street and US 101	Intermodal Connector
Mullen Street	Intermodal Connector
Edwards Street	Intermodal Connector

Bicycle Action Plan

The existing Bicycle Route map reflects bicycle accessibility in Coos Bay. Bikeway improvements are aimed at closing the gaps in the bicycle network along arterial and collector roadways. A number of bicycle strategies have been identified and are listed from most important to least important:

- Connect Key bicycle corridors to schools, parks, recreational uses and activity centers (public facilities, commercial areas, etc.)
- Fill in gaps in the network where some segments of bikeway exist
- Bicycle corridors that connect neighborhoods
- Construct bike lanes with roadway improvement projects
- Bicycle corridors that commuters might use
- Bicycle corridors providing mobility to and within commercial areas

The Bicycle Master Plan builds from state policy from the Transportation Planning Rule and from the City of Coos Bay policies that all arterial and collector roads have bikeways. The Action Plan is consistent with plans developed by Coos County and the State. Additional linkages with lanes or accommodations are outlined to make a complete network. The Bicycle Action Plan (Table 3-9) consists of projects that the City should actively try to fund in the next ten years. With the action plan, a substantial bicycle network would be in place and would allow attention to move toward Master Plan projects. The bicycle plan will require incremental implementation. As development (or redevelopment) occurs, streets are rebuilt and other project funding opportunities (such as grant programs) arise, projects on the Master Plan should be integrated into project development. Many of the projects would be elements of multi-modal street improvement projects. The City, through its Capital Improvement Program, joint funding with other agencies (County, State) and development approval would implement these projects.

Cost Estimates

Rough cost estimates were made for the Bicycle Action Plans, however, the general unit cost for providing bike facilities depends on a number of factors, including whether sufficient pavement width is available (requiring only restriping), or if roadway widening is required. If roadway widening is required, there are a number of additional factors to consider, including whether there are existing sidewalks that need to be torn out and replaced, whether there are drainage issues that need to be accommodated, etc. For planning purposes, a cost of $180 per lineal foot was assumed. This cost does not include the acquisition of right-of-way and does not include the cost of installing sidewalks. The specific unit costs vary depending on the number of travel lanes, and the need for additional right-of-way; but, in general, re-striping is ten times less expensive than roadway widening. The project list should be reviewed to determine where re-striping can be performed without compromising motor vehicle capacity.

An example in Coos Bay would be Ocean Boulevard. The length of the improvement requiring bike lanes is 21,000 feet. If this segment could be re-striped to add bike lanes, the estimate cost would be $210,000 to $420,000. If the paved width were not sufficient to carry motor vehicle traffic and minimum width bike lanes, then roadway widening is needed at a cost of up to $6.3 million. This difference is very significant, and the need for roadway widening to facilitate bike lanes should be considered as bike lane projects are further developed.

Table 3-9 : Bicycle Action Plan

Project	*From*	*To*	*Approximate Project Length*
Priority: Previously funded projects*			
Newmark Street	Ocean Boulevard	LaClair Street	2550 ft
Priority: Connect key bicycle corridors to schools, parks, recreational uses and activity centers			
Newmark Street	Empire Boulevard	Ocean Boulevard	3700 ft
Central Avenue	Ocean Boulevard	7th Street	2100 ft
7th Street	Commercial Avenue	Lockhart Avenue	5000 ft
Anderson Avenue	7th Street	Bayshore Drive	* ft
Southwest Boulevard	Idaho Avenue	S&J Lane	3250 ft
Coos River Road	8th Avenue	East City Limits	4900 ft
8th Avenue	South City Limits	Coos River Road	2000 ft
Commercial Avenue	Bayshore Drive	7th Street	1700 ft
Southwest Boulevard	7th Avenue	South City Limits	5700 ft
Priority: Fill in gaps in bicycle network			
Southwest Boulevard	Minnesota Avenue	7th Street	1050 ft
Lockhart Avenue	7th Street	Front Street	2400 ft
Empire Boulevard	South City Limits	Newmark Avenue	2100 ft
Ocean Boulevard	Newmark Avenue	Central Avenue	* ft
Woodland Drive	North City Limits	Ocean Boulevard	3750 ft
Bicycle Action Plan Projects Total Length (represents both directions):			**76,900 ft.**
Bicycle Action Plan Estimated Cost			**$13.7 million**

Note: Locations flagged with an * denote bike improvements included with motor vehicle projects.

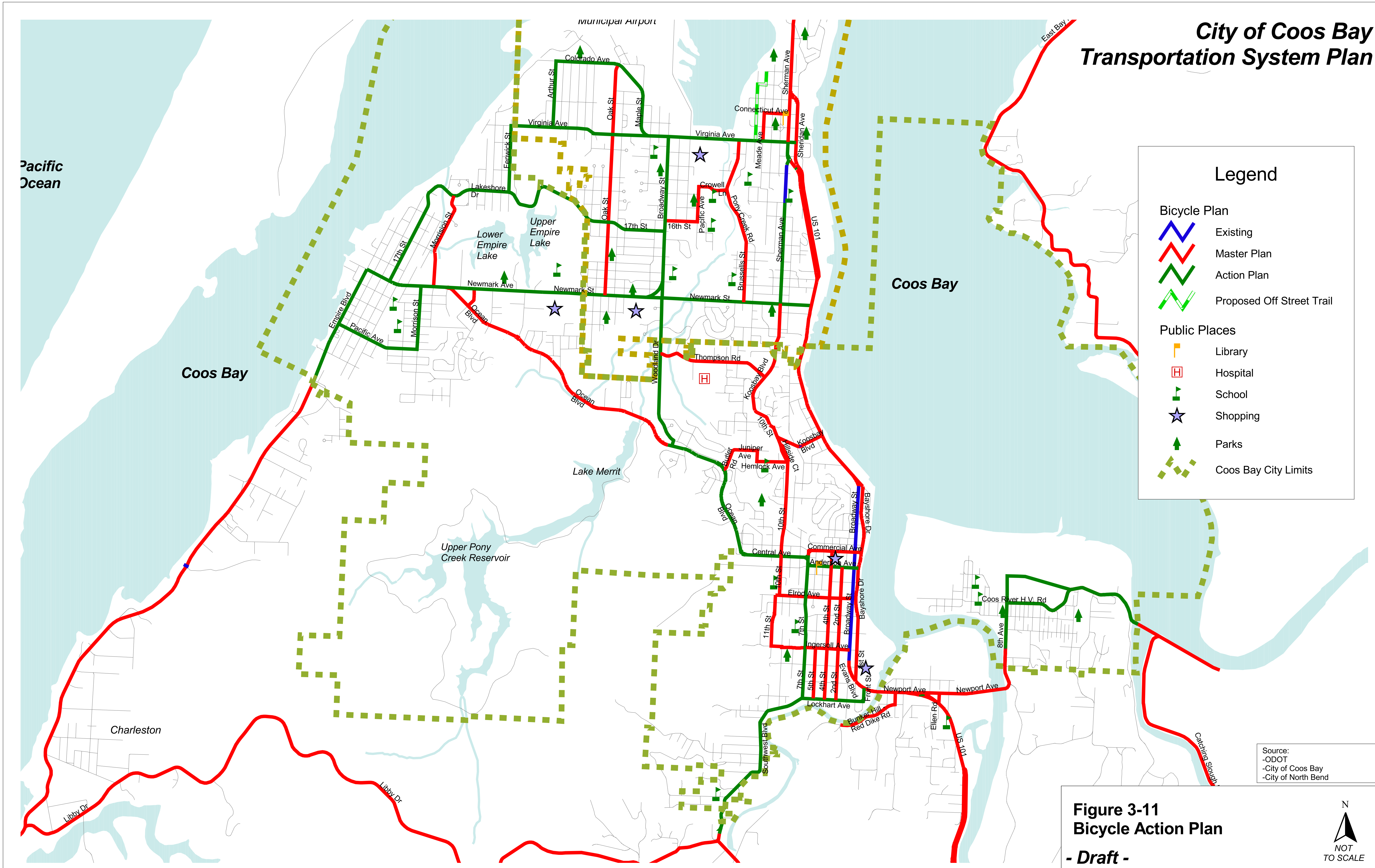


Figure 3-11
Bicycle Action Plan
- Draft -

Pedestrian Action Plan

The existing pedestrian system network map reflects pedestrian accessibility in Coos Bay. In most cases, sidewalk improvements are aimed at closing gaps in the existing sidewalk network to provide connectivity rather than capacity. In other words, it is much more important that a continuous sidewalk be available than it be of a certain type or size.

The most important existing pedestrian need in Coos Bay is a well-connected pedestrian system within a half-mile grid and connectivity to key centers in Coos Bay (parks, schools, retail, etc.). Needs include safe, direct and convenient access to transit and crossings of large arterial streets which act as barriers to pedestrian movement, as well as an inventory of local street sidewalk locations in order to complete a detailed sidewalk connectivity plan. In the future, pedestrian needs will be similar in the City, but there will be additional activity centers that will need to be considered and interconnected. A number of pedestrian strategies have been identified and they are listed from most important to least important:

- Connect key pedestrian corridors to schools, parks, recreational uses and activity centers (public facilities, commercial areas, etc.)
- Fill in gaps in the network where some sidewalks exist
- Pedestrian corridors to transit stations and stops
- Signalized pedestrian crossings
- Pedestrian corridors that connect neighborhoods
- Improve streets having sidewalks on one side to two sides
- As development occurs, construction of sidewalks by developers
- Pedestrian corridors that commuters might use
- Reconstruct all existing substandard sidewalks to the City of Coos Bay and City of North Bend Standards

The Pedestrian Master Plan is an overall plan and summarizes the desired framework plan to meet local policy. The more specific, shorter-term Action Plan (Table 3-10 and Figure 3-12) consists of projects that the City or responsible agency could give priority to when funding becomes available. As development occurs, streets are rebuilt, and other opportunities (such as grant programs) arise, projects on the Master Plan should be pursued as well. In addition, all development projects should include an inventory of local street sidewalk conditions in order to populate the City database of sidewalk locations.

An initial cost estimate for the Coos Bay Pedestrian Action Plan is $7 million. This estimate assumes 6 foot wide sidewalks and new curbs where projects are indicated in Table 3-10, and do not consider additional costs related to extra right-of-way, storm drainage relocation or improvements, or relocation of utility poles. Further engineering study is required to provide a more accurate cost estimate for budgeting these improvement projects.

Table 3-10: Pedestrian Action Plan

Project	*From*	*To*	*Project Length*
Priority: Connect key pedestrian corridors to schools, parks, recreational uses and activity centers			
Southwest Boulevard	Libby Drive	Montana Avenue	2800 ft
Empire Boulevard	Newmark Avenue	Montgomery Ave	1600 ft
Shoneman-Morrison Street	Harris Avenue	Lakeshore Drive	2100 ft
Morrison Street	Pacific Avenue	Newmark Avenue	2100 ft
Pacific Avenue (one side)	Wasson Street	Fillmore Street	1000 ft
Pacific Avenue	Fillmore Street	Morrison Street	1000 ft
17th Street	Newmark Avenue	Lakeshore Drive	4500 ft
17th Street	East City Limits	Grant Street	750 ft
Newmark Avenue	Ocean Boulevard	LaClair Street	2000 ft
Newmark Avenue (one side)	East City Limits	LaClair Street	1600 ft
Koosbay Boulevard	10th Street	8th Street	1000 ft
10th Street (one side)	Teakwood Avenue	Hemlock Avenue	3100 ft
Koosbay Boulevard (one side)	North City Limits	Vine Street	400 ft
Coos River Highway	"H" Street	Applewood	5600 ft
7th Street	Hall Avenue	Johnson Avenue	1200 ft
7th Street	Kruse Avenue	Lockhard Avenue	600 ft
11th Street	S. of Ferguson Avenue	Ingersoll Avenue	1100 ft
Lockhart	10th Street	4th Street	1650 ft
Ingersoll Avenue (one side)	10th Street	7th Street	800 ft
5th Street	Johnson Avenue	Lockhart Avenue	1150 ft
Ocean Boulevard	19th Avenue	Highland	2400 ft
Ocean Boulevard	14th Avenue	Central	300 ft
Priority: Fill in gaps in pedestrian network			
Ocean Boulevard (between)	Norman Avenue	LaClair Street	80 ft
Ocean Boulevard	West of Woodland	West of Woodland	180 ft
Ocean Boulevard (one side)	19th Street	West Hills Boulevard	500 ft
Ocean Boulevard	North of Highland	Central	1600 ft
Woodland Avenue	North City Limits	Thompson Road	450 ft
Woodland Avenue	Thompson Road	Ocean Boulevard	3300 ft
4th Street	Commercial Avenue	Curtis Avenue	1050 ft
2nd Street	Anderson Avenue	Golden Avenue	1600 ft
Lockhart Avenue	4th Street	US 101	1300 ft
Front Street	Lockhart Avenue	US 101	500 ft
4th Street	Kruse Avenue	Lockhart	550 ft
Ingersoll	2nd Street	Broadway Drive	400 ft
Newmark Street	Ocean Boulevard	Wallace Street	700 ft
Wallace Street	Ocean Boulevard	Newmark Avenue	650 ft
Pedestrian Action Plan Projects Total Length:			**93,720 ft.**
Pedestrian Action Plan Projects Estimated Cost (without ROW costs)**			**$6.6 M**

*Sidewalks to be built with roadway improvement projects are dependent on the ROW and alignment of the road improvement and would not be built without the road improvement

** Cost estimate assumes 3-foot wide sidewalk at $10 per square foot construction cost plus $10 per linear foot for curb construction. No allocation for ROW or other improvements (storm drain relocation, etc.) assumed.

DKS Associates

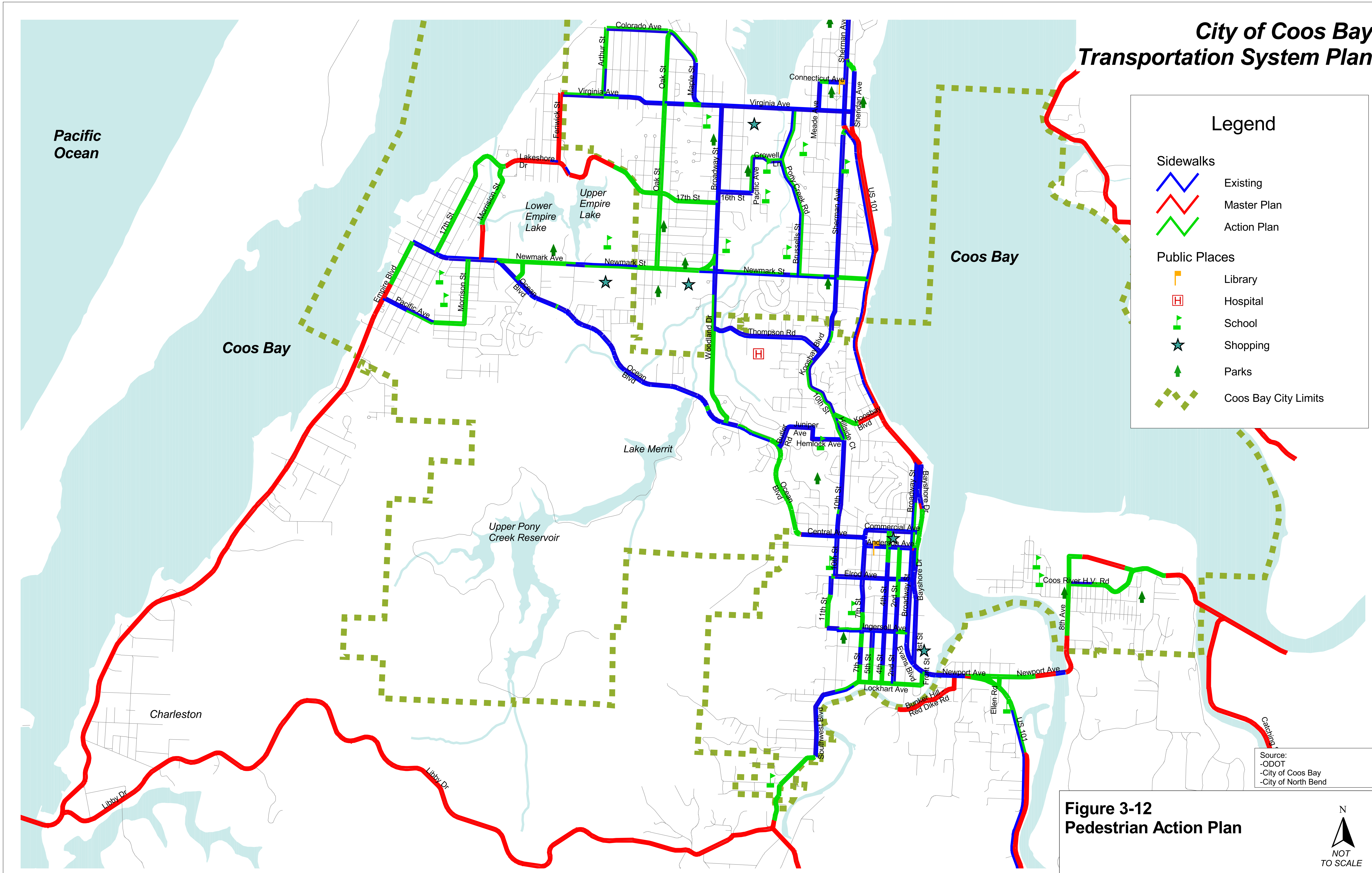


Figure 3-12
Pedestrian Action Plan

Transit Plan

Federal funding for the fixed-route transit services that did exist in Coos Bay was terminated and service ceased operation as of the end of December 2002. The CCTA has applied for federal grants from the Federal Transit Authority to extend these basic operations. Currently, only the dial-a-ride service is operational.

This section outlines a transit plan for the City of Coos Bay. It incorporates input from the local transit district (CCAT), as well as input obtained over the course of the project through the technical advisory committee and open houses with local citizens.

The highest priority for transit in Coos Bay is obtaining a stable source of funding. Assuming a base level of funding could be restored and additional funding could be secured, Table 3-11 summarizes projects that would be desirable in Coos Bay. Many of these projects were recommendations from a Transit Feasibility Study conducted for Coos and Curry Counties by Weslin Consulting Services in 1999.

Table 3-11: Potential Transit Projects

No.	*Project*
1	Reestablish Previously Existing Fixed Route Service ("East Loop" and "West Loop")
2	Add third fixed route
3	Add a home-to-work job commuter service
4	Provide weekend service
5	More fully integrated inter-city services connecting communities throughout the county
6	Providing service connections with Reedsport, Eugene and Roseburg
7	Transit depot
8	Additional shelters
9	A vanpool program to be coordinated with large area employers
10	More demand-response (dial-a-ride) service

Other Modal Plans

Rail

No planned changes in rail service have been indicated by the Oregon International Port of Coos Bay. The most significant rail-related issue in Coos Bay is the Coos Bay Rail Bridge. It is owned by the Oregon International Port of Coos Bay (Port), who acquired it from UP in August, 2000, in order to access state and federal funds for long-term rehabilitation of the bridge. Phase I of the rehabilitation is under way now and involves rebuilding the swing span and minor repair of two approach spans. Phase I construction should be completed within two years. Phase II will involve the complete rehabilitation of the approach spans to provide a minimum 25 year additional service life for the structure. Port staff is working on acquiring the funding for Phase II.

Air

An Airport Master Plan for the North Bend Municipal Airport was completed in December, 2001, updating the previous Master Plan from 1997. The plan will serve as the development document for the airport during a 20-year planning period. The most significant improvements planned for the next 10 years are additional navigation system upgrades and the relocation and construction of a new passenger terminal. In 1999, management and operations of the North Bend Municipal Airport transferred from the City of North Bend to the Oregon International Port of Coos Bay under an intergovernmental agreement. In November, 2002, Coos County voters approved the formation of a new Coos County Airport District. The district is scheduled to take over operations at the North Bend airport on July 1, 2003.

The North Bend airport complex includes more than 100 acres of non-aviation related property designated as the North Bend Airport Business Park. The property is located south and west of the runways and primary aviation facilities, and is being developed for commercial and light industrial tenants and uses. Vehicle traffic accessing the business park uses Maple Street and Colorado Avenue as feeders to and from Virginia Avenue. A multi-year development plan for the park projects an additional access to Virginia Avenue being established near the southwest corner of the property as demand warrants in future years.

Water

The information reported here is based on the Bay Area Transportation Study (1995). The following challenges are key to increasing utilization and providing effective future development of the marine transportation system at the Port of Coos Bay:

- Dependable rail service and additional improvements to the highway system are key to capitalizing on opportunities in the changing worldwide maritime industry.
- There is limited availability of fully serviced commercial and industrial sites and developable industrial property.
- Some ships are limited in their hours of access to the port by the channel depth (35 feet) and by the orientation of the railroad bridge, which has a narrow opening and is oriented in a way that makes it very difficult to maneuver under the McCullough Bridge.
- Greater cooperation and coordination between business owners is necessary to achieve the long term development of the harbor. Short-term and competing interests prevent development of a long term vision, making the Port less likely to realize its full potential as a deep-draft west coast port.

Pipeline

The only major pipeline facility that would affect the location of future transportation corridors in Coos Bay is a planned high-pressure natural gas feeder line. The approximate proposed pipeline location is shown in Figure 3-13. At the time this document was published, it was reported that the mainline had been mostly completed (by October, 2003) and a number of diversions had been made from the plan, but that "as-builts" had not yet been completed[12]. Therefore, maps are provided in this document are based on the originally planned route.

The purpose of the proposed pipeline is to construct a 12 inch natural gas transmission pipeline from near Roseburg to Coos County. Natural gas transported by the pipeline would provide an alternative source of energy for existing or potential residential, commercial or industrial customers within the Coos County service area. The total length of the pipeline is about 60 miles. Approximately 28 miles of smaller pipeline laterals would eventually be constructed to serve the Coos County cities of Coquille, Myrtle Point and possibly Bandon. Gas distribution systems would be built in each city, most likely by Northwest Natural Gas (hereafter referred to as NW Natural). The laterals and distribution lines would be located entirely on private properties. Coos County has never had direct

[12] Per telephone conversation with Paul Rodriquez, Bureau of Land Management, October 14, 2003.

access to natural gas as an energy source, but has relied on petroleum products and propane, electricity, or wood for energy sources. A ballot measure authorizing additional taxpayer funds for construction of a natural gas pipeline, was passed by Coos County voters in November 1999.

Coos County is the owner of the pipeline main and, except in one location to the south near Coquille where the pipeline passes about 20 feet underneath US 101, the main is mostly isolated from transportation facilities in Coos Bay. Northwest Natural is in the process of developing a distribution system within Coos Bay that is typically put in with about 3 feet of cover. Northwest Natural will need to coordinate with the City of Coos Bay and Coos County when locating their distribution pipes to minimize the need for any pipeline changes in the future.

DKS Associates

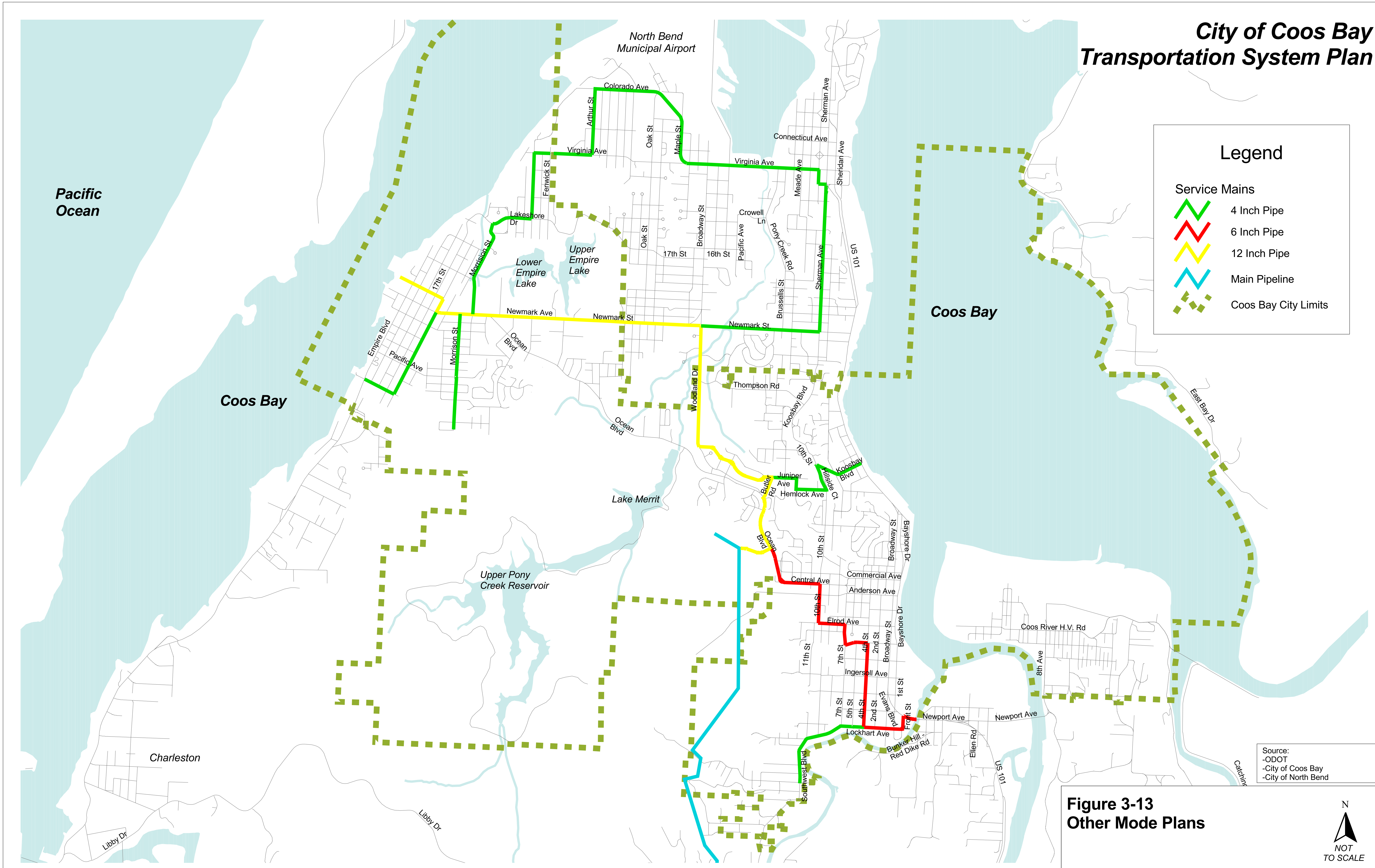


Figure 3-13
Other Mode Plans

4. FINANCING AND IMPLEMENTATION

This chapter presents the estimated costs for the projects and programs identified in the Coos Bay Transportation System Plan, and describes existing and potential new funding mechanisms that will be required to implement the TSP over the next 20 years. The recommended changes to the land development codes and ordinances that are required to implement the various policies and standards are identified in the final section of this chapter.

Overview

Table 4-1 shows that existing city revenues for transportation projects and programs in Coos Bay are about $800,000. This amounts to $16 million over 20 years for capital projects and roadway maintenance.

Table 4-1: Existing Transportation Funding Sources (2003 Dollars)

Source	Annual Revenue ($1,000)
State Motor Vehicle Fees to City	$0
State Gas Tax to City (1)	$600
Miscellaneous	$200
Annual TOTAL	$800
20 YEARS OF CURRENT FUNDING ($1,000's)	**$16,000**

Notes: (1) The City collects $600,000 in state gas taxes annually, but this amount is allocated to maintenance expenses, and none is available for capital project funding.

Table 4-2 summarizes the costs outlined in the TSP to implement the Action Plans for Streets, Bicycles, Pedestrians, and several other recommended transportation programs (see Table 4-3 for details). The 20-year cost is estimated at $56.7 million, which is $40.7 million higher than current revenues provide. The great majority of new costs are associated with retrofitting roadways to bikeway projects (nearly $40 million). The following sections outline several methods for increasing transportation funding or seeking alternative solutions to better balance transportation costs and revenue.

Table 4-2: Coos Bay Transportation Action Plans Costs over 20 years (2003 Dollars,)

Transportation Element		Approximate Cost ($1,000)
Street Improvement Projects:	Funded (1)	$1,900
	Unfunded Action Plan	$2,005
Road Maintenance ($270,000/yr)		$5,400
Bicycle Action Plan		$13,700
Pedestrian Action Plan		$6,600
Pedestrian/School Safety Program ($10,000/yr)		$200
Sidewalk Grant Program ($50,000/yr)		$1,000
Neighborhood Traffic Management ($75,000/yr)		$1,500
TSP Support Documents (i.e. Design standard update, TSP updates)		$500
20 YEAR TOTAL in 2003 Dollars (1)		**$32,805**
Initial Funding Shortfall for 20-year plan (minus $16 million available)		**$16,805**

Note: (1) Funded street project on Newmark Avenue not included in 20-year plan total since revenues were provided from ODOT as part of the transfer to city ownership and maintenance.

Recommended Projects and Programs

This section present the recommended projects and programs developed for the City of Coos Bay to serve local travel for the coming 20 years. The Pedestrian, Bicycle and Motor Vehicle projects were identified in the Action Plan for each mode, and represent those projects that have the highest short-term need for implementation to satisfy performance standards, or other policies established for the Coos Bay Transportation System Plan. The costs for the remaining motor vehicle projects noted in the Master Plan are identified, but these have not been included in the funding needs analysis for the city.

Project Cost Estimates

Cost estimates (general, order of magnitude) were developed for the projects identified in the motor vehicle, bicycle and pedestrian elements. Cost estimates from the existing CIP projects in Coos Bay were used in this study, if any. Other projects were estimated using general unit costs for transportation improvements, but do not reflect the unique project elements that can significantly add to project costs[13]. Development of more detailed project costs can be prepared in the future with more refined financial analysis. Since many of the projects overlap elements of various modes, the costs were developed at a project level incorporating all modes, as appropriate. It may be desirable to break project mode elements out separately, however, in most cases, there are greater cost efficiencies of undertaking a combined, overall project. Each of these project costs will need further refinement to detail right-of-way requirements and costs associated with special design details as projects are pursued.

[13] General plan level cost estimates do not reflect specific project construction costs, but represent an average estimate. Further preliminary engineering evaluation is required to determine impacts to right-of-way, environmental mitigation and/or utilities. Experience has shown that individual projects costs can increase by 25 to 75 percent as a result of the above factors.

All cost estimates are based on 2003 dollars. Historical construction costs price index has risen by 2.5 to 2.75 percent per year according to Engineering News Record research[14] on historical construction costs. Since 1979, construction costs have increased 100 percent over 20 years.

Transportation Programs

Table 4-3 summarizes the elements of the plan that were not specifically defined in the recommended project lists, and explains how costs will be addressed for these elements.

Table 4-3: Non-Auto, Pedestrian and Bicycle Costs Issues

Travel Mode	Issues
Parking	The TSP does not define specific projects. Off-street parking will be provided by private property owners as land develops
Neighborhood Traffic Management (NTM)	Specific NTM projects are not defined. These projects will be subject to neighborhood consensus based upon City placement and design criteria. A city NTM program, if desired, should be developed with criteria and policy adopted by the City Council. Traffic humps can costs $2,000 to $4,000 each and traffic circles can cost $3,000 to $8,000 each. A speed trailer can cost about $10,000 (the City already has one). It is important, where appropriate, that any new development incorporate elements of NTM as part of its on-site design. The City currently has no allocation for NTM in the current budget.
Public Transportation	CCAT will continue to develop costs for implementing transit related improvements. The Cities can supplement this by incorporating transit features through development exactions and roadway project design. Developing new transit services in Coos Bay will require CCAT to reallocate funding or seek additional sources of operating funds.
Trucks/Freight	Roadway funding will address these needs.
Rail	Costs to be addressed and funded by private railroad companies and the state.
Air, Water, Pipeline	Not required by the City
Transportation Demand Management	Not required by the City

Transportation Projects

Tables 4-4 and 4-5 summarize the key projects in the TSP by Bicycle and Pedestrian (detailed information about specific projects was listed in Chapter 3) and Motor Vehicle improvements. These tables also indicate the cost responsibility for each project between the city, state and private parties. In a few cases, it is assumed that project costs would be shared between city and state agencies. It was assumed that this cost sharing would be 50/50 between the agencies, but the specific cost allocations may be subject to further negotiations. An additional cost item is listed in Table 4-5 for right-of-way acquisition reserve funds. This was assumed equivalent to 50% of the estimated construction cost.

Table 4-4: Bicycle and Pedestrian Modes Cost Summary

Project	Cost Estimate
Bicycle Action Plan	$13.7 million
Pedestrian Action Plan	$6.6 million

[14] Engineering News Record Construction Cost Index as reported for the past ten years for 20 cities around the United States. Reference: http://www.enr.com/features/conEco/costIndexes/constIndexHist.asp

Table 4-5: Motor Vehicle Project List (Action Plan)

ID	Location	Description	Funding Status/ Responsibility	Cost (1,000's)
3	Newmark Avenue between Staples and Ocean Boulevard	Widen to provide two to four travel lanes with a center left turn lane/median. Consolidate driveways where possible to maintain facility capacity.	Current Project (City)	$1,900
6	Woodland Drive/Thompson Road	Install traffic signal and modify Thompson Road approach to improve sight distance.	Not Funded (City)	$500
7	7th Street/Anderson Avenue	Construct median/barrier precluding access from Central/Anderson to 7th Street south of Anderson or to Anderson Street west of 7th Street	Not Funded (City)	$60
8 & 13	Central/Anderson between 10th Street and Broadway	Restrict parking near intersections (paint curbs), install curb extensions on corners with major pedestrian crossings, re-stripe to include bike lane on south side, remove in-road traffic diverters at 4th St. and 2nd St.	Not Funded (City)	$400
14	US 101/Central Avenue	Modify traffic signal to be pedestrian-actuated	Not Funded (State)	$125
15	US 101 Southbound from Central Avenue to Elrod Avenue	Upgrade outdated traffic signal heads and controllers. Install interconnect and detection to allow for real-time coordination signals between Commercial Avenue and Elrod Avenue	Not Funded (State)	$750
17	Ocean Boulevard	Re-stripe to 3 lanes (two travel lanes plus continuous center left turn lane) plus bike lanes	Not Funded (City)	$210
18	Lakeshore Drive between Seagate Avenue and Crocker Street	Evaluate and install traffic calming measures to slow traffic	Not Funded (City)	$100
20	Prefontaine/K-Mart Connection	Conduct feasibility study to determine ability to construct local street connection given topography and right-of-way requirements	Not Funded (City)	$50
21	Michigan Avenue Extension to Ocean Boulevard	Conduct feasibility study to determine ability to construct local street connection given existing land development and right-of-way considerations	Not Funded (City)	$50
		Subtotal Unfunded Coos Bay Projects	See Note 1	$1,470
		Right-of-Way Contingency (50% of construction cost)		$635
	Coos Bay Total			**$2,005**

ID	Location	Description	Funding Status/ Responsibility	Cost (1,000's)
	State Total		See Note 2	**$875**
	Total	**All Jurisdictions**		**$2,880**

Note: **(1)** Project #3 is funded by other monies transferred to the city from ODOT when Newmark Avenue became a city street. It is not included in the total for future funding needs.
(2) The projects noted for state funding have been assumed, and are not necessarily supported by the State until the Statewide Transportation Improvement Plan is updated to include these projects.

An additional $4.3 million in long-range capital projects for city facilities in noted in the Master Plan Motor Vehicle Project list in Table 4-6 below. Further studies will be required to better define the project scopes and cost estimates.

Table 4-6: Master Plan Motor Vehicle Project List

ID	Location	Description	Funding Status/ Responsibility	Cost (1,000's)
1	Newmark/Ocean Avenue	Realign Ocean Avenue to meet Newmark opposite Ackerman Street. Relocate traffic signal	Not Funded (City)	$900
2	Newmark between Ocean Boulevard and Cape Arago Highway	Extend local street connection via Michigan Avenue connecting to Ocean Avenue via one of two possible alignments.	Not Funded (City)	$1,300
4	Coos River Highway/Olive Barber	Install traffic signal with advance signal head and eliminate "Y" intersection for southbound to westbound turns. Coordinate with on-going ODOT studies for Isthmus Slough Bridge replacement design.	Not Funded (State)	$875
5	US 101 at Bunker Hill	Incorporate ODOT recommendations into TSP when available	Study in Process (State)	$15,000
10	Bayshore Drive/North Front Street Area	Create and implement access management plan	Not Funded (City)	$500
11	Bayshore/Johnson Avenue	Modify traffic signal to allow for protected-permissive phasing in the eastbound direction, including restriping one through lane to a left-only lane.	Not Funded (City/State)	$130
12	Isthmus Slough Bridge	Incorporate ODOT recommendations into TSP when available	Study in Process—Design and Construction Not Funded (State)	$10,000
16	2nd/Golden	Explore options to reduce high collision rate and implement solution	Not Funded (City)	$50

ID	Location	Description	Funding Status/ Responsibility	Cost (1,000's)
19	Central Avenue/Ocean Boulevard	Further examination of the location will be required. The stop sign on southbound Ocean Boulevard creates backups. Potential solutions should be explored and evaluated.	Not Funded (City)	$50
		Subtotal Coos Bay Projects		$2,865
		Right-of-Way Contingency (50% of construction cost)		$1,408
	Coos Bay Total			**$4,273**
	State Total			**$25,940**
	Grand Total	**All Jurisdictions**		**$30,213**

It is noted that inclusion of an improvement in the TSP does not represent a commitment by ODOT to fund, allow, or construct the project. Projects on the State Highway System that are contained in the TSP are not considered "planned" projects until they are programmed into the Statewide Transportation Improvement Program (STIP). As such, projects proposed in the TSP that are located on a state highway cannot be considered mitigated for future development or land use actions until they are programmed into the STIP. Highway projects that are programmed to be constructed may have to be altered or cancelled at a later time to meet changing budgets or unanticipated conditions such as environmental constraints.

Funding Alternatives

Due to the complexity of today's transportation projects, it is necessary to seek several avenues for funding projects. Unique or hybrid funding of projects generally will include many of the funding sources identified in this section. Table 4-7 summarizes several funding options available for transportation improvements. Examples of funding sources which generally do not provide funding for roadways include: Property Tax General Funds, Car Rental Tax, Transient Lodging Tax, Business Income Tax, Business License Tax and Communication Services Tax. Packaging of transportation funding to provide various improvements or service is summarized in Table 4-8.

Local funding for major transportation projects is typically brought to a vote of the public for approval. Specific projects are often outlined for use of public funds. Because of the need to gain public approval for transportation funding, it is important to develop a consensus in the community that supports needed transportation improvements. That is the value of the Transportation System Plan.

Table 4-7: Potential Transportation Revenue Sources

Type	Description

Type	Description
System Development Charges (SDC)	SDCs or Traffic Impact Fees have been used in Oregon and throughout the United States. The cornerstone to development of SDC's involves two principals: 1) there must be a reasonable connection between growth generated by development and the facilities constructed to serve that growth (generally determined by level of service or connectivity); and 2) there must be a general system-wide connection between the fees collected from the development and the benefits development receives. Charges are typically developed based on a measurement of the demand that new development places on the street system and the capital costs required to meet that demand. As an example, Washington County has a traffic impact fee (TIF) which was voter approved. SDCs do not require a vote of the public.
Gas Tax	The State, cities and counties provide their basic roadway funding through a tax placed on gasoline. State gas tax is approved legislatively while local gas taxes are approved by voters. State funds are dedicated to roadway construction and maintenance, with one percent allocated to pedestrian and bicycle needs. This tax does not fall under the Measure 5 limits, because it is a pay-as-you-go user tax.
Other Motor Vehicle Fees	The state collects truck weight mile taxes, vehicle registration fees, and license fees. These funds are pooled together with the gas tax in distributing state motor vehicle fees to local agencies.
Street Utility Fees	Certain cities have used street utility fees for maintenance. The fees are typically collected monthly with water or sewer bills. These funds are not for capacity improvements, but for supporting local roadway maintenance based upon land use type and trip generation. This frees other revenue sources for capacity needs. Utility fees can be vulnerable to Measure 5 limitations, unless they include provisions for property owners to reduce or eliminate charges based on actual use.
Exactions	Frontage improvements are common examples of exaction costs passed onto developers. These have been used to build much of Coos Bay's local street system. Developers of sites adjacent to unimproved roadway frontage are responsible to provide those roadway improvements. Developers of sites adjacent to improvements identified as SDC projects can be credited the value of their frontage work, which is included in the SDC project-list cost estimate.
Local Improvement Districts (LID)	LIDs provide a means for funding specific improvements that benefit a specific group of property owners. LIDs require owner/voter approval and a specific project definition. Assessments are placed against benefiting properties to pay for improvements. LIDs can be matched against other funds where a project has system wide benefit, beyond benefiting the adjacent properties. Fees are paid through property tax bills.
Special Assessments	Varieties of special assessments are available in Oregon to defray costs of sidewalks, curbs, gutters, street lighting, parking and CBD or commercial zone transportation improvements. These assessments would likely fall within the Measure 5 limitations. As an example, in Washington County, examples of transportation assessments include MSTIP (Major Streets Transportation Improvement Program) and the local maintenance property tax levy. Both of these are property tax assessments, which have been imposed through votes of the public. Another example would be the Westside LRT (Light Rail Transit) where the local share of funding was voter approved as an addition to property tax.
Driveway Fees	As an example, Gresham collects a Public Street Charge and a Driveway Approach Permit Fee. These fees are project specific and vary year to year based upon development permits. These funds are used for city maintenance and operation.
Employment Taxes	As an example, Tri-Met collects a tax for transit operations in the Portland region through payroll and self-employment taxes. Approximately $120 million are collected annually in the Portland region for transit using employment taxes.
Oregon Special Public Works Fund	The Special Public Works Fund (SPWF) Program was created by the legislature in 1985 as an economic development element of the Oregon Lottery. The program provides grants and loan assistance to eligible municipalities. There has been limited use of these

Type	Description
	funds on urban arterials. This is commonly used on state highways.

Table 4-8: Funding Source by Project Type

Source	Bicycle	Pedestrian	Streets	Mainte-nance	Transit
Traffic Impact Fee (TIF)	•	•	♦		
System Development Charges (SDC)	♦	♦	♦		
Gas Tax/Motor Vehicle Fees					
State	•	•	♦	♦	♦
Federal	♦	♦	♦	♦	
Street Utility Fees				♦	
Exactions	•	♦	♦		
Local Improvement Districts (LID)	•	•	♦		
Tax Increment Financing	♦	♦	♦		
Special Assessments		•	♦	♦	♦
Driveway Fees			♦	♦	
Payroll Employee Tax					♦
Oregon Special Public Works Fund	•	•	♦		♦

♦ = Primary

• = Secondary. Typically as part of roadway project where other modes are incorporated

Codes and Ordinances

This section identifies proposed changes to the City of Coos Bay's Comprehensive Plan and Land Development Ordinance to implement the Transportation System Plan and to comply with the Transportation Planning Rule (TPR) (OAR 660, Division 12). Further details and recommended language is provided in the separate Technical Appendix.

Comprehensive Plan

The transportation sections should be wholly replaced with new sections that are based on the findings of the Transportation System Plan and should include the following sections:

- Section 5.5 - Update system descriptions for each mode of travel (e.g. air, rail, ports, highway, freight, and transit).
- Section 7.8 - Update "Problem and Issues" discussion, including list of proposed improvement projects.
- Section 7.8 - Adopt new goals and policies (see attached).

Article 3 of the Land Development Ordinance

The City of Coos Bay's Land Development Ordinance (Ordinance No. 93) includes Article 3, which establishes development standards that apply to all lands, buildings, and development in the City. In keeping with this structure, changes to this article are proposed (see attached). These changes encompass the following topics:

- Transportation Impact Studies
- Functional Classifications and Street Standards
- Access Management
- Pedestrian Connectivity
- Improvements
- Bicycle Parking

Article 5 of the Land Development Ordinance

Article 5 of the Land Development Ordinance addresses the administrative procedures for reviewing different kinds of permits and land use decisions, which could be strengthened by including a more explicit connection to the Transportation System Plan.

Chapter 5.3 Public Hearings

The TPR requires local jurisdictions to have process for coordinated review of land use decisions affecting transportation facilities and to provide notice to other public agencies providing transportation facilities and services, which would include Coos County and ODOT. These types of land use decisions usually involve a public hearing before the Planning Commission or City Council. The notice requirements should be amended to include the following:

> *Written notice of a public hearing on a variance (5.12), conditional use (5.13), change in zone (5.14), land division – partition II, subdivision (5.16), and ordinance amendment (5.19) shall be sent to the Oregon Department of Transportation, the Port of Coos Bay, Coos County, and the City of North Bend.*

Chapter 5.14 Change In Zone Designation

The approval criteria should include provisions to ensure the proposed change is consistent with the surrounding transportation system. Recommended code provision:

5. *The change will be consistent with the functions, capacities and levels of service of facilities identified in the adopted Coos Bay Transportation System Plan.*

Chapter 5.18 Vacation

The approval criteria in Section 6 should be revised to include a specific reference to the Transportation System Plan. Recommended code provision:

> *The proposal does not conflict with the comprehensive plan, including the adopted Coos Bay Transportation System Plan, and other ordinances.*

Chapter 5.19 Amendments

The approval criteria should include provisions to ensure the proposed change is consistent with the Transportation System Plan. Recommended code provision:

3. *The change will be consistent with the functions, capacities and levels of service of facilities identified in the adopted Coos Bay Transportation System Plan.*

Comprehensive Plan Amendments

The City of Coos Bay's approval criteria for comprehensive plan amendments should fully account for potential impacts to the transportation system. The following language should be added to the list of approval criteria:

> *Amendments to the Comprehensive Plan shall assure that allowed land uses are consistent with the function, capacity, and performance standards of the Transportation System Plan. This assurance shall be accomplished by one of the following:*
>
> *1) Limiting allowed land uses to be consistent with the planned function of the affected transportation facility; or*
>
> *2) Amending the Transportation System Plan to ensure that existing, improved, or new transportation facilities are adequate to support the proposed land uses consistent with requirements of the Transportation Planning Rule (OAR 660, Division 12); or*
>
> *3) Altering land use designations, densities, or design standards to reduce demand for automobile travel and meet travel needs through other modes; or*
>
> 4) Amending the TSP to modify the planned function, capacity and performance standards, as needed, to accept greater vehicle congestion where multimodal travel choices are provided.

A. Existing Conditions

A 2002 conditions assessment was conducted for the City Coos Bay for use as a basis of comparison for future transportation system plan development. This chapter summarizes existing traffic and transportation operations for all the major transport modes including:

- Motor vehicle,
- Transit,
- Pedestrian,
- Bicycle,
- Truck,
- Air, rail and pipeline.

System Inventory and Operational Evaluation

A physical and operational inventory of transportation system facilities in Coos Bay was conducted to provide a benchmark for future assessment of transportation performance in Coos Bay relative to desired policies.

The study area for the Transportation System Plan includes Coos Bay and portions of unincorporated Coos County as shown in Figure A-1.

Traffic Observations

Traffic volume data (vehicle, trucks, pedestrians, and bicycles) was collected during August 2002 at seventy-three intersections during the evening peak period and sixteen during the morning peak period. Agency staff and the consultant identified these locations as significant for monitoring system performance. Supplemental traffic data from recent transportation studies and state historical data also was applied in the base line evaluation.

Operational Analysis

Traffic data was analyzed to evaluate area traffic conditions including volumes and levels of service. Roadway performance was evaluated based on methods defined in the *Highway Capacity Manual*, Transportation Research Board, 2000 and other standards of engineering practice. Other transport systems were evaluated based on factors such as system continuity and general effectiveness.

Field observations at major roadways and intersections were conducted to observe actual traffic conditions, and to confirm analytical evaluations. Observations included videotaping using a 'floating car' technique along major and minor arterials in the study area. Refer to Appendix A for traffic count data.

DKS Associates

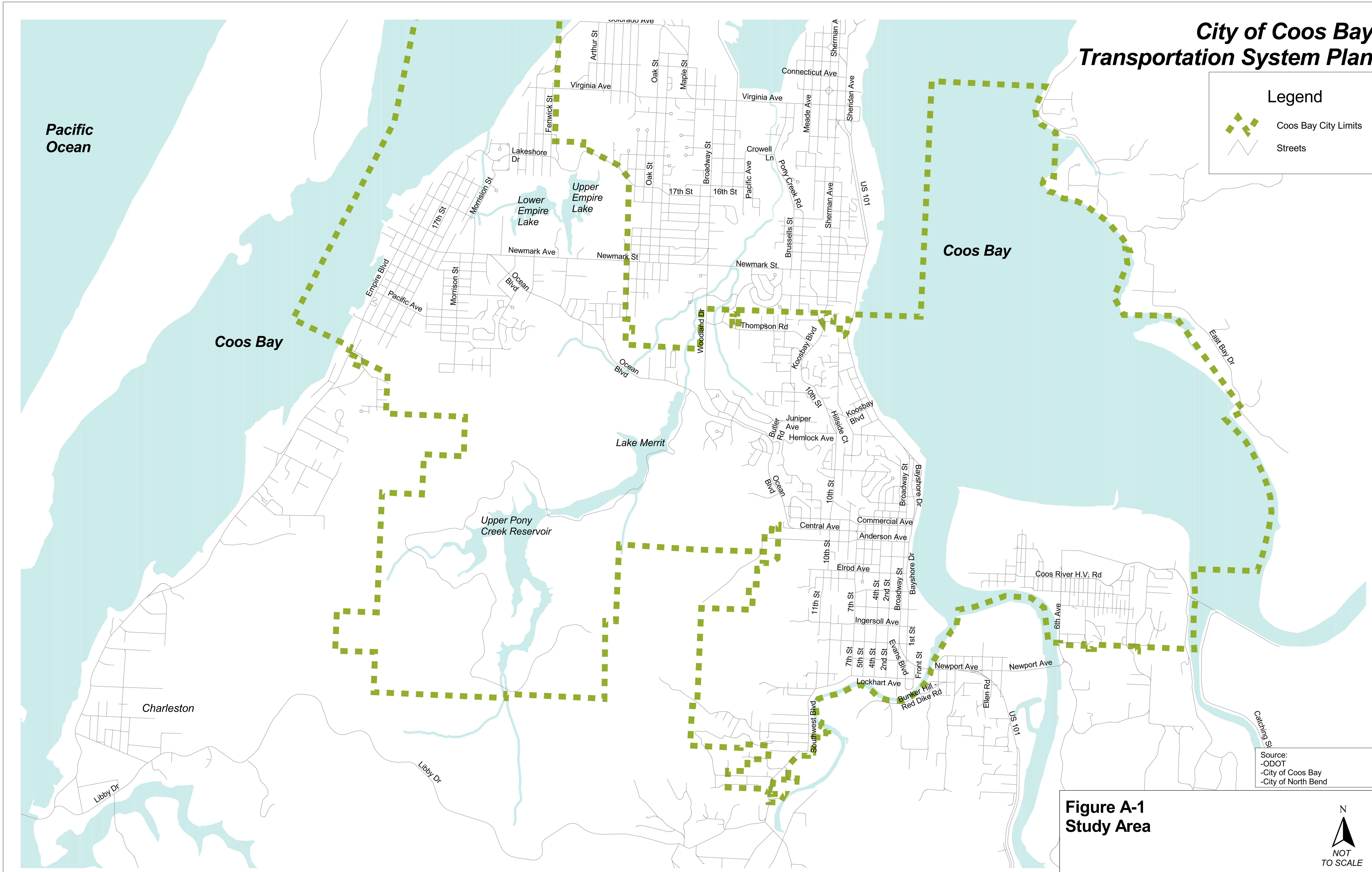


Figure A-1
Study Area

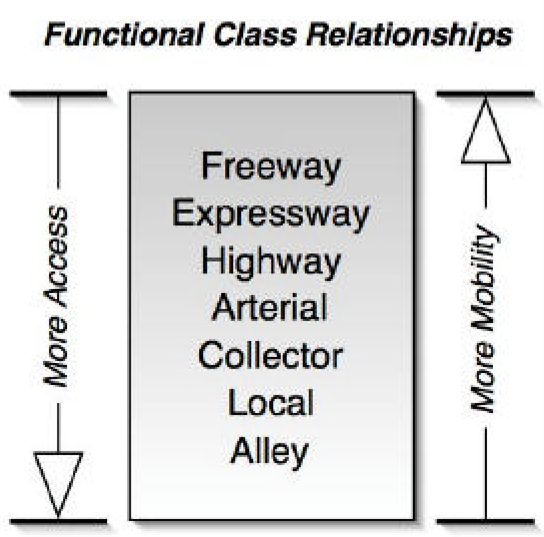
Motor Vehicle System

The motor vehicle system within the study area was reviewed as to their physical and operational characteristics. The following sections present:

- Definition of Functional Class
- A narrative description of key routes
- Street facility inventory
- Traffic Volumes
- Traffic Controls
- Level of Service Analysis
- Traffic Collision Analysis

Roadway Functional Classification

Roadways have two primary functions; to provide mobility and to provide access. From a design perspective, these functions can be polar opposites (see diagram below) since high or continuous speeds are desirable for mobility, while low speeds are more desirable for land access.



Arterials emphasize a high level of mobility for through movement; local facilities emphasize the land access function; and collectors offer a balance of both functions. Functional class also can be defined by connectivity. Without connectivity, neither mobility nor access can be served. Roadways that provide the greatest reach of connectivity are the highest-level facilities.

The Coos Bay functional classification system was assumed to be the same as the state designations since the City do not currently have their own adopted functional classification system. These function classes will be re-assessed through this study, and adjusted, as needed. Figure A-2 represents ODOT's functional classification of streets in Coos Bay. Any street not designated as either an arterial or collector is considered a local street.

Functional Class Definitions

Arterial streets interconnect and support the principal highway system. These streets link major commercial, residential, industrial and institutional areas. Arterial streets are typically spaced about one mile apart to assure accessibility and reduce the incidence of traffic using collectors or local streets in lieu of a well placed arterial street. Many of these routes connect to City surrounding Coos Bay. There are both major and minor arterial classifications in Coos Bay. Major arterial streets typically provide more connectivity and/or carry more traffic volume than minor arterial streets.

Collector streets provide both access and circulation within residential and commercial/industrial areas. Collectors differ from arterials in that they provide more of a citywide circulation function, do not require as extensive control of access and penetrate residential neighborhoods, distributing trips from the neighborhood and local street system.

Local Streets have the sole function of providing access to immediate adjacent land. Service to "through traffic movement" on local streets is deliberately discouraged by design.

Description of Arterial Routes

The following major routes in Coos Bay are described as to their functional classification, connectivity and roadway volumes. In all cases, the functional classifications noted are as designated by ODOT. These classes will be re-evaluated as a part of this study to determine appropriate classes for each of the City.

City of Coos Bay

US 101 (also called Newport Avenue, 1st Avenue, Bayshore Drive and Broadway Street) is classified as a Major Arterial. It is a regional route providing access to the rest of the coast, both north and south of Coos Bay. It provides access to arterial and collector streets within Coos Bay. At the south end of Coos Bay, US 101 (known in this area as Newport Avenue) is a two-way roadway with wide shoulders and intermittent sidewalks along its frontage. US 101 splits to a one-way couplet northbound at Front Street (changes names to Bayshore Drive) and southbound on Broadway Street. Highway US 101 carries about 24,000 ADT or about 12,000 ADT per direction in Coos Bay.

Coos River Highway (Newport Avenue) is classified as a Minor Arterial. It is a district level state highway. It is a two-lane, two-way roadway. It carries about 10,000 vehicles daily near the Isthmus Slough. Coos River Highway provides access to areas to the south and east of Coos Bay.

Commercial Avenue is a Major Arterial that runs east/west through Coos Bay, connecting US 101 with western parts of the City. It is a two-lane street with sidewalks along its frontage. It carries about 4,000 vehicles daily just west of US 101.

Anderson Avenue is a Major Arterial and was jurisdictionally transferred to the City. It runs east/west through Coos Bay, connecting US 101 with western parts of the City. It is two-lane, one-way street with sidewalks along its frontage. Commercial Avenue and Anderson Avenue form a one-way east-west couplet around Coos Bay's downtown core between U.S. 101 and 7th Street.

Central Avenue is a Major Arterial and was jurisdictionally transferred to the City. It runs east/west through Coos Bay, connecting downtown Coos Bay with western parts of the City. It is a two lane, two-way street with no on-street parking, occasional left turn lanes and sidewalks along its frontage. It has a posted speed of 25 miles per hour and carries about 13,000 vehicles daily just west of 10th Street.

Ocean Boulevard is a Major Arterial . It runs northwest to southeast through Coos Bay, connecting the downtown area with residential areas to the west. It is typically a four-lane, two-way street with occasional turn lanes at intersections. There are generally no bike lanes, but there are sidewalks along its frontage. Ocean Boulevard carries about 10,000 vehicles daily between LaClair Street and Woodland Drive.

Newmark Avenue is classified by ODOT as a Major Arterial west of Broadway Street. It has been jurisdictionally transferred to the City. It runs east and west through Coos Bay. Newmark is generally a four-lane, two-way roadway between Broadway and Ocean Boulevard with sidewalks in some locations. There are striped shoulders in some locations on the roadway, but there are no dedicated bike lanes. Newmark Avenue carries about 14,000 vehicles daily near LaClair Street.

Empire Boulevard is a Major Arterial and is a district level state highway (Cape Arago Highway), but has been jurisdictionally transferred to the City within City limits. It generally runs along the ocean on the west side of Coos Bay, connecting to Newmark Avenue. It is a two-lane, two-way facility with shoulders, but no bike lanes or sidewalks. The posted speed is 35 miles per hour and the roadway carries about 10,000 vehicles daily near Pacific Avenue.

Koosbay Boulevard is a Minor Arterial. It is a two-lane, two-way street that carries about 7,000 vehicles daily near Thompson Road.

10th Street is a Minor Arterial. It is a two-lane, two-way street with left turn lanes at some locations, such as Central Avenue. It carries about 4,000 vehicles daily near Central Avenue. There are generally sidewalks, but no bike lanes.

Street Facility Inventory Listing

The street facility inventory for Coos Bay is summarized in the appendix. This table lists the physical features of the roadway facilities including:

- Functional classification according to ODOT's designation
- Paved width (distance between curbs or shoulders, as appropriate)
- Estimated average daily traffic volumes
- Posted speed limit
- Provision of pedestrian and bicycle facilities

The estimated traffic volumes were calculated by multiplying the p.m. peak hour two-way volume for a given street segment by 10 to represent average daily travel. Where traffic volume data was not available an entry of "N/A" is indicated.

The street inventory data was further refined to highlight the portion that provide bicycle and pedestrian facilities according to functional class. Table A-1 on the next page summarizes the findings.

Several general observations were made:

- Bike facilities generally are not provided on arterials and collector streets. Overall, bike lanes are present on 3% of the major arterials, 10% of the minor arterials, and 0% of collector streets.
- Sidewalks generally are provided along arterial streets, and generally are not provided along most collector streets. Overall, sidewalks are present on 41% of the major arterials, 0% of the minor arterials, and 5% of the collector streets.
- Collector streets typically have 36 feet paved width.
- Collector streets generally carry 1,000 to 4,000 vehicles daily with a maximum listed of 7,000 (4th Street in Coos Bay).
- Minor arterials streets carry 4,000 to 12,000 vehicles daily.
- Major arterial streets carry 8,000 to 23,000 vehicles daily.

DKS *Associates*

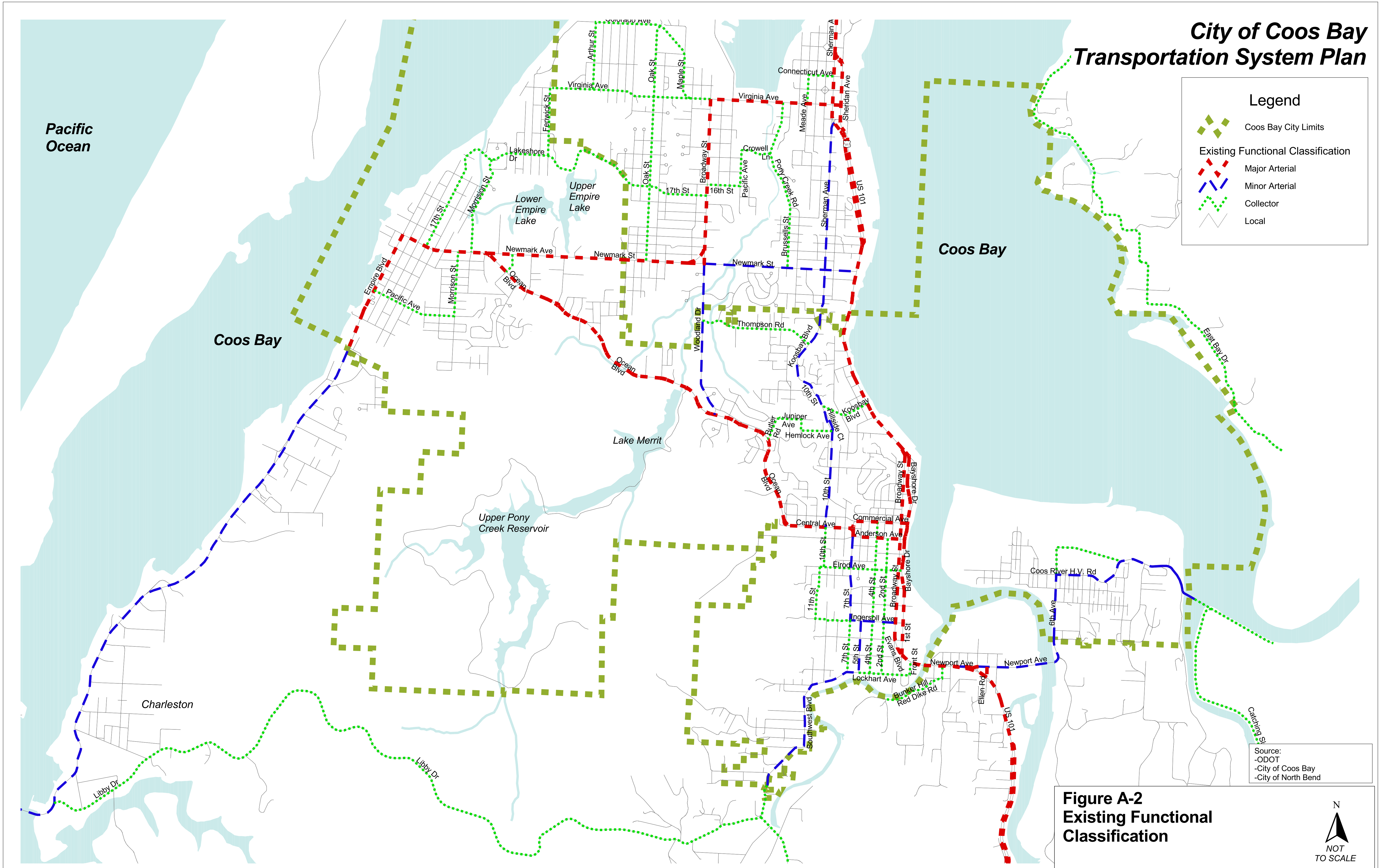


Figure A-2
Existing Functional Classification

Table A-1: Street Inventory Related to Bicycle and Pedestrian Facilities

Facility Description	*Miles of Roadway (Percent with Bike and Pedestrian Facilities on one or both sides)* Coos Bay
Major Arterial	10.35
With bike lanes/route	5%
With sidewalks	52%
Minor Arterial	12.53
With bike lanes/route	11%
With sidewalks	0%
Collector	17.47
With bike lanes/route	0%
With sidewalks	3%

Traffic Volume

A complete inventory of peak hour traffic conditions was performed in the summer of 2002. The traffic turn movement counts conducted as part of this inventory provide the basis for analyzing existing problem areas as well as establishing a base condition for future monitoring. Turn movement counts were conducted at 75 intersections during the evening (4-6 PM) peak period and at 16 intersections during the morning (7-9 AM) peak period to determine existing operating conditions. These intersections were chosen in coordination with the City of Coos Bay staff to evaluate the existing conditions.

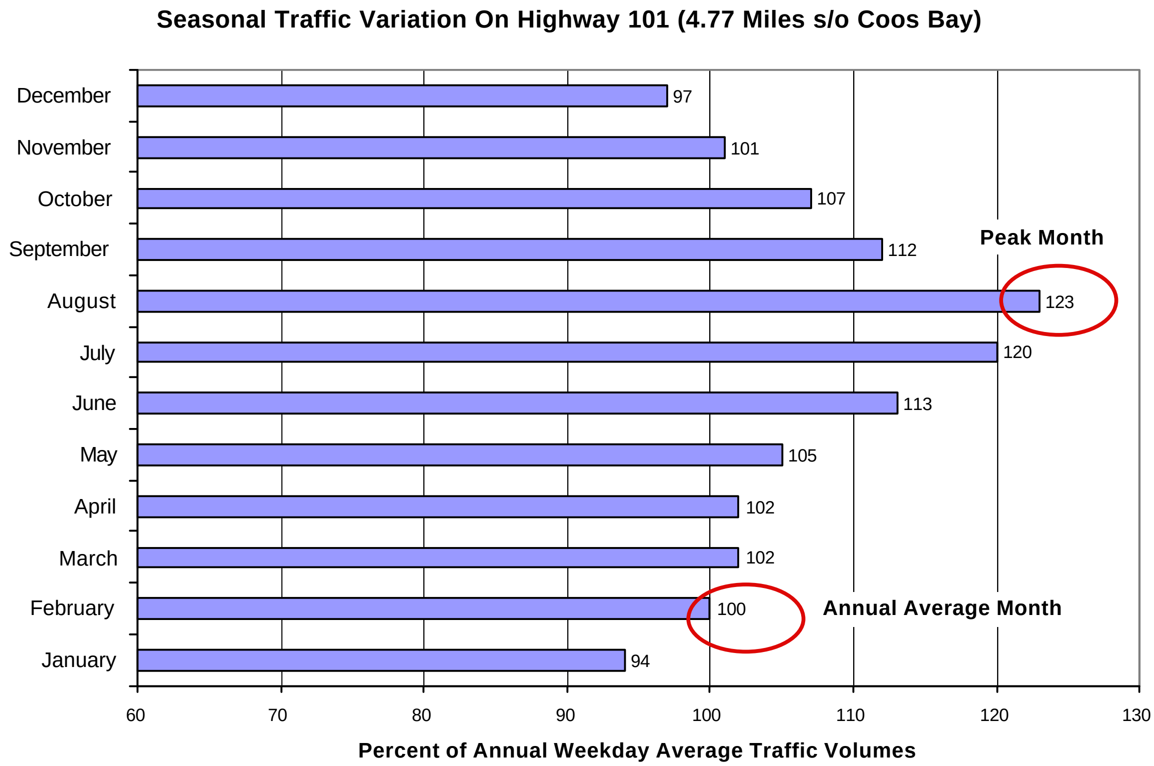


Figure A-3 shows two-way existing traffic volumes in the Coos Bay area based on August 2002 traffic counts. Figure A-4 shows hourly volume summaries, by direction, for three locations in the study area. The three selected locations each represent gateways into the communities. The hourly profiles vary over the day with the heaviest uses generally between noon and 6:00 PM. Also, the peak two-way volumes on Virginia Avenue near Harrison at over 1800 vehicles per hour are roughly two times the level observed on Empire Boulevard south of Newmark Avenue (Cape Arago Hwy.), which carried a peak hour volume of 1000 vehicles per hour.

Seasonal Traffic Variation – Traffic counts were conducted during August, which typically has about 120 percent of the annual average weekday volume on Highway 101 (see chart below from ODOT permanent count station recorder). This time frame was selected to be consistent with 30th highest annual hour standards for regional facility design.

Traffic Control

There are 27 existing traffic signals in the Coos Bay area. About half of these traffic signals, 14, are installed on Highway 101. The traffic signal locations and posted speed zones on select arterials and collectors, are shown in Figure A-5.

DKS *Associates*

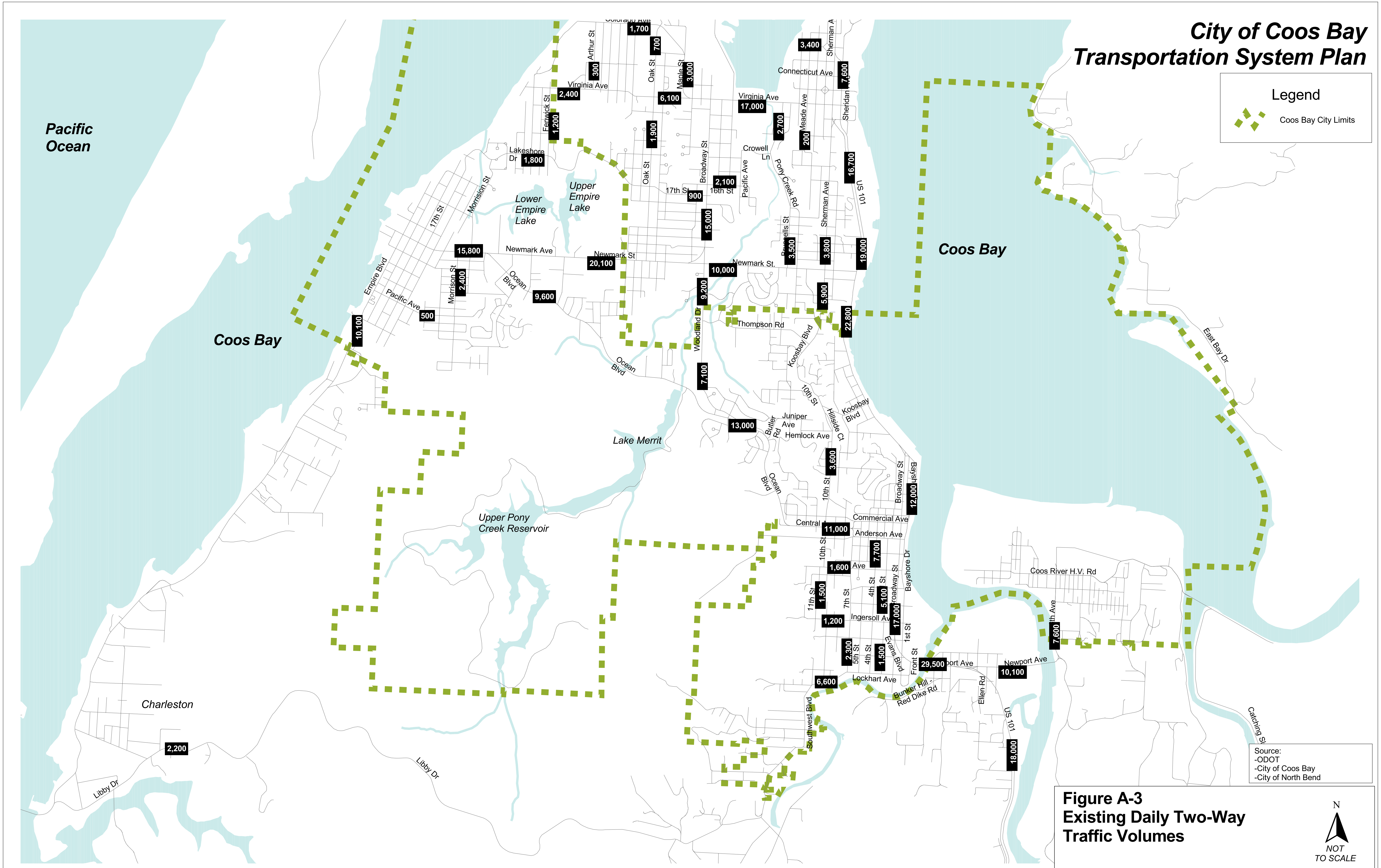
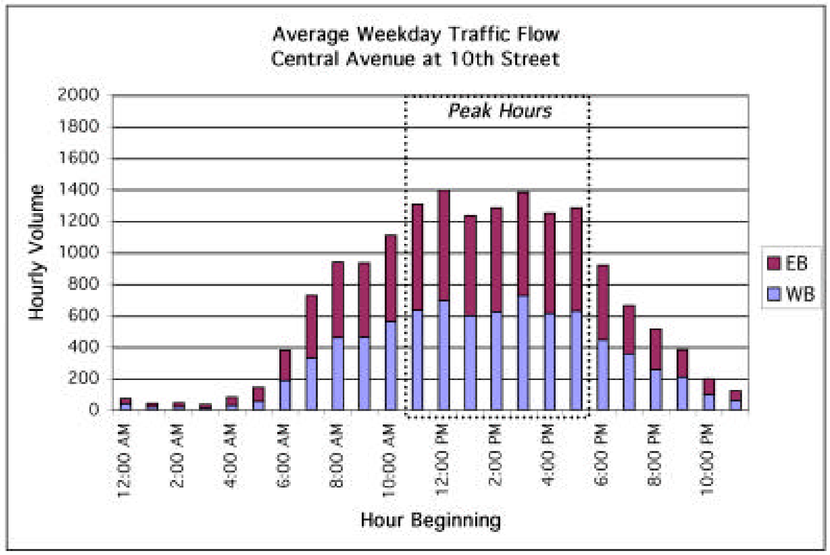
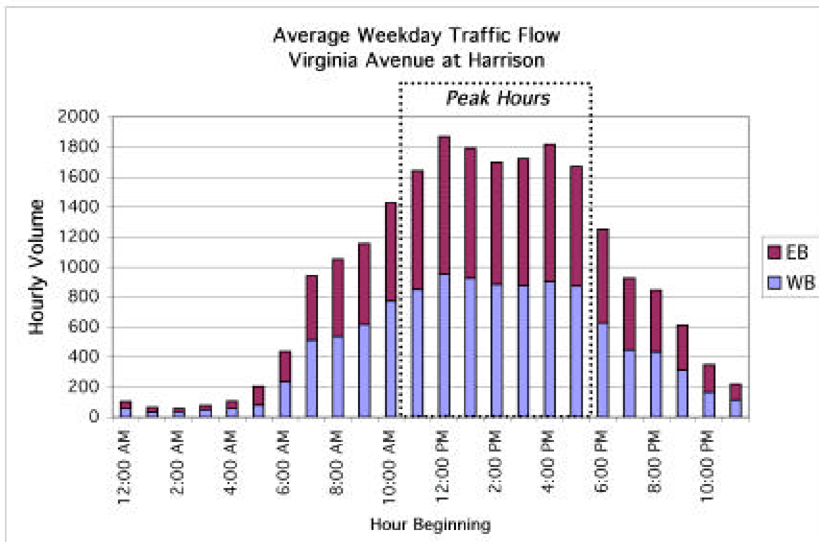
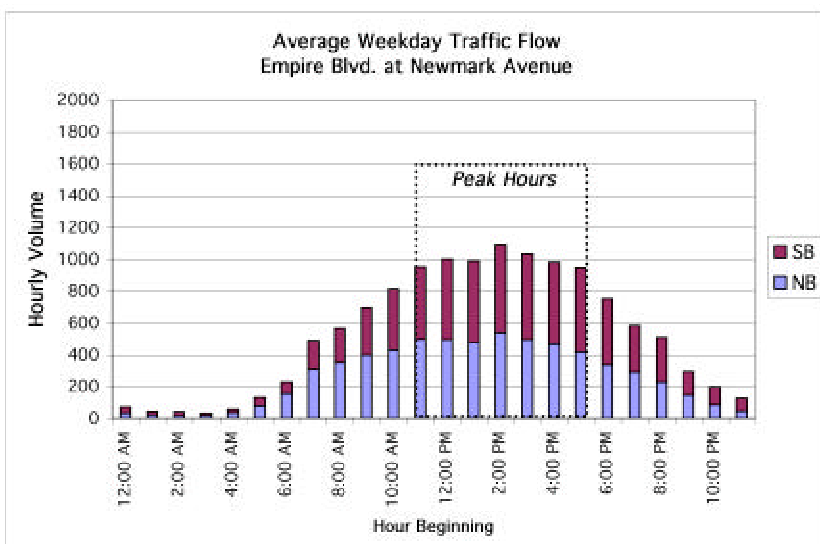


Figure A-3
Existing Daily Two-Way Traffic Volumes

Figure A-4: Average Weekday Hourly Volumes at Selected Locations







Traffic Levels of Service

Level of Service (LOS) is used as a measure of effectiveness for intersection operation. It is similar to a "report card" rating based upon average vehicle delay. Level of Service A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. Level of Service D and E are progressively worse peak hour operating conditions. Level of Service F represents conditions where average vehicle delay exceeds 80 seconds per vehicle entering a signalized intersection and demand has exceeded capacity. This condition is typically evident in long queues and delays. Level of service calculations were based on peak 15-minute volumes[1].

Level of service D or better is generally the accepted standard for signalized intersections in urban conditions. Coos Bay has not adopted a LOS standard. The appropriate standard will be selected as a part of this study process.

In addition, the Oregon Highway Plan sets maximum volume-to-capacity ratios (v/c) for peak hour operating conditions, based on ODOT's highway classification and other criteria. For statewide freight routes (i.e. US 101 through Coos Bay), intersections are required to operate at a v/c of 0.75 or better (for speeds <45 mph). All other state facilities in the study area are district level highways, which are required to operate at a v/c of 0.85 or better (for speeds < 45 mph). Under existing conditions, these criteria are met for all state facilities in the study area.

Intersections Without Traffic Signals – The level of service assessment for intersections without traffic signals is significantly different. The reported LOS applies only to the major and minor street turning movements, and are not representative of major street through movements. For this reason, LOS E and even LOS F can occur for a specific turning movement; however, the majority of traffic may not be delayed (in cases where major street traffic is not required to stop). LOS E or F conditions at unsignalized intersections generally provide a basis to study intersections further in order to determine availability of acceptable gaps, safety and traffic signal warrants.

A summary of the descriptions for level of service for signalized and unsignalized intersections is provided in the Level of Service Descriptions in the Coos Bay Transportation System Plan technical appendix.

Intersection turn movement counts were conducted during the evening peak periods to determine the existing 2002 LOS based on the *2000 Highway Capacity Manual* methodology for signalized and unsignalized intersections[2] (see Appendix for descriptions). Traffic counts and level of service calculation sheets can be found in the appendix.

The following sections describe existing conditions along several key corridors in Coos Bay. Tables A-3 and A-4 provide a summary of the PM peak hour levels of service for the study intersections in Coos Bay. Most intersections operate at LOS D or better, with some exceptions.

Coos Bay

A total of 13 signalized intersections and 23 unsignalized intersections were analyzed within Coos Bay.

All of the signalized intersections operate at LOS C or better. All but five of the unsignalized intersections operate at a LOS of C or better for the minor street left turns. Table A-4 shows the existing intersection levels of service within Coos Bay. Additionally, all intersections on state highways operate at acceptable levels according to the OHP v/c standards in Coos Bay.

---

[1] Peak 15-minute volumes were multiplied by four, as discussed in the *2000 Highway Capacity Manual*, in lieu of using a peak hour factor, to arrive at hourly volumes required for Highway Capacity Manual intersection analysis.

[2] *2000 Highway Capacity Manual*, Transportation Research Board, 2000.

Table A-2: Intersection Level of Service

Intersection	*Level of Service*	*Average Delay*	*Volume / Capacity*
Signalized Intersections			
10th Street/Central Avenue	C	21.9	0.60
1st Sreet/Hall Avenue	A	3.7	0.36
Broadway/Hall Avenue	A	6.7	0.48
Broadway/Johnson Avenue	B	17.3	0.57
Broadway/Market Avenue	B	10.3	0.51
Central Avenue/7th Street	B	7.3	0.60
Commercial Avenue/Broadway	B	11.7	0.53
Johnson Avenue/Bayshore Drive	B	19.3	0.64
Newmark Avenue/Ocean Boulevard	B	14.3	0.52
Ocean Boulevard/Butler Road	A	3.7	0.31
Ocean Boulevard/Woodland Drive	B	19.8	0.47
US 101/Koosbay Boulevard	B	12.5	0.56
Unsignalized Intersections			
11th Street/Elrod Avenue	A/A		
2nd Street/Ingersoll Avenue	A/B		
6th Street/D Street	A/B		
Bayshore Drive/Alder Avenue	A/C		0.18*
Bayshore Drive/Birch	A/B		0.10*
Bayshore Drive/Cedar Avenue	A/B		0.02*
Bayshore Drive/Commercial Avenue	A		—
Bayshore Drive/Fir Street	A/B		0.01*
Bayshore Drive/Market Avenue	A/D		0.09*
Broadway/Alder Avenue	A/C		0.29*
Broadway/Fir Street	A/C		0.12*
Empire Boulevard/Pacific Avenue	A/C		0.10*
Lockhart Avenue/2nd Street	A/B		
Lockhart Avenue/7th Street	A/B		
Newmark Avenue/LaClair Street	A/C		0.29*
Newmark Avenue/Morrison Street	B/C		0.32*
Ocean Avenue/LaClair Street	A/B		
Ocean Boulevard/Radar	A/B		
Thompson Road/Koosbay Boulevard	A/C		
US 101/1st Street	C/D		0.44*
US 101/S. Front Street	C/F		0.31*
Woodland Drive/Thompson Road	A/B		
All-Way Stop Controlled Intersections			
4th Street/Elrod Avenue	B	11.3	0.41
7th Street/Ingersoll Avenue	A	8.7	0.33
Broadway/Lockhart Avenue	A		

*Controlling movement v/c. Used for determining compliance with ODOT's OHP v/c ratio thresholds.

Coos County

Two signalized and seven unsignalized intersections were analyzed in the County outside of Coos Bay. Two intersections currently operate at LOS E. The other intersections operated at a LOS of D or better. All of the study intersections in Coos County meet ODOT's v/c standards. Table A-6 shows the existing conditions at the study intersections in the County.

Table A-3: Intersection Level of Service in Coos County (PM Peak Hour)

Intersection	*Level of Service*	*Average Delay*	*Volume / Capacity*
Signalized Intersection			
US 101/Flanagan	B	10.4	0.64
Unsignalized Intersection			
Coos River Highway/Edwards	A/B	—	0.01*
Coos River Highway/Mullen	A/D	—	0.07*
Coos River Highway/Olive Barber	A/C	—	0.33*
Libby/Wilshire	A/A	—	—
US 101/Edwards	A/E	—	0.21*

*Controlling movement v/c. Used for determining compliance with ODOT's OHP v/c ratio thresholds.

Figure A-6 provides a summary of intersections operating at or near capacity based on level of service calculations. The majority of the study intersections are currently operating at capacity levels of LOS D or better.

Morning Peak Hour Levels of Service

Level of service calculations were made for the several selected intersections where morning volumes were to be monitored. Table A-7 summarizes the results of this analysis.

Table A-4: Intersection Level of Service (AM Peak Hour)

Intersection	*Level of Service*	*Average Delay*	*Volume / Capacity*
Coos Bay			
Signalized Intersections			
10th Street/Central Avenue	C	21.4	0.46
Commercial/Broadway	B	14.4	0.34
Newmark Avenue/Ocean Boulevard	B	13.1	0.22
Ocean Boulevard/Woodland Avenue	B	18.3	0.38
Unsignalized Intersections			
6th Street/D Street	A/F	—	—
US 101/1st Street	B/B	—	0.12*
Bayshore/Commercial	A/A	—	—
Bayshore/Fir Street	A/A	—	—
Broadway/Fir Street	A/B	—	0.02*

*Controlling movement v/c. Used for determining compliance with ODOT's OHP v/c ratio thresholds.

Typically peak traffic volumes occur in the evening peak period (4-6 PM). However, on occasion, there are instances where some intersections operate at a poorer level of service in the morning than the evening due to commuting patterns. The primary purpose in calculating morning level of service is to make sure that any of these problems are identified and analyzed.

All of the study intersections selected for morning analysis operate at level of service C or better, with the exception of 6th Street/D Street in Coos Bay. All study intersections meet ODOT's v/c criteria during the morning peak hour. Peak hour signal warrants were calculated for this intersection using AM volumes and were not met.

Traffic Signal Warrants

Peak hour signal warrants (MUTCD Warrant 3—Peak Hour Volume Warrant) were checked for all study area unsignalized intersections to determine whether traffic signals were warranted at any of the study intersections under existing traffic volume conditions. The results of this warrant analysis is shown in Table A-8.

Table A-5: Peak Hour Signal Warrant Analysis

Intersection	*Peak Hour Warrant Met?*
Lakeshore Drive/Crocker Street	N
Libby/Wilshire	N
Coos River Highway/Olive Barber	N
Coos River Highway/Edwards	N
Coos River Highway/Mullen	N
US 101/Edwards	N

Two intersections meet peak hour signal warrants under existing traffic volume conditions. They are the two driveways for the Pony Village shopping center onto Virginia Avenue. Further analysis should be conducted (examination of further traffic signal warrants) to determine whether or not a traffic signal is currently warranted at one or both of the driveways. None of the other surveyed intersections without traffic signals met this first tier warrant. ODOT only recognizes Warrant 1 for preliminary signal warrant purposes. This warrant is evaluated in the Future Needs section of this TSP.

Other Traffic Operational Issues

Several notes were made during field observations that add to the technical analysis based above. These issues include:

- Absence of separate left-turn lanes on arterial facilities reduces facility capacity (vehicles per hour) and inhibits traffic safety. A prime example is Highway 101 at East Bay Drive immediately north of the McCullough Bridge. Other examples are on Ocean Boulevard and Virginia Avenue.
- Traffic signal coordination in downtown Coos Bay on Highway 101 should be reviewed. Rolling vehicle queues in the southbound direction were observed extending several blocks north of Commercial Avenue.
- High frequency of driveway cuts along arterials increases vehicle conflict potential. Prime examples along Newmark Street near the Bi-Mart Shopping Center.

DKS Associates

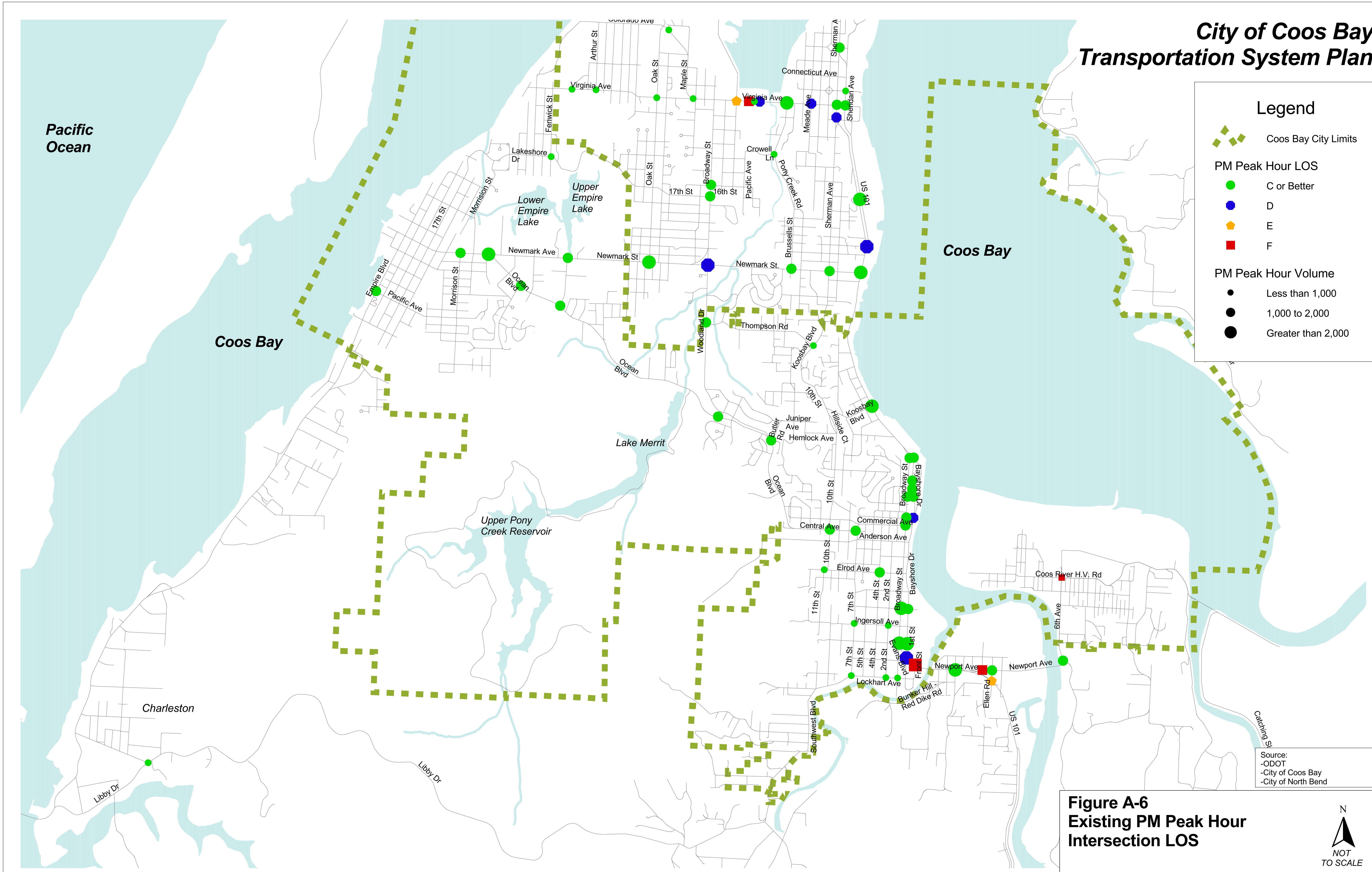


Figure A-6
Existing PM Peak Hour Intersection LOS

Collisions

Vehicle, pedestrian, and bicycle collision data was obtained from ODOT and used to develop the high collision intersection and segment lists for the Coos Bay Transportation System Plan. Table A-9 shows crash locations within Coos Bay at intersections where traffic count data was available and where at least one accident per year was reported. The number of collisions within 200 feet of an intersection were included in the total. Locations approaching or above a crash rate of 1.00 per MEV are considered significant and should be investigated. The highest rate location in Coos Bay is 2nd Street at Ingersoll Avenue is a relatively low volume intersection. The next three locations, 10th/Central, Thompson/Woodland, and Woodland/Ocean each are arterial intersections with much higher volumes and crash frequencies. The highest number of crashes and the highest crash rate intersection in North Bend is Newmark Avenue at Broadway.

There are some locations that had more than three crashes over the three-year period, but traffic volume data was not available to calculate a crash rate. For those locations, traffic volumes were estimated based on similar intersections and an estimated crash rate was calculated. These estimated crash rates are shown in Table A-10 on the next page.

Table A-6: Coos Bay High Collision Locations (1999-2001)

Street	*Cross Street*	*Number of Collisions (1999-2001)*	*Collision Rate (Collisions per MEV*)*
Coos Bay			
2nd Street	Ingersoll Avenue	4	1.57/MEV
10th Street	Central Avenue	19	0.98/MEV
Thompson Road	Woodland Drive	10	0.90/MEV
Woodland Boulevard	Ocean Boulevard	15	0.86/MEV
Ocean Boulevard	Butler Avenue	9	0.59/MEV
4th Street	Elrod Avenue	4	0.39/MEV
US 101	Koosbay Boulevard	9	0.36/MEV
Ocean Boulevard	Cape Arago Highway	8	0.36/MEV
LaClair Street	Ocean Boulevard	4	0.34/MEV

* MEV=million entering vehicles

Table A-7: Coos Bay Estimated High Accident Locations (1999-2001) -- Estimated Volumes

Street	*Cross Street*	*Number of Collisions (1999-2001)*	*Est. Accident Rate (Collisions per MEV*)*
Coos Bay			
Golden	2nd Street	8	3.14/MEV
Kruse Avenue	4th Street	5	1.05/MEV
Woodland	Inland	8	0.87/MEV
Hall Avenue	4th Street	4	0.84/MEV
Koosbay Boulevard	10th Street	5	0.51/MEV
Elrod Avenue	2nd Street	5	0.49/MEV
10th Street	Anderson Avenue	6	0.46/MEV

* MEV=million entering vehicles

Crash rates for segments on the state highway system in the study area (SPIS[3] data) were also obtained from ODOT for the years 1999-2001. Those segments with accident rates in the top 15 percent of all state highways are listed in Table A-11. SPIS values above 45.47 are in the top 10 percent for Oregon. Figure A-7 shows the location of the high accident intersections and segments on the study area map. The safety at these intersections and segments should be addressed in this TSP. The potential safety elements to be considered for the locations listed below are: absence of separate left-turn lanes, provision of on-street parking, and high frequency of driveway access from adjoining properties.

Table A-8: State Highway Segments with Crash Rates Above Statewide Facility Average

Street	*From*	*To*	*Average SPIS Score*
Coos Bay			
US 101	Koosbay Boulevard	Just south of Koosbay Boulevard	46.32
US 101	Market Avenue	South of Anderson Avenue	43.23
US 101	Curtis Avenue	Elrod Avenue	46.95
US 101	Golden Avenue	Hall Avenue	48.07
US 101	Ingersoll Avenue	Johnson Avenue	42.03
US 101	Harriet Street	Flanagen Avenue	50.17

* MEV=million entering vehicles

Existing collision data was plotted on an intersection by intersection basis to determine where potential safety issues may exist. While no conclusions can be drawn at many of the intersections, there are some issues that should be noted at the following locations:

- **Newmark between Oak and Broadway Streets**: Multiple crashes are reported in the areas near Cedar and Ash Streets. In particular, many of the crashes involve vehicles either crossing Newmark Street or making left or right turns onto Newmark Street
- **Broadway Street at Newmark Street**: Multiple rear-end type crashes for vehicles traveling southbound and northbound on Broadway/Woodland.
- **Sherman Avenue at Virginia Avenue**: A number of crossing collisions for vehicles traveling eastbound on Virginia and southbound on Sherman. This is likely due to vehicles running red lights.
- **10th Street/Central Avenue**: A few crossing collisions, similar to Sherman/Virginia, likely due to red light running.
- **2nd Street/Golden Avenue**: A large number of crossing collisions, indicating that drivers are ignoring stop signs in one or both directions. This is not a study intersection, so intersection geometry and traffic count data were not available, but it is a very low volume intersection for such a high number of collisions.

[3] Safety Priority Indexing System.

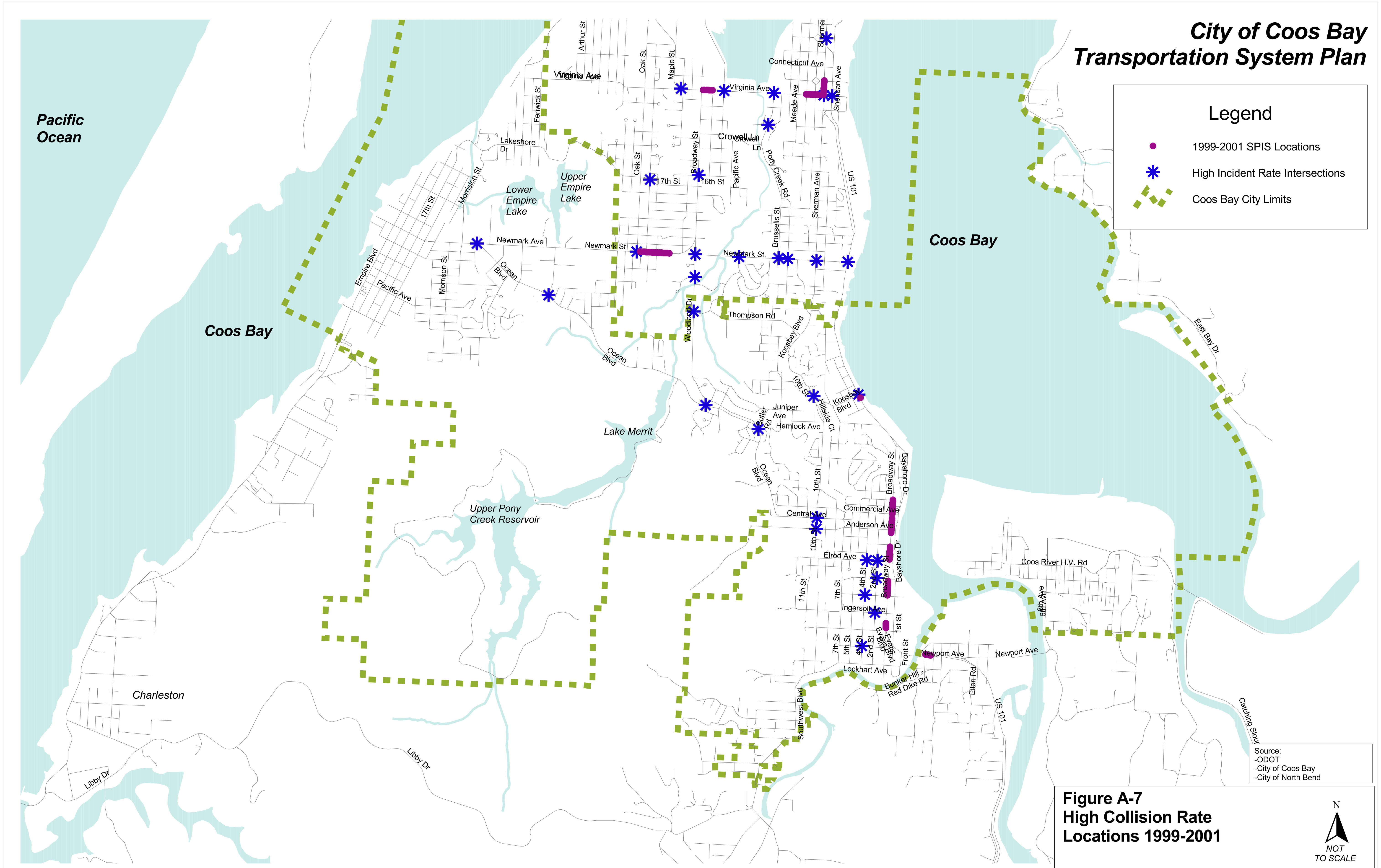


Figure A-7
High Collision Rate Locations 1999-2001

Transit

Federal funding for the fixed-route transit services that did exist in Coos Bay was terminated and service ceased operation as of the end of December 2002. The CCTA has applied for federal grants from the Federal Transit Authority to extend these basic operations. Currently, only the dial-a-ride service is operational. The discussion below is written assuming that funding and service is restored to previous levels.

Transit service is provided by Coos County Area Transit (CCAT). Figure A-8 shows current CCAT fixed bus routes and the location of current bus stops and shelters throughout the study area There are six covered shelters in the transit system today with the remainder having combinations of benches or posted signs only.

Weekday bus boarding information was reported by CCAT for the current 2000 census. Table A-12 shows the ridership for the routes serving Coos Bay over the past two years. The fixed route loop services have grown about 20 percent and the dial-a-ride service has grown almost 50 percent in the past year. Table A-13 reports the frequency of service for the various fixed route and express route operations. Dial-a-ride services are scheduled by appointment on an as needed basis.

Note: Since this chapter of the TSP was written, all federal funding for CCAT has been withdrawn.

Table A-9: Average Weekday Boarding Rides on CCAT Routes on Coos Bay & North Bend

	Loops	*Dial-a Ride**
2000-2001		
Seniors	4,675	3,991
Disabled	--	3,848
Public	17,289	2,781
Total	21,964	10,620
2001-2002		
Seniors	3,131	4,842
Disabled	--	4,400
Public	23,104	6,467
Total	26,235	15,709
% Growth	20%	48%

Table A-10: Transit Boarding Service in Study Area

Route	*Approximate Frequency*
Bay Area Loop Service	90 minutes
Myrtle Point Bus	Twice Daily + Dial-A-Ride
Coquille Bus	Twice Daily + Dial-A-Ride
Bandon Bus	Dial-A-Ride
CB/NB Bus #1	Twice in AM Peak Twice in PM Peak + Dial-A-Ride
CB/NB Bus #2	Twice in AM Peak Twice in PM Peak + Dial-A-Ride
Coastal Express (Bay Area)	Hourly
Coastal Express	Twice in AM Peak Twice in PM Peak

Porter Stage Lines, Greyhound and Coos County Area Transit (CCAT) combine to provide the transit options for individuals in the Coos Bay/ North Bend area. Porter Stage Lines has 7 buses that can carry between 11 and 47 passengers each and provide service twice a day to Eugene/Bend/Ontario. Likewise, Greyhound provides inter-jursidictional connectivity thorough routes that provide access to many areas of the State including Eugene/Portland/Medford and other large cities in Oregon.

The majority of intra-jursidictional transit trips are provided by CCAT, which has ten service vehicles (5 in good condition, 4 in fair condition, and 1 in poor condition) that are all ADA accessible and has annual operating expenses over $200,000. Currently, the service is provided on a demand responsive basis and focuses mainly on the transportation disadvantaged population, such as the handicapped, elderly and economically disadvantaged. Two dial a ride buses operate Monday-Friday in the Coos Bay/North Bend area, another in Coquille and a fourth in Bandon. Approximately 37,000 trips well be provided system wide this year, with 15,000 of those trips occurring in Coos Bay/North Bend. This does not begin to meet demand, however, as over 90,000 unlinked trips were provided system wide before the fixed route service was discontinued.

Since a fixed route service was originally operational in Coos Bay/North Bend, much of the infrastructure is still present. The City has identified bus stop locations, and signs and shelters are in place. The opportunity for increasing transit modal share is large as is shown in both revealed preference actions such as the ridership numbers before fixed routes were discontinued, and in stated preference assertions such as the opinion survey prepared for the 1995 STIP plan that indicated considerable support for expanded service. Additionally some of the capital costs associated with the implementation of route start-up have already been provided. The largest obstacle to the provision of fixed route service is the identification of a funding mechanism required for operation costs, as fare box recovery is expected to be a very small percentage of total operating costs.

Bicycle

Bicycle counts were conducted during the evening peak period (4:00 to 6:00 PM) at the study intersections in Coos Bay and are shown in Figure A-9, along with the existing bike lanes, designated bikeways and off-street bike pathways. There is only one small section of US 101 that has designated bike lanes in the entire Coos Bay study area. There are a number of roadways that have paved shoulders that could be used for bicyclists. A specific inventory of these wide shoulder locations was not undertaken.

A Bikeway Master Plan for the Coos Bay Bay Area and Coos County Parks was completed in 1991.[4] As part of this plan, use patterns were determined based on public input. Within the City, bicycle trips are typically made for utility purposes between core areas such as US 101, Ocean, Newmark and other arterial and collector streets. Outside the City, trips are more recreational in nature.

The Oregon Coast Bike Route (OCBR) is the only marked bike route in the area. It is a combination of shared roadway, shoulder and bike lane types. As mentioned previously, the only designated bike lanes exist on US 101.

Due to the lack of bike lanes and sporadic paved shoulders (less than 10 percent of arterials and collectors have bike facilities), there is limited connectivity for bicyclists traveling to activity centers in Coos Bay. Bicycles are permitted on all roadways in the both City. Bicycle use in Coos Bay is generally for recreational, school and commuting purposes.

[4] *Bikeway Master Plan for Coos Bay Bay Area and Coos County Parks*, Gary L. Dyer, June, 1991.

DKS *Associates*

City of Coos Bay Transportation System Plan

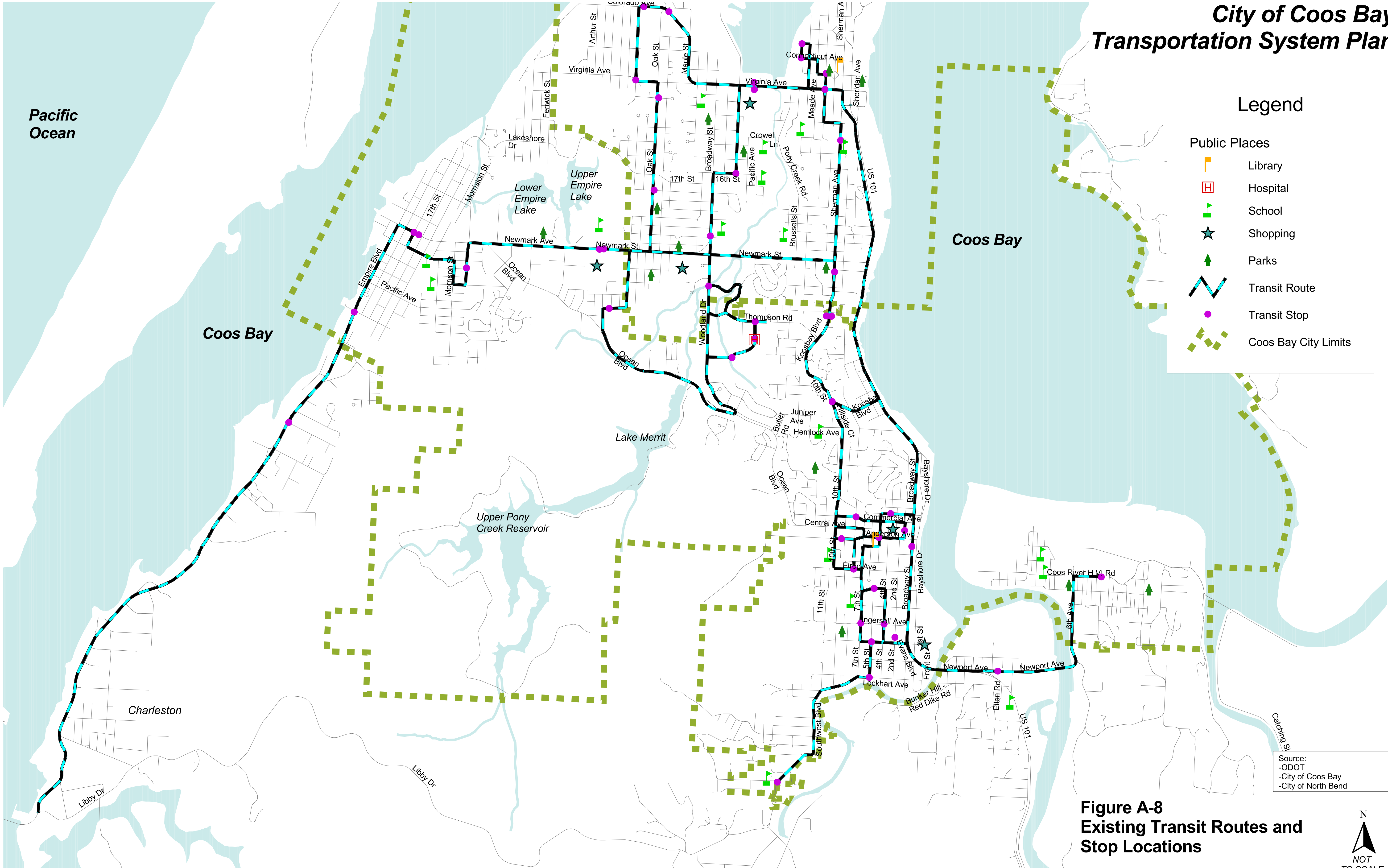


Figure A-8
Existing Transit Routes and Stop Locations

DKS Associates

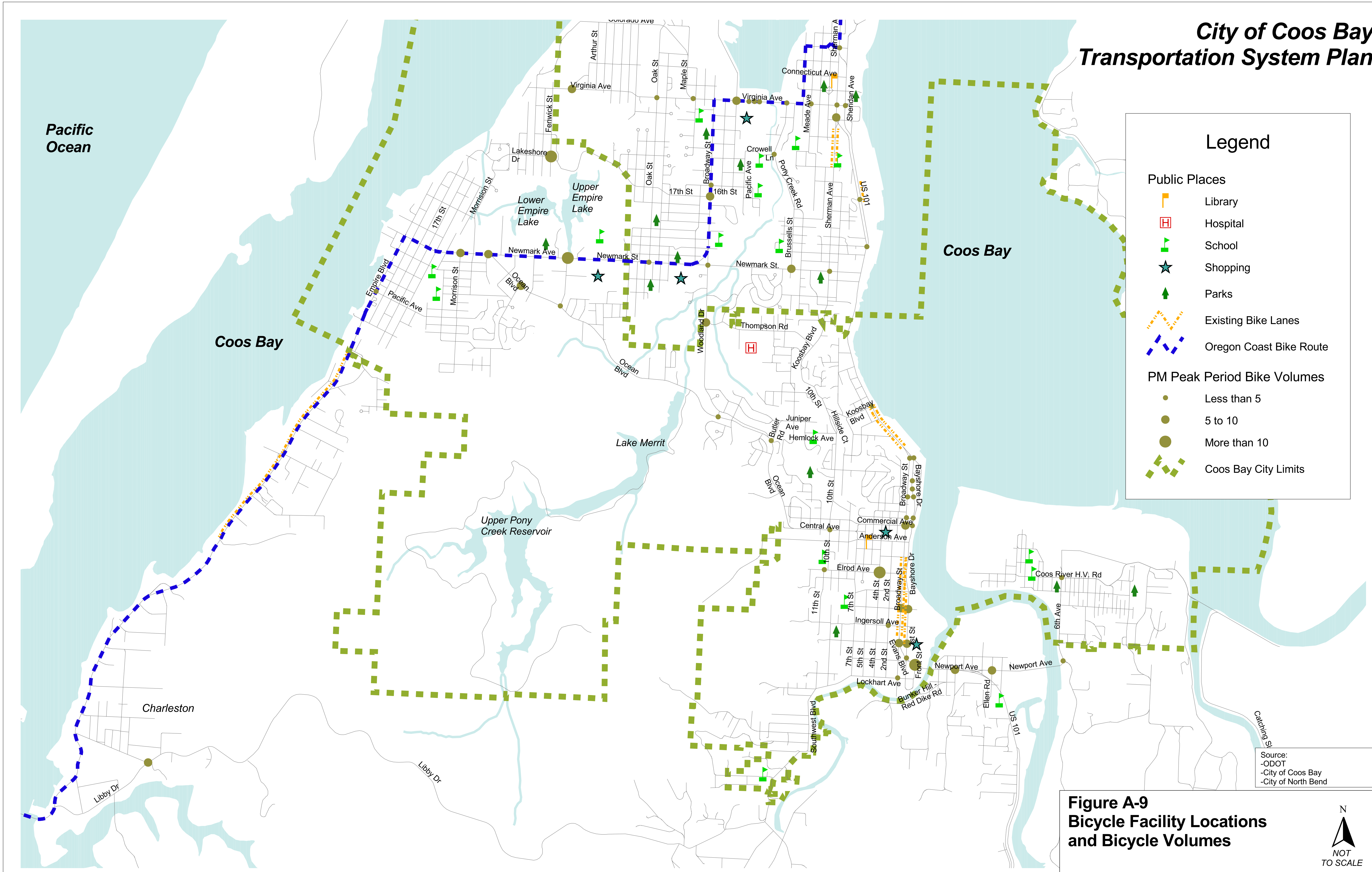


Figure A-9
Bicycle Facility Locations and Bicycle Volumes

Pedestrians

Figure A-10 shows the existing sidewalks on arterial and collector streets in Coos Bay. A majority of arterial and collector streets in Coos Bay have sidewalks on at least one side of the street. There are some locations where sidewalks are not connected; however, connectivity and pedestrian linkages are relatively good. In addition, besides the facilities that are shown on this map, many residential streets also have sidewalks.

Pedestrian counts were conducted in conjunction with the intersection PM peak turn movement counts. The pedestrian movement counts are also shown in Figure A-10. The most significant pedestrian volumes in the Coos Bay area are in the city's respective downtown's and near the Southwest Oregon Community College, which are large pedestrian generators. The most significant pedestrian movements occur in the Coos Bay downtown area on Broadway, Commercial and Elrod Avenue and in the North Bend downtown area on Virginia Avenue at Sherman Avenue. The intersection of Newmark Avenue at LaClair Street in Coos Bay had the single highest one-hour pedestrian volume, 108 persons.

Based on the street inventory, most major arterials facilities have sidewalks (84%) while minor arterial and collector streets have very limited existing sidewalk facilities (less than 10%) Sidewalks at least five feet wide are required in all new development. All newly constructed sidewalks include wheelchair ramps at intersections to permit easy ingress/egress for wheelchairs. The most important needs are to fill in the gaps on the arterial system such as on Newmark Avenue and Bayshore Drive. However, the City of Coos Bay should work to continue increasing the sidewalk coverage on all arterials, collectors, and residential streets in the Coos Bay area.

Parking

Downtown parking studies were conducted in both Coos Bay in 1997[5]. Existing on-street parking locations for both City are shown in Figure A-11 for arterial and collector streets. In Coos Bay, several parking-related issues were identified through the public involvement process and included the following:

- Convenient parking is difficult to find
- Some off-street parking lots are perceived as unsafe at night
- On-street parking isn't readily available for patrons and visitors to downtown
- Parking system is confusing
- Abuses of on-street parking supply limits customer access

Meetings, stakeholder surveys and public open houses were conducted to determine the key issues in the parking situation in downtown Coos Bay. The following was concluded:

- Most parking (both on and off-street) is underutilized in the peak hour (based on parking surveys conducted by both the City and the Consultant)
- There is a sense that the parking system is not easily understood or convenient
- There are complaints that 1 hour meters (or controlled areas) are not sufficient to support short term access requirements.

An inventory was taken to determine the relationship between supply and demand. Overall utilization was determined to be about 44 percent of the available supply. This does not indicate an existing parking supply deficiency.

In North Bend, parking inventory and demand studies were conducted. There were a total of 1,633 parking spaces in the downtown area (including 597 on-street spaces and 1,036 off-street spaces).

[5] *City of Coos Bay Downtown Parking and Circulation Study*, Kittelson & Associates, Inc., September 1997. *City of North Bend Downtown Parking Study*, David Evans and Associates, Inc., December 1997.

Parking occupancies were observed for three weekday time periods (7-9 AM, 11:30 AM-1:30 PM and A-5 PM) and on Saturday from 12:00-1:30 PM. The occupancy surveys were conducted in April, which may be lower than in the summer, which is peak season along the coast. According to ODOT traffic counts, average daily traffic (ADT) in April represents about 94% of normal. Occupancies ranged from about 28 percent occupancy on Saturday to 45 percent occupancy in the weekday evening peak period. This does not indicate an overall parking deficiency.

The above occupancy survey findings contrast sharply with opinions expressed by the general public and local merchants regarding the availability of parking. The quantitative studies do not support the reported view that parking is limited. It is apparent that the parking surveys identified 'available parking' outside of the walking distance many of the patrons or merchants desire. A more focused assessment that separated parking availability relative to ranges of walking distances may be more revealing.

Trucks

The truck (heavy vehicle) volumes as well as percentages as a portion of through traffic at the study intersections were collected with the current turn movement counts. The current truck percentages, which range from 0 to 9 percent, are shown on Figure A-12. US 101 through Coos Bay is the only designated freight route in the study area[6]. Existing through truck routes and intermodal connectors are also shown in Figure A-12.

The 1999 Oregon Highway Plan designates a State Highway Freight System. The OHP can be found at http://www.odot.state.or.us/tdb/planning/highway/highway_plans.htm. A map of the State Highway Freight System can be viewed at http://www.odot.state.or.us/intermodal-freight/Maps/web_page_pdf_maps/corridors,volumes,routes/1freight_rts.pdf. The State Highway Freight System is based on freight volume, connectivity and linkages to major intermodal facilities. US 101 through Coos Bay is designated as part of the State Highway Freight System.

Efforts to improve truck freight mobility and capacity within the planning area should first focus on the roadways comprising the local freight system. Other truck freight concerns that should be investigated are lack of turning lanes, narrow lanes, narrow shoulders, difficulties in accessing business sites, turning radii at intersections or bridges with weight or height concerns.

Some freight-related provisions in the Highway Plan include policies and actions relating to access from highways to adjacent properties. The Highway Plan's discussion of access management is intended to balance access to developed properties while ensuring the safe and efficient movement of through traffic and local traffic. The plan identifies a range of policies, actions, and standards pertaining to interchange development, driveway and roadway spacing and design, traffic signal location, median design and spacing of openings, and other factors associated with managing access along various types of urban and rural highways. Managing access includes providing for through truck movements as well as for the pick up and delivery of goods and materials to and from adjacent

[6] 1999 Oregon Highway Plan, The Oregon Department of Transportation, Appendix D: Highway Classification by Milepoint.

DKS Associates

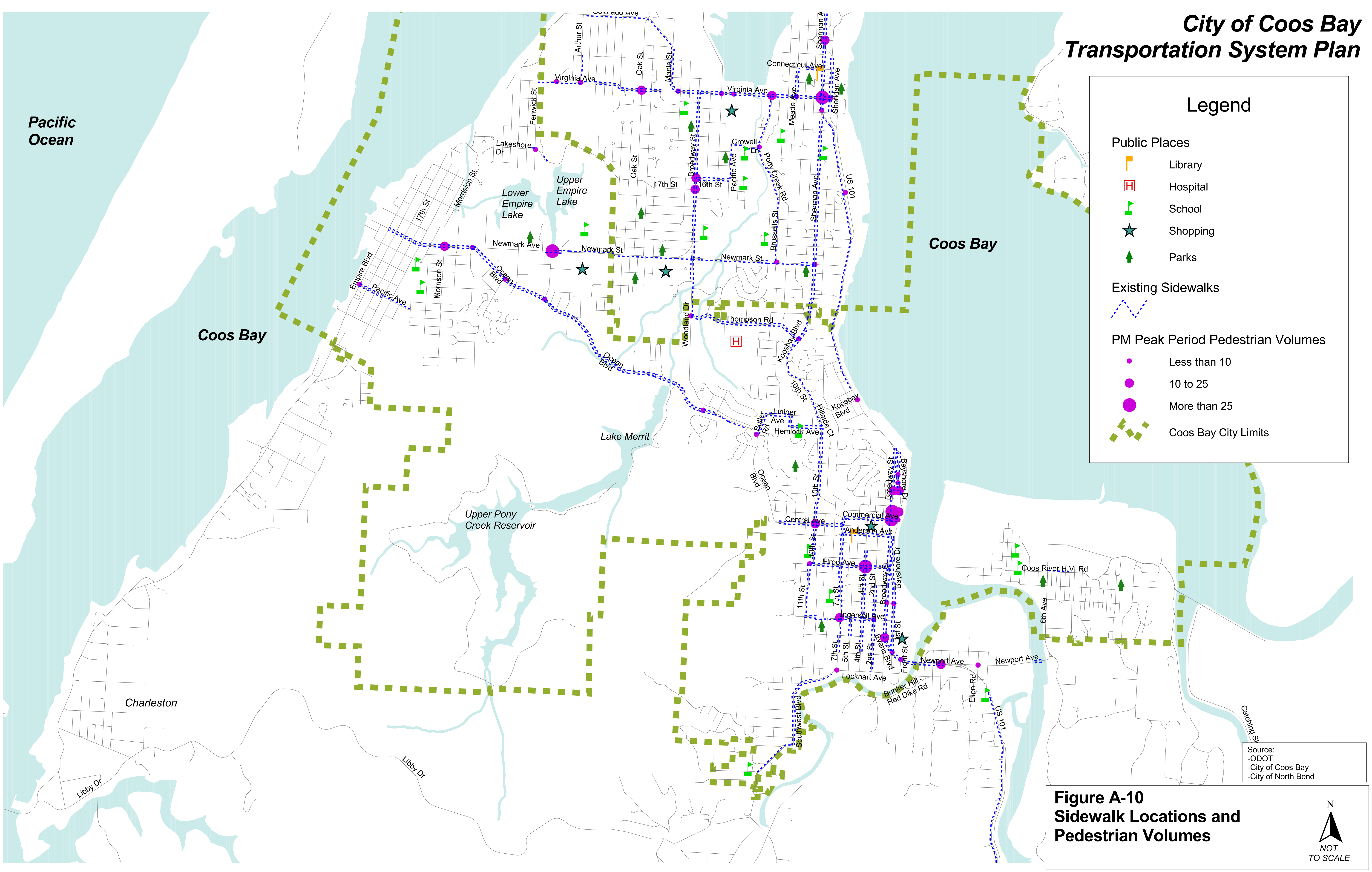


Figure A-10
Sidewalk Locations and Pedestrian Volumes

DKS *Associates*

City of Coos Bay Transportation System Plan

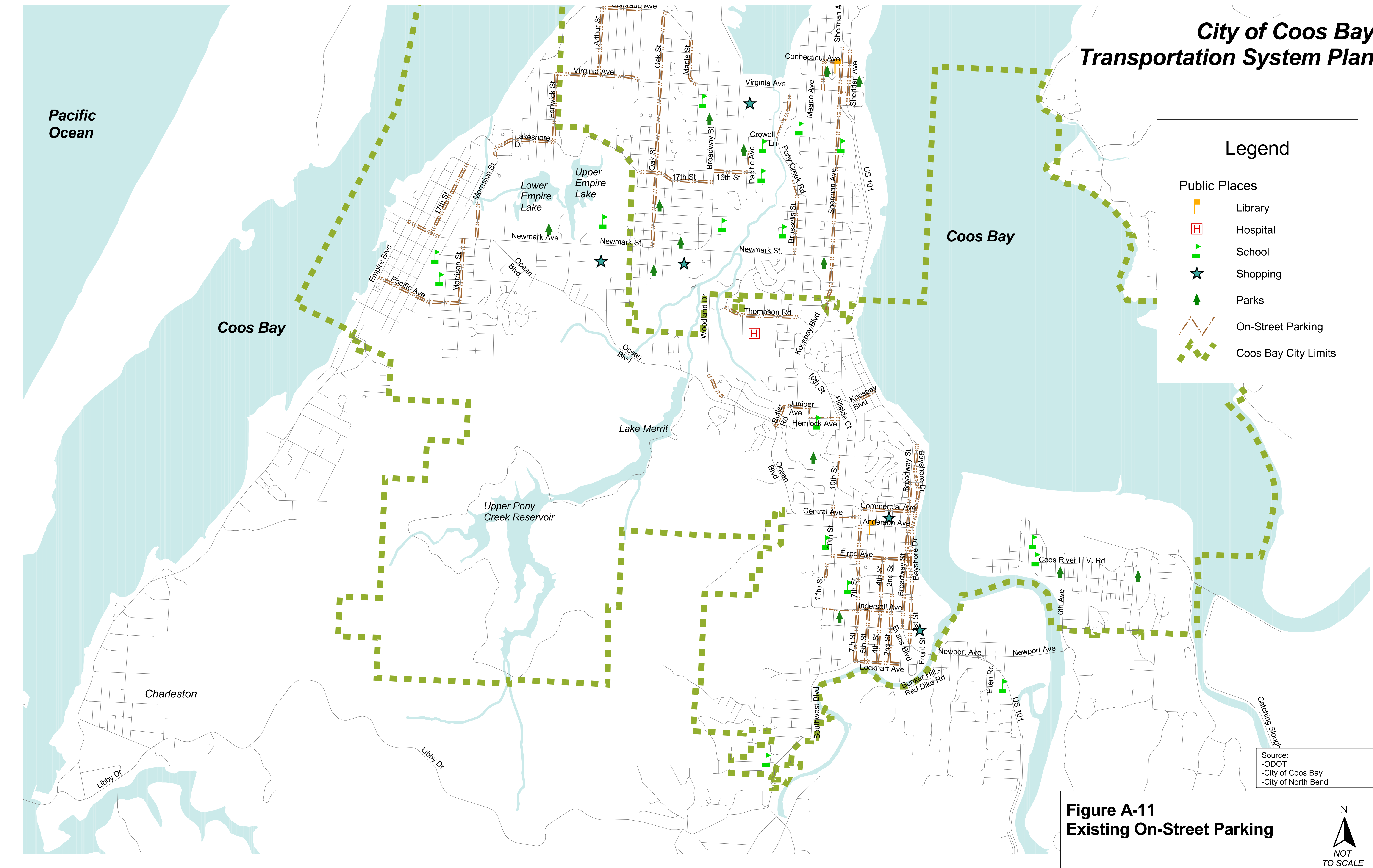


Figure A-11
Existing On-Street Parking

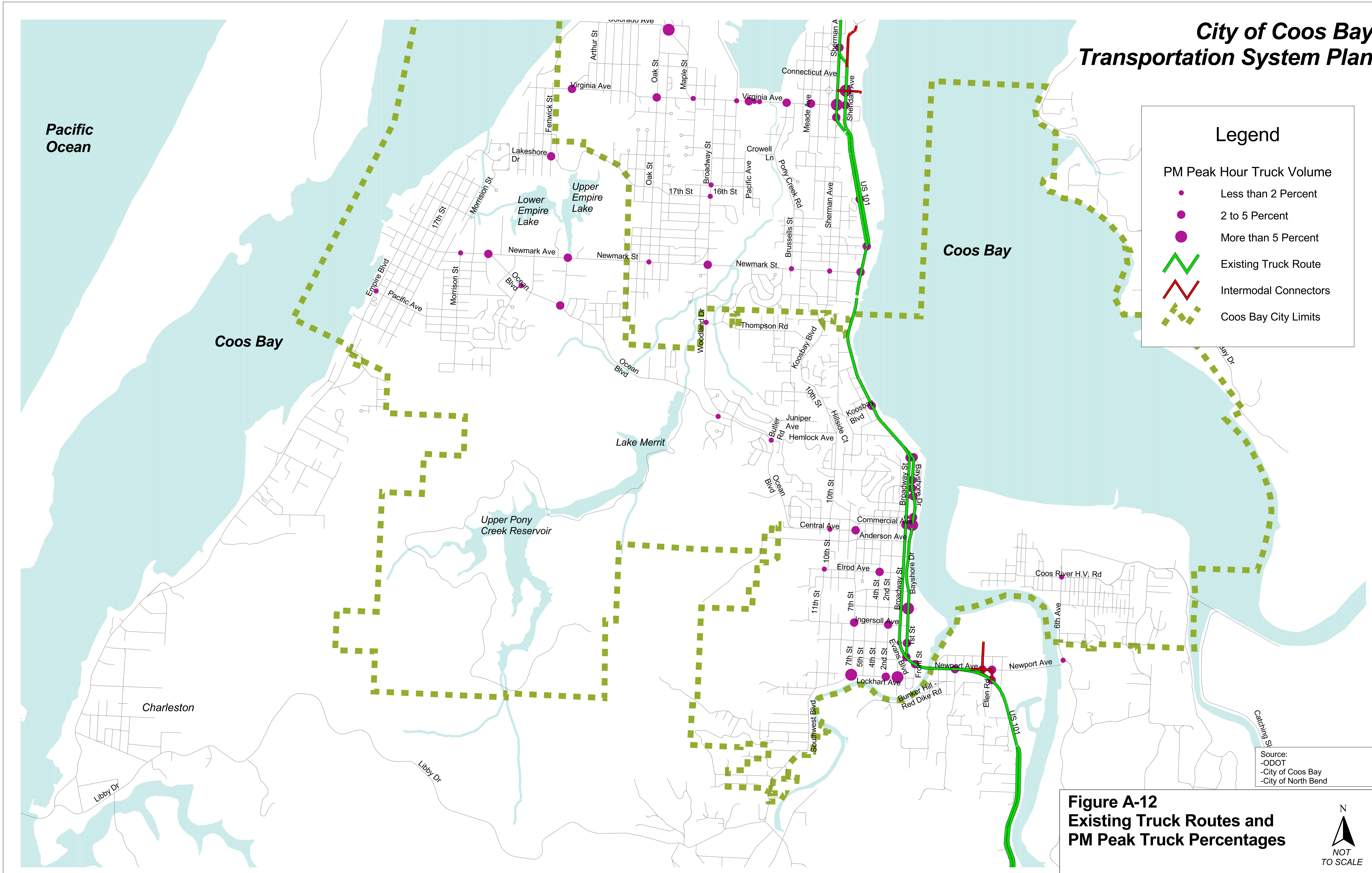


Figure A-12
Existing Truck Routes and PM Peak Truck Percentages

commercial and industrial properties. The Coos Bay roadway system includes several intermodal connectors. An intermodal connector is a road connecting an intermodal freight or passenger facility through which goods or people move between modes. Some intermodal connectors are part of the National Highway System (NHS). Intermodal freight movements, for example, involve the movement of goods and materials by road, rail, water, air, and pipeline through truck-rail facilities, marine terminals, airports, and pipeline terminals. Most intermodal connectors are local roads, not state highways. Intermodal connectors in Coos Bay serve primarily marine facilities and are shown in Figure A-12.

The purpose of this section of the TSP is to identify the major routes (and shippers) associated with the movement of freight by truck in Coos Bay. A few of the concerns and needs about maintaining and enhancing current truck freight mobility are also mentioned. Some of the motor vehicle needs identified in the TSP will also improve truck freight mobility.

As in other cities, freight moves primarily by trucks in the Coos Bay area. Truck tractor-trailer combinations are the most common type of freight carrier and move the greatest variety of goods and commodities, ranging from low-value bulk commodities to high-value, time-sensitive commodities. The major commodities moved by truck in Coos Bay are wood chips, logs, plywood, particle board, petroleum products, seafood and general merchandise. Trucks, along with intercity buses, have the greatest locational mobility among freight modes in that they can go, subject to size and weight limitations, wherever roads go.

The closest ODOT ATR (automatic traffic recorder) is located approximately 5 miles south of Coos Bay on US 101 (mp 243.99). In 2002, the average daily traffic (ADT) was approximately 15,000 vehicles, with 16 percent truck traffic. This equates to approximately 2,400 trucks per day. Percent truck traffic is higher on state highways in the rural areas because there are less cars there then in the urban areas. Many of the trucks using these intersections are going to or coming from local industries and port facilities located in Coos Bay near the US 101 and the Isthmus Slough. These industries and facilities include the Oregon Chip Terminal, Tyree Oil, Dedicated Fuels Inc. and the Port of Coos Bay.

Several industries are located southeast of Coos Bay in the Bunker Hill (Coos County) area and account for some of the truck traffic at the US 101/Coos River Highway intersection and other US 101 intersections. They include the Georgia-Pacific Chip Terminal, Coos Bay Docks, Coastal Fiber, Coos Head Timber and a Georgia–Pacific Sawmill. Some of the truck traffic is also generated by the commercial businesses in the Coos Bay/North Bend area such as Wal-Mart, Bi-Mart, K-Mart and the larger chain grocery stores.

In order to better handle truck traffic, some intersections on US 101 in Coos Bay need to be improved. Some of the intersection curb radii are too sharp to accommodate the turning movements of the larger trucks (especially right turns). For example, trucks heading south on US 101 in North Bend wanting to turn west on to Virginia Avenue (Cape Arago Highway) must swing out into the other travel lane. This problem is also present at other intersections on US 101 such as Commercial/US 101 and California Ave/US 101. These movements are unsafe for other motor vehicles and reduce the capacity of the roadways. The US 101/Coos River Highway intersection is a bottleneck because of its triangular configuration and proximity to other busy intersections in the immediate area.

Bridges

The Coalbank Slough and Isthmus Slough bridges provide access between Coos Bay and points east. ODOT's bridge sufficiency rating ranges from 0 (extremely poor/does not meet standards to 100 (excellent). The following information was provided by ODOT regarding the condition of the bridges:

Coalbank Slough

Sufficiency Rating = 85.0

Approach Condition	3 Serious
Deck Wearing Surface	6 Satisfactory
Deck	6 Satisfactory
Superstructure	7 Good
Substructure	7 Good
Channel	6 Bank beginning to slump

Scour	T Over tidal waters / No eval
Bridge Rail	1 Meets acceptable standards
Transitions	N Not Applicable
Approach Rail	N Not Applicable
Rail Ends	N Not Applicable
Structural	7 Better than present minimum criteria
Deck Geometry	9 Superior to present desirable criteria
Waterway	9 Superior to present desirable criteria
Approach Alignment	8 Equal to present desirable criteria

Isthmus Slough

Sufficiency Rating = 4.0

Approach Condition	5 Fair
Deck Wearing Surface	4 Poor
Deck	5 Fair
Superstructure	6 Satisfactory
Substructure	3 Serious
Channel	7 Bank needs minor repairs

Bridge Rail	0 Does not meet standards
Transitions	0 Does not meet standards
Approach Rail	0 Does not meet standards
Rail Ends	0 Does not meet standards
Structural	2 Basically intolerable requiring high priority of replacement
Deck Geometry	3 Basically intolerable requiring high priority of corrective action
Waterway	9 Superior to present desirable criteria
Approach Alignment	4 Meets minimum tolerable limits to be left in place as is

Water Transportation

The Coos Bay estuary is a U-shaped body of water about 15 miles long and 1 mile wide at its widest point. Major marine activities include domestic and international maritime commerce, marine industrial transportation and manufacturing, commercial fishing, marine-related recreation and tourism, and oyster aquaculture. Woodchips, lumber and plywood, pulp and paper, and logs are the principal waterborne commodities handled through marine terminals in the harbor.

The principal waterfront facilities are located as follows:

- at Charleston, near the ocean entrance to the bay;
- at the western and northern shorelines of the lower bay on the North Spit, the eastern shoreline of the lower bay at Empire, at the localities of Coos Bay, North Bend and Bunker Hill on the western and southern shorelines of the upper bay, and
- at the location where the Coos River flows into the southeastern end of the bay.

The Oregon International Port of Coos Bay currently lists seven active marine terminal cargo facilities on Coos Bay, five with deep-draft berths. Two facilities are dedicated to barge operations. In addition, there are 13 other marine facilities in the harbor, six inactive cargo facilities and seven utility and/or work dock sites. The public Port Authority itself does not own or operate any of the active cargo facilities. Four of the marine facilities are located downstream from the Coos Bay railroad bridge (one on the east side of the channel and three on the west and north sides of the channel). The remaining marine facilities are located upstream of the railroad bridge primarily on the west side of the channel. There also are five public boat launch ramps with small floating dock facilities on the main bay.

Three of the active marine terminals handle wood chips. Two terminals handle logs, one is a deep-draft facility and one is a barge facility. One terminal handles breakbulk (non-containerized) general cargo. One inactive terminal is used for storage of petroleum products delivered by tanker truck, but also provides dockside fuel service to large fishing boats and tugboats.

At the present time, the seven active marine terminal cargo facilities provide more than 4,000 feet of deep-draft berthing space and more than 1,500 feet of barge moorage; more than 90 acres of open storage space; and more than 200,000 square feet of covered storage. The two inactive bulk petroleum terminals have a combined storage capacity of nearly 200,000 barrels.

The six terminals that primarily handle wood chips or logs (four deep-draft and two barge) represent a total of approximately 4,850 feet (3,350 feet deep-draft and 1,500 feet barge) or about 88 percent of the marine cargo terminal berthing space available at the Port of Coos Bay. The one terminal specializing in the handling of general cargo represents approximately 640 feet or about 12 percent of the available berthing space, although this terminal shares another 600 foot berth with a wood chip facility.

Table A-11: Marine Cargo Summary

Cargo Type	*Number of Terminals*	*Percent of Total Cargo Berthing Space*
Wood Chips/ Logs	6	88%
General Cargo	1	12%
Mineral Ores	2 (inactive)	11%
Utility & Work Functions	7	11%
Petroleum Products	2 (inactive)	7%

Note: There are two inactive facilities with four deep-draft berths that are not included in this chart.

The seven active and six inactive marine terminal cargo facilities have good connections to the local highway system, and more than 85 percent of the *facilities* have either a rail spur on site or are located adjacent to an active rail line.

Commercial Fishing

Commercial fishing operations at Coos Bay are a major contributor to the local and statewide economy. According to a 1989 study prepared by the Ports Division of the Oregon Economic Development Department, commercial fishing operations at Coos Bay contributed more than $34 million to the regional economy in 1987. According to the study, the Coos Bay commercial fishing fleet accounted for 29,688,856 landed pounds in 1987, the third highest amount in the state behind Astoria and Newport. In 1987 Coos Bay had 328 fishing vessel moorages with an average occupancy rate of 100 percent. Commercial fishing moorages and fish-handling facilities are located primarily in the Charleston area near the entrance to the bay. None of the fish-handling facilities have rail connections.

Cargo Variety

Waterborne commerce through the Port of Coos Bay in 2001 reflected continuing significant downturns in overall tonnage. This is occurring for a variety of reasons, including ongoing weakness in the

Asian/Pacific Rim export market (primarily Japan), shifting worldwide market demand and increased competition from new wood fiber producing regions such as South America, New Zealand, and the Russian Far East, declines in timber harvest and lumber production in the US Pacific Northwest, and increases in harvest and production in the Southeast US and the Pacific Coast region of Canada. Declines occurred in outbound lumber, plywood particle board, linerboard/pulp, and wood chips. A portion of these declines, however, was offset by increases in outbound and inbound whole logs. Fish and seafood landings were down substantially, due primarily to increased federal and state regulation and reduced quotas for west coast fisheries. Total cargo movement for 2001 was 2,026,266 short tons, a decrease of 22 percent from 2000. Total vessel calls of 64 were down 23 percent from the previous year, although barge traffic through the harbor has been increasing annually since the mid-1990's.

The staff at the Oregon International Port of Coos Bay annually compiles information from terminal operators on cargo types and volumes, and the number of deep-draft vessel and cargo barge calls at terminals in the Coos Bay harbor. They also compute various averages for this data. The average number of deep draft vessel calls per year at cargo terminals in Coos Bay during the period 1992-2001 was 151. In addition, there was an average of 146 loaded cargo barge calls in the harbor during the period of 1996-2001.

Barge Traffic

Barge traffic also is a major component of vessel activity in the main bay. Barge traffic includes barges loaded at marine cargo terminals with wood products and other commodities outbound to domestic and foreign destinations; inbound barges bringing unprocessed logs to regional mills; and barges brought to the harbor for moorage between voyages or for repairs and maintenance. The biennial channel maintenance dredging that occurs between July and December in project years dramatically increases the amount of barge traffic throughout the bay and over the bar at the ocean entrance. The average number of total barge movements at the Port of Coos Bay during the 8-year period from 1994 through 2001 was approximately 218 per year. The average number of round-trip barge loads (from dredging sites in the bay to the ocean disposal area and back again) during maintenance dredging is estimated to be in the range of 200 to 225 trips per project cycle.

Commercial Fishing

Commercial fishing operations at Coos Bay are a major contributor to the local and statewide economy. According to data available from the Oregon Department of Fish and Wildlife, commercial fishing fleets operating out of Coos Bay accounted for 26,793,886 landed pounds of fish and shellfish in 2001, the third highest amount in the state behind Astoria and Newport. The estimated value of this catch at the fishermen's level is $12,416,139. In 2001 Coos Bay had approximately 150 commercial fishing boats home ported in the harbor. The majority of the commercial fishing moorages and all of the fish-handling and processing facilities are located in the Charleston area near the ocean entrance to the bay, although some vessel moorage is available at the Coos Bay City Docks in the upper bay. None of the fish-handling facilities have rail connections.

Rail

Freight rail service for the Coos Bay area is provided by the Central Oregon & Pacific (CORP) Railroad, which operates the Coos Bay Branch Line from the Union Pacific (UP) Railroad yard at Eugene to the end of the line at Coquille. The Coos Bay line provides rail access to industrial operations at various locations between Eugene and Coquille and intermodal connections for marine terminals in the Port of Coos Bay. CORP is owned by RailAmerica Inc., the largest shortline and regional freight railroad operator in North America.

The Coos Bay line runs west from Eugene within the approximate corridor of State Highway 126, except for a portion of the line east of Mapleton which parallels State Highway 36 for several miles before intersecting the highway 126 corridor. The line crosses the Siuslaw River at Cushman and runs east of Siltcoos and Tahkenitch Lakes north of Reedsport, and is separated from U.S. Highway 101 by several miles. At Reedsport, the line crosses the Umpqua River and proceeds south within the approximate corridor of U.S. 101.

The Coos Bay line enters the City of North Bend at the northwest corner of the North Bend peninsula by crossing the Coos Bay Railroad Bridge from Jordan Point. The line proceeds south, crossing east under U.S. 101 near the Simpson Heights neighborhood. The line then runs south through North Bend and the City of Coos Bay on the east side of U.S. 101, crossing Coalbank Slough at the south city limits of Coos Bay, continuing adjacent to marine and industrial waterfront property in the Bunker Hill area, crossing under State Highway 241, and then proceeding south along the west side of Isthmus Slough and on to the Coquille area.

CORP's Coos Bay line accesses rail spurs and sidings in North Bend at several locations; a spur serving industrial property on the North Bend peninsula (under the south end of the McCullough highway bridge), several sidings near the Ocean Terminals marine cargo facility, and two spurs at a marine industrial site owned by Weyerhaeuser Company.

In the City of Coos Bay, the line accesses one spur at a marine industrial facility known as Central Dock. Just south of the Central Dock site, the line runs for several blocks within the Front Street vehicle traffic corridor to the north end of the railroad's primary marshalling yard for the Coos Bay and Coos County area. This yard is adjacent to the upper Coos Bay waterfront and contains a number of rail sidings and spurs. After crossing Coalbank Slough, the Coos bay line accesses two spurs serving marine and industrial sites in the Bunker Hill area.

There are daily – Monday through Sunday – rail movements on the Coos Bay line. Six to either times per week CORP moves long trains (35 to 50 cars) inbound from Eugene yard to the Coos Bay yard and outbound from the Coos Bay yard to Eugene. In addition, there are daily switching activities that originate in the Coos Bay yard that spot loaded and/or unloaded cars at various spurs and sidings within the Coos Bay area, or that move cars to Coquille and industrial sites north of the Coos Bay railroad bridge. The majority of the switching activity is Monday through Friday, but there is some switching on weekends, primarily in support of the inbound or outbound Eugene yard train.

There are numerous rail grade crossings in the corridor from North Bend through Coos Bay and Bunker Hill that are blocked for short periods at various times of the day. The most impacted rail crossings or corridor sections are the entry/exit crossing at The Mill Casino-Hotel in North Bend and the Front Street corridor in Coos Bay. There is one pedestrian crossing in Coos Bay, at the entry to the Coos Bay Boardwalk and City Docks that is blocked for short periods each day by rail car movements on the Coos Bay line.

CORP owns the Coos Bay Branch Line from Danebo Junction, west of the Eugene UP rail yard to the north end of the Coos Bay Railroad Bridge near Cordes Junction. The Oregon International Port of Coos Bay (Port) owns the Coos Bay Railroad Bridge, which consists of a north approach trestle, 12 steel truss spans, including a swing span, and a south approach trestle. CORP operates and maintains the rail bridge. The portion of the Coos Bay line from the south end of the bridge to the end of the line at Coquille is owned by UP, but is leased and operated by CORP.

The Port acquired the rail bridge from UP in August 2000, in order to access state and federal funds for long-term rehabilitation of the bridge. Phase I of the rehabilitation is underway now and involves rebuilding the swing span and minor repair of the two approach spans. Phase I construction should be completed within two years. Phase II will involve the complete rehabilitation of the approach spans to provide a minimum 25-year additional service life for the structure. Port staff is working on acquiring the funding for

Phase II.

Air

North Bend Municipal Airport (OTH) is a commercial and general aviation facility located on Pony Point in the City of North Bend. The North Bend airport is the only commercial air passenger facility on the Oregon coast, with service provided by Horizon Air, a feeder subsidiary airline of Seattle-based Alaska Airlines.

Horizon operates four flights per day between North Bend and it's hub at Portland International Airport (PDX). Horizon currently uses the 37-passenger Bombardier Dash 8 200 aircraft on this route. As Horizon upgrades its fleet and adds more 70-passenger Dash 8 4002, they will use the larger aircraft as required during the higher demand late spring early fall season.

Air cargo service for the Coos Bay area and for the south coast region is available from several vendors, including UPS, FedEx, Airborne Express, Horizon Air and others. In some cases vendors operate their own aircraft, while other firms utilize contract carriers that operate throughout the northwest or west coast regions.

North Bend Municipal Airport is located approximately one and a quarter road miles west of U.S. Highway 101. Access is via Virginia Ave. and Maple St. in the City of North Bend. Virginia Ave. is a major arterial in North Bend. Ground transportation services available for commercial and general aviation passengers is currently limited to taxi and limousine services, and courtesy cans from local and regional lodging facilities.

The airport currently has three (3) paved runways, but a major rehabilitation project scheduled for 2003 will upgrade the primary north/south runway (1A-31) and decommission the shortest and least used runway.

Runway Designation	*Length*	*Width*	*Surface*	*Navigational Equipment*
4-22	5,321 ft.	150 ft.	Asphalt	ILS,MLS,VOR,VOR/DME, ADF, GPS
1A-31	4,586 ft.	150 ft.	Asphalt	VOR-Alpha, VOR/DME,Bravo, GPS
16-34	2,320 ft.	150 ft.	Asphalt	(scheduled for decommissioning)

Technical Information

Airport designation:	OTH – North Bend Municipal Airport; North Bend, Oregon
Sector Aeronautical Chart:	Klamath Falls
Airport Latitude:	4A-25-01.700N
Airport Longitude:	124-15-45.700W
Airport Elevation:	17 ft above mean sea level

General aviation operations at the North Bend airport are supported by a Fixed Base Operator (FBO), which provides fuel (AVGAS and Jet A), charter flights and flying instruction. An aviation mechanic also operates an aircraft maintenance facility at the airport. The North Bend airport maintains rental hangar facilities and aircraft tie-downs. Air ambulance service is available at the airport.

North Bend Municipal Airport also is home to a U.S. Coast Guard air operation – Group North Bend / Air Station North Bend. The station maintains a fleet of all-weather helicopters for search and rescue operations and law enforcement activities, and patrols from the Oregon-California border to just north of Depoe Bay.

The North Bend airport recently completed a Federal Aviation Administration (FAA) mandated and funded Master Plan. The plan will serve as the development documentation for the airport during a 20-year planning period. The most significant improvements planned for the next 10 years are additional navigation system upgrades and the relocation and construction of a new passenger terminal.

In 1999, management and operations of the North Bend Municipal Airport transferred from the City of North Bend to the Oregon International Port of Coos Bay under and intergovernmental agreement. In November 2002, Coos County voters approved the formation of a new Coos County Airport District. The district is scheduled to take over operations at the North Bend airport on July 1, 2003.

The North Bend airport complex includes more than 100 acres of non-aviation related property designated as the North Bend Airport Business Park. The property is located south and west of the runways and primary aviation facilities, and is being developed for commercial and light industrial tenants and uses. Vehicle traffic accessing the business park uses Maples St. and Colorado Ave. as feeders to and from Virginia Ave. A multi-year development plan for the park projects an additional access to Virginia Ave. being established near the southwest corner of the property as demand warrants in future years.

Pipelines

There are no regional natural gas or petroleum pipelines serving the Coos Bay area. A Final Environmental Impact Statement (FEIS) has been prepared (Coos County Natural Gas Pipeline Final EIS, November, 2002) for a proposed right-of-way permit from the BLM for construction of a natural gas pipeline from Roseburg, Oregon to Coos Bay, Oregon of approximately 60 miles in length and anticipated follow-up construction of another 28 miles of smaller-sized lateral pipelines from Fairview, Oregon to Bandon, Coquille and Myrtle Point, Oregon. It is intended for perpetual and continuous operation to supply natural gas to consumers in Coos County. Granting of the right-of-way easement would also trigger construction of a distribution facility in Coos Bay by Northwest Natural Gas, the distribution company associated with the proposed gas pipeline project.

Additional (smaller) pipelines would likely be installed to the communities of North Bend, Coquille, Myrtle Point, Empire, Charleston and Bandon if these communities grant a franchise to NW Natural. These future projects would be planned based on market needs within the area they would serve, which would include determination of pipeline size. Funding for these projects, except in the case of Bandon, will be provided by NW Natural. Bandon would have the option to build their own distribution system, including a pipeline extending from the proposed action or its lateral pipelines, if they decide to have natural gas supplied to their community.

Although the final locations of the laterals are not known, it is anticipated that 28 miles of pipeline laterals would likely be constructed to Coquille, Myrtle Point and Bandon. Impacts associated with construction of the laterals are anticipated to be similar to, but of lower magnitude than, the main pipeline because the laterals would cross fewer streams and would not be adjacent to late-successional habitats.

Planned Roadway Improvements

The City of Coos Bay were contacted to determine if there were any capital improvement projects planned in the near term (i.e. next five years). Both City spend the majority of their funds on maintaining the existing street system rather than building new projects. The City of North Bend had no capital improvement projects planned. The City of Coos Bay also did not have any capital improvement projects planned, but did provide a maintenance (overlay) schedule for the next 10 years. This schedule can be found in the appendix of this report.

Existing Transportation Problems That Need To Be Addressed

This section lists motor vehicle issues identified by citizen's early on in the process that need to be addressed in the Transportation System Plan:

- Coos Bay – Anderson Ave needs re-evaluation between 7th and Hwy 101. Pulling onto Anderson from parkway along the sides by the Coos Bay library is frightening.
- No complete sidewalk from downtown NB to CB. One must wade through mud puddles and/or cross 101 on the lower route or on the Sherman/10th st. route cross the street twice to access pavement.
- WalMart access to Newmark overloaded with traffic. This problem will worsen at the completion of the WalMart addition and the development of the commercial area to the west.
- LaClair is increasingly used by traffic from the Coos Bay area for access to SWOCC and WalMart. Needs additional lanes and traffic signals at each end.
- Coos Bay Core Area- confusing system of one-way/two-way streets. The changes at the intersection of 4th and Anderson and the latest change to a 2-way on Anderson between Broadway and 2nd appear to have caused more problems than they solved. A first-time visitor to Coos Bay would likely find the traffic pattern in this area a complete mystery.
- Hwy 101 Corridor…..N.B. Bridge- this is a huge problem when it becomes critical. The bridge appears to be near capacity at times. At times southbound traffic on Broadway in Coos Bay is solid behind traffic lights starting at Park Ave.
- Lack of turn lanes on Ocean Blvd. and Cape Arago Hwy.
- Traffic congestion on Hwy 101 SB in Coos Bay.
- CB/Central Ave from Ocean Blvd to 10th street traffic backup at stop sign eastbound and production from 4 to 2 lanes.
- Constant excessive speeding on Lakeshore between Fenwick and Morrison, a 25 mph zone. Main drop off for school buses, but no sidewalks, very wide road. Traffic often exceeds 40 mph. This is a main route for residents traveling between Empire and N. Bend. Outer edge of city limits with minimal police presence.
- Suggest that cab drivers and police officers be interviewed regarding hazardous locations.
- Newmark's 2-lane sections are the most hazardous. At least build a three-lane section with a decent shoulder if a four-lane section not feasible.

Other Problems For Different Types Of Users

This section lists issues identified by citizen's related to modes of transportation other than motor vehicle, early on in the process that need to be addressed in the Transportation System Plan:

- 10th Street in Coos Bay south of Marshfield has beautiful new pavement; however it needs sidewalks and street lights due to pedestrians along the side of the road. Sidewalks exist but are sporadic.
- The CCAT (bus)route takes over an hour to get from downtown NB to downtown CB. I can walk it faster. Need a bus stop on the S/west corner which would enable some riders to avoid a half hour loop.
- Need a complete bike path between the town.
- How about a trolley service to Coquille? The tracks are still there.
- Highway 101- bike lanes would be ideal. Develop bike lanes where space permits. A bike route could be designated off Hwy 101 in places…example-use 4th street between Commercial and Kruse.
- Major routes – develop bike lanes and/or designated bike routes between:
  1. Hwy 101 at North Bend to SWOCC, WalMart shopping area, Empire and beaches via Virginia Ave.,/Broadway, Newmark, Empire Blvd.
  2. Hwy 101 at Coos Bay to Empire and the beaches via Central and Ocean Blvd. Connect across to Newmark at Woodland and LaClaire for traffic to SWOCC and WalMart shopping area.
- Bicycles have seldom been used for basic transportation in the Coos Bay area, in part due to the hilly terrain and occasional severe weather conditions. Also, there is a relatively small segment of the

population working in situations where the use of bicycles can replace the automobile. Some of the exceptions to this would seem to be SWOCC, Bay Area Hospital, and the local schools. There are also at times numbers of cyclists traveling through the area on Hwy 101 on their way to the state parks beyond Charleston.

- I have found that the local streets where traffic is relatively slow are safe for bicycles if the cyclist obeys the traffic rules and the drivers of autos respect the right of the bike to be there and if everybody stays alert. However, the higher speed arterial streets (Ocean Blvd., Newmark, Broadway, Virginia, Hwy 101, etc…) are more dangerous and bike paths, or even wider shoulders would be helpful.
- Sidewalks are needed in some obvious locations: Parts of Newmark between Broadway and Empire and parts of Woodland between Ocean Blvd. and Newmark.
- The sidewalk at the WalMart entrance drive as it is being revised will have a hazard for pedestrians crossing the exit lane turning east. No crosswalk or auto traffic control light is planned.
- Pedestrian crossings are currently a challenge.
- Near corner of Golden and 5th St. in Coos Bay – we need a designated pedestrian crosswalk for pedestrian crossing from the post office going south across the street to continue walking on sidewalks on Golden or go to 4th or 5th.
- Parking is so crowded at the post office at times many cars must park on the south curb of Golden and then walk to and from access to the post office.
- Ocean Blvd is also an area of concern with high speeds. Very heavy traffic area.
- Ocean Blvd to Newmark via side road by Swoy building very hard to get onto Newmark to get to WalMart.
- Main bus stop area, no crosswalks, no sidewalks. Numerous vehicle accidents, slides, skids due to excessive speeds entering corners at west end of Lakeshore.

DKS Associates

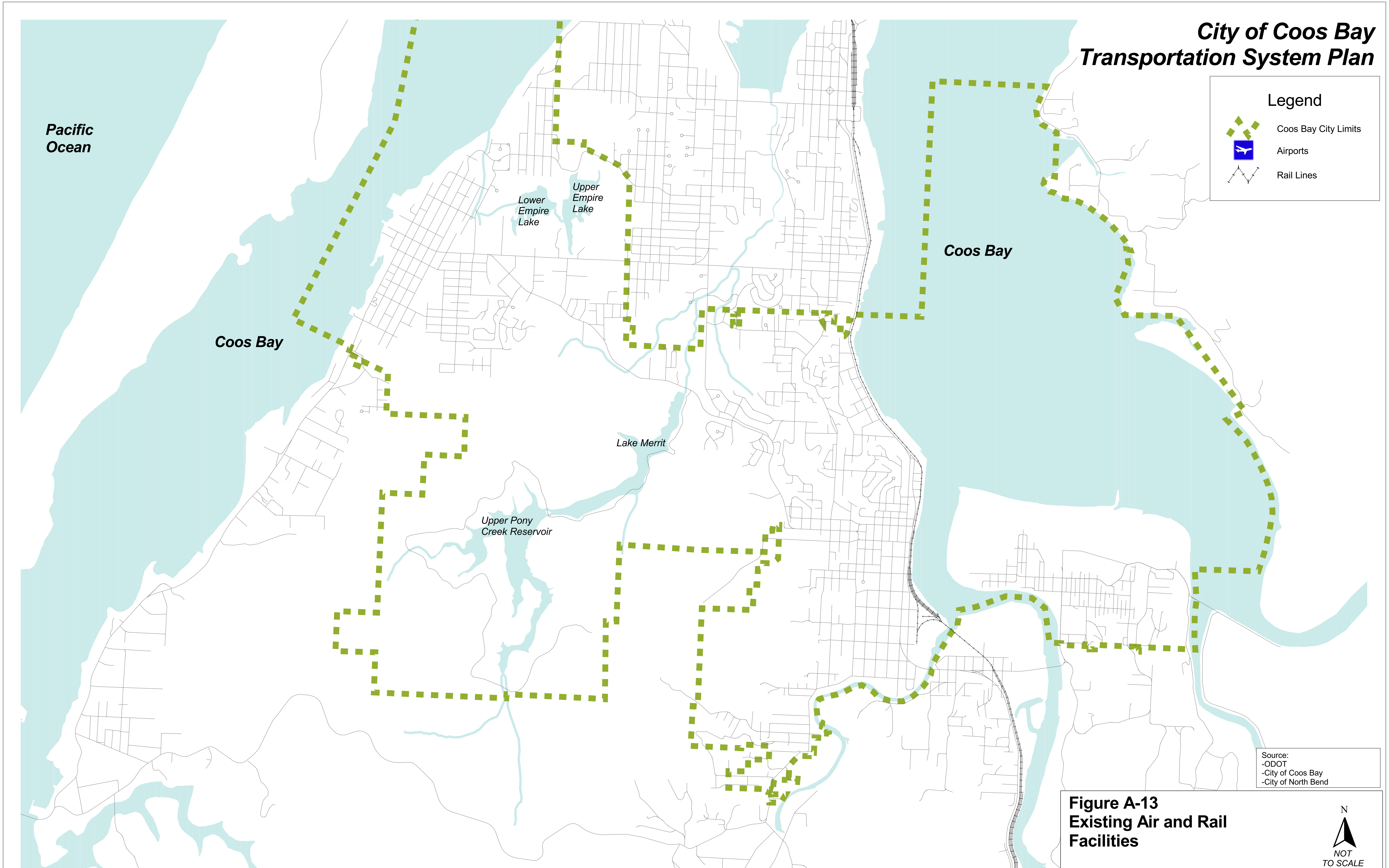


Figure A-13
Existing Air and Rail Facilities

B. Future Needs Assessment

The transportation system needs in Coos Bay were determined for existing and future conditions. This chapter outlines the type of improvements that would be necessary as part of a long-range master plan, and identifies areas where further alternative solutions will be evaluated to select a preferred improvement. Phasing of implementation will be necessary since all of the improvements cannot be done at once. This will require prioritization of projects and periodic updating to reflect current needs. Most importantly, it should be understood that the improvements outlined in the following sections are a guide to managing growth in Coos Bay as it occurs over the next 20 years.

Motor Vehicles

The following summary includes the methodology and resulting improvement projects for the Coos Bay 2020 TSP Motor Vehicle Plan. Additional discussion, tables, and figures can be found in the Appendix.

Assessment Approach

Existing conditions were identified in Appendix A. The future 2020 conditions were forecast as described in the Existing and Future Traffic Volumes memorandum, dated March 19, 2003 (see Appendix). The only motor vehicle project included in the 2020 base analysis that was not included in the 2000 base network is the widening of Newmark Avenue between east of LaClair Street and Ocean Boulevard to 3 lanes. Performance was evaluated using a three-tiered assessment of capacity and operations.

- **Capacity Improvements** at both the link and intersection level as described below:
    - Demand to capacity (D/C) ratios[1] were evaluated on roadway segments and conditions where the demand to capacity ratio exceeded 1.0 were studied for potential improvements (based on a 1-hour D/C ratio).
    - Intersection level data were developed for about 74 intersections in Coos Bay (based upon staff input, for primarily arterial and collector intersections). While this is a broad sampling of intersections, it does not represent every intersection in the City. Alternative improvements were considered where Level of Service (LOS) was at E or worse or where the Oregon Highway Plan standard is exceeded.
- **Safety Improvements** were considered where high accident locations or known deficiencies exist. In some cases safety improvements were combined with other modal improvements to achieve a safer, more balanced transportation system (i.e. reducing travel lanes from four to three, providing a center left turn lane and allowing room for pedestrian and/or bicycle improvements).

- **Other Mode Improvements** were considered where known deficiencies exist in the system or where motor vehicle projects would enable enhancements in other modes (i.e. converting a four-lane roadway to a three-lane roadway with bike lanes).

[1] Demand to capacity ratio is similar to volume to capacity (V/C) ratio. The difference is that in the future demand is being estimated and therefore the term demand is utilized. For existing conditions, volume refers to the actual traffic on the roadway. While a demand to capacity ratio can exceed 1.0, a volume to capacity ratio would never exceed 1.0.

Capacity Analysis

Year 2020 traffic volume forecasts were analyzed to assess locations where peak hour performance will drop below minimum desirable levels. This focuses on the 70 study intersections that were previously examined under Existing Conditions (2002 traffic volumes), but also includes a review of road segment approaches to major intersections. The following tables summarize intersection levels of service in Coos Bay, North Bend and Coos County for 2020 operating conditions. Traffic volumes were developed as described previously and applied to existing intersection geometries. A short discussion is provided for intersections in each jurisdiction.

The Oregon Highway Plan[2] identifies maximum volume-to-capacity ratios (v/c) for peak hour operating conditions. For signalized intersections, the v/c ratio used is the intersection v/c ratio. For unsignalized intersections, the controlling movement v/c ratio is used. For each city, those intersections not meeting ODOT's standards are described.

Coos Bay

A total of 15 signalized and 23 unsignalized intersections were analyzed within Coos Bay. All of the signalized intersections operate at LOS C or better. All study intersections in Coos Bay meet ODOT's volume-to-capacity standards outlined in the Oregon Highway Plan. Several of the unsignalized intersections operate at LOS D or worse. This means that the minor street approaches to these intersections experience moderate to long delays. The major street movements generally are not impeded and typically only a handful of minor street vehicles experience delay. Peak hour signal warrants were evaluated to determine where traffic signals might be needed at locations that do not have a traffic signal today (see discussion below). None of the study intersections in Coos Bay met ODOT's preliminary signal warrants under year 2020 traffic volume conditions. Table 1 shows the future 2020 base intersection levels of service within Coos Bay.

Since no signalized intersections operate at an unacceptable level of service and since none of the unsignalized intersections met preliminary signal warrants, no intersection capacity improvements are recommended for any of the Coos Bay study intersections.

Table 1: Intersection Level of Service in Coos Bay (2020)

	2020 Base		
*Intersection***	*Level of Service*	*Average Delay*	*Volume / Capacity*
Signalized Intersections			
10th Street/Central Avenue	C	22.0	0.71
1st Sreet/Hall Avenue	A	4.9	0.41
Bayshore Dr/Commercial Ave**	A		N/A*
Broadway/Hall Avenue**	A	6.5	0.52
Broadway/Johnson Avenue**	B	17.4	0.63
Broadway/Market Avenue**	B	10.1	0.55
Central Avenue/7th Street	C	12.4	0.75
Commercial Avenue/Broadway**	B	14.1	0.60
Johnson Ave/Bayshore Drive**	C	20.2	0.71
Newmark Ave/Ocean Blvd	B	15.4	0.61
Ocean Boulevard/Butler Road	A	4.3	0.41
Ocean Boulevard/Woodland Dr	C	21.5	0.59

[2] 1999 Oregon Highway Plan, Policy Element, Table 6: Maximum Volume to Capacity Ratios Outside Metro.

Intersection**	2020 Base Level of Service	Average Delay	Volume / Capacity
US 101/Koosbay Boulevard**	B	12.8	0.60
US 101/Coos River**	C	32.7	0.70
Unsignalized Intersections			
11th Street/Elrod Avenue	A/A		
2nd Street/Ingersoll Avenue	A/B		
6th Street/D Street	A/C		
Bayshore Drive/Alder Avenue**	A/C		0.20*
Bayshore Drive/Birch**	A/B		0.11*
Bayshore Drive/Cedar Avenue**	A/C		0.03*
Bayshore Drive/Fir Street**	A/B		0.01*
Bayshore Drive/Market Avenue**	A/D		0.10*
Broadway/Alder Avenue**	A/D		0.32*
Broadway/Fir Street**	A/C		0.13*
Empire Boulevard/Pacific Ave**	A/C		0.15*
Lockhart Avenue/2nd Street	A/B		
Lockhart Avenue/7th Street	A/B		
Newmark Ave/LaClair Street	A/D		
Newmark Ave/Morrison Street	B/D		0.44*
Ocean Avenue/LaClair Street	A/C		0.42*
Ocean Boulevard/Radar	A/B		
Thompson Road/Koosbay Blvd	A/C		
US 101/1st Street**	C/D		0.51*
US 101/S. Front Street**	C/F		0.47*
Woodland Drive/Thompson Rd	A/C		
All-Way Stop Controlled			
7th Street/Ingersoll Avenue	A	9.3	0.41
Broadway/Lockhart Avenue**	A		0.13*
4th Street/Elrod Avenue	B	11.5	0.42

*V/C ratios calculated using movement volume/movement capacity (per HCM 2000 calculations)
** Indicates ODOT intersection

Coos County

Two signalized and seven unsignalized intersections were analyzed in the County outside of Coos Bay. Both signalized intersections operate at acceptable levels of service. Two of the unsignalized intersections currently operate at LOS E and one operates at LOS F for the side street approach. The other intersections operate at a LOS of D or better. All study intersections meet ODOT's v/c threshold outlined in the OHP. Table 2 shows the future 2020 base conditions at the study intersections in the County. None of the Coos County study intersections meet ODOT's preliminary signal warrants under year 2020 traffic volume conditions.

Since no signalized intersections operate at an unacceptable level of service and since none of the unsignalized intersections meet preliminary signal warrants, no intersection capacity improvements are recommended for any of the Coos County study intersections. The intersection at Coos River Highway/Olive Barber is listed below as an "issue" location. A traffic signal may eventually be warranted at this location due to morning traffic volumes and if a traffic signal is eventually warranted at this location, special design considerations will be required for vehicle on Coos River Highway traveling eastbound across the Isthmus Slough bridge approaching the intersection has limited advance sight distance for viewing the traffic signal.

Table 2: Intersection Level of Service in Coos County (PM Peak Hour) 2020

	2020 Base		
Intersection	*Level of Service*	*Average Delay*	*Volume / Capacity*
Coos River Highway/Edwards	B/B	—	0.01*
Coos River Highway/Mullen	A/E	—	0.09*
Coos River Highway/Olive Barber	A/D	—	0.45*
Libby/Wilshire	A/B	—	—
US 101/East Bay Drive	A	3.5	0.68
US 101/Edwards	A/E	—	0.29*
US 101/Flanagan	B	12.0	0.70
US 101/North Bay	A/F	—	0.32*
US 101/Trans Pacific	A/C	—	0.28*

*V/C ratios calculated using movement volume/movement capacity (per HCM 2000 calculations)

Preliminary Traffic Signal Warrants

Preliminary traffic signal warrants[3] were evaluated at all unsignalized intersections in the project study under year 2020 traffic volume conditions. The results of this analysis are shown in Table 3. Meeting preliminary signal warrants does not guarantee that a signal will be installed. Before a signal can be installed on a state highway, a traffic signal investigation must be conducted or reviewed by ODOT's Region 3 Traffic Manager. Traffic signal warrants must be met and the State Highway Engineer approval obtained before a signal will be placed on a state highway. Signals on non-state facilities need to be reviewed and approved by appropriate local officials. Preliminary signal warrants were not met under year 2020 traffic volume conditions at any of the study intersections in North Bend.

Table 3: Preliminary Signal Warrants

Intersection	**Warrant Met?**	**Intersection**	**Warrant Met?**
Coos Bay			
10th Street/Central Avenue	No	Lockhart Avenue/2nd Street	No
11th Street/Elrod Avenue	No	Lockhart Avenue/7th Street	No
1st Sreet/Hall Avenue	No	Newmark Ave/LaClair Street	No
2nd Street/Ingersoll Avenue	No	Newmark Ave/Morrison Street	No
4th Street/Elrod Avenue	No	Newmark Ave/Ocean Blvd	No
6th Street/D Street	No	Ocean Avenue/LaClair Street	No
7th Street/Ingersoll Avenue	No	Ocean Boulevard/Butler Road	No
Bayshore Drive/Alder Avenue	No	Ocean Boulevard/Radar	No
Bayshore Drive/Birch	No	Ocean Boulevard/Woodland Dr	No
Bayshore Drive/Cedar Avenue	No	Thompson Road/Koosbay Blvd	No
Bayshore Dr/Commercial Ave	No	US 101/1st Street	No
Bayshore Drive/Fir Street	No	US 101/Koosbay Boulevard	No
Bayshore Drive/Market Avenue	No	US 101/S. Front Street	No
Broadway/Alder Avenue	No	Woodland Drive/Thompson Rd	No

[3] Preliminary Signal Warrants, TPAU Procedure Manual, Oregon Department of Transportation.

Intersection	Warrant Met?	Intersection	Warrant Met?
Broadway/Fir Street	No	US 101/Coos River	No
Broadway/Hall Avenue	No		
Broadway/Johnson Avenue	No	***Coos County***	
Broadway/Lockhart Avenue	No	Coos River Highway/Edwards	No
Broadway/Market Avenue	No	Coos River Highway/Mullen	No
Central Avenue/7th Street	No	Coos River Highway/Olive Barber	No
Commercial Avenue/Broadway	No	Libby/Wilshire	No
Empire Boulevard/Pacific Ave	No	US 101/Edwards	No
Johnson Ave/Bayshore Drive	No	US 101/Flanagan	No

2025 Sensitivity Test

The travel demand model was calibrated to year 2020, however, there was some concern that this plan reflect a 20-year horizon, which, when developed in 2003, would require a 2023 planning horizon. A select group of intersections was forecasted out (using straight line growth at 0.7% per year) to 2023 and analyzed under these traffic volume conditions. Table 4 summarizes the results of this analysis. Each of the selected intersections continues to operate acceptably (including by ODOT standards) until 2023.

Table 4: Intersection Level of Service in Coos Bay (PM Peak Hour) 2023

	2023 Base		
Intersection	*Level of Service*	*Average Delay*	*Volume / Capacity*
Highway 101/Flanagan	B	10.9	0.69
10th/Central	C	22.3	0.73
Johnson/Bayshore	B	19.8	0.69
7th/Central	C	13.1	0.77
US 101/Coos River Highway (Bunker Hill)	C	33.2	0.71

There are a number of locations in Coos Bay that need attention for various reasons. These locations may need improvement unrelated to any specific capacity deficiency and they may not show up as the high collision locations, but based on observation and discussions with the public, consideration of improvements at the following locations should be pursued. These locations are described in Table 5 and shown on Figure 4.

Table 5: Coos Bay Issue Locations

Location ID	*Location*	*Capacity, Operation and Safety Issue(s)*
		Coos Bay
1	Newmark/Ocean Avenue	This intersection is significantly skewed. Alternatives should be considered for improving the effect of this skew by realignment or other means. One alternative might be to realign Ocean to meet Newmark at a 90 degree angle at Ackerman Street.

Location ID	*Location*	*Capacity, Operation and Safety Issue(s)*
2	Newmark between Ocean Boulevard and Cape Arago Highway	Capacity – Peak hour directional volumes are at or near the capacity of one travel lane in each direction. There are few parallel alternative routes currently constructed. Additional roadway capacity could be provided by widening Newmark through this section or by providing an alternate parallel collector route.
3	Newmark between City Limits and Ocean Boulevard	There is a widening project (to provide two travel lanes with a center left turn lane/median) currently underway between Norman and Ocean. It appears that the current Coos Bay improvement project will likely provide sufficient capacity for the 20-year horizon. It was previously thought that it would eventually be upgraded to a five lane section, however, based on the 2020 travel demand model, further widening would not be necessary. Consider restriping to three travel lanes (one travel lane in each direction with a center left turn lane/median) between Ocean and Woodland. This would allow room to include a bike lane in each direction.
4	Coos River Highway/Olive Barber	Capacity/Safety -- There is a substantial amount of traffic turning from Olive Barber onto Coos River Highway during peak hours. Truck traffic is significant on all approaches. A traffic signal may become warranted in the future. Options for upgraded traffic control should be explored, such as providing an advance signal head for eastbound traffic on Coos River Highway before the horizontal curve if the intersection does become signalized. There is limited sight distance to the intersection from the west. ODOT is currently planning on doing an Environmental Assessment (EA) on the Isthmus Slough Bridge, which will, by default, address issues at either ends of the bridge (Bunker Hill intersection and Olive Barber/Coos River Highway). This issue should be considered together with locations 5 and 12.
5	US 101 / Bunker Hill / Coos River Highway	Capacity/Safety -- This area should be explored and alternatives developed that provide better separation between highway junctions and local street access. Analysis of the study intersections does not indicate substandard performance today or in the future, but access spacing along Coos River Highway is very substandard. Specifically, access to the port facilities north of Coos River Highway and the adjoining residential neighborhood should be examined to identify alternatives that better conform to state standards. There are a number of constraints at this intersection, including vehicular conflict, rail crossings, pedestrian and bicycle access. There are a high number of southbound vehicles on US 101 turning left onto Coos River Highway. Loop detector layout is poor and it is in very close proximity to Edwards and Flanagan. The possibility of providing interconnect between these intersections should be explored. ODOT is planning on doing an EA for this area in conjunction with locations 4 and 12.

Location ID	*Location*	*Capacity, Operation and Safety Issue(s)*
6	Woodland/Thompson	Upgraded traffic control should be explored at this intersection. While it does not meet traffic signal warrants in 2020, there is potential for significant growth in this area associated with medical center and hospital development. As growth in the area occurs, this intersection should be monitored to determine if a traffic signal or other improved control would be warranted. Safety—There area fair number of turning traffic collisions at this intersection. A traffic signal at this location would likely improve safety at this location.
7	7th/Anderson	Safety -- This intersection has a number of vehicular conflicts, irregular horizontal curves on the eastbound approaches, and two side street approaches at close proximity. Currently, two lanes are designated for eastbound traffic from 10th Avenue through this curve continuing into downtown Coos Bay. Side street connections from 7th Street, Anderson Avenue eastbound, and the loop back movement converge at this location. Alternatives should be considered to either limit access to/from the intersection approaches or to eliminate one or both of them all together.
8	Central/Anderson between 10th and Broadway	Evaluate the trade-offs of eliminating one travel lane in both directions to add bike lanes.
9	Central between 6th and /7th	Safety -- Consider restricting access between Central east of 7th to/from the west. Reorient access to businesses to/from the east (6th Street). There are a number of conflicts that would be reduced and/or eliminated with this action.
10	Bayshore Drive / North Front Street Area	Safety -- Consider access management plan for local side streets to conform with ODOT Access spacing requirements. Area potential for re-development, and frequent cross-street connection do not conform with current standards.
11	1st Street / Johnson Avenue	Safety – Explore traffic control/striping changes to create a more clear/safer intersection. There are two eastbound lanes on Johnson, one is a shared through/left and the other is a through lane. Some residents have complained that the left turn should be protected. There may be sufficient capacity in the remaining through lane to allow this, however, immediately past the intersection, the through lane is dropped as a right-only lane into the Fred Meyer shopping center. Another issue is that it is not always clear to westbound vehicles whether eastbound vehicles are turning or going straight. Alternatives for this intersection and the roadway segment immediately to the east should be explored.

Location ID	*Location*	*Capacity, Operation and Safety Issue(s)*
12	Isthmus Slough Bridge	ODOT bridge design department is studying alternative designs for the bridge on Coos River Highway. This project is being considered in conjunction with locations 4 and 5 (Olive Barber/Coos River Highway and US 101/Bunker Hill/Coos River Highway). The bridge is currently weight restricted and is a drawbridge. ODOT is no longer building drawbridges and must build the replacement higher to allow ships under. No funding has been allocated for design and construction.
13	Anderson Avenue	Traffic flow on Anderson between 7th and US 101 is affected by two diverters. The effect of these diverters is that traffic traveling through from 7th to US 101 is forced to merge left and then right to continue forward. There have been public complaints and it appears to be confusing and inconvenient. Some citizens have responded that cars are parked too close to cross-walks at intersections, making pedestrian visibility difficult. No parking restrictions should be considered along Anderson near intersections to improve pedestrian visibility.
14	US 101/Central	This intersection functions basically as a pedestrian crossing since the only allowed movement other than southbound US 101 is a southbound right turn onto Central. There have been complaints about the visibility of the traffic signal and it is noted that the stop bar on the southbound approach is a significant distance from the intersections. Solutions at this intersection should be explored.
15	US 101 Southbound	Queues develop southbound on US 101 through downtown Coos Bay, particularly in the evening peak hour. Currently, the traffic signals along US 101 are time-based coordinated, but they are not actuated (i.e. there are no loop detectors). Existing hardwire interconnect exists, however, it should be upgraded to modem or radio interconnect. The signals should be upgraded, loop detectors installed, interconnect improved and coordinated timing plans developed. It is likely that this improvement would greatly improve progression in this area.
16	2nd/Golden	Safety—This is a very low volume intersection that has had a fairly large number of crossing collisions. The reason for these collisions should be explored.
17	Ocean Avenue	Lack of bike lanes on a major arterial
18	Lakeshore Drive	Consider traffic calming measures to reduce motor vehicle speeds on long straight road segments.

Assessment of Need

Based upon the evaluation of intersection level of service, none of the signalized study intersections would operate at or worse than a D/C ratio 0.90 or a Level of Service (LOS) of D in the 2020 evening peak hour with no improvements beyond the Base 2020 conditions. Intersection operation for the existing and base 2020 scenarios are shown in the Appendix. The greatest problem areas can be grouped into the following areas:

- **Specific Issue Locations.** As described in Table 5, there are a number of specific locations in town with unsafe or confusing alignments. These locations (i.e. Bunker Hill, 7th/Central) comprise the majority of transportation related issues in the community.
- **Capacity Deficiencies**. While these are rare, there are a few locations that may need signalization or additional capacity in the 20 year time frame.

DKS Associates

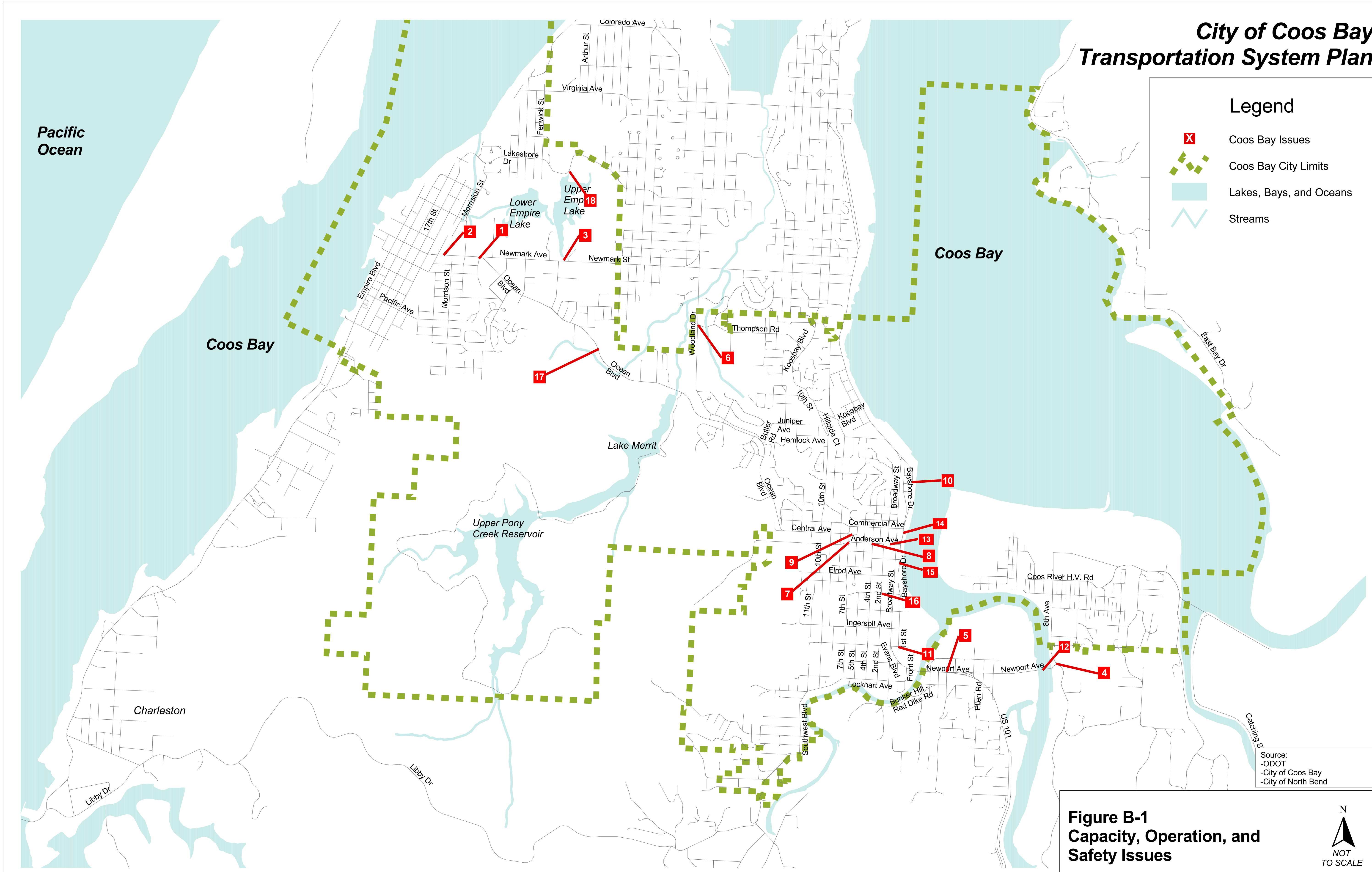


Figure B-1
Capacity, Operation, and Safety Issues

Transit

Federal funding for the fixed-route transit services that did exist in Coos Bay was terminated and service ceased operation as of the end of December 2002. The CCAT has applied for federal grants from the Federal Transit Authority to extend these basic operations. Currently, only the dial-a-ride service is operational. The discussion below is written assuming that funding and service is restored to previous levels.

Currently, there are several transit routes serving Coos Bay (see Figure B-2). A 1/B-mile buffer was created around the existing transit system using geographic information systems (GIS) to determine which areas of Coos Bay are not effectively served. A large portion of both Coos Bay is located within 1/B-mile of a transit route, which is a reasonable walking distance for most transit patrons. There are only a few areas that are not served using that criterion, as indicated on Figure B-2.

The City of Coos Bay should consider whether future transit coverage should be provided to those transit areas not covered by the existing system. Considerations will include the potential to support transit in those areas as well as the trade offs, including comparison to more frequent headways on existing routes. The City of Coos Bay should coordinate with CCAT and Coos County to provide transit shelters at transit stops with significant daily boarding. The City of Coos Bay should coordinate the provision of sidewalks along streets with significant transit usage.

Bicycles

The existing Bicycle Route map reflects bicycle accessibility in Coos Bay. Bikeway improvements are aimed at closing the gaps in the bicycle network along arterial and collector roadways.

State policy from the Transportation Planning Rule indicates that all arterial and major collector roads either have bikeways when they are constructed or improved or an adjacent parallel facility provided. Since state policy requires that all arterials and collector be improved with bike facilities, those that do not have bike facilities would be considered deficient. Additionally, a bicycle network is needed within a half-mile buffer that was created around key activity centers (parks, schools, retail, etc.) in town. These bicycle deficiencies are shown in Figure B-3. Since there are very few actual bike facilities in Coos Bay, the number of deficiencies is large. Key areas where bicycle facilities are lacking are as follows:

- Arterials such as US 101, Newmark, Ocean and Coos River Highway
- Lower classified street that fill in gaps in the bikeway network including Woodland, Ocean and Koosbay/10th

DKS Associates

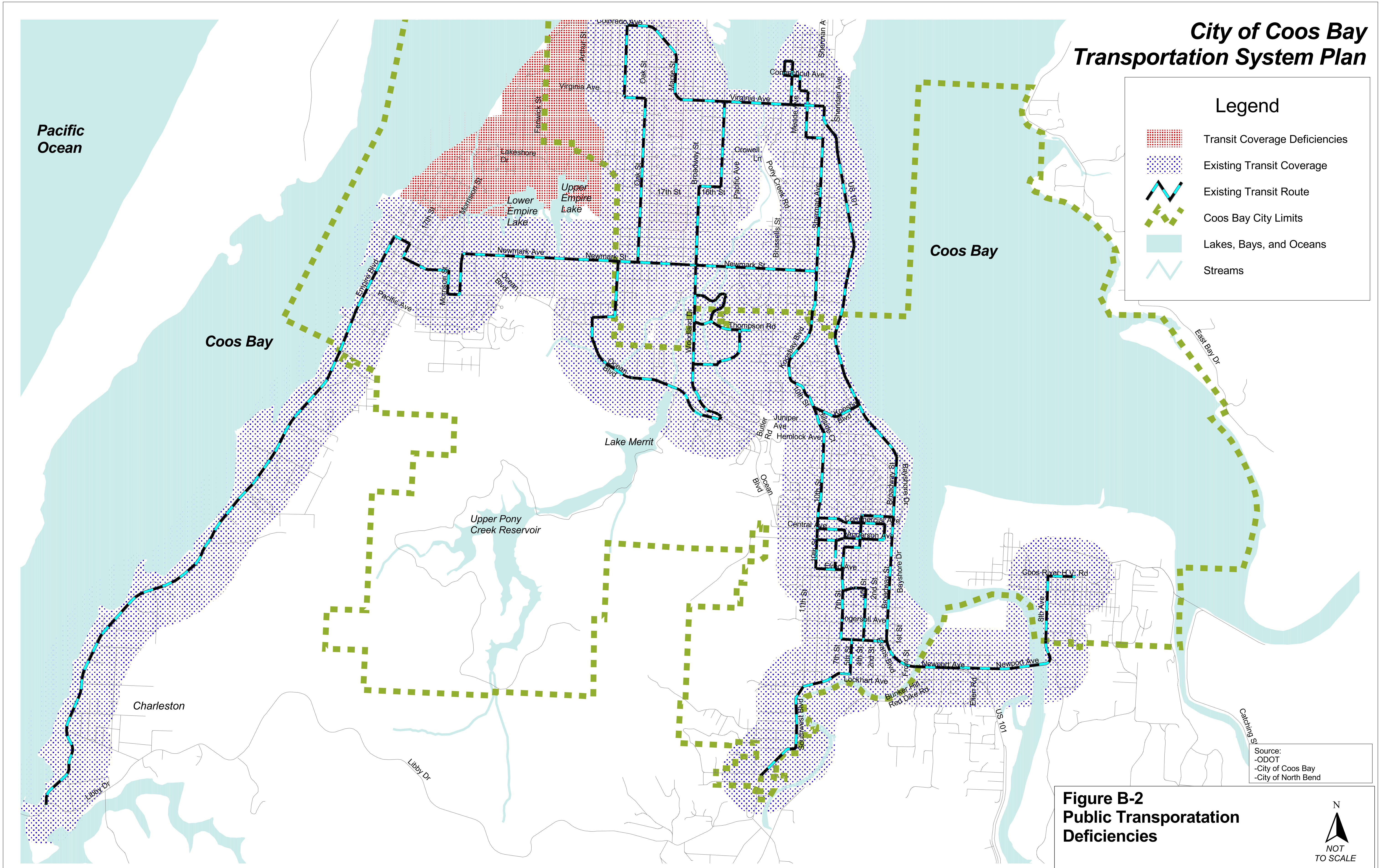


Figure B-2
Public Transportation Deficiencies

DKS *Associates*

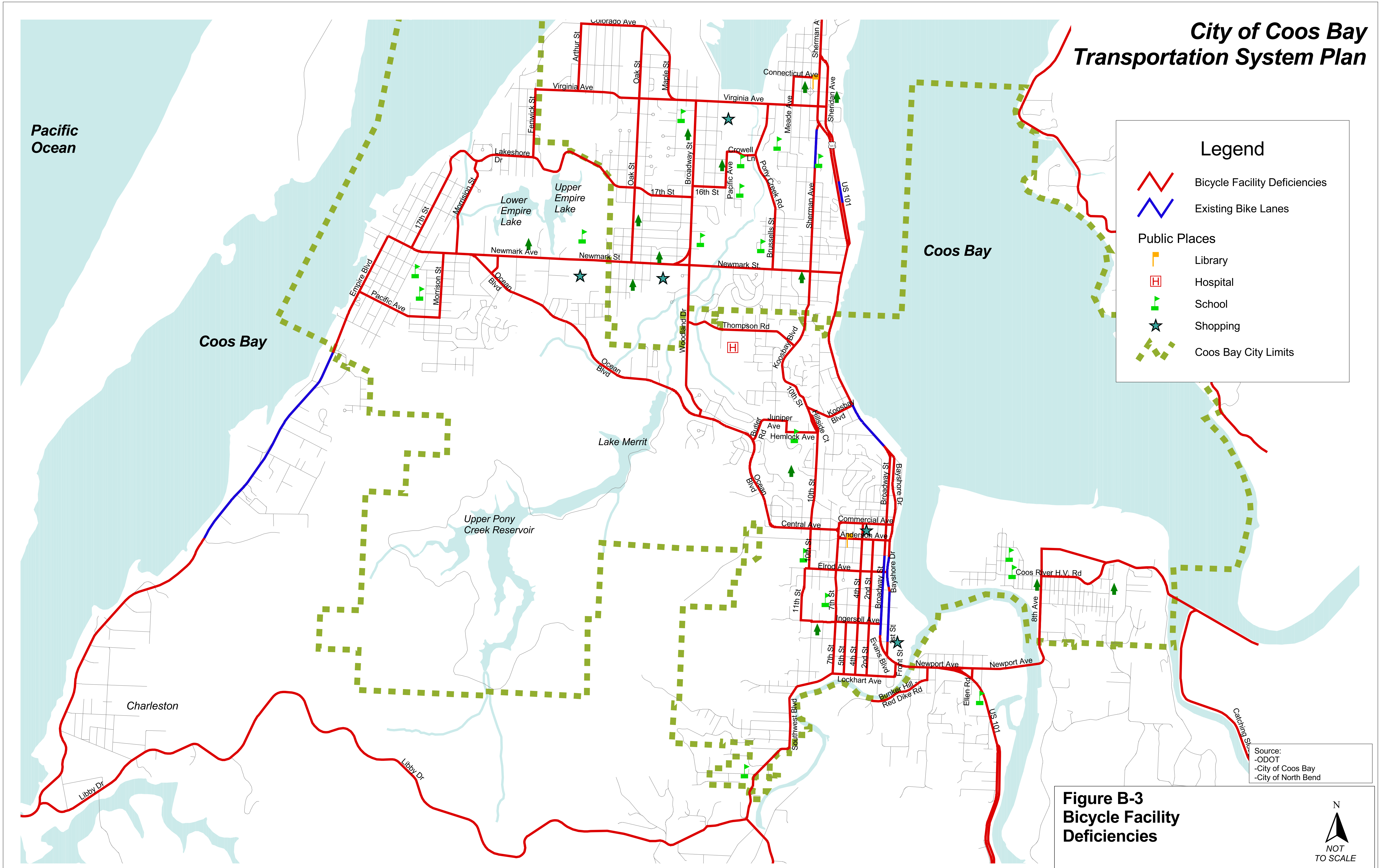


Figure B-3
Bicycle Facility Deficiencies

Pedestrians

The existing pedestrian system network map reflects pedestrian accessibility in Coos Bay. Existing sidewalks are generally five feet wide, except adjacent to some commercial areas where they may be wider (up to 8 or 10 feet wide). In most cases sidewalk improvements are aimed at closing gaps in the existing sidewalk network to provide connectivity rather than capacity. In other words, it is much more important that a continuous sidewalk be available than it be of a certain type or size.

The most important existing pedestrian need in Coos Bay is a well-connected pedestrian system within a half-mile grid and connectivity to key centers (parks, schools, retail, etc.) in Coos Bay. Needs include safe, direct and convenient access to transit and crossings of large arterial streets which act as barriers to pedestrian movement, as well as an inventory of local street sidewalk locations in order to complete a detailed sidewalk connectivity plan. In the future, pedestrian needs will be similar in the City, but there will be additional activity centers that will need to be considered and interconnected.

Figure 1 shows where sidewalks are lacking on arterials and collectors in Coos Bay. Ideally, sidewalks would be present on all arterials and collectors, so segments where sidewalks are not available are considered deficient. This is a starting place for determining a Pedestrian Master Plan (long term), from which a Pedestrian Action Plan (shorter term, prioritized plan) will be developed. Obvious key areas where sidewalks are lacking are as follows:

- <u>Newmark Street</u> between Broadway Street/Woodland Drive and Ocean Boulevard. While some portions of this segment have sidewalks on one side or the other, continuous sidewalk should be provided on both sides of this street, which has a significant amount of commercial development as well as a community college along its length.
- <u>Downtown Coos Bay</u>. A majority of downtown streets have sidewalks on both sides; however, there are a few which lack them (some portions of 2nd Street and 4th Street). With some of the highest pedestrian activity in the City, sidewalks should be provided on all downtown streets
- <u>Woodland Drive</u>. While there are sidewalks on some portions of the street near Newmark Avenue, a majority of the roadway lacks sidewalks. This is the only pedestrian opportunity in about one mile spacing and provides access between the hospital and commercial activities.
    - <u>Street Crossing Locations.</u> Pedestrian crossings are lacking particularly on arterial routes such as Newmark, Ocean and Central at locations other than traffic signals. Pedestrian crossing improvements such as raised median islands, illumination, curb extensions and enhanced markings should be considered at locations with high pedestrian crossing demand

Other Modes

There are four other modes of transportation included in the TSP: rail, pipeline, air, and water. Future needs for these modes of transportation are identified by their providers and are summarized below as they are understood.

DKS Associates

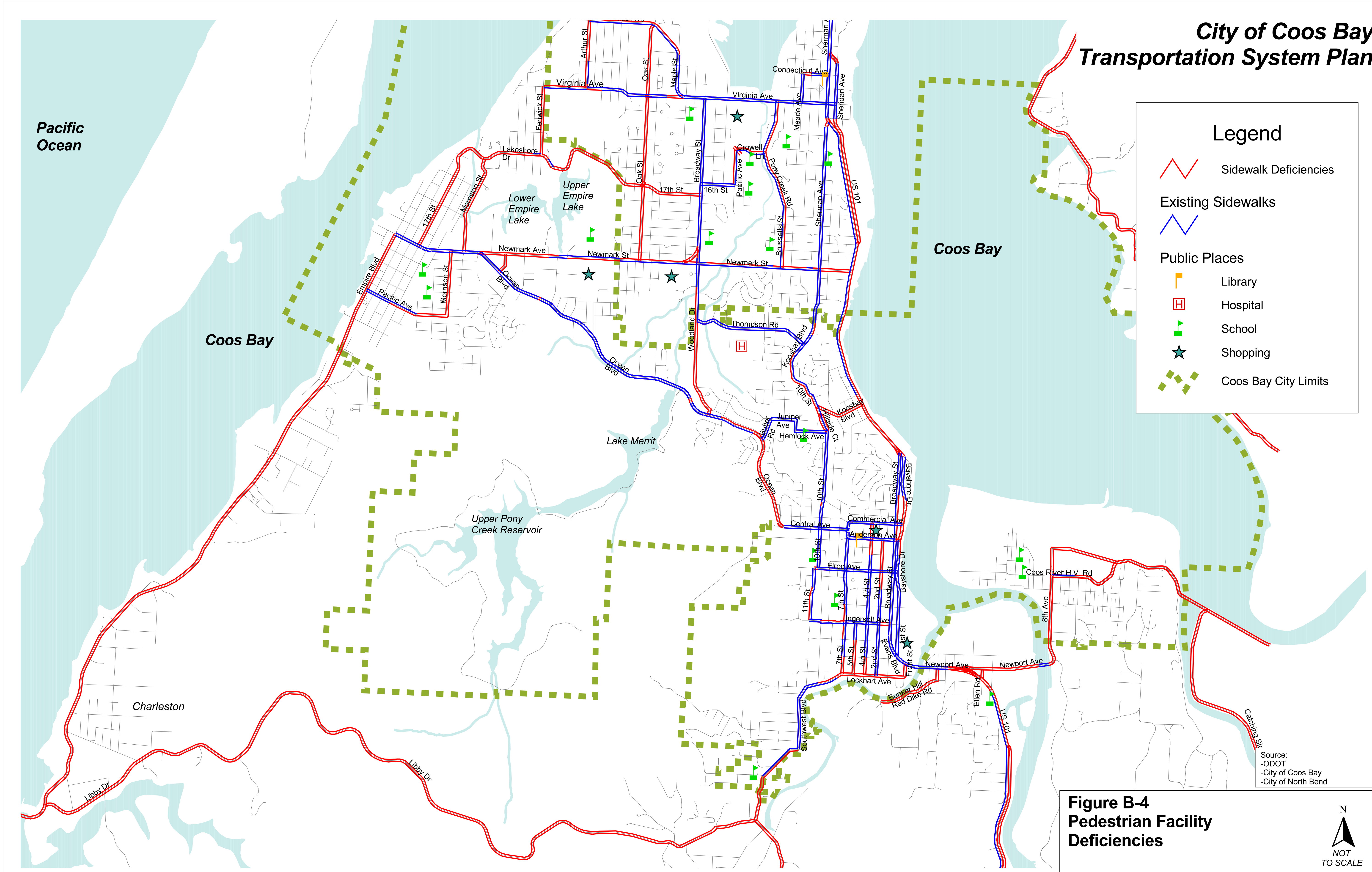


Figure B-4
Pedestrian Facility Deficiencies

Rail

The information reported here is based on the Bay Area Transportation Study (1995). 1995 inspections revealed deficiencies related to deferred maintenance on the line, all of which could be remedied with an adequate maintenance program. If deferred maintenance continues, the physical plant condition will fall below a safe or efficient operating level. Currently, the North Bend Railroad Bridge is in need of significant rehabilitation work.

Inspections and interviews also revealed deficiencies in spurs and switches, service levels, equipment and freight rates. The most glaring deficiencies include an inadequate supply of cars, inopportune switching schedules, inconsistent delivery times and freight rates that are not competitive with truck rates.

Pipeline

A proposed pipeline is being constructed in the Coos Bay area. The alignment of this pipeline and any service mains should be considered when developing any new transportation projects.

Air

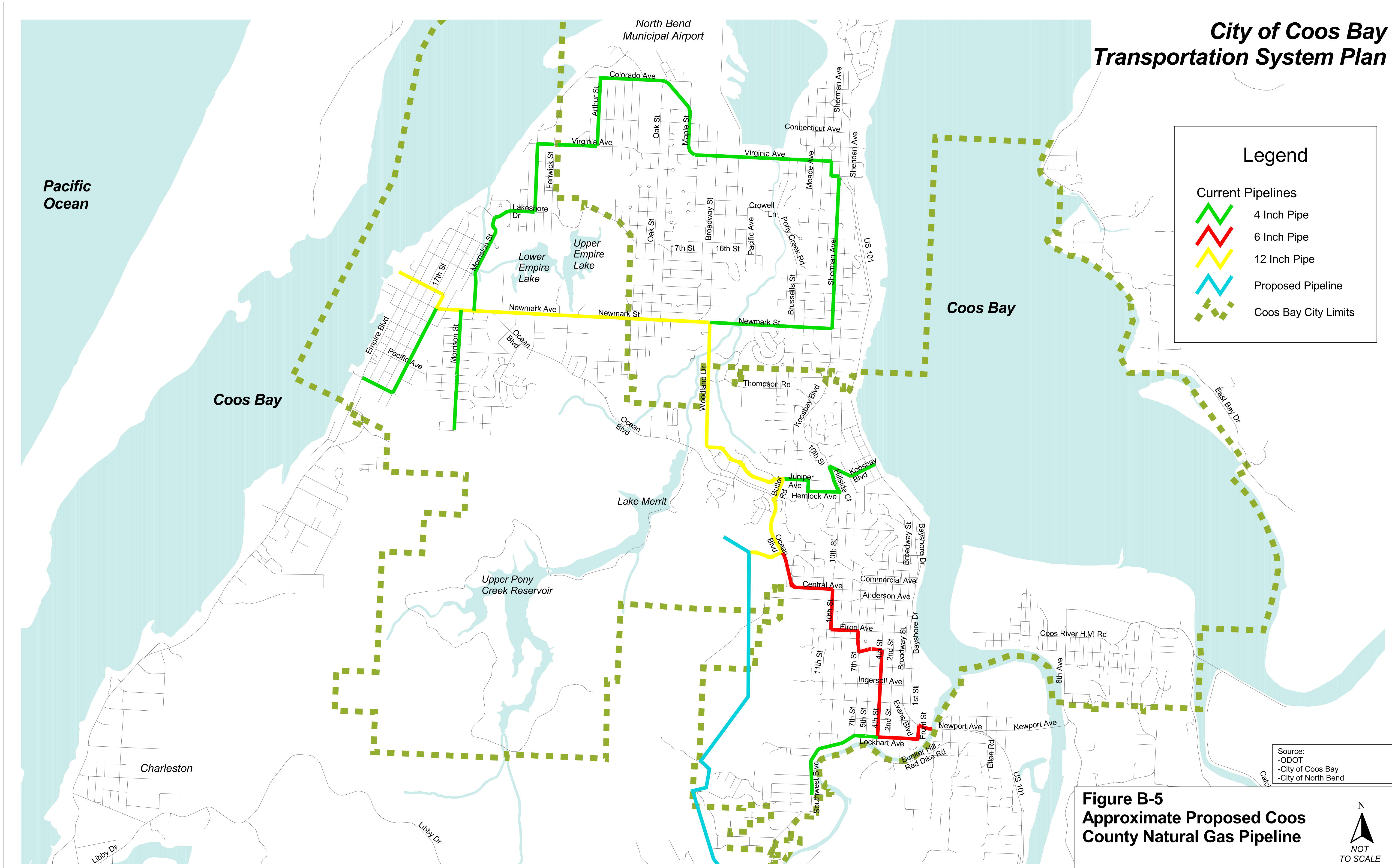
The information reported here is based on the Bay Area Transportation Study (1995). The North Bend Municipal Airport has been maintained and upgraded on a regular basis since the City obtained it many decades ago. At this time, its capacity far surpasses its demand. The City of North Bend completed updated its master plan for the airport in June, 1995. At that time, approximately $25 million of improvements were identified, much of which could be funded by Federal Aviation Administration (FAA) grants. The proposed improvements included upgrading runway, taxiway and apron facilities; construction of a new terminal and general aviation facilities on the east side of the airport, a new roadway from the new terminal to Virginia and improvements to hangars and other facilities on the west side of the airport.

Water

The information reported here is based on the Bay Area Transportation Study (1995). The following challenges are key to increasing utilization and providing effective future development of the marine transportation system at the Port of Coos Bay:

- Dependable rail service and additional improvements to the highway system are key to capitalizing on opportunities in the changing worldwide maritime industry.
- There is limited availability of fully serviced commercial and industrial sites and developable industrial property.
- Some ships are limited in their hours of access to the port by the channel depth (35 feet) and by the orientation of the railroad bridge, which has a narrow opening and is oriented in a way that makes it very difficult to maneuver under the McCullough Bridge.
- Greater cooperation and coordination between business owners is necessary to achieve the long term development of the harbor. Short-term and competing interests prevent development of a long term vision, making the Port less likely to realize its full potential as a deep-draft west coast port.

DKS Associates



C. Alternatives

This chapter summarizes the development and evaluation of transportation system alternatives for travel within the City of Coos Bay. The existing and future (2020) transportation system needs were determined for each city and presented in Appendix B. The alternatives presented in this chapter were reviewed by the TAC and CAC to guide selection of projects and programs to be incorporated into the Transportation System Plan (TSP) for each city. The selection process was based on how well it complies with established goals and objectives for the TSP and general feedback from residents, merchants, and city staff.

This chapter outlines alternatives for the type of improvements that would be necessary as part of a long-range master plan. Phasing of implementation will be necessary since not all of the improvements can be done at once. This will require prioritization of projects and periodic plan updating to reflect current needs. Most importantly, it should be understood that the improvements outlined in the following sections are a guide for long-term (20 years) enhancement and improvement to the transportation systems in Coos Bay.

The proposed solution for many of these cases was a single improvement project or program. In some cases, however, there was a wide range of possible options to resolve identified safety, circulation, capacity or other types of operational issues. The cases are labeled as alternatives for a given location.

Motor Vehicles

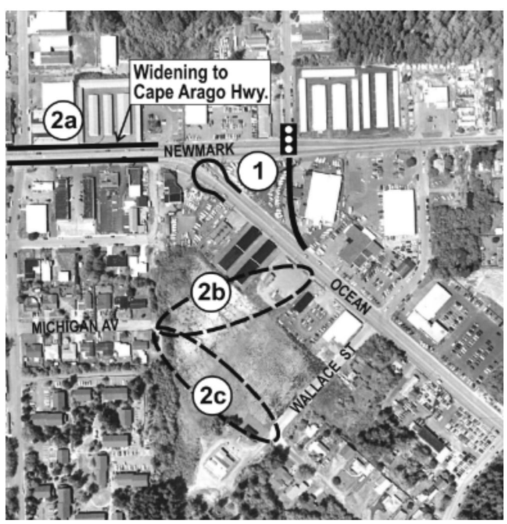
Alternatives were developed for the motor vehicle system in Coos Bay for each location where needs were previously identified. These alternatives typically fall into one or more of the following categories: Intersection capacity/traffic control upgrades, Safety/Access Control, Circulation changes, or TSM and TDM measures (including alternative modes).

The following narrative generally present:

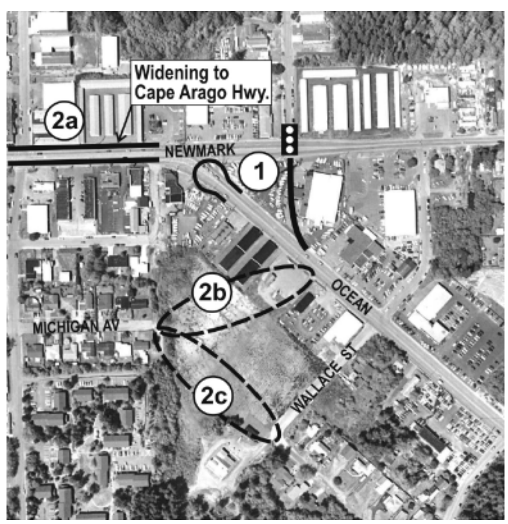
- Location of the project
- Types of existing or future needs (Safety, Capacity, Connectivity, Other)
- Proposed Solution or Alternative
- Potential Impacts
- Preliminary Planning Level Cost in five general categories:
    - Very Low (under $100,000)
    - Low ($100,000 to $249,999)
    - Moderate ($250,000 to $499,999)
    - High ($500,000 to $1,000,000)
    - Very High (over $1,000,000)

These rough costs will be refined once a final project list is selected from the set of alternatives presented in this memo. The purpose of the broad categories is to provide a general level of investment only. In several cases, a sketch graphic is provided to illustrate the improvement concept for a given location.

Location	Safety Issues	Circulation	Connectivity
1. **Newmark Avenue at Ocean Boulevard**	Wide intersection creates high speeds for turning vehicles.	Skewed intersection and narrow east leg prohibits westbound traffic from making left-turns.	Limited pedestrian crossing opportunities because of excessive width and high vehicle speeds.
Alternative	*Benefits*	*Implementation Issues*	*Cost Range*
1.A *-- Realign Ocean Avenue to meet Newmark at a 90-degree angle opposite Ackerman Street. Relocate traffic signal from existing intersection.*	*Improved vehicle and pedestrian circulation. Slower vehicle speeds through intersection.* *Redevelopment opportunity in SW quadrant.*	*Requires purchase of right-of-way and closure of existing roadway connection.*	*Very High*
1.B. *-- Extend corners on south side of existing intersection, and reduce departure lanes on Ocean Boulevard to a single lane.* *Widen westbound approach of Newmark to allow for a separate left-turn pocket. Upgrade traffic signal heads to 12" LED standards.*	*Improved vehicle and pedestrian circulation. Slower vehicle speeds through intersection.*	*Lane reduction requires transition on both ends.*	*Moderate*



Location	Safety Issues	Circulation	Connectivity
2. **Newmark Avenue between Ocean Boulevard & Cape Arago Highway**	None	Forecasted 2020 volume approaching limits for 2/3 lane roadway cross-section	Neighborhoods south of Newmark in Sunset District have limited east-west connections.
Alternative	*Benefits*	*Implementation Issues*	*Cost Range*
***2.A** -- Provide additional motor vehicle capacity on Newmark Avenue to two lanes in each direction between Ocean Boulevard and Cape Arago Highway to the west.* *(See photo below)*	*Less delay during peak hours.*	*Major impacts to on-street parking and curb extensions.*	*Very High*
***2.B & 2.C.** – Extend local street connection via Michigan Avenue connecting to Ocean Avenue (see photo) by two possible alignments. Alt. 2C connects to existing street stub at Wallace Street.*	*Better neighborhood access and circulation. Less travel demand on congested portion of Newmark.*	*Adding traffic to existing local streets can cause friction with residents.*	*Very High*



Location	Safety Issues	Circulation	Connectivity
3. **Newmark Avenue between Norman and Ocean Boulevard**	None	Forecasted 2020 volume approaching limits for 2/3 lane roadway cross-section	None
Alternative	*Benefits*	*Implementation Issues*	*Cost Range*
3.A. – *Coos Bay has a widening project (to provide two travel lanes with a center left turn lane/median) between Norman and Ocean. It appears that is improvement project will likely provide sufficient capacity for the 20-year horizon. It was previously thought that it would eventually be upgraded to a five-lane section, however, based on the 2020 travel demand model, further widening would not be necessary.*	*Less delay during peak hours.* *Adds sidewalks and bike lanes where none exist today.*	*Consolidating existing direct access to maintain facility capacity.*	*Very High*

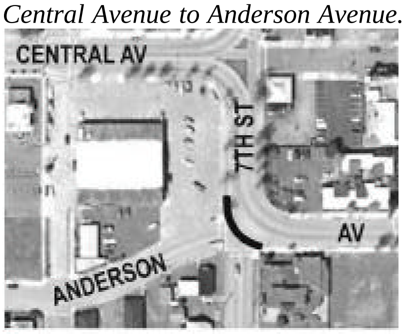
Location	Safety Issues	Circulation	Connectivity
4. **Coos River Highway at Olive Barber (Related to Items 5 & 12)**	Non-standard intersection configuration. Limited sight distance approach from west.	Moderate turning volumes. High truck volumes on Olive Barber.	None
Alternative	*Benefits*	*Implementation Issues*	*Cost Range*
4.A -- *A traffic signal may become warranted in the future. Options for upgraded traffic control should be explored, such as providing an advance signal head for eastbound traffic on Coos River Highway before the horizontal curve if the intersection does become signalized. There is limited sight distance to the intersection from the west.* *Install traffic signal at the point that it becomes warranted. At the point that a traffic signal is installed, consolidate intersection by eliminating southbound to westbound "slip" lane from Coos River Highway to Olive Barber.*	*Superior safety for turning movements.*	*Coordination with on-going Isthmus Slough Bridge replacement study.*	*Moderate*

Location	**Safety Issues**	**Circulation**	**Connectivity**
5. **US 101 at Bunker Hill/Coos River Highway (Related to Items 4 & 12)**	Non-standard intersection configuration. Poor access controls on side streets approaching traffic signals.	Limited vehicle queue storage, especially for large trucks.	None
Alternative	*Benefits*	*Implementation Issues*	*Cost Range*
5.A *-- ODOT is conducting a study to determine feasible alternatives for this area. The recommendation of that study will be incorporated into the TSP when it is available.*	*N/A*	*N/A*	*N/A*

Location	**Safety Issues**	**Circulation**	**Connectivity**
6. **Woodland Drive at Thompson Road**	High turning movement volumes. Relatively high vehicle speeds on Woodland. Lack of controlled pedestrian crossing locations.	Major access point to medical offices and hospital area.	Only east-west collector serving this neighborhood.
Alternative	*Benefits*	*Implementation Issues*	*Cost Range*
6.A *– Consider traffic signal installation as new development occurs in this proximity. Include sidewalk, curb ramps, and emergency vehicle pre-emption signals.*	*Less delays for side street traffic turing onto Woodland Drive. Controlled pedestrian crossings.*	*None.*	*Moderate*

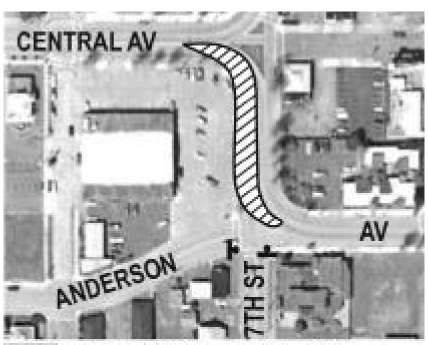
Location	Safety Issues	Circulation	Connectivity
7. **7th Street at Anderson Avenue**	High number of potential vehicle conflicts, undefined pedestrian crossings.	Major intersection for vehicles entering downtown grid network.	Many alternative routes available for side street traffic.

Alternative	*Benefits*	*Implementation Issues*	*Cost Range*
7.A **--** *Construct barrier restricting access from southwest quadrant of intersection to Commercial/Anderson couplet. Retain two-lanes on "S" curve from eastbound Central Avenue to Anderson Avenue.*	*Reduced vehicle movement conflicts.* *Defines appropriate travel way on "S" curve from southbound 7th Avenue to Anderson.*	*Re-routing side street traffic on 7th Street and Anderson.*	*Low*



- Raised Barrier

Alternative	*Benefits*	*Implementation Issues*	*Cost Range*
7.B. **--** *Force traffic traveling eastbound on Central Avenue into one lane (left). Construct median/barrier precluding access from Central/Anderson to 7th Street south of Anderson or to Anderson Street west of 7th Street.*	*Reduced vehicle movement conflicts. Retains full access from existing side streets.*	*Shifts turning traffic onto adjacent blocks for eastbound Central Avenue traffic.*	*Moderate*



- Median/Barrier - Stop Sign

Location	Safety Issues	Circulation	Connectivity
8. **Central / Anderson between 10th Street and Broadway**	No defined bike lanes. Pedestrian crossings partially blocked by on-street parking.	Recent in-road traffic diverters force lane changes.	N/A
Alternative	*Benefits*	*Implementation Issues*	*Cost Range*
***8.A** – Paint red curbs for no on-street parking within 20 feet of corner.*	*Better crosswalk visibility.*	*Minor parking loss.*	*Very Low.*
***8.B.** – Add curb extensions on corners with major pedestrian crossings.*	*Shorter pedestrian crossing distance.*	*Minor parking loss.*	*Low.*
***8.C.** – Consider striping bike lane on right side along parking stalls. May require narrowing of travel lanes or partial removal of on-street parking.*	*Better bike facility definition.*		*Low.*
***8.D.** – Consider removing the in-road traffic diverters at 4th Street and 2nd Street.*	*Eliminates unneeded traffic weaving.*	*Access impacts to businesses at 2nd Street – unless two-way flow re-instated.*	*Moderate*

Location	**Safety Issues**	**Circulation**	**Connectivity**
9. **Central / Anderson between 6th and 7th Avenue**	Vehicles entering at "Y" junction of Central / 7th add potential vehicle conflicts.	Need to reduce conflicts at this junction.	Alternative routes available.
Alternative	*Benefits*	*Implementation Issues*	*Cost Range*
9.A. *– Close Central Avenue between west end of Commercial / Anderson couplet and 7th Street. Re-direct local business traffic to the east via 6th Street and Central.*	*Reduced vehicle conflicts.*	*Minor out-of-direction travel.*	*Low.*

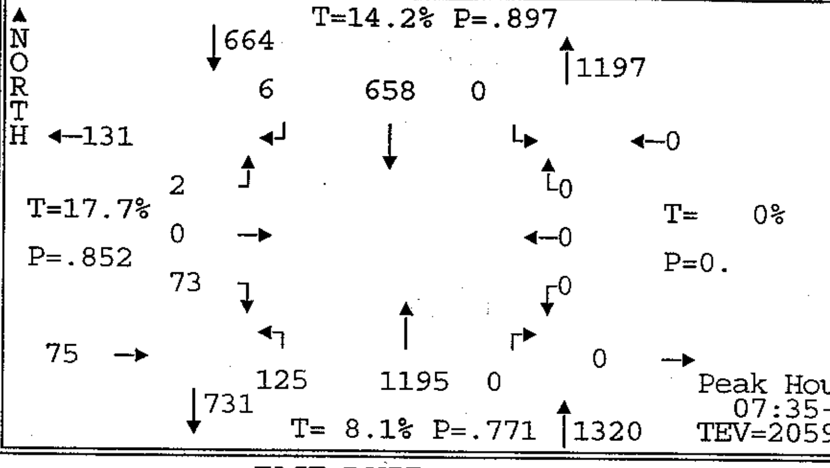
Table C-1 : Other Suggested Improvements in Coos Bay

Locations / Recommendation	*Benefits*	*Implementation Issues*	*Cost Range*
10. Bayshore Drive / North Front Street Area *Access management plan to eliminate mid-block access onto Bayshore Drive as redevelopment occurs.*	*Reduced vehicle conflicts, and improved carrying capacity.*	*Long-term coordination with City to ensure access spacing standard compliance.*	*Very Low (occurs with development).*
11. Bayshore / Johnson Avenue *Evaluate improvement alternatives for eastbound left turning traffic from Johnson Avenue onto Bayshore. Improvement alternatives may include modification of traffic signal to allow for protected phasing for eastbound left turns (the westbound left is prohibited since Bayshore is one-way northbound). In conjunction, striping on Johnson will need to be evaluated since the right-hand lane drops as a right-turn only lane just east of Bayshore at Fred Meyer.*	*More clear travel way for side street movements.*	*Potential modification of traffic signal controls in coordination with ODOT.*	*Very Low.*
12. Isthmus Slough Bridge (Related to Items 4 & 5) *ODOT Bridge Design department is studying alternative designs for the bridge on Coos River Highway. No funding has been allocated for design and construction.*	*More reliable slough crossings.*	*N/A*	*N/A*
13.Anderson Avenue *See Alternatives 8.A.-8.D..*	*Improved Traffic Flow on Anderson Ave.*	*N/A*	*N/A*

Locations / Recommendation	*Benefits*	*Implementation Issues*	*Cost Range*
14. US 101 at Central Avenue *Modify traffic signal to be pedestrian-actuated. This provides safe pedestrian access across US 101 without unnecessarily impeding through motor vehicles. Update traffic signal heads as suggested in #15. Re-evaluate location of stop bar.*	*Reduces delays for motor vehicles.*	*ADA compliant curb ramps.*	*Low.*
15. US 101 Southbound from Central Avenue to Elrod Avenue *Outdated traffic signal heads and traffic controllers in this corridor should be upgraded. Interconnect should be improved, loop detectors installed and timing plans should be developed to better coordinate the signals and progression of vehicles through downtown Coos Bay on US 101 between Commercial Avenue and Elrod Avenue (about 1,000 feet).*	*Significantly reduces motor vehicle delays.* *Improved visibility of traffic signals.*	*Wireless/modem communication between controllers should be considered.*	*High.*
16. 2nd/Golden *High collision rates at this intersection that warrants further exploration and identification of traffic control or other alternatives*	*Identify cause of high number of collisions*	*Cause not yet determined*	*Low/Moderate*
17. Ocean Boulevard (Entire Length) *Restripe to 3 lanes (two travel lanes and a continuous center left turn lane/median) and bike lanes*	*Provides bike lanes on a major arterial*	*N/A*	*Low/Moderate*
18. Lakeshore Drive between Seagate Avenue and Crocker Street *Evaluate potential traffic calming measures to determine appropriate treatment to slow traffic.*	*Net reduction in motor vehicle travel speeds.*	*Coordinate installations with fire district and emergency response units.*	*Low.*

Traffic Counts

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
1ST @ HIGHWAY 101



DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

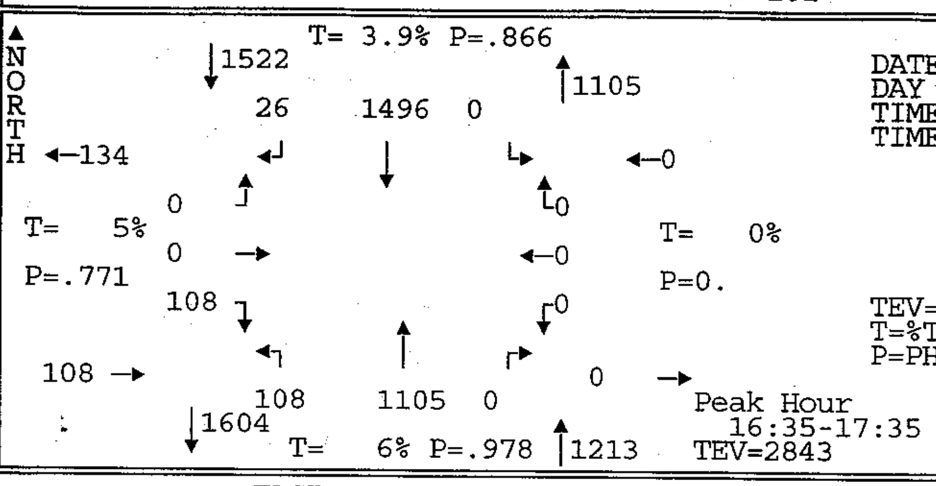
V5AZ

Peak Hour
07:35-08:35
TEV=2059

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
07:00-07:05	6	0	0	0	31	0	3	49	0	0	0	0	89
07:05-07:10	3	0	0	0	44	0	7	62	0	0	0	0	116
07:10-07:15	4	0	0	1	42	0	8	58	0	0	0	0	113
07:15-07:20	4	0	0	0	34	0	5	69	0	0	0	0	112
07:20-07:25	1	0	0	0	40	0	15	85	0	0	0	0	141
07:25-07:30	2	0	0	0	46	0	6	86	0	0	0	0	140
07:30-07:35	4	0	0	0	53	0	8	80	0	0	0	0	145
07:35-07:40	6	0	0	1	50	0	10	118	0	0	0	0	185
07:40-07:45	7	0	0	0	55	0	15	130	0	0	0	0	207
07:45-07:50	6	0	0	0	55	0	21	133	0	0	0	0	215
07:50-07:55	6	0	0	1	57	0	7	122	0	0	0	0	193
07:55-08:00	4	0	0	1	58	0	12	95	0	0	0	0	170
08:00-08:05	7	0	0	0	68	0	8	72	0	0	0	0	155
08:05-08:10	7	0	0	1	46	0	5	82	0	0	0	0	141
08:10-08:15	2	0	0	0	63	0	10	77	0	0	0	0	152
08:15-08:20	7	0	1	1	56	0	4	84	0	0	0	0	153
08:20-08:25	3	0	0	0	50	0	10	88	0	0	0	0	151
08:25-08:30	8	0	1	0	37	0	8	97	0	0	0	0	151
08:30-08:35	10	0	0	1	63	0	15	97	0	0	0	0	186
08:35-08:40	5	0	0	2	46	0	5	85	0	0	0	0	143
08:40-08:45	5	0	0	0	49	0	11	116	0	0	0	0	181
08:45-08:50	6	0	0	1	53	0	6	100	0	0	0	0	166
08:50-08:55	5	0	0	0	51	0	8	89	0	0	0	0	153
08:55-09:00	10	0	0	1	75	0	4	78	0	0	0	0	168
Total Survey	128	0	2	11	1222	0	211	2152	0	0	0	0	3726
PHF	.87	0	.25	.75	.9	0	.68	.78	0	0	0	0	.836
% Trucks	18	0	0	9.1	14.2	0	6.2	8.3	0	0	0	0	10.5
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
07:00-08:00	53	0	0	4	565	0	117	1087	0	0	0	0	1826
07:15-08:15	56	0	0	4	625	0	122	1149	0	0	0	0	1956
07:30-08:30	67	0	2	5	648	0	118	1178	0	0	0	0	2018
07:45-08:45	70	0	2	7	648	0	116	1148	0	0	0	0	1991
08:00-09:00	75	0	2	7	657	0	94	1065	0	0	0	0	1900

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
1ST @ HIGHWAY 101



DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

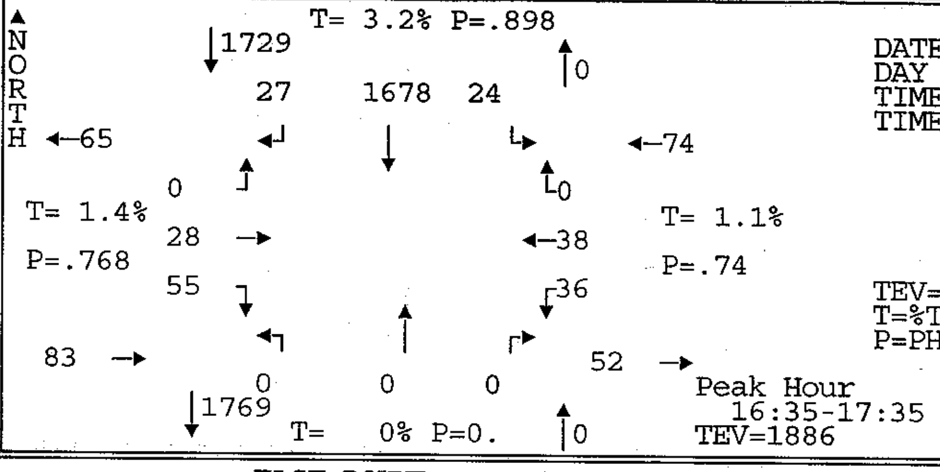
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BA

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	16	0	0	0	123	0	8	96	0	0	0	0	243
16:05-16:10	8	0	0	6	106	0	7	94	0	0	0	0	221
16:10-16:15	5	0	0	1	113	0	10	81	0	0	0	0	210
16:15-16:20	11	0	0	0	115	0	12	79	0	0	0	0	217
16:20-16:25	3	0	0	2	110	0	12	98	0	0	0	0	225
16:25-16:30	7	0	0	3	122	0	8	112	0	0	0	0	252
16:30-16:35	15	0	1	1	119	0	10	81	0	0	0	0	227
16:35-16:40	12	0	0	4	112	0	17	102	0	0	0	0	247
16:40-16:45	8	0	0	2	111	0	10	95	0	0	0	0	226
16:45-16:50	3	0	0	3	102	0	9	77	0	0	0	0	194
16:50-16:55	5	0	0	3	103	0	10	100	0	0	0	0	221
16:55-17:00	5	0	0	2	121	0	6	72	0	0	0	0	206
17:00-17:05	12	0	0	1	123	0	11	110	0	0	0	0	257
17:05-17:10	10	0	0	4	144	0	2	87	0	0	0	0	247
17:10-17:15	11	0	0	2	150	0	8	90	0	0	0	0	261
17:15-17:20	7	0	0	2	137	0	13	96	0	0	0	0	255
17:20-17:25	9	0	0	3	128	0	8	92	0	0	0	0	240
17:25-17:30	15	0	0	0	113	0	5	90	0	0	0	0	223
17:30-17:35	11	0	0	0	152	0	9	94	0	0	0	0	266
17:35-17:40	13	0	0	1	107	0	10	56	0	0	0	0	187
17:40-17:45	9	0	0	1	128	0	12	91	0	0	0	0	241
17:45-17:50	11	0	0	1	132	0	9	74	0	0	0	0	227
17:50-17:55	4	0	0	0	115	0	8	74	0	0	0	0	201
17:55-18:00	8	0	0	2	105	1	5	68	0	0	0	0	189
Total Survey	218	0	1	44	2891	1	219	2109	0	0	0	0	5483
PHF	.77	0	0	.72	.87	0	.75	.96	0	0	0	0	.929
% Trucks	5	0	0	6.8	3.8	0	5.5	6	0	0	0	0	4.8
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	2	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	98	0	1	27	1357	0	119	1087	0	0	0	0	2689
16:15-17:15	102	0	1	27	1432	0	115	1103	0	0	0	0	2780
16:30-17:30	112	0	1	27	1463	0	109	1092	0	0	0	0	2804
16:45-17:45	110	0	0	22	1508	0	103	1055	0	0	0	0	2798
17:00-18:00	120	0	0	17	1534	1	100	1022	0	0	0	0	2794

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
HALL @ HIGHWAY 101 SB



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

Peak Hour
16:35-17:35
TEV=1886

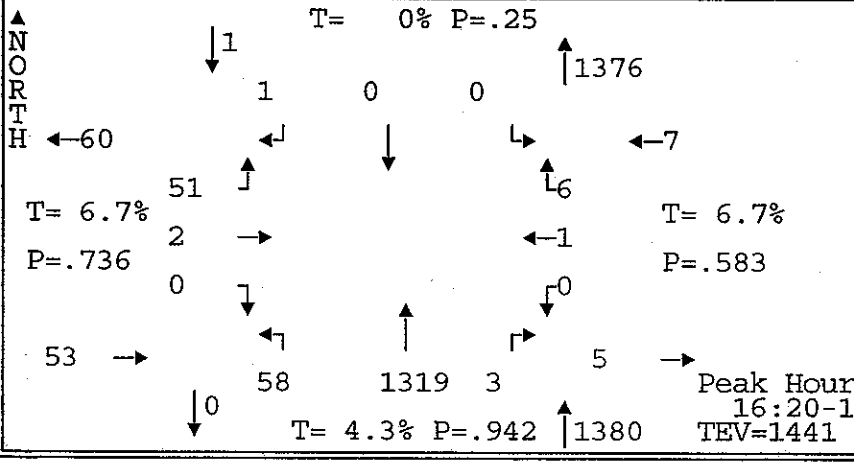
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V4ZT

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	Right	Thru	Left	Right	Thru	Left	Left	Thru	Right	Right	Thru	Left	
16:00-16:05	3	1	0	2	136	4	0	0	0	3	6	0	155
16:05-16:10	5	1	0	4	107	1	0	0	0	5	2	0	125
16:10-16:15	2	0	0	0	124	5	0	0	0	6	2	0	139
16:15-16:20	3	1	0	2	149	3	0	0	0	4	6	0	168
16:20-16:25	2	5	0	2	126	1	0	0	0	3	0	0	139
16:25-16:30	1	2	0	6	127	1	0	0	0	5	5	0	147
16:30-16:35	6	4	0	3	124	2	0	0	0	5	5	0	149
16:35-16:40	3	5	0	2	149	3	0	0	0	3	1	0	166
16:40-16:45	4	1	0	4	154	1	0	0	0	1	2	0	167
16:45-16:50	4	2	0	1	112	2	0	0	0	3	5	0	129
16:50-16:55	7	0	0	2	141	4	0	0	0	0	6	0	160
16:55-17:00	7	2	0	3	124	2	0	0	0	7	4	0	149
17:00-17:05	6	5	0	2	108	3	0	0	0	0	4	0	128
17:05-17:10	2	3	0	2	170	0	0	0	0	5	3	0	185
17:10-17:15	7	2	0	1	138	5	0	0	0	3	5	0	161
17:15-17:20	7	2	0	2	160	3	0	0	0	4	2	0	180
17:20-17:25	1	3	0	4	145	1	0	0	0	2	2	0	158
17:25-17:30	6	2	0	1	141	0	0	0	0	2	1	0	153
17:30-17:35	1	1	0	3	136	0	0	0	0	6	3	0	150
17:35-17:40	5	3	0	3	128	2	0	0	0	9	6	0	156
17:40-17:45	4	2	0	1	109	3	0	0	0	6	1	0	126
17:45-17:50	3	2	0	1	145	0	0	0	0	5	2	0	158
17:50-17:55	2	1	0	1	96	0	0	0	0	5	3	0	108
17:55-18:00	2	3	0	1	149	1	0	0	0	2	4	0	162
Total Survey	93	53	0	53	3198	47	0	0	0	94	80	0	3618
PHF	.69	.7	0	.84	.9	.67	0	0	0	.75	.63	0	.896
% Trucks	1.1	1.9	0	5.7	3	10.6	0	0	0	1.1	1.3	0	3
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	5	0	0	1	0	0	3	0	
Hourly Totals													
16:00-17:00	47	24	0	31	1573	29	0	0	0	45	44	0	1793
16:15-17:15	52	32	0	30	1622	27	0	0	0	39	46	0	1848
16:30-17:30	60	31	0	27	1666	26	0	0	0	35	40	0	1885
16:45-17:45	57	27	0	25	1612	25	0	0	0	47	42	0	1835
17:00-18:00	46	29	0	22	1625	18	0	0	0	49	36	0	1825

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
HALL @ HIGHWAY 101 NB



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

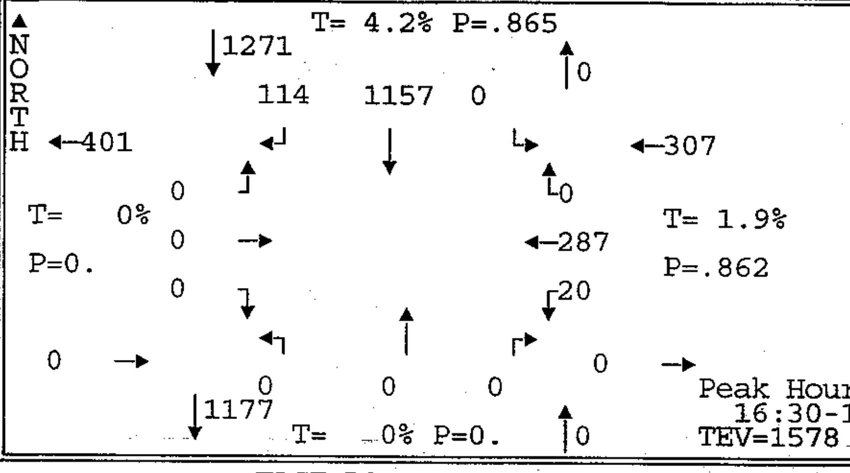
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V4ZU

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	↱	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↲	←	↰	ALL
16:00-16:05	0	0	5	0	0	0	6	91	0	0	0	0	102
16:05-16:10	0	2	0	0	0	0	2	103	0	0	0	0	107
16:10-16:15	0	0	2	0	0	0	3	103	0	0	0	0	108
16:15-16:20	0	0	4	0	0	0	8	106	0	0	0	0	118
16:20-16:25	0	0	3	0	0	0	1	113	1	0	0	0	118
16:25-16:30	0	0	2	0	0	0	11	119	0	0	0	1	133
16:30-16:35	0	1	5	0	0	0	5	116	0	0	0	1	128
16:35-16:40	0	0	9	0	0	0	3	102	0	0	0	0	114
16:40-16:45	0	0	3	1	0	0	5	118	1	0	0	0	128
16:45-16:50	0	0	3	0	0	0	2	97	0	0	1	0	103
16:50-16:55	0	0	5	0	0	0	7	124	1	0	0	1	138
16:55-17:00	0	0	3	0	0	0	6	112	0	0	0	1	122
17:00-17:05	0	0	4	0	0	0	3	97	0	0	0	1	105
17:05-17:10	0	0	4	0	0	0	2	94	0	0	0	1	101
17:10-17:15	0	1	7	0	0	0	8	114	0	0	0	0	130
17:15-17:20	0	0	3	0	0	0	5	113	0	0	0	0	121
17:20-17:25	0	1	3	0	0	0	2	101	0	0	0	0	107
17:25-17:30	0	0	3	0	0	0	1	122	0	0	0	0	126
17:30-17:35	0	0	0	0	0	0	7	96	1	0	0	0	104
17:35-17:40	0	0	6	0	0	0	9	102	0	0	2	2	121
17:40-17:45	0	1	5	0	0	0	4	113	0	0	0	1	124
17:45-17:50	0	0	2	0	0	0	5	102	0	0	0	0	109
17:50-17:55	0	0	0	0	0	0	4	92	0	0	0	0	96
17:55-18:00	0	0	3	0	0	0	6	81	0	0	0	3	93
Total Survey	0	6	84	1	0	0	115	2531	4	0	3	12	2756
PHF	0	.5	.75	.25	0	0	.76	.95	.38	0	.25	.5	.950
% Trucks	0	50	3.6	0	0	0	3.5	4.4	0	0	0	8.3	4.4
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	5	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	0	3	44	1	0	0	59	1304	3	0	1	4	1419
16:15-17:15	0	2	52	1	0	0	61	1312	3	0	1	6	1438
16:30-17:30	0	3	52	1	0	0	49	1310	2	0	1	5	1423
16:45-17:45	0	3	46	0	0	0	56	1285	2	0	3	7	1402
17:00-18:00	0	3	40	0	0	0	56	1227	1	0	2	8	1337

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
COMMERCIAL @ BROADWAY (HIGHWAY 101)



Peak Hour 16:30-17:30
TEV=1578

DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

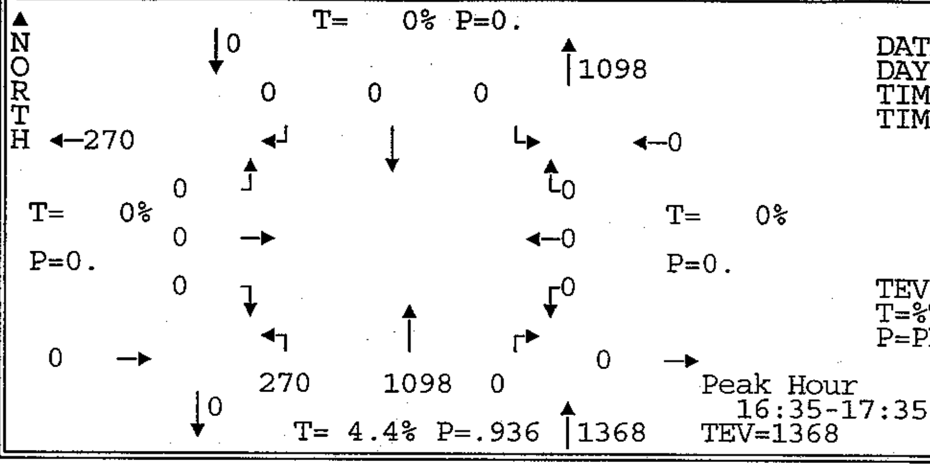
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V4AW

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	EAST BOUND →	EAST BOUND ↱	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	0	0	0	13	80	0	0	0	0	7	22	0	122
16:05-16:10	0	0	0	10	96	0	0	0	0	1	19	0	126
16:10-16:15	0	0	0	16	96	0	0	0	0	2	27	0	141
16:15-16:20	0	0	0	7	105	0	0	0	0	1	21	0	134
16:20-16:25	0	0	0	8	98	0	0	0	0	3	13	0	122
16:25-16:30	0	0	0	10	91	0	0	0	0	1	27	0	129
16:30-16:35	0	0	0	13	106	0	0	0	0	4	19	0	142
16:35-16:40	0	0	0	11	105	0	0	0	0	1	24	0	141
16:40-16:45	0	0	0	9	88	0	0	0	0	0	18	0	115
16:45-16:50	0	0	0	11	83	0	0	0	0	3	22	0	119
16:50-16:55	0	0	0	12	68	0	0	0	0	0	31	0	111
16:55-17:00	0	0	0	11	83	0	0	0	0	0	21	0	115
17:00-17:05	0	0	0	8	104	0	0	0	0	2	25	0	139
17:05-17:10	0	0	0	6	78	0	0	0	0	1	26	0	111
17:10-17:15	0	0	0	11	123	0	0	0	0	1	28	0	163
17:15-17:20	0	0	0	9	103	0	0	0	0	4	29	0	145
17:20-17:25	0	0	0	8	113	0	0	0	0	3	20	0	144
17:25-17:30	0	0	0	5	103	0	0	0	0	1	24	0	133
17:30-17:35	0	0	0	4	70	0	0	0	0	2	18	0	94
17:35-17:40	0	0	0	13	97	0	0	0	0	3	16	0	129
17:40-17:45	0	0	0	14	93	0	0	0	0	2	26	0	135
17:45-17:50	0	0	0	6	76	0	0	0	0	2	16	0	100
17:50-17:55	0	0	0	8	65	0	0	0	0	2	22	0	97
17:55-18:00	0	0	0	5	97	0	0	0	0	0	24	0	126
Total Survey	0	0	0	228	2221	0	0	0	0	46	538	0	3033
PHF	0	0	0	.84	.85	0	0	0	0	.63	.86	0	.872
% Trucks	0	0	0	.9	4.5	0	0	0	0	0	2	0	3.7
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	4	0	0	26	0	0	9	0	0	6	0	
Hourly Totals													
16:00-17:00	0	0	0	131	1099	0	0	0	0	23	264	0	1517
16:15-17:15	0	0	0	117	1132	0	0	0	0	17	275	0	1541
16:30-17:30	0	0	0	114	1157	0	0	0	0	20	287	0	1578
16:45-17:45	0	0	0	112	1118	0	0	0	0	22	286	0	1538
17:00-18:00	0	0	0	97	1122	0	0	0	0	23	274	0	1516

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
COMMERCIAL @ BAYSHORE (HIGHWAY 101)



DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

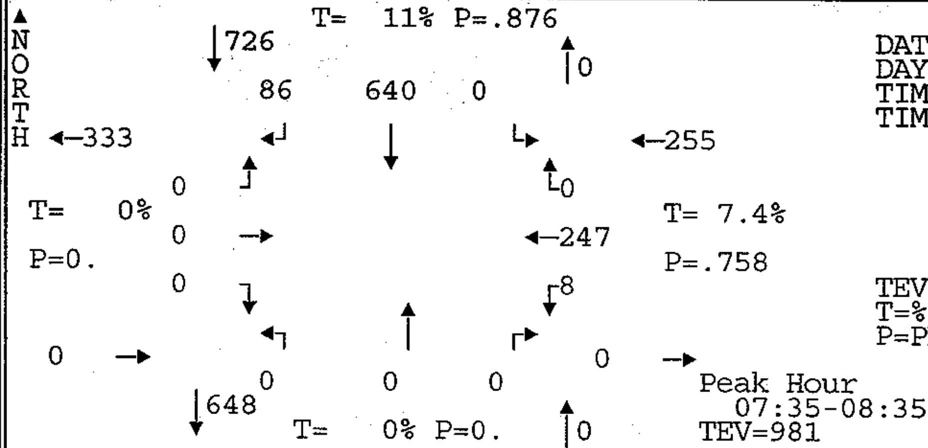
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V4AW

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	EAST BOUND →	EAST BOUND ↰	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	0	0	0	0	0	0	25	88	0	0	0	0	113
16:05-16:10	0	0	0	0	0	0	21	83	0	0	0	0	104
16:10-16:15	0	0	0	0	0	0	24	93	0	0	0	0	117
16:15-16:20	0	0	0	0	0	0	19	80	0	0	0	0	99
16:20-16:25	0	0	0	0	0	0	17	79	0	0	0	0	96
16:25-16:30	0	0	0	0	0	0	22	94	0	0	0	0	116
16:30-16:35	0	0	0	0	0	0	18	86	0	0	0	0	104
16:35-16:40	0	0	0	0	0	0	20	106	0	0	0	0	126
16:40-16:45	0	0	0	0	0	0	17	110	0	0	0	0	127
16:45-16:50	0	0	0	0	0	0	22	82	0	0	0	0	104
16:50-16:55	0	0	0	0	0	0	30	81	0	0	0	0	111
16:55-17:00	0	0	0	0	0	0	14	84	0	0	0	0	98
17:00-17:05	0	0	0	0	0	0	30	83	0	0	0	0	113
17:05-17:10	0	0	0	0	0	0	20	82	0	0	0	0	102
17:10-17:15	0	0	0	0	0	0	28	100	0	0	0	0	128
17:15-17:20	0	0	0	0	0	0	25	110	0	0	0	0	135
17:20-17:25	0	0	0	0	0	0	20	82	0	0	0	0	102
17:25-17:30	0	0	0	0	0	0	25	89	0	0	0	0	114
17:30-17:35	0	0	0	0	0	0	19	89	0	0	0	0	108
17:35-17:40	0	0	0	0	0	0	20	69	0	0	0	0	89
17:40-17:45	0	0	0	0	0	0	26	87	0	0	0	0	113
17:45-17:50	0	0	0	0	0	0	17	75	0	0	0	0	92
17:50-17:55	0	0	0	0	0	0	31	70	0	0	0	0	101
17:55-18:00	0	0	0	0	0	0	25	61	0	0	0	0	86
Total Survey	0	0	0	0	0	0	535	2063	0	0	0	0	2598
PHF	0	0	0	0	0	0	.87	.92	0	0	0	0	.936
% Trucks	0	0	0	0	0	0	1.9	5	0	0	0	0	4.4
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	3	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	0	0	0	0	0	0	249	1066	0	0	0	0	1315
16:15-17:15	0	0	0	0	0	0	257	1067	0	0	0	0	1324
16:30-17:30	0	0	0	0	0	0	269	1095	0	0	0	0	1364
16:45-17:45	0	0	0	0	0	0	279	1038	0	0	0	0	1317
17:00-18:00	0	0	0	0	0	0	286	997	0	0	0	0	1283

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
COMMERCIAL @ HIGHWAY 101 (BROADWAY)



DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 07:00
TIME ENDED: 09:00

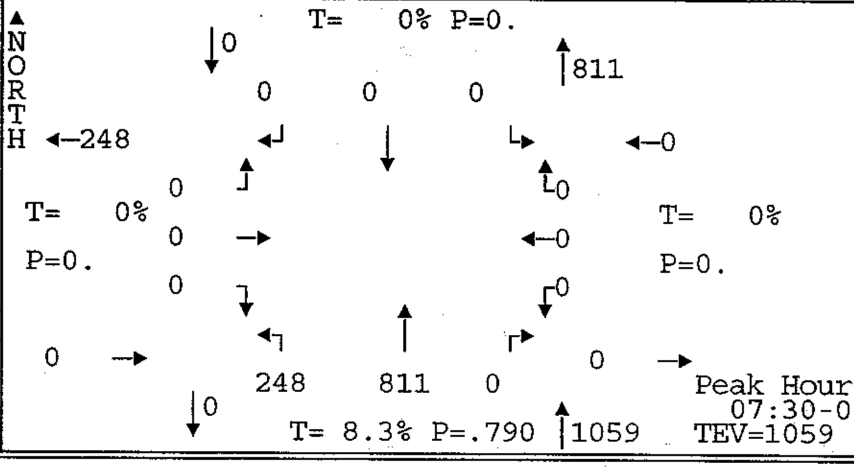
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5AV

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↵	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
07:00-07:05	0	0	0	0	41	0	0	0	0	0	12	0	53
07:05-07:10	0	0	0	3	32	0	0	0	0	1	17	0	53
07:10-07:15	0	0	0	1	34	0	0	0	0	0	10	0	45
07:15-07:20	0	0	0	1	27	0	0	0	0	0	11	0	39
07:20-07:25	0	0	0	0	29	0	0	0	0	0	7	0	36
07:25-07:30	0	0	0	0	30	0	0	0	0	1	11	0	42
07:30-07:35	0	0	0	7	45	0	0	0	0	2	15	0	69
07:35-07:40	0	0	0	3	46	0	0	0	0	0	22	0	71
07:40-07:45	0	0	0	3	58	0	0	0	0	0	23	0	84
07:45-07:50	0	0	0	5	47	0	0	0	0	0	25	0	77
07:50-07:55	0	0	0	9	58	0	0	0	0	2	30	0	99
07:55-08:00	0	0	0	14	53	0	0	0	0	1	25	0	93
08:00-08:05	0	0	0	7	60	0	0	0	0	0	26	0	93
08:05-08:10	0	0	0	11	62	0	0	0	0	1	19	0	93
08:10-08:15	0	0	0	8	41	0	0	0	0	0	12	0	61
08:15-08:20	0	0	0	7	62	0	0	0	0	0	18	0	87
08:20-08:25	0	0	0	7	54	0	0	0	0	1	19	0	81
08:25-08:30	0	0	0	5	45	0	0	0	0	2	19	0	71
08:30-08:35	0	0	0	7	54	0	0	0	0	1	9	0	71
08:35-08:40	0	0	0	4	44	0	0	0	0	0	14	0	62
08:40-08:45	0	0	0	5	33	0	0	0	0	1	10	0	49
08:45-08:50	0	0	0	9	62	0	0	0	0	0	15	0	86
08:50-08:55	0	0	0	1	66	0	0	0	0	2	12	0	81
08:55-09:00	1	0	0	5	63	0	0	0	0	1	7	0	77
Total Survey	1	0	0	122	1146	0	0	0	0	16	388	0	1673
PHF	0	0	0	.67	.91	0	0	0	0	.5	.76	0	.860
% Trucks	0	0	0	5.7	11.6	0	0	0	0	12.5	7.2	0	10.2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	2	0	0	12	0	0	0	0	0	3	0	
Hourly Totals													
07:00-08:00	0	0	0	46	500	0	0	0	0	7	208	0	761
07:15-08:15	0	0	0	68	556	0	0	0	0	7	226	0	857
07:30-08:30	0	0	0	86	631	0	0	0	0	9	253	0	979
07:45-08:45	0	0	0	89	613	0	0	0	0	9	226	0	937
08:00-09:00	1	0	0	76	646	0	0	0	0	9	180	0	912

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
COMMERCIAL @ HIGHWAY 101 (BAYSHORE)



Peak Hour
07:30-08:30
TEV=1059

DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 07:00
TIME ENDED: 09:00

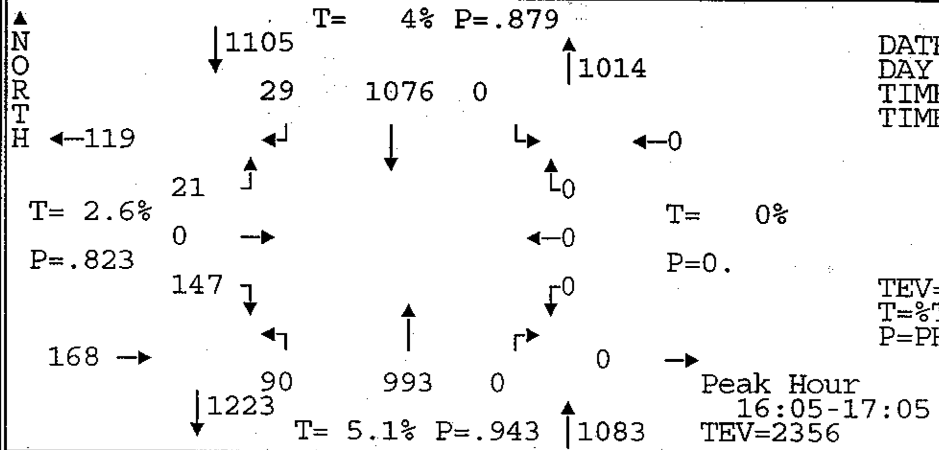
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5AV

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↵	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
07:00-07:05	0	0	0	0	0	0	13	47	0	0	0	0	60
07:05-07:10	0	0	0	0	0	0	17	41	0	0	0	0	58
07:10-07:15	0	0	0	0	0	0	12	46	0	0	0	0	58
07:15-07:20	0	0	0	0	0	0	13	42	0	0	0	0	55
07:20-07:25	0	0	0	0	0	0	14	60	0	0	0	0	74
07:25-07:30	0	0	0	0	0	0	19	41	0	0	0	0	60
07:30-07:35	0	0	0	0	0	0	13	53	0	0	0	0	66
07:35-07:40	0	0	0	0	0	0	22	61	0	0	0	0	83
07:40-07:45	0	0	0	0	0	0	24	66	0	0	0	0	90
07:45-07:50	0	0	0	0	0	0	25	79	0	0	0	0	104
07:50-07:55	0	0	0	0	0	0	27	88	0	0	0	0	115
07:55-08:00	0	0	0	0	0	0	24	92	0	0	0	0	116
08:00-08:05	0	0	0	0	0	0	24	77	0	0	0	0	101
08:05-08:10	0	0	0	0	0	0	21	64	0	0	0	0	85
08:10-08:15	0	0	0	0	0	0	12	63	0	0	0	0	75
08:15-08:20	0	0	0	0	0	0	19	48	0	0	0	0	67
08:20-08:25	0	0	0	0	0	0	19	52	0	0	0	0	71
08:25-08:30	0	0	0	0	0	0	18	68	0	0	0	0	86
08:30-08:35	0	0	0	0	0	0	12	52	0	0	0	0	64
08:35-08:40	0	0	0	0	0	0	13	62	0	0	0	0	75
08:40-08:45	0	0	0	0	0	0	10	62	0	0	0	0	72
08:45-08:50	0	0	0	0	0	0	16	52	0	0	0	0	68
08:50-08:55	0	0	0	0	0	0	11	62	0	0	0	0	73
08:55-09:00	0	0	0	0	0	0	8	51	0	0	0	0	59
Total Survey	0	0	0	0	0	0	406	1429	0	0	0	0	1835
PHF	0	0	0	0	0	0	.82	.78	0	0	0	0	.790
% Trucks	0	0	0	0	0	0	7.9	8.4	0	0	0	0	8.3
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
07:00-08:00	0	0	0	0	0	0	223	716	0	0	0	0	939
07:15-08:15	0	0	0	0	0	0	238	786	0	0	0	0	1024
07:30-08:30	0	0	0	0	0	0	248	811	0	0	0	0	1059
07:45-08:45	0	0	0	0	0	0	224	807	0	0	0	0	1031
08:00-09:00	0	0	0	0	0	0	183	713	0	0	0	0	896

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
KOOS BAY BLVD @ HIGHWAY 101



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

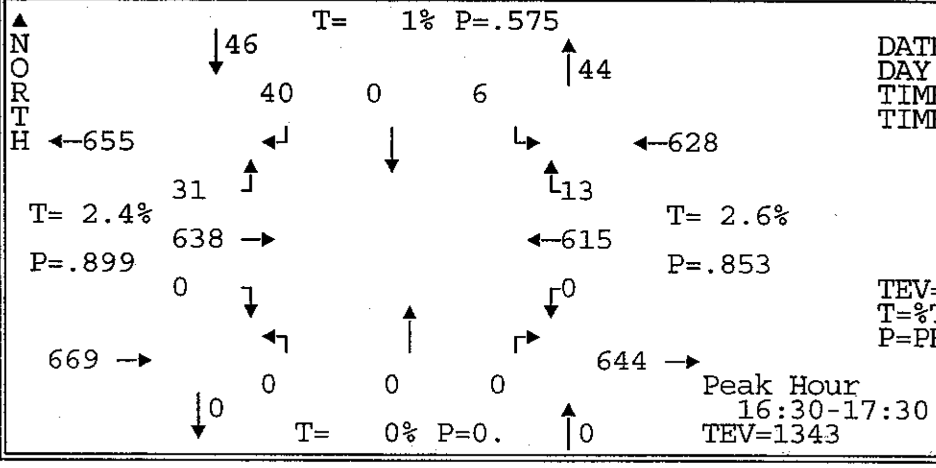
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V4ZX

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND Right	EAST BOUND Thru	EAST BOUND Left	SOUTH BOUND Right	SOUTH BOUND Thru	SOUTH BOUND Left	NORTH BOUND Left	NORTH BOUND Thru	NORTH BOUND Right	WEST BOUND Left	WEST BOUND Thru	WEST BOUND Right	ALL
16:00-16:05	13	0	1	0	72	0	6	68	0	0	0	0	160
16:05-16:10	10	0	3	2	93	0	9	86	0	0	0	0	203
16:10-16:15	7	0	0	4	107	0	7	73	0	0	0	0	198
16:15-16:20	17	0	1	1	107	0	7	75	0	0	0	0	208
16:20-16:25	7	0	2	1	84	0	9	90	0	0	0	0	193
16:25-16:30	10	0	2	2	104	0	6	92	0	0	0	0	216
16:30-16:35	21	0	3	5	64	0	10	65	0	0	0	0	168
16:35-16:40	8	0	2	6	92	0	5	85	0	0	0	0	198
16:40-16:45	15	0	2	2	76	0	8	96	0	0	0	0	199
16:45-16:50	16	0	2	0	98	0	6	77	0	0	0	0	199
16:50-16:55	10	0	1	1	85	0	10	90	0	0	0	0	197
16:55-17:00	14	0	1	5	74	0	8	86	0	0	0	0	188
17:00-17:05	12	0	2	0	92	0	5	78	0	0	0	0	189
17:05-17:10	14	0	1	3	79	0	9	90	0	0	0	0	196
17:10-17:15	7	0	1	0	103	0	5	88	0	0	0	0	204
17:15-17:20	8	0	1	0	87	0	4	85	0	0	0	0	185
17:20-17:25	10	0	3	2	96	0	13	71	0	0	0	0	195
17:25-17:30	5	0	3	4	81	0	7	81	0	0	0	0	181
17:30-17:35	11	0	0	2	69	0	3	93	0	0	0	0	178
17:35-17:40	20	0	2	2	95	0	6	86	0	0	0	0	211
17:40-17:45	12	0	5	2	71	0	2	91	0	0	0	0	183
17:45-17:50	6	0	0	0	87	0	7	79	0	0	0	0	179
17:50-17:55	11	0	1	0	82	0	6	70	0	0	0	0	170
17:55-18:00	5	0	0	3	68	0	5	52	0	0	0	0	133
Total Survey	269	0	39	47	2066	0	163	1947	0	0	0	0	4531
PHF	.84	0	.75	.56	.88	0	.9	.94	0	0	0	0	.954
% Trucks	1.1	0	12.8	4.3	4	0	3.1	5.3	0	0	0	0	4.4
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	2	0	0	1	0	0	0	0	
Hourly Totals													
16:00-17:00	148	0	20	29	1056	0	91	983	0	0	0	0	2327
16:15-17:15	151	0	20	26	1058	0	88	1012	0	0	0	0	2355
16:30-17:30	140	0	22	28	1027	0	90	992	0	0	0	0	2299
16:45-17:45	139	0	22	21	1030	0	78	1016	0	0	0	0	2306
17:00-18:00	121	0	19	18	1010	0	72	964	0	0	0	0	2204

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
BUTLER @ OCEAN BLVD.



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

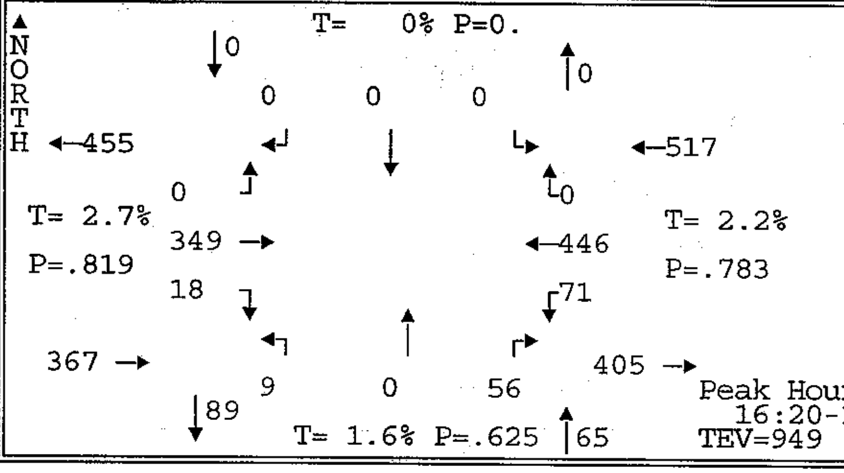
V4ZY

Peak Hour
16:30-17:30
TEV=1343

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓ (Right)	→ (Thru)	↑ (Left)	SOUTH BOUND ↲ (Right)	↓ (Thru)	↳ (Left)	NORTH BOUND ↰ (Left)	↑ (Thru)	↱ (Right)	WEST BOUND ↓ (Left)	← (Thru)	↑ (Right)	ALL
16:00-16:05	0	52	2	3	0	1	0	0	0	0	49	1	108
16:05-16:10	0	45	3	5	0	0	0	0	0	0	52	0	105
16:10-16:15	0	59	1	5	0	1	0	0	0	0	44	1	111
16:15-16:20	0	62	5	3	0	1	0	0	0	0	44	1	116
16:20-16:25	0	42	5	6	0	0	0	0	0	0	35	1	89
16:25-16:30	0	45	3	3	0	5	0	0	0	0	43	2	101
16:30-16:35	0	55	2	2	0	1	0	0	0	0	45	1	106
16:35-16:40	0	63	1	3	0	0	0	0	0	0	43	0	110
16:40-16:45	0	50	3	1	0	1	0	0	0	0	47	0	102
16:45-16:50	0	64	5	3	0	0	0	0	0	0	42	0	114
16:50-16:55	0	40	0	2	0	0	0	0	0	0	43	2	87
16:55-17:00	0	44	2	2	0	0	0	0	0	0	54	2	104
17:00-17:05	0	41	3	2	0	3	0	0	0	0	60	1	110
17:05-17:10	0	64	4	3	0	0	0	0	0	0	57	3	131
17:10-17:15	0	60	4	3	0	1	0	0	0	0	62	1	131
17:15-17:20	0	50	4	6	0	0	0	0	0	0	51	1	112
17:20-17:25	0	58	2	10	0	0	0	0	0	0	54	1	125
17:25-17:30	0	49	1	3	0	0	0	0	0	0	57	1	111
17:30-17:35	0	52	2	2	0	4	0	0	0	0	34	3	97
17:35-17:40	0	58	0	1	0	0	0	0	0	0	37	0	96
17:40-17:45	0	55	2	3	0	0	0	0	0	0	47	2	109
17:45-17:50	0	47	2	6	0	2	0	0	0	0	38	3	98
17:50-17:55	0	55	5	3	0	2	0	0	0	0	50	0	115
17:55-18:00	0	42	1	0	0	1	0	0	0	0	39	0	83
Total Survey	0	1252	62	80	0	23	0	0	0	0	1127	27	2571
PHF	0	.9	.65	.53	0	.38	0	0	0	0	.86	.54	.897
% Trucks	0	2.4	1.6	1.3	0	0	0	0	0	0	2.7	0	2.4
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	2	0	0	1	0	
Hourly Totals													
16:00-17:00	0	621	32	38	0	10	0	0	0	0	541	11	1253
16:15-17:15	0	630	37	33	0	12	0	0	0	0	575	14	1301
16:30-17:30	0	638	31	40	0	6	0	0	0	0	615	13	1343
16:45-17:45	0	635	29	40	0	8	0	0	0	0	598	17	1327
17:00-18:00	0	631	30	42	0	13	0	0	0	0	586	16	1318

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
OCEAN BLVD @ RADAR



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

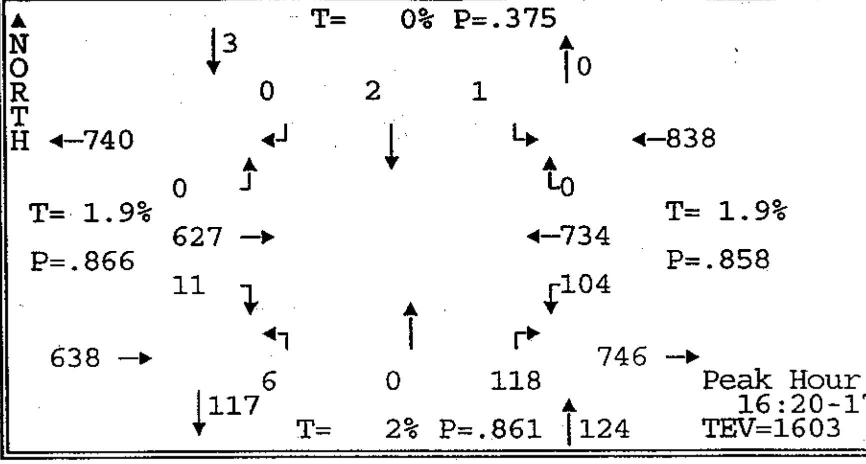
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5AA

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	⬏	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	⬑	ALL
16:00-16:05	0	35	0	0	0	0	0	0	5	9	34	0	83
16:05-16:10	2	23	0	0	0	0	1	0	5	3	34	0	68
16:10-16:15	2	21	0	0	0	0	1	0	6	6	36	0	72
16:15-16:20	0	24	0	0	0	0	1	0	6	3	33	0	67
16:20-16:25	0	41	0	0	0	0	0	0	2	4	41	0	88
16:25-16:30	0	28	0	0	0	0	0	0	6	4	39	0	77
16:30-16:35	0	37	0	0	0	0	1	0	6	4	29	0	77
16:35-16:40	1	26	0	0	0	0	0	0	2	5	28	0	62
16:40-16:45	1	20	0	0	0	0	2	0	4	5	43	0	75
16:45-16:50	2	19	0	0	0	0	2	0	4	8	29	0	64
16:50-16:55	0	31	0	0	0	0	1	0	7	7	29	0	75
16:55-17:00	5	40	0	0	0	0	1	0	9	5	36	0	96
17:00-17:05	4	32	0	0	0	0	1	0	7	5	43	0	92
17:05-17:10	3	26	0	0	0	0	0	0	1	9	61	0	100
17:10-17:15	1	22	0	0	0	0	0	0	5	8	39	0	75
17:15-17:20	1	27	0	0	0	0	1	0	3	7	29	0	68
17:20-17:25	2	23	0	0	0	0	1	0	3	5	42	0	76
17:25-17:30	3	29	0	0	0	0	1	0	2	5	25	0	65
17:30-17:35	2	35	0	0	0	0	0	0	4	5	30	0	76
17:35-17:40	2	29	0	0	0	0	0	0	3	5	28	0	67
17:40-17:45	0	33	0	0	0	0	1	0	2	9	30	0	75
17:45-17:50	1	25	0	0	0	0	2	0	8	5	32	0	73
17:50-17:55	2	15	0	0	0	0	0	0	5	0	23	0	45
17:55-18:00	0	19	0	0	0	0	0	0	1	7	23	0	50
Total Survey	34	660	0	0	0	0	17	0	106	133	816	0	1766
PHF	.38	.82	0	0	0	0	.45	0	.61	.74	.78	0	.823
% Trucks	2.9	2.7	0	0	0	0	0	0	1.9	.8	2.5	0	2.4
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	2	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	13	345	0	0	0	0	10	0	62	63	411	0	904
16:15-17:15	17	346	0	0	0	0	9	0	59	67	450	0	948
16:30-17:30	23	332	0	0	0	0	11	0	53	73	433	0	925
16:45-17:45	25	346	0	0	0	0	9	0	50	78	421	0	929
17:00-18:00	21	315	0	0	0	0	7	0	44	70	405	0	862

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
MORRISON @ CAPE ARAGO HIGHWAY



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

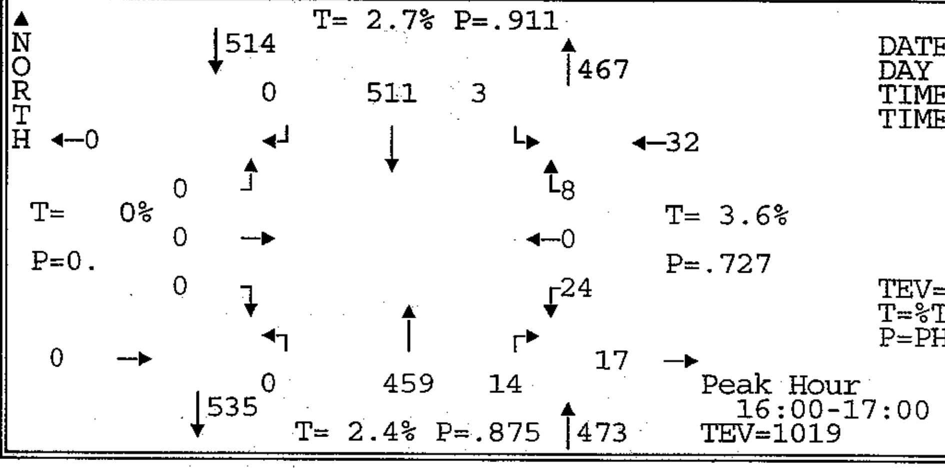
V5AB

Peak Hour
16:20-17:20
TEV=1603

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	2	50	0	0	0	0	1	0	11	6	63	0	133
16:05-16:10	3	55	0	0	0	0	2	0	12	12	63	0	147
16:10-16:15	0	63	0	0	0	0	1	0	11	6	60	0	141
16:15-16:20	1	53	0	0	0	0	1	0	7	10	53	0	125
16:20-16:25	3	39	0	0	0	0	1	0	13	7	60	0	123
16:25-16:30	1	52	0	0	1	1	0	0	9	10	60	0	134
16:30-16:35	0	52	0	0	0	0	0	0	13	7	60	0	132
16:35-16:40	0	43	0	0	0	0	0	0	12	10	58	0	123
16:40-16:45	0	62	0	0	0	0	0	0	9	10	53	0	134
16:45-16:50	1	61	0	0	0	0	0	0	4	5	62	0	133
16:50-16:55	1	52	0	0	0	0	0	0	12	5	53	0	123
16:55-17:00	0	42	0	0	0	0	1	0	10	7	66	0	126
17:00-17:05	0	45	0	0	1	0	0	0	7	5	56	0	114
17:05-17:10	4	67	0	0	0	0	1	0	7	17	63	0	159
17:10-17:15	0	62	0	0	0	0	3	0	16	10	72	0	163
17:15-17:20	1	50	0	0	0	0	0	0	6	11	71	0	139
17:20-17:25	0	43	0	0	0	0	2	0	7	9	57	0	118
17:25-17:30	1	47	0	0	0	1	1	0	13	9	61	0	133
17:30-17:35	0	51	0	0	1	0	0	0	9	14	61	0	136
17:35-17:40	0	53	0	0	0	0	0	0	9	5	51	0	118
17:40-17:45	1	55	0	0	0	0	2	0	7	5	53	0	123
17:45-17:50	0	41	0	0	0	0	1	0	8	10	68	0	128
17:50-17:55	1	52	0	0	0	0	2	0	10	7	57	0	129
17:55-18:00	0	43	0	0	0	0	0	0	9	5	63	0	120
Total Survey	20	1233	0	0	3	2	19	0	231	202	1444	0	3154
PHF	.55	.88	0	0	.5	.25	.38	0	.84	.68	.89	0	.869
% Trucks	5	1.9	0	0	0	0	5.3	0	1.7	1.5	2	0	1.9
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	11	0	0	2	0	0	0	0	0	3	0	
Hourly Totals													
16:00-17:00	12	624	0	0	1	1	7	0	123	95	711	0	1574
16:15-17:15	11	630	0	0	2	1	7	0	119	103	716	0	1589
16:30-17:30	8	626	0	0	1	1	8	0	116	105	732	0	1597
16:45-17:45	9	628	0	0	2	1	10	0	107	102	726	0	1585
17:00-18:00	8	609	0	0	2	1	12	0	108	107	733	0	1580

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
PACIFIC @ CAPE ARGO HIGHWAY



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

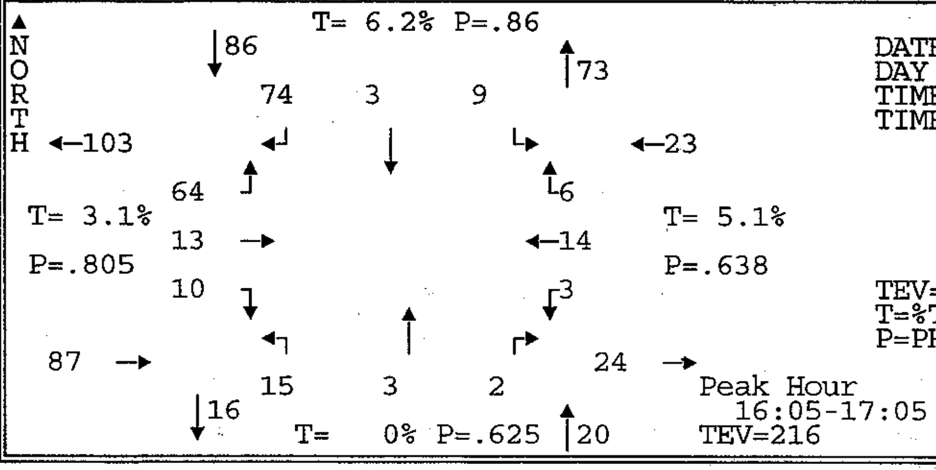
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5AC

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
16:00-16:05	0	0	0	0	47	1	0	55	2	1	0	1	107
16:05-16:10	0	0	0	0	52	0	0	39	3	3	0	1	98
16:10-16:15	0	0	0	0	41	0	0	35	1	1	0	0	78
16:15-16:20	0	0	0	0	47	0	0	45	4	4	0	1	101
16:20-16:25	0	0	0	0	38	0	0	28	1	4	0	1	72
16:25-16:30	0	0	0	0	33	0	0	37	1	0	0	0	71
16:30-16:35	0	0	0	0	46	0	0	38	0	0	0	0	84
16:35-16:40	0	0	0	0	34	0	0	33	1	4	0	1	73
16:40-16:45	0	0	0	0	40	0	0	54	0	3	0	1	98
16:45-16:50	0	0	0	0	40	0	0	33	0	2	0	0	75
16:50-16:55	0	0	0	0	49	2	0	24	0	1	0	1	77
16:55-17:00	0	0	0	0	44	0	0	38	1	1	0	1	85
17:00-17:05	0	0	0	0	37	0	0	52	1	2	0	0	92
17:05-17:10	0	0	0	0	51	0	0	39	0	2	0	2	94
17:10-17:15	0	0	0	0	42	0	0	34	2	1	0	0	79
17:15-17:20	0	0	0	0	48	1	0	28	1	1	0	0	79
17:20-17:25	0	0	0	0	44	0	0	43	3	3	0	2	95
17:25-17:30	0	0	0	0	47	0	0	28	1	0	0	0	76
17:30-17:35	0	0	0	0	35	0	0	33	1	0	0	0	69
17:35-17:40	0	0	0	0	44	0	0	28	1	3	0	0	76
17:40-17:45	0	0	0	0	56	1	0	44	2	1	0	1	105
17:45-17:50	0	0	0	0	43	0	0	34	1	0	0	0	78
17:50-17:55	0	0	0	0	45	1	0	24	1	0	0	2	73
17:55-18:00	0	0	0	0	36	0	0	24	0	3	0	0	63
Total Survey	0	0	0	0	1039	6	0	870	28	40	0	15	1998
PHF	0	0	0	0	.91	.38	0	.89	.44	.67	0	1	.900
% Trucks	0	0	0	0	2.7	0	0	2.5	0	2.5	0	6.7	2.6
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	6	0	0	0	0	
Hourly Totals													
16:00-17:00	0	0	0	0	511	3	0	459	14	24	0	8	1019
16:15-17:15	0	0	0	0	501	2	0	455	11	24	0	8	1001
16:30-17:30	0	0	0	0	522	3	0	444	10	20	0	8	1007
16:45-17:45	0	0	0	0	537	4	0	424	13	17	0	7	1002
17:00-18:00	0	0	0	0	528	3	0	411	14	16	0	7	979

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
2ND @ LOCKART



DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

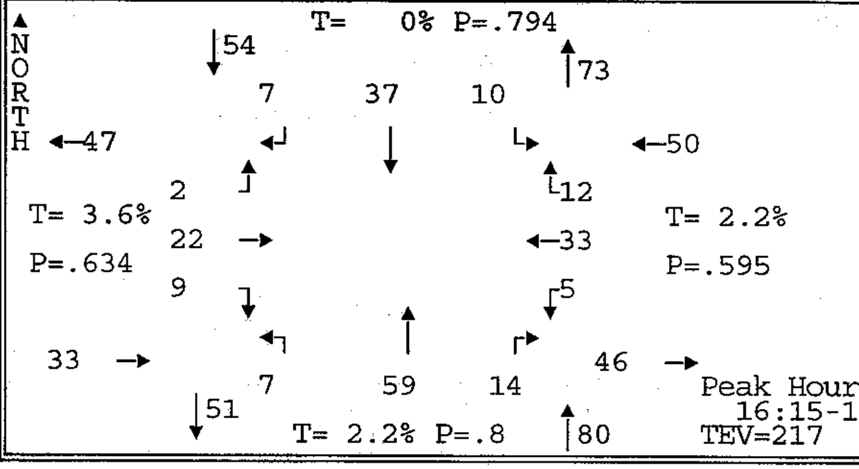
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BH

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	⬏	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	0	1	2	7	1	0	2	0	0	0	1	0	14
16:05-16:10	2	0	5	4	0	1	1	0	0	0	0	1	14
16:10-16:15	1	2	6	10	1	1	1	0	0	1	3	0	26
16:15-16:20	0	1	6	5	0	1	2	0	1	0	1	0	17
16:20-16:25	0	1	9	3	0	0	1	0	0	1	2	0	17
16:25-16:30	3	0	5	8	1	0	1	1	0	1	3	0	23
16:30-16:35	0	2	7	8	0	0	4	0	1	0	2	0	24
16:35-16:40	2	2	5	5	0	1	0	0	0	0	1	2	18
16:40-16:45	0	0	2	5	1	1	1	0	0	0	0	0	10
16:45-16:50	1	0	1	4	0	1	2	1	0	0	1	1	12
16:50-16:55	1	1	3	7	0	1	1	1	0	0	0	1	16
16:55-17:00	0	1	8	10	0	0	1	0	0	0	0	0	20
17:00-17:05	0	3	7	5	0	2	0	0	0	0	1	1	19
17:05-17:10	0	0	5	6	0	0	0	0	0	0	2	0	13
17:10-17:15	0	1	7	6	0	0	0	0	0	0	1	1	16
17:15-17:20	0	3	5	5	0	1	0	1	0	1	0	1	17
17:20-17:25	0	2	12	5	0	0	0	0	0	0	1	1	21
17:25-17:30	0	1	5	6	0	0	3	1	0	0	3	1	20
17:30-17:35	0	0	6	4	0	0	1	0	0	0	2	0	13
17:35-17:40	0	1	6	3	0	1	0	0	0	0	0	0	11
17:40-17:45	0	1	5	2	0	0	0	0	0	0	0	0	8
17:45-17:50	0	0	4	6	0	0	0	0	0	0	0	0	10
17:50-17:55	0	1	3	2	0	0	0	0	0	0	0	0	6
17:55-18:00	0	0	3	4	0	0	0	0	0	0	0	1	8
Total Survey	10	24	127	130	4	11	21	5	2	4	24	11	373
PHF	.5	.65	.76	.84	.75	.75	.63	.38	.5	.38	.5	.5	.830
% Trucks	0	0	3.9	4.6	0	27.3	0	0	0	0	8.3	0	4.3
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	10	11	59	76	4	7	17	3	2	3	14	5	211
16:15-17:15	7	12	65	72	2	7	13	3	2	2	14	6	205
16:30-17:30	4	16	67	72	1	7	12	4	1	1	12	9	206
16:45-17:45	2	14	70	63	0	6	8	4	0	1	11	7	186
17:00-18:00	0	13	68	54	0	4	4	2	0	1	10	6	162

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
2ND @ INGERSOL



DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

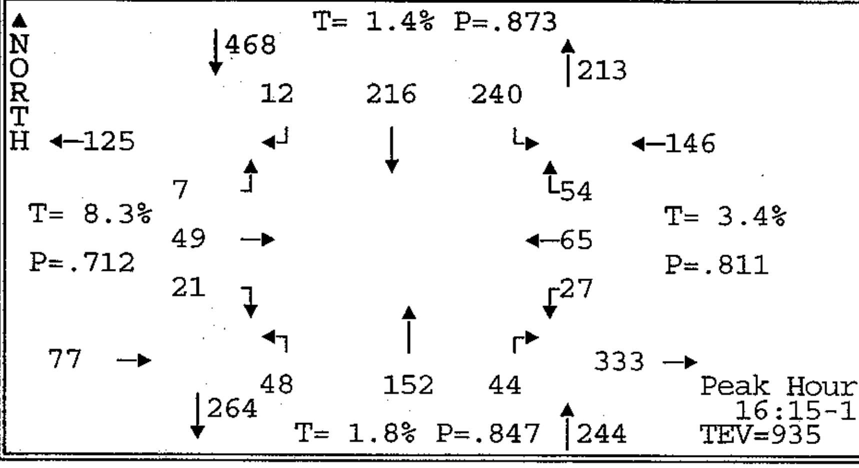
V5BJ

Peak Hour
16:15-17:15
TEV=217

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	↱	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	0	6	3	0	3	1	1	5	4	1	0	0	24
16:05-16:10	1	1	1	0	1	0	1	7	2	0	0	0	14
16:10-16:15	1	0	0	1	4	0	0	6	1	2	1	0	16
16:15-16:20	0	0	0	1	5	2	1	4	3	0	1	1	18
16:20-16:25	2	3	0	2	3	0	0	6	0	0	2	2	20
16:25-16:30	0	2	0	0	3	1	1	2	3	0	2	1	15
16:30-16:35	1	1	0	0	6	0	0	5	1	0	3	1	18
16:35-16:40	0	2	1	0	5	0	0	1	2	0	5	0	16
16:40-16:45	0	1	0	0	0	0	1	6	2	1	0	0	11
16:45-16:50	0	2	1	1	3	1	0	9	0	0	2	0	19
16:50-16:55	1	3	0	0	4	2	1	5	1	0	1	1	19
16:55-17:00	2	3	0	0	1	1	1	3	0	1	4	1	17
17:00-17:05	3	1	0	2	2	1	1	6	0	0	4	1	21
17:05-17:10	0	1	0	0	2	0	0	8	1	3	4	3	22
17:10-17:15	0	3	0	1	3	2	1	4	1	0	5	1	21
17:15-17:20	0	2	0	0	2	1	0	2	0	0	1	2	10
17:20-17:25	2	1	0	1	0	1	0	3	1	3	1	0	13
17:25-17:30	0	3	1	2	0	2	1	1	3	0	3	0	16
17:30-17:35	1	5	0	1	3	0	0	1	1	1	3	2	18
17:35-17:40	2	2	0	1	2	0	0	1	0	2	4	0	14
17:40-17:45	0	3	2	0	0	2	0	3	0	0	2	1	13
17:45-17:50	1	5	1	0	0	0	0	3	2	0	0	1	13
17:50-17:55	1	4	0	1	0	0	1	1	2	2	5	0	17
17:55-18:00	0	2	0	0	0	0	0	2	3	0	3	0	10
Total Survey	18	56	10	14	52	17	11	94	33	16	56	18	395
PHF	.38	.69	.25	.58	.66	.63	.58	.74	.58	.31	.63	.6	.847
% Trucks	16.7	0	0	0	0	0	0	0	9.1	0	1.8	5.6	2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	2	0	0	4	0	0	0	0	
Hourly Totals													
16:00-17:00	8	24	6	5	38	8	7	59	19	5	21	7	207
16:15-17:15	9	22	2	7	37	10	7	59	14	5	33	12	217
16:30-17:30	9	23	3	7	28	11	6	53	12	8	33	10	203
16:45-17:45	11	29	4	9	22	13	5	46	8	10	34	12	203
17:00-18:00	10	32	4	9	14	9	4	35	14	11	35	11	188

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
4TH @ ELROD



DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BG

Peak Hour
16:15-17:15
TEV=935

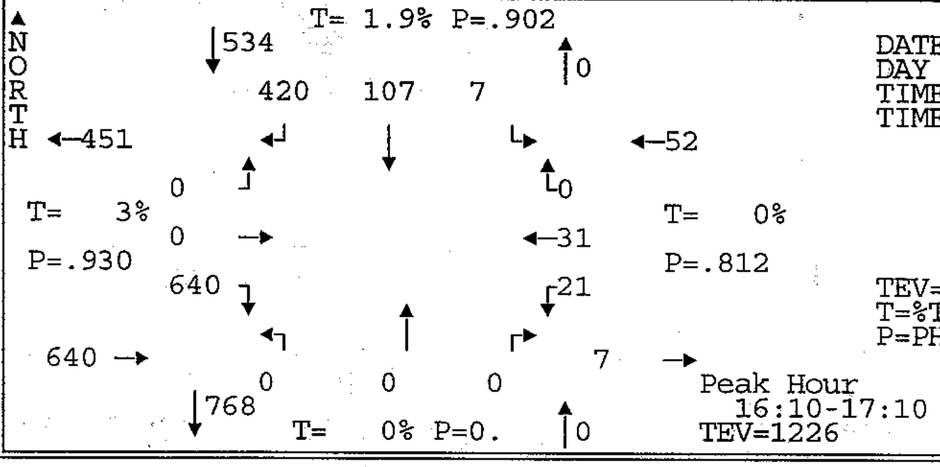
Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	2	5	0	3	23	20	7	15	5	4	10	4	98
16:05-16:10	4	5	1	0	13	18	3	9	2	2	4	8	69
16:10-16:15	2	11	0	1	10	19	6	14	1	1	3	4	72
16:15-16:20	3	3	1	1	15	28	1	16	2	1	8	11	90
16:20-16:25	0	4	1	1	15	15	5	13	5	5	6	5	75
16:25-16:30	0	4	0	0	20	20	4	12	4	1	5	1	71
16:30-16:35	1	4	1	0	10	13	6	14	9	1	6	6	71
16:35-16:40	1	5	1	1	17	23	4	8	4	0	4	3	71
16:40-16:45	2	1	1	0	19	27	1	10	3	1	5	1	71
16:45-16:50	3	2	0	3	18	23	1	17	2	2	8	3	82
16:50-16:55	1	4	1	0	23	21	4	17	1	1	3	3	79
16:55-17:00	2	3	1	0	20	13	7	15	1	2	6	3	73
17:00-17:05	2	10	0	3	31	13	3	10	3	6	4	7	92
17:05-17:10	3	3	0	1	17	19	6	9	5	3	7	6	79
17:10-17:15	3	6	0	2	11	25	6	11	5	4	3	5	81
17:15-17:20	5	2	0	1	15	20	4	14	2	2	1	4	70
17:20-17:25	4	7	1	0	26	16	1	16	2	0	6	2	81
17:25-17:30	1	5	1	1	14	13	6	15	3	3	5	0	67
17:30-17:35	3	2	1	0	11	19	3	12	1	1	8	2	63
17:35-17:40	1	3	0	0	15	16	1	8	3	4	9	2	62
17:40-17:45	0	3	0	2	9	23	5	13	0	2	4	2	63
17:45-17:50	1	3	3	0	15	16	3	11	2	1	3	2	60
17:50-17:55	1	7	1	1	8	10	6	9	0	1	3	3	50
17:55-18:00	2	4	0	2	8	8	2	5	0	1	2	2	36

Total Survey	47	106	15	23	383	438	95	293	65	49	123	89	1726
PHF	.66	.64	.58	.5	.73	.82	.75	.78	.61	.52	.86	.75	.927
% Trucks	0	13.2	0	0	1.6	1.4	1.1	1.7	3.1	0	6.5	1.1	2.5
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	1	0	0	18	0	0	13	0	0	5	0	

Hourly Totals													
16:00-17:00	21	51	8	10	203	240	49	160	39	21	68	52	922
16:15-17:15	21	49	7	12	216	240	48	152	44	27	65	54	935
16:30-17:30	28	52	7	12	221	226	49	156	40	25	58	43	917
16:45-17:45	28	50	5	13	210	221	47	157	28	30	64	39	892
17:00-18:00	26	55	7	13	180	198	46	133	26	28	55	37	804

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
CENTER @ 7TH



DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BF

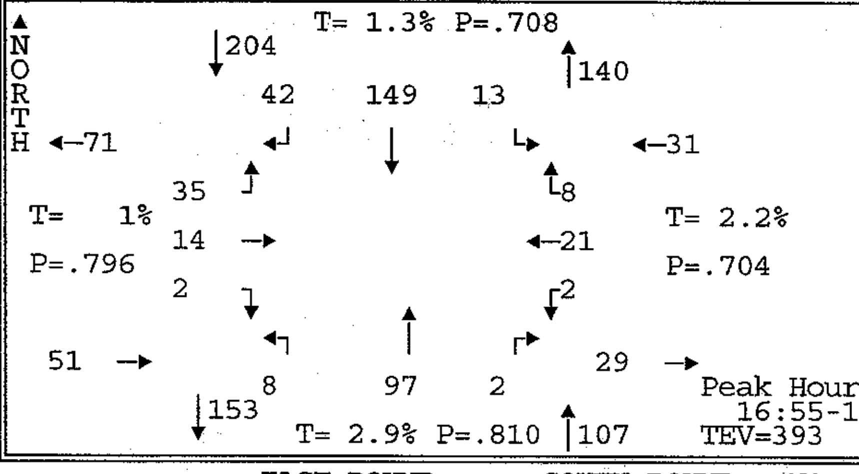
Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	↰	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	55	0	0	31	11	1	0	0	0	1	3	0	102
16:05-16:10	51	0	0	34	6	1	0	0	0	0	1	0	93
16:10-16:15	58	0	0	41	11	0	0	0	0	3	2	0	115
16:15-16:20	63	0	0	33	8	1	0	0	0	2	0	0	107
16:20-16:25	51	0	0	30	7	1	0	0	0	1	4	0	94
16:25-16:30	52	0	0	35	9	0	0	0	0	1	5	0	102
16:30-16:35	49	0	0	28	11	3	0	0	0	1	4	0	96
16:35-16:40	66	0	0	44	5	0	0	0	0	1	2	0	118
16:40-16:45	44	0	0	33	8	1	0	0	0	2	1	0	89
16:45-16:50	59	0	0	23	5	1	0	0	0	4	1	0	93
16:50-16:55	49	0	0	41	7	0	0	0	0	2	3	0	102
16:55-17:00	54	0	0	34	10	0	0	0	0	2	2	0	102
17:00-17:05	48	0	0	41	12	0	0	0	0	1	2	0	104
17:05-17:10	47	0	0	37	14	0	0	0	0	1	5	0	104
17:10-17:15	44	0	0	43	6	1	0	0	0	0	5	0	99
17:15-17:20	64	0	0	40	4	0	0	0	0	2	5	0	115
17:20-17:25	50	0	0	37	8	0	0	0	0	2	4	0	101
17:25-17:30	43	0	0	35	4	3	0	0	0	2	1	0	88
17:30-17:35	51	0	0	28	5	1	0	0	0	0	1	0	86
17:35-17:40	47	0	0	38	5	0	0	0	0	2	6	0	98
17:40-17:45	33	0	0	32	2	0	0	0	0	1	2	0	70
17:45-17:50	43	0	0	34	6	0	0	0	0	2	2	0	87
17:50-17:55	29	0	0	34	7	0	0	0	0	0	2	0	72
17:55-18:00	49	0	0	23	6	0	0	0	0	2	3	0	83

Total Survey	1199	0	0	829	177	14	0	0	0	35	66	0	2320
PHF	.93	0	0	.91	.74	.44	0	0	0	.66	.6	0	.969
% Trucks	3	0	0	2.2	.6	0	0	0	0	0	0	0	2.4
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	

Hourly Totals													
16:00-17:00	651	0	0	407	98	9	0	0	0	20	28	0	1213
16:15-17:15	626	0	0	422	102	8	0	0	0	18	34	0	1210
16:30-17:30	617	0	0	436	94	9	0	0	0	20	35	0	1211
16:45-17:45	589	0	0	429	82	6	0	0	0	19	37	0	1162
17:00-18:00	548	0	0	422	79	5	0	0	0	15	38	0	1107

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
7TH @ INGERSOL



DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

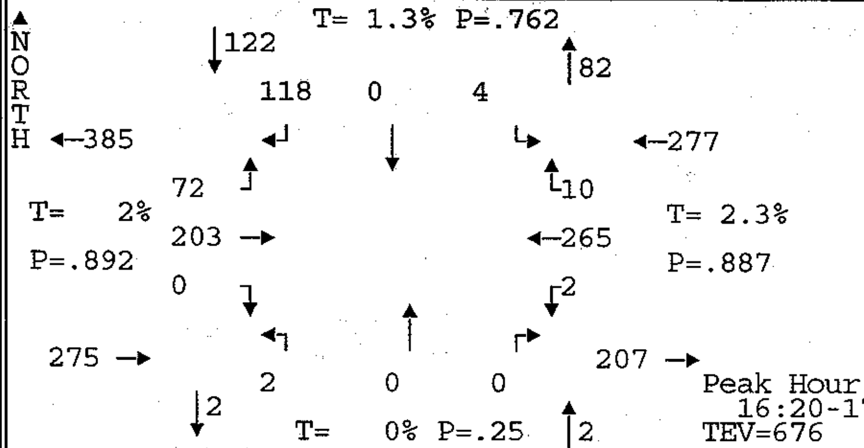
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BK

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	1	2	5	3	9	2	0	8	0	0	0	1	31
16:05-16:10	1	0	5	3	14	1	0	8	0	0	0	0	32
16:10-16:15	0	0	2	3	15	0	1	8	0	0	1	0	30
16:15-16:20	0	2	2	2	12	0	0	12	1	0	0	0	31
16:20-16:25	0	2	1	2	11	0	1	6	0	0	0	0	23
16:25-16:30	0	1	2	1	15	2	0	6	0	0	1	1	29
16:30-16:35	0	0	2	2	17	1	1	4	0	0	2	2	31
16:35-16:40	1	0	2	1	12	2	1	9	0	0	1	1	30
16:40-16:45	0	2	3	2	8	0	2	8	0	1	0	0	26
16:45-16:50	0	1	0	3	9	1	1	9	0	0	1	1	26
16:50-16:55	0	2	1	4	9	1	0	10	0	0	0	0	27
16:55-17:00	0	1	3	4	11	0	0	9	0	0	4	0	32
17:00-17:05	0	1	3	4	17	2	1	10	0	0	2	0	40
17:05-17:10	0	0	3	1	11	0	1	12	0	0	1	1	30
17:10-17:15	0	1	1	7	16	0	0	5	0	1	1	0	32
17:15-17:20	0	1	4	2	24	2	2	8	0	0	2	0	45
17:20-17:25	0	1	2	4	16	1	0	14	0	0	1	0	39
17:25-17:30	0	1	3	2	7	1	0	4	0	0	2	1	21
17:30-17:35	0	2	5	1	7	3	0	10	0	0	1	1	30
17:35-17:40	1	1	3	5	10	3	1	7	0	0	4	2	37
17:40-17:45	0	0	4	5	13	0	0	5	1	1	0	2	31
17:45-17:50	1	2	3	2	10	0	1	6	1	0	1	1	28
17:50-17:55	0	3	1	5	7	1	2	7	0	0	2	0	28
17:55-18:00	2	0	3	5	10	1	2	3	1	0	2	0	29
Total Survey	7	26	63	73	290	24	17	188	4	3	29	14	738
PHF	.25	.7	.73	.81	.67	.46	.67	.78	.25	.5	.75	.4	.846
% Trucks	0	3.8	0	4.1	.7	0	23.5	1.1	0	0	3.4	0	1.8
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	4	0	0	0	0	0	9	0	0	0	0	
Hourly Totals													
16:00-17:00	3	13	28	30	142	10	7	97	1	1	10	6	348
16:15-17:15	1	13	23	33	148	9	8	100	1	2	13	6	357
16:30-17:30	1	11	27	36	157	11	9	102	0	2	17	6	379
16:45-17:45	1	12	32	42	150	14	6	103	1	2	19	8	390
17:00-18:00	4	13	35	43	148	14	10	91	3	2	19	8	390

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
7TH @ LOCKHART



DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

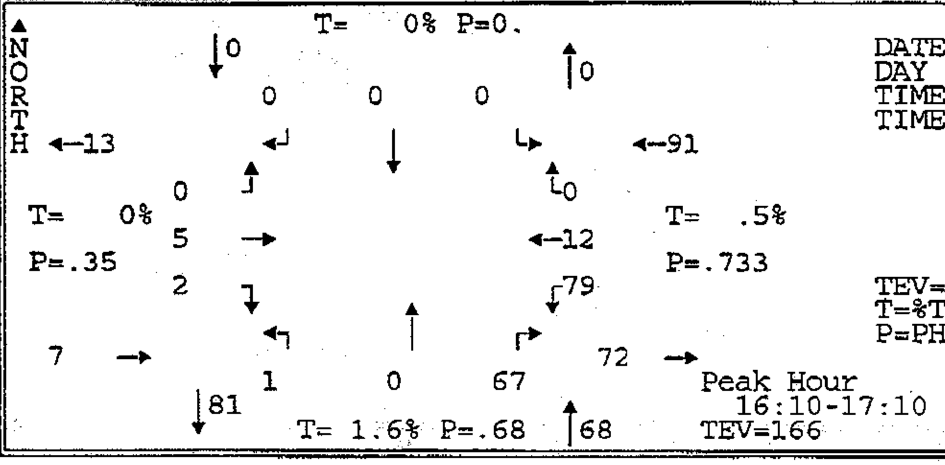
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BI

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			
	↓	→	↑	↵	↓	↳	↰	↑	↱	↓	←	↑	ALL
16:00-16:05	0	20	5	6	0	0	1	0	0	0	27	0	59
16:05-16:10	0	23	8	7	0	1	0	0	0	0	14	0	53
16:10-16:15	0	13	6	9	0	2	0	0	0	0	18	0	48
16:15-16:20	0	15	8	14	0	1	0	0	0	0	13	1	52
16:20-16:25	0	25	6	7	0	0	0	0	0	0	29	0	67
16:25-16:30	0	13	3	9	0	0	0	0	0	0	29	2	56
16:30-16:35	0	27	3	11	0	0	0	0	0	1	9	1	52
16:35-16:40	0	16	4	14	0	0	0	0	0	1	14	1	50
16:40-16:45	0	14	10	8	0	1	0	0	0	0	30	2	65
16:45-16:50	0	18	10	6	0	1	1	0	0	0	25	0	61
16:50-16:55	0	10	6	9	0	0	0	0	0	0	17	0	42
16:55-17:00	0	14	6	7	0	0	1	0	0	0	22	0	50
17:00-17:05	0	10	6	8	0	1	0	0	0	0	16	0	41
17:05-17:10	0	16	5	18	0	0	0	0	0	0	28	0	67
17:10-17:15	0	25	6	9	0	0	0	0	0	0	20	0	60
17:15-17:20	0	15	7	12	0	1	0	0	0	0	26	4	65
17:20-17:25	0	9	5	22	0	0	0	0	0	2	15	1	54
17:25-17:30	0	15	6	10	0	0	0	0	0	0	26	0	57
17:30-17:35	0	26	7	7	0	0	0	0	0	0	15	0	55
17:35-17:40	0	14	9	5	0	0	0	1	0	0	23	0	52
17:40-17:45	0	12	5	9	0	0	0	0	0	0	17	0	43
17:45-17:50	0	20	2	10	0	0	0	0	0	0	21	0	53
17:50-17:55	0	19	5	8	0	0	1	0	0	0	25	0	58
17:55-18:00	0	14	5	5	0	0	0	0	0	0	24	1	49
Total Survey	0	403	143	230	0	8	4	1	0	4	503	13	1309
PHF	0	.78	.69	.76	0	.5	.25	0	0	.25	.9	.63	.880
% Trucks	0	2.2	1.4	.9	0	12.5	0	0	0	0	2	15.4	2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	2	0	0	0	0	
Hourly Totals													
16:00-17:00	0	208	75	107	0	6	3	0	0	2	247	7	655
16:15-17:15	0	203	73	120	0	4	2	0	0	2	252	7	663
16:30-17:30	0	189	74	134	0	4	2	0	0	4	248	9	664
16:45-17:45	0	184	78	122	0	3	2	1	0	2	250	5	647
17:00-18:00	0	195	68	123	0	2	1	1	0	2	256	6	654

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
ELROD @ 11TH (CORRECTED COUNTS)



DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

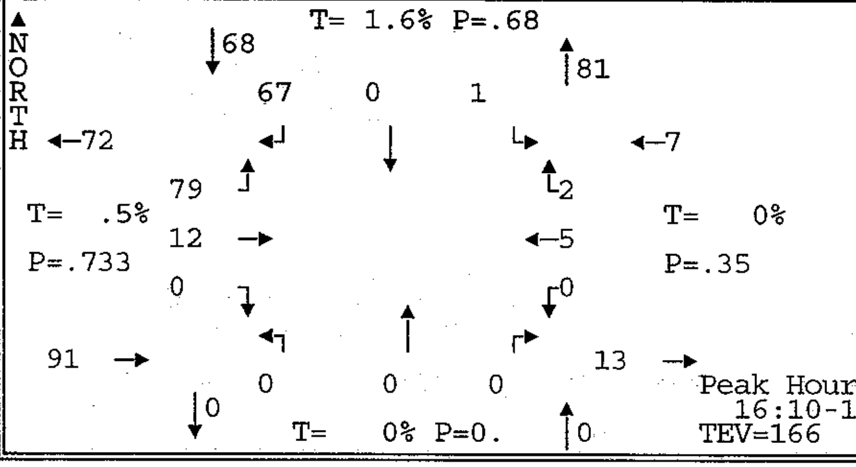
V5BL

Peak Hour
16:10-17:10
TEV=166

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	EAST BOUND →	EAST BOUND ↰	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	0	1	0	0	0	0	0	0	4	4	0	0	9
16:05-16:10	0	0	0	0	0	0	0	0	4	3	1	0	8
16:10-16:15	0	1	0	0	0	0	0	0	5	7	0	0	13
16:15-16:20	0	0	0	0	0	0	0	0	10	14	3	0	27
16:20-16:25	0	0	0	0	0	0	0	0	7	4	3	0	14
16:25-16:30	0	2	0	0	0	0	0	0	8	4	1	0	15
16:30-16:35	0	0	0	0	0	0	0	0	9	8	1	0	18
16:35-16:40	2	1	0	0	0	0	1	0	7	3	1	0	15
16:40-16:45	0	0	0	0	0	0	0	0	5	8	1	0	14
16:45-16:50	0	0	0	0	0	0	0	0	0	9	1	0	10
16:50-16:55	0	1	0	0	0	0	0	0	4	8	0	0	13
16:55-17:00	0	0	0	0	0	0	0	0	4	5	0	0	9
17:00-17:05	0	0	0	0	0	0	0	0	5	4	0	0	9
17:05-17:10	0	0	0	0	0	0	0	0	3	5	1	0	9
17:10-17:15	0	3	0	0	0	0	0	0	5	4	0	0	12
17:15-17:20	0	1	0	0	0	0	0	0	5	10	3	0	19
17:20-17:25	0	0	0	0	0	0	0	0	4	6	1	0	11
17:25-17:30	0	1	0	0	0	0	0	0	2	9	1	0	13
17:30-17:35	0	0	0	0	0	0	0	0	2	5	2	0	9
17:35-17:40	0	0	0	0	0	0	0	0	9	8	2	0	19
17:40-17:45	0	1	0	0	0	0	0	0	5	8	1	0	15
17:45-17:50	0	0	0	0	0	0	0	0	5	12	0	0	17
17:50-17:55	0	0	0	0	0	0	0	0	4	4	2	0	10
17:55-18:00	0	1	0	0	0	0	0	0	6	5	0	0	12
Total Survey	2	13	0	0	0	0	1	0	122	157	25	0	320
PHF	.25	.42	0	0	0	0	.25	0	.67	.79	.43	0	.741
% Trucks	0	0	0	0	0	0	0	0	1.6	.6	0	0	.9
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	3	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	2	6	0	0	0	0	1	0	67	77	12	0	165
16:15-17:15	2	7	0	0	0	0	1	0	67	76	12	0	165
16:30-17:30	2	7	0	0	0	0	1	0	53	79	10	0	152
16:45-17:45	0	7	0	0	0	0	0	0	48	81	12	0	148
17:00-18:00	0	7	0	0	0	0	0	0	55	80	13	0	155

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
ELROD @ 11TH



DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BL

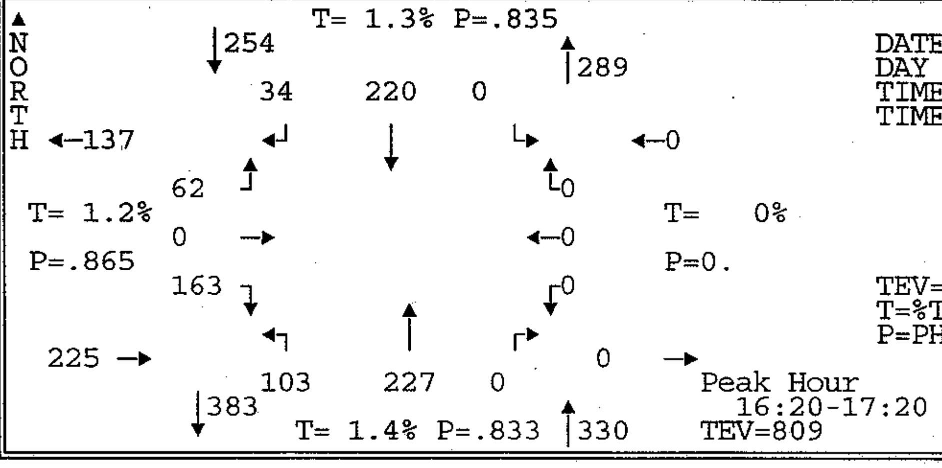
Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↓	→	↑	←	↓	→	←	↑	→	↓	←	↑	
16:00-16:05	0	0	4	4	0	0	0	0	0	0	1	0	9
16:05-16:10	0	1	3	4	0	0	0	0	0	0	0	0	8
16:10-16:15	0	0	7	5	0	0	0	0	0	0	1	0	13
16:15-16:20	0	3	14	10	0	0	0	0	0	0	0	0	27
16:20-16:25	0	3	4	7	0	0	0	0	0	0	0	0	14
16:25-16:30	0	1	4	8	0	0	0	0	0	0	2	0	15
16:30-16:35	0	1	8	9	0	0	0	0	0	0	0	0	18
16:35-16:40	0	1	3	7	0	1	0	0	0	0	1	2	15
16:40-16:45	0	1	8	5	0	0	0	0	0	0	0	0	14
16:45-16:50	0	1	9	0	0	0	0	0	0	0	0	0	10
16:50-16:55	0	0	8	4	0	0	0	0	0	0	1	0	13
16:55-17:00	0	0	5	4	0	0	0	0	0	0	0	0	9
17:00-17:05	0	0	4	5	0	0	0	0	0	0	0	0	9
17:05-17:10	0	1	5	3	0	0	0	0	0	0	0	0	9
17:10-17:15	0	0	4	5	0	0	0	0	0	0	3	0	12
17:15-17:20	0	3	10	5	0	0	0	0	0	0	1	0	19
17:20-17:25	0	1	6	4	0	0	0	0	0	0	0	0	11
17:25-17:30	0	1	9	2	0	0	0	0	0	0	1	0	13
17:30-17:35	0	2	5	2	0	0	0	0	0	0	0	0	9
17:35-17:40	0	2	8	9	0	0	0	0	0	0	0	0	19
17:40-17:45	0	1	8	5	0	0	0	0	0	0	1	0	15
17:45-17:50	0	0	12	5	0	0	0	0	0	0	0	0	17
17:50-17:55	0	2	4	4	0	0	0	0	0	0	0	0	10
17:55-18:00	0	0	5	6	0	0	0	0	0	0	1	0	12

Total Survey	0	25	157	122	0	1	0	0	0	0	13	2	320
PHF	0	.43	.79	.67	0	.25	0	0	0	0	.42	.25	.741
% Trucks	0	0	.6	1.6	0	0	0	0	0	0	0	0	.9
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	3	0	0	0	0	

Hourly Totals													
16:00-17:00	0	12	77	67	0	1	0	0	0	0	6	2	165
16:15-17:15	0	12	76	67	0	1	0	0	0	0	7	2	165
16:30-17:30	0	10	79	53	0	1	0	0	0	0	7	2	152
16:45-17:45	0	12	81	48	0	0	0	0	0	0	7	0	148
17:00-18:00	0	13	80	55	0	0	0	0	0	0	7	0	155

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
KOOSBAY BLVD @ THOMPSON



DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

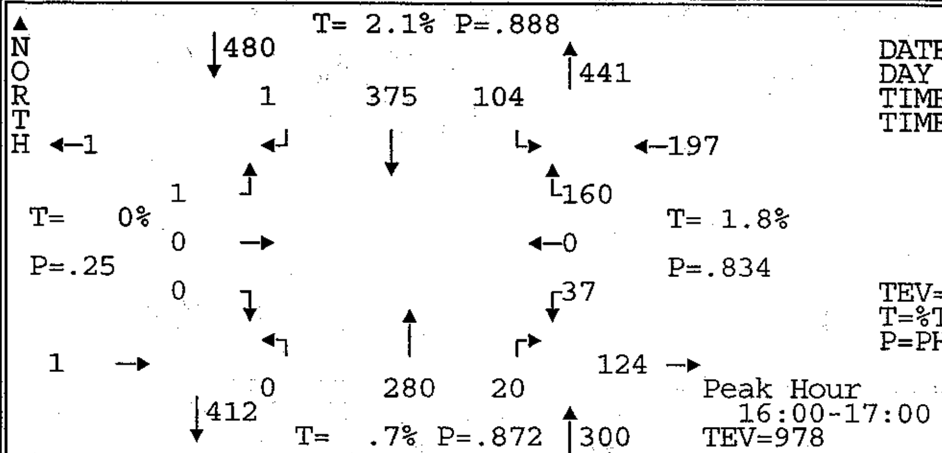
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BD

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	⬏	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	16	0	11	3	12	0	9	21	0	0	0	0	72
16:05-16:10	12	0	5	4	7	0	11	20	0	0	0	0	59
16:10-16:15	16	0	3	5	22	0	14	22	0	0	0	0	82
16:15-16:20	21	0	2	4	20	0	11	12	0	0	0	0	70
16:20-16:25	15	0	5	6	23	0	6	21	0	0	0	0	76
16:25-16:30	11	0	7	3	14	0	6	17	0	0	0	0	58
16:30-16:35	13	0	5	3	15	0	6	16	0	0	0	0	58
16:35-16:40	14	0	5	2	14	0	12	24	0	0	0	0	71
16:40-16:45	15	0	7	0	12	0	9	16	0	0	0	0	59
16:45-16:50	8	0	4	6	19	0	3	17	0	0	0	0	57
16:50-16:55	21	0	6	2	16	0	7	17	0	0	0	0	69
16:55-17:00	9	0	0	3	24	0	9	20	0	0	0	0	65
17:00-17:05	13	0	2	3	13	0	8	17	0	0	0	0	56
17:05-17:10	22	0	8	4	22	0	12	17	0	0	0	0	85
17:10-17:15	11	0	4	2	25	0	17	23	0	0	0	0	82
17:15-17:20	11	0	9	0	23	0	8	22	0	0	0	0	73
17:20-17:25	9	0	4	2	15	0	10	18	0	0	0	0	58
17:25-17:30	12	0	0	4	7	0	10	10	0	0	0	0	43
17:30-17:35	10	0	2	2	13	0	6	15	0	0	0	0	48
17:35-17:40	14	0	2	6	17	0	11	20	0	0	0	0	70
17:40-17:45	7	0	0	2	17	0	6	20	0	0	0	0	52
17:45-17:50	10	0	3	1	11	0	7	19	0	0	0	0	51
17:50-17:55	9	0	1	4	16	0	5	16	0	0	0	0	51
17:55-18:00	5	0	3	1	14	0	7	14	0	0	0	0	44
Total Survey	304	0	98	72	391	0	210	434	0	0	0	0	1509
PHF	.89	0	.74	.71	.79	0	.7	.92	0	0	0	0	.842
% Trucks	1	0	2	1.4	1.3	0	1.4	1.4	0	0	0	0	1.3
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	2	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	171	0	60	41	198	0	103	223	0	0	0	0	796
16:15-17:15	173	0	55	38	217	0	106	217	0	0	0	0	806
16:30-17:30	158	0	54	31	205	0	111	217	0	0	0	0	776
16:45-17:45	147	0	41	36	211	0	107	216	0	0	0	0	758
17:00-18:00	133	0	38	31	193	0	107	211	0	0	0	0	713

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
THOMPSON @ WOODLAND



DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

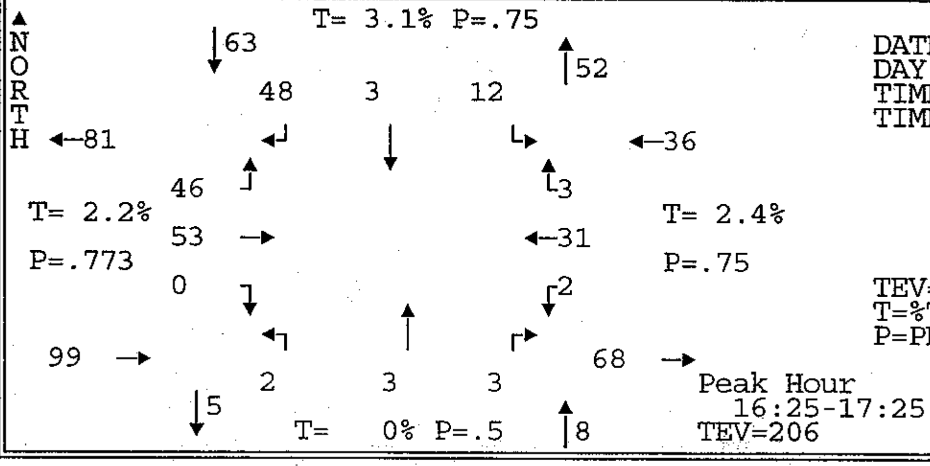
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BE

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			
	↴	→	↑	↵	↓	↳	↰	↑	↱	↓	←	↑	ALL
16:00-16:05	0	0	1	0	32	3	0	26	1	2	0	16	81
16:05-16:10	0	0	0	0	36	10	0	27	2	1	0	19	95
16:10-16:15	0	0	0	0	34	11	0	25	1	3	0	15	89
16:15-16:20	0	0	0	0	36	8	0	20	2	3	0	18	87
16:20-16:25	0	0	0	0	33	12	0	18	2	5	0	8	78
16:25-16:30	0	0	0	1	34	4	0	15	0	2	0	15	71
16:30-16:35	0	0	0	0	26	9	0	30	2	1	0	13	81
16:35-16:40	0	0	0	0	29	12	0	24	3	0	0	15	83
16:40-16:45	0	0	0	0	36	10	0	27	0	2	0	6	81
16:45-16:50	0	0	0	0	32	10	0	21	2	4	0	13	82
16:50-16:55	0	0	0	0	24	13	0	21	3	6	0	10	77
16:55-17:00	0	0	0	0	23	2	0	26	2	8	0	12	73
17:00-17:05	0	0	0	0	26	5	0	25	1	0	0	14	71
17:05-17:10	0	0	0	0	36	7	0	30	3	1	0	14	91
17:10-17:15	0	0	0	0	21	6	0	23	5	3	0	11	69
17:15-17:20	0	0	0	0	29	10	0	24	0	5	0	13	81
17:20-17:25	0	0	0	0	24	5	0	18	0	0	0	15	62
17:25-17:30	0	0	0	0	24	14	0	17	1	1	0	9	66
17:30-17:35	0	0	0	0	19	10	0	19	1	1	0	10	60
17:35-17:40	0	0	0	0	24	5	0	25	1	1	0	11	67
17:40-17:45	0	0	0	0	30	12	0	17	3	1	0	7	70
17:45-17:50	0	0	0	0	16	3	0	22	1	1	0	4	47
17:50-17:55	0	0	0	0	22	7	0	19	1	3	0	10	62
17:55-18:00	0	0	0	0	29	5	0	16	1	2	0	5	58
Total Survey	0	0	1	1	675	193	0	535	38	56	0	283	1782
PHF	0	0	.25	.25	.88	.79	0	.86	.71	.51	0	.77	.902
% Trucks	0	0	0	0	2.5	.5	0	.7	0	1.8	0	1.8	1.6
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	1	0	0	0	0	0	5	0	0	0	0	
Hourly Totals													
16:00-17:00	0	0	1	1	375	104	0	280	20	37	0	160	978
16:15-17:15	0	0	0	1	356	98	0	280	25	35	0	149	944
16:30-17:30	0	0	0	0	330	103	0	286	22	31	0	145	917
16:45-17:45	0	0	0	0	312	99	0	266	22	31	0	139	869
17:00-18:00	0	0	0	0	300	89	0	255	18	19	0	123	804

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
CROKER @ LAKESHORE



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

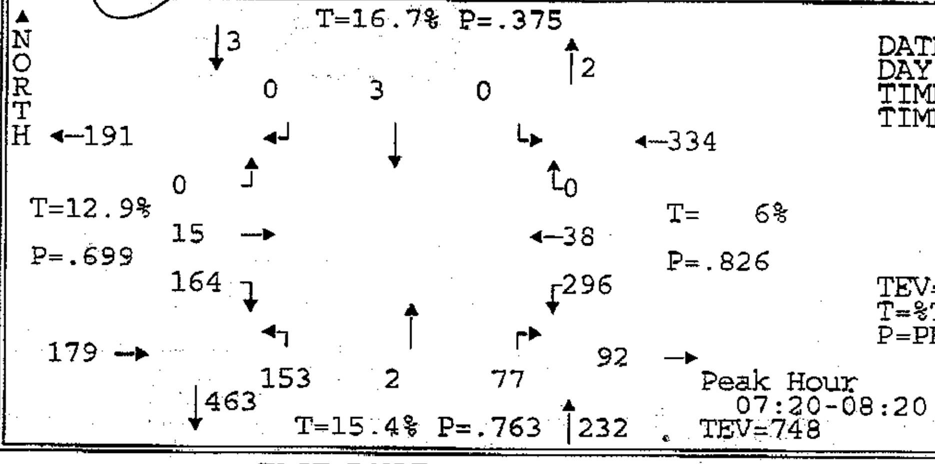
V4ZZ

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	↑	SOUTH BOUND ↵	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	0	4	5	3	0	3	0	0	0	0	5	0	20
16:05-16:10	0	2	3	3	0	0	0	0	0	0	5	0	13
16:10-16:15	0	2	5	2	0	0	0	0	0	0	2	0	11
16:15-16:20	0	3	4	0	0	0	0	0	0	0	1	1	9
16:20-16:25	0	3	4	2	0	0	0	0	1	0	2	0	12
16:25-16:30	0	7	1	7	2	0	0	0	0	0	3	0	20
16:30-16:35	0	0	4	3	0	1	1	0	0	0	4	1	14
16:35-16:40	0	4	10	2	0	0	0	0	1	0	4	0	21
16:40-16:45	0	3	1	1	0	1	0	0	0	0	2	0	8
16:45-16:50	0	4	2	4	0	1	0	1	0	0	2	1	15
16:50-16:55	0	7	2	4	0	0	1	0	0	1	1	0	16
16:55-17:00	0	7	3	4	1	4	0	0	1	0	3	1	24
17:00-17:05	0	7	6	4	0	1	0	2	0	0	3	0	23
17:05-17:10	0	4	4	6	0	1	0	0	0	0	2	0	17
17:10-17:15	0	2	5	4	0	2	0	0	0	0	3	0	16
17:15-17:20	0	1	1	4	0	0	0	0	1	1	0	0	8
17:20-17:25	0	7	7	5	0	1	0	0	0	0	4	0	24
17:25-17:30	0	7	5	4	0	0	0	0	0	0	3	0	19
17:30-17:35	0	4	4	2	0	0	0	0	1	0	1	1	13
17:35-17:40	0	5	3	1	0	1	0	0	0	0	3	3	16
17:40-17:45	0	4	3	3	0	0	0	0	0	0	4	1	15
17:45-17:50	1	1	3	6	0	0	0	0	0	2	2	0	15
17:50-17:55	0	2	3	3	0	0	0	0	0	0	5	0	13
17:55-18:00	0	2	5	1	0	0	0	0	0	0	6	0	14
Total Survey	1	92	93	78	3	16	2	3	5	4	70	9	376
PHF	0	.63	.77	.86	.38	.5	.5	.38	.75	.5	.7	.38	.804
% Trucks	0	2.2	2.2	2.6	0	6.3	0	0	0	0	2.9	0	2.4
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	3	0	0	3	0	0	0	0	
Hourly Totals													
16:00-17:00	0	46	44	35	3	10	2	1	3	1	34	4	183
16:15-17:15	0	51	46	41	3	11	2	3	3	1	30	4	195
16:30-17:30	0	53	50	45	1	12	2	3	3	2	31	3	205
16:45-17:45	0	59	45	45	1	11	1	3	3	2	29	7	206
17:00-18:00	1	46	49	43	0	6	0	2	2	3	36	5	193

(19)

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT (CORRECTED COUNTS)
COOS RIVER HIGHWAY (6TH AVENUE) AT D STREET



DATE OF COUNT: 09/17/02
DAY OF WEEK: Tue
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

PMMK

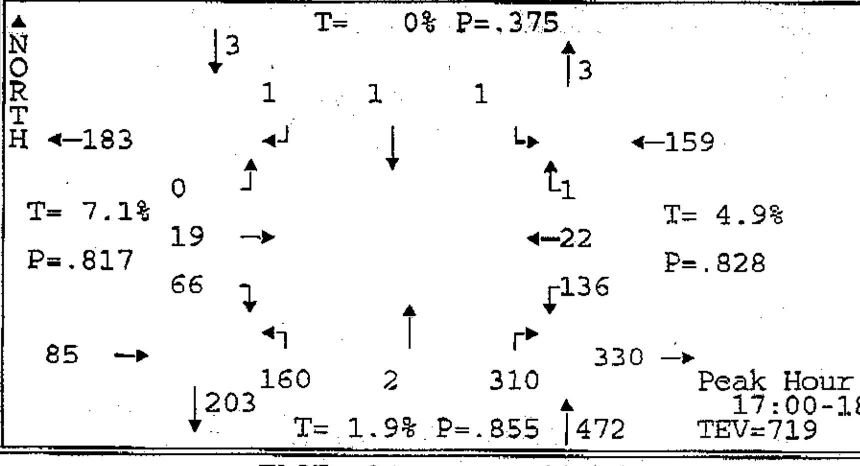
Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			
	⤵	→	↰	↲	↓	↳	↰	↑	↱	↓	←	↑	ALL
07:00-07:05	3	0	0	0	0	0	10	0	6	14	2	0	35
07:05-07:10	4	0	0	0	0	0	5	0	3	20	0	0	32
07:10-07:15	5	1	0	0	0	0	10	0	4	19	3	0	42
07:15-07:20	6	1	0	0	1	0	3	0	11	27	1	0	50
07:20-07:25	8	1	0	0	0	0	11	0	5	24	4	0	53
07:25-07:30	10	2	0	0	0	0	6	0	3	24	6	0	51
07:30-07:35	11	0	0	0	0	0	11	0	5	19	3	0	49
07:35-07:40	13	0	0	0	0	0	8	1	4	38	2	0	66
07:40-07:45	12	0	0	0	0	0	22	0	7	32	2	0	75
07:45-07:50	24	2	0	0	2	0	18	0	7	22	5	0	80
07:50-07:55	19	1	0	0	0	0	14	0	8	34	3	0	79
07:55-08:00	17	1	0	0	0	0	13	1	10	22	6	0	70
08:00-08:05	17	0	0	0	0	0	12	0	5	18	5	0	57
08:05-08:10	14	3	0	0	0	0	17	0	10	19	0	0	63
08:10-08:15	12	3	0	0	1	0	11	0	4	14	1	0	46
08:15-08:20	7	2	0	0	0	0	10	0	9	30	1	0	59
08:20-08:25	10	0	0	0	0	0	5	0	3	19	0	0	37
08:25-08:30	9	1	0	0	0	0	4	0	8	13	1	0	36
08:30-08:35	6	1	0	0	0	0	2	0	5	19	0	0	33
08:35-08:40	12	0	0	0	1	0	5	1	10	20	0	1	50
08:40-08:45	6	1	0	0	1	0	5	0	7	17	3	0	40
08:45-08:50	2	2	0	0	0	0	5	0	7	14	1	0	31
08:50-08:55	3	0	0	0	0	0	5	1	6	8	0	0	23
08:55-09:00	4	0	0	0	0	0	1	0	7	10	0	0	22

Total Survey	234	22	0	0	6	0	213	4	154	496	49	1	1179
PHF	.68	.47	0	0	.38	0	.71	.5	.77	.8	.68	0	.799
% Trucks	12.4	18.2	0	0	16.7	0	14.1	0	17.5	5	14.3	100	10.5
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	1	0	0	0	0	0	5	0	

Hourly Totals													
07:00-08:00	132	9	0	0	3	0	131	2	73	295	37	0	682
07:15-08:15	163	14	0	0	4	0	146	2	79	293	38	0	739
07:30-08:30	165	13	0	0	3	0	145	2	80	280	29	0	717
07:45-08:45	153	15	0	0	5	0	116	2	86	247	25	1	650
08:00-09:00	102	13	0	0	3	0	82	2	81	201	12	1	497

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT (CORRECTED COUNTS)
COOS RIVER HIGHWAY (6TH AVENUE) AT D STREET



DATE OF COUNT: 09/17/02
DAY OF WEEK: Tue
TIME STARTED: 16:00
TIME ENDED: 18:00

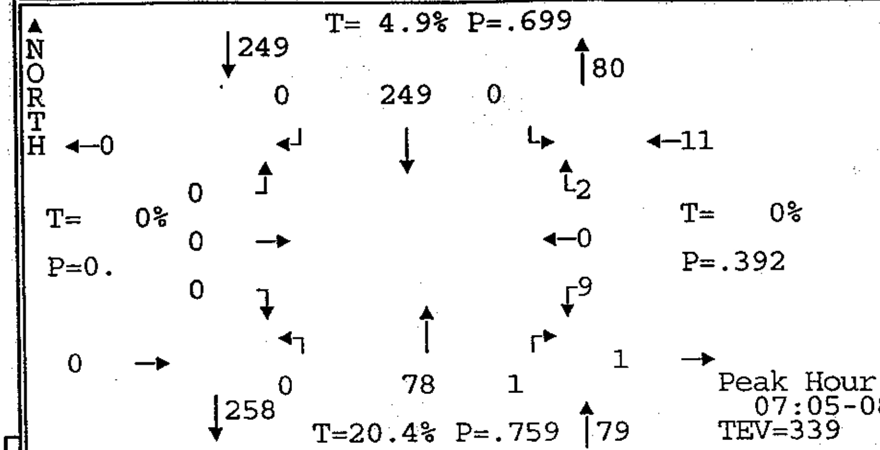
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

PMMM

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	10	0	0	0	0	0	3	0	22	34	0	0	69
16:05-16:10	6	1	0	0	0	0	8	0	15	25	2	0	57
16:10-16:15	3	7	0	0	1	0	10	0	24	11	1	0	57
16:15-16:20	5	1	0	0	0	0	6	0	25	12	3	0	52
16:20-16:25	3	1	0	0	0	0	5	0	18	20	1	0	48
16:25-16:30	4	4	0	0	0	0	5	0	31	10	1	0	55
16:30-16:35	3	3	0	0	0	0	5	0	17	14	2	0	44
16:35-16:40	3	3	0	0	0	0	4	0	21	13	1	0	45
16:40-16:45	2	1	0	0	0	0	4	0	25	12	2	0	46
16:45-16:50	3	2	0	0	0	0	9	0	15	17	1	0	47
16:50-16:55	6	0	0	0	0	0	6	0	25	16	1	0	54
16:55-17:00	10	2	1	0	1	0	4	1	23	12	1	0	55
17:00-17:05	5	2	0	0	0	0	13	0	25	13	0	0	58
17:05-17:10	3	0	0	0	1	0	7	0	30	12	2	1	56
17:10-17:15	5	4	0	0	0	1	9	0	25	16	4	0	64
17:15-17:20	5	0	0	0	0	0	10	1	22	12	0	0	50
17:20-17:25	7	0	0	1	0	0	12	0	28	11	1	0	60
17:25-17:30	5	5	0	0	0	0	8	0	21	12	1	0	52
17:30-17:35	6	1	0	0	0	0	15	0	30	12	6	0	70
17:35-17:40	8	1	0	0	0	0	12	0	31	9	1	0	62
17:40-17:45	5	1	0	0	0	0	17	0	33	16	1	0	73
17:45-17:50	8	3	0	0	0	0	19	0	26	5	1	0	62
17:50-17:55	5	2	0	0	0	0	14	0	18	11	4	0	54
17:55-18:00	4	0	0	0	0	0	24	1	21	7	1	0	58
Total Survey	124	44	1	1	3	1	229	3	571	332	38	1	1348
PHF	.79	.68	0	.25	.25	.25	.7	.5	.82	.83	.69	.25	.876
% Trucks	8.9	2.3	0	0	0	0	2.6	0	1.6	4.8	5.3	0	3.3
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	1	0	0	0	0	0	12	0	
Hourly Totals													
16:00-17:00	58	25	1	0	2	0	69	1	261	196	16	0	629
16:15-17:15	52	23	1	0	2	1	77	1	280	167	19	1	624
16:30-17:30	57	22	1	1	2	1	91	2	277	160	16	1	631
16:45-17:45	68	18	1	1	2	1	122	2	308	158	19	1	701
17:00-18:00	66	19	0	1	1	1	160	2	310	136	22	1	719

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
COOS RIVER HIGHWAY @ "D" ST.



DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BB

Peak Hour
07:05-08:05
TEV=339

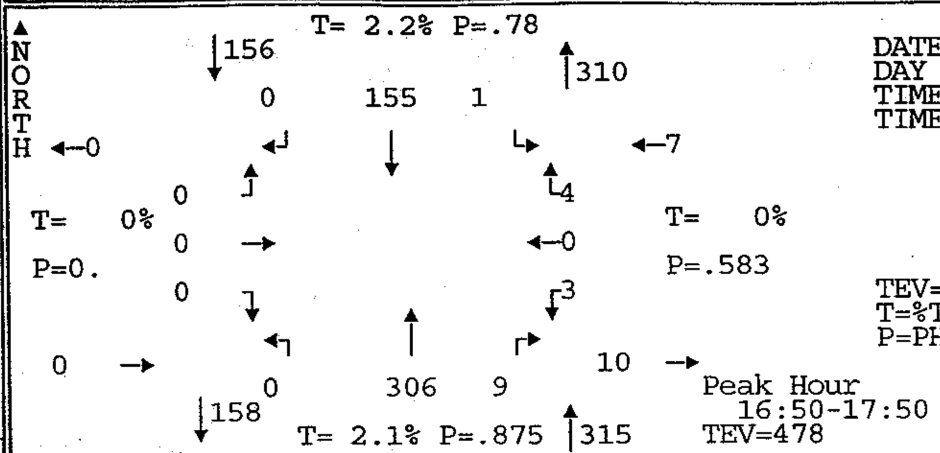
Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↓	→	↑	↵	↓	↳	↰	↑	↱	↓	←	↑	
07:00-07:05	0	0	0	0	9	0	0	3	0	0	0	0	12
07:05-07:10	0	0	0	0	20	0	0	6	0	1	0	0	27
07:10-07:15	0	0	0	0	24	0	0	6	0	1	0	0	31
07:15-07:20	0	0	0	0	20	0	0	3	0	1	0	1	25
07:20-07:25	0	0	0	0	12	0	0	4	1	1	0	0	18
07:25-07:30	0	0	0	0	20	0	0	11	0	3	0	1	35
07:30-07:35	0	0	0	0	32	0	0	9	0	0	0	0	41
07:35-07:40	0	0	0	0	30	0	0	6	0	0	0	0	36
07:40-07:45	0	0	0	0	27	0	0	6	0	0	0	0	33
07:45-07:50	0	0	0	0	19	0	0	6	0	2	0	0	27
07:50-07:55	0	0	0	0	13	0	0	3	0	0	0	0	16
07:55-08:00	0	0	0	0	21	0	0	8	0	0	0	0	29
08:00-08:05	0	0	0	0	11	0	0	10	0	0	0	0	21
08:05-08:10	0	0	0	0	14	0	0	10	0	0	0	0	24
08:10-08:15	0	0	0	0	8	0	0	9	0	0	0	0	17
08:15-08:20	0	0	0	0	22	0	0	7	0	1	0	0	30
08:20-08:25	0	0	0	0	13	0	0	7	0	0	0	0	20
08:25-08:30	0	0	0	0	15	0	0	8	0	0	0	0	23
08:30-08:35	0	0	0	0	25	2	0	3	0	0	0	0	30
08:35-08:40	0	0	0	0	15	0	0	7	0	1	0	0	23
08:40-08:45	0	0	0	0	22	1	0	11	0	1	0	0	35
08:45-08:50	0	0	0	0	20	0	0	8	0	1	0	0	29
08:50-08:55	0	0	0	0	12	0	0	4	1	0	0	0	17
08:55-09:00	0	0	0	0	18	0	0	9	1	1	0	0	29

Total Survey	0	0	0	0	442	3	0	164	3	14	0	2	628
PHF	0	0	0	0	.7	0	0	.75	.25	.45	0	.25	.756
% Trucks	0	0	0	0	5	0	0	20.1	33.3	0	0	0	8.9
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	

Hourly Totals													
07:00-08:00	0	0	0	0	247	0	0	71	1	9	0	2	330
07:15-08:15	0	0	0	0	227	0	0	85	1	7	0	2	322
07:30-08:30	0	0	0	0	225	0	0	89	0	3	0	0	317
07:45-08:45	0	0	0	0	198	3	0	89	0	5	0	0	295
08:00-09:00	0	0	0	0	195	3	0	93	2	5	0	0	298

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
COOS RIVER HIGHWAY @ "D" ST



Peak Hour
16:50-17:50
TEV=478

DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BC

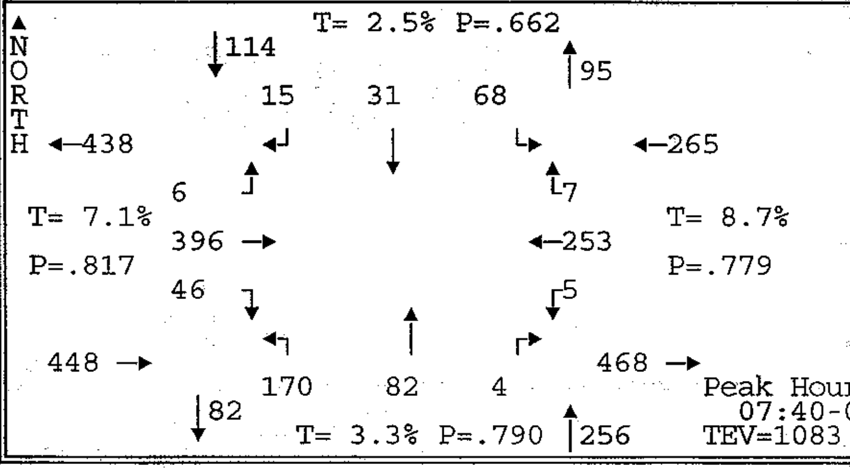
Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↵	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	0	0	0	0	9	0	0	19	0	0	0	0	28
16:05-16:10	0	0	0	0	12	0	0	25	0	0	0	0	37
16:10-16:15	0	0	0	0	15	0	0	20	0	1	0	0	36
16:15-16:20	0	0	0	0	10	0	0	24	1	0	0	0	35
16:20-16:25	0	0	0	0	8	0	0	24	0	0	0	0	32
16:25-16:30	0	0	0	0	12	0	0	19	0	0	0	0	31
16:30-16:35	0	0	0	0	12	0	0	18	0	0	0	1	31
16:35-16:40	0	0	0	0	3	0	0	15	0	0	0	0	18
16:40-16:45	0	0	0	0	7	0	0	18	0	0	0	0	25
16:45-16:50	0	0	0	0	13	0	0	20	1	0	0	0	34
16:50-16:55	0	0	0	0	10	0	0	27	0	0	0	0	37
16:55-17:00	0	0	0	0	13	1	0	16	0	0	0	0	30
17:00-17:05	0	0	0	0	12	0	0	27	0	1	0	0	40
17:05-17:10	0	0	0	0	16	0	0	24	2	1	0	0	43
17:10-17:15	0	0	0	0	22	0	0	27	0	0	0	0	49
17:15-17:20	0	0	0	0	11	0	0	23	1	0	0	2	37
17:20-17:25	0	0	0	0	11	0	0	31	0	0	0	1	43
17:25-17:30	0	0	0	0	16	0	0	20	1	0	0	0	37
17:30-17:35	0	0	0	0	11	0	0	36	2	0	0	0	49
17:35-17:40	0	0	0	0	13	0	0	28	1	1	0	0	43
17:40-17:45	0	0	0	0	10	0	0	21	2	0	0	1	34
17:45-17:50	0	0	0	0	10	0	0	26	0	0	0	0	36
17:50-17:55	0	0	0	0	10	0	0	24	0	1	0	0	35
17:55-18:00	0	0	0	0	8	0	0	15	1	0	0	0	24

Total Survey	0	0	0	0	274	1	0	547	12	5	0	5	844
PHF	0	0	0	0	.77	.25	0	.88	.45	.38	0	.33	.905
% Trucks	0	0	0	0	2.2	0	0	2.2	0	0	0	0	2.1
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	

Hourly Totals													
16:00-17:00	0	0	0	0	124	1	0	245	2	1	0	1	374
16:15-17:15	0	0	0	0	138	1	0	259	4	2	0	1	405
16:30-17:30	0	0	0	0	146	1	0	266	5	2	0	4	424
16:45-17:45	0	0	0	0	158	1	0	300	10	3	0	4	476
17:00-18:00	0	0	0	0	150	0	0	302	10	4	0	4	470

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
CENTRAL @ 10TH



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

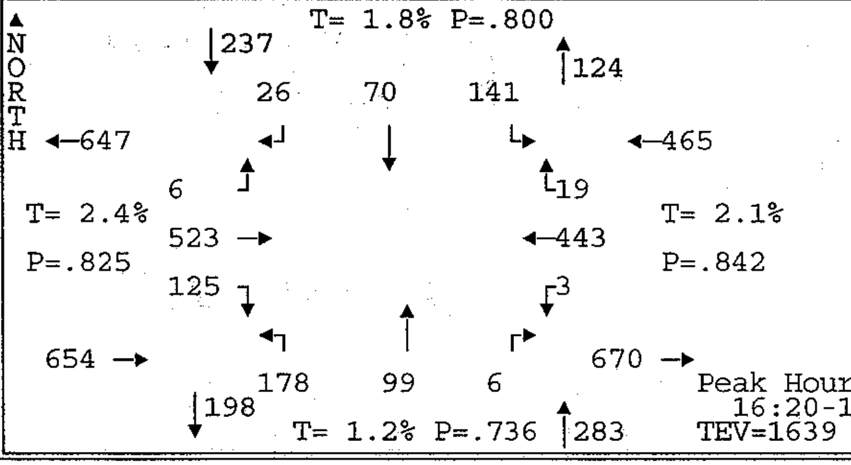
V5AT

Peak Hour
07:40-08:40
TEV=1083

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↓	→	↑	↵	↓	↳	↰	↑	↱	↓	←	↑	
07:00-07:05	1	19	1	0	1	1	2	2	0	0	15	0	42
07:05-07:10	2	13	0	0	0	3	2	1	0	0	9	1	31
07:10-07:15	2	14	0	1	2	1	2	2	0	0	12	1	37
07:15-07:20	2	20	0	0	0	1	11	2	0	0	3	0	39
07:20-07:25	1	19	0	0	2	6	8	6	0	0	12	0	54
07:25-07:30	1	23	0	0	2	1	15	6	1	0	19	1	69
07:30-07:35	3	23	0	0	3	6	7	5	0	0	6	0	53
07:35-07:40	3	23	0	2	1	4	7	2	1	0	20	1	64
07:40-07:45	4	42	0	2	1	4	10	6	1	3	22	0	95
07:45-07:50	5	37	0	1	3	8	15	7	2	0	26	2	106
07:50-07:55	4	39	1	2	2	6	28	7	0	1	30	1	121
07:55-08:00	11	30	0	2	4	11	13	8	1	0	20	0	100
08:00-08:05	6	46	0	0	3	11	15	8	0	0	16	1	106
08:05-08:10	4	24	0	2	3	7	11	5	0	0	13	0	69
08:10-08:15	2	36	0	1	4	1	9	4	0	1	20	1	79
08:15-08:20	3	21	1	0	0	3	11	9	0	0	22	0	70
08:20-08:25	1	38	1	1	1	2	15	11	0	0	19	0	89
08:25-08:30	2	26	1	3	6	3	8	1	0	0	20	0	70
08:30-08:35	1	26	1	0	2	5	14	7	0	0	21	1	78
08:35-08:40	3	31	1	1	2	7	21	9	0	0	24	1	100
08:40-08:45	4	22	0	2	2	3	23	6	1	0	23	1	87
08:45-08:50	2	53	0	4	3	4	13	7	1	0	27	0	114
08:50-08:55	7	35	0	2	2	9	15	9	0	0	17	0	96
08:55-09:00	2	28	0	2	4	9	26	9	0	0	25	1	106
Total Survey	76	688	7	28	53	116	301	139	8	5	441	13	1875
PHF	.55	.84	.5	.75	.77	.59	.76	.85	.33	.31	.81	.58	.827
% Trucks	2.6	7.7	0	7.1	5.7	0	4.3	.7	12.5	40	8.4	7.7	6.1
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	1	0	0	4	0	0	1	0	
Hourly Totals													
07:00-08:00	39	302	2	10	21	52	120	54	6	4	194	7	811
07:15-08:15	46	362	1	12	28	66	149	66	6	5	207	7	955
07:30-08:30	48	385	4	16	31	66	149	73	5	5	234	6	1022
07:45-08:45	46	376	6	15	32	67	183	82	4	2	254	8	1075
08:00-09:00	37	386	5	18	32	64	181	85	2	1	247	6	1064

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
CENTRAL @ 10TH



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

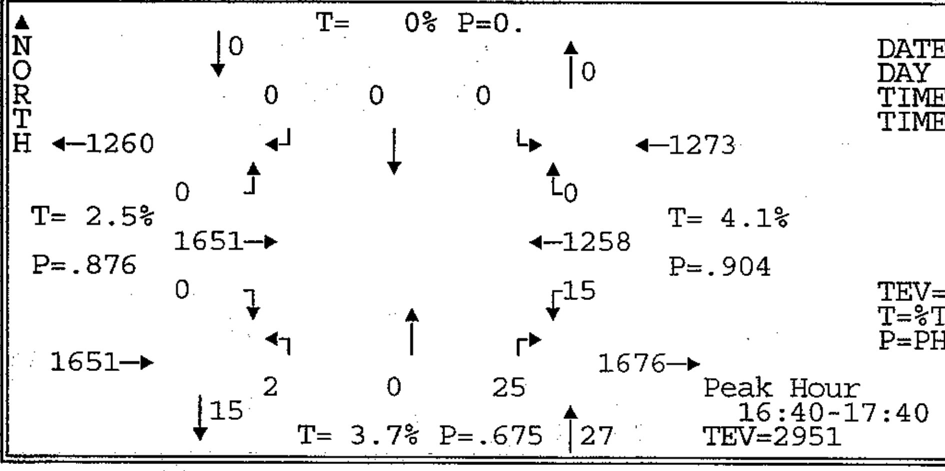
V5AU

Peak Hour
16:20-17:20
TEV=1639

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND Right	EAST BOUND Thru	EAST BOUND Left	SOUTH BOUND Right	SOUTH BOUND Thru	SOUTH BOUND Left	NORTH BOUND Left	NORTH BOUND Thru	NORTH BOUND Right	WEST BOUND Left	WEST BOUND Thru	WEST BOUND Right	ALL
16:00-16:05	6	42	0	3	6	12	18	10	1	2	33	0	133
16:05-16:10	8	42	3	0	8	14	16	5	2	1	28	3	130
16:10-16:15	15	44	0	2	4	18	19	9	0	2	39	1	153
16:15-16:20	8	44	3	0	6	16	15	8	0	1	27	3	131
16:20-16:25	6	46	0	1	5	10	13	10	0	0	35	1	127
16:25-16:30	9	36	1	6	6	12	12	2	0	0	30	2	116
16:30-16:35	9	57	0	4	1	9	10	8	1	1	38	3	141
16:35-16:40	9	47	0	0	4	12	14	5	0	0	34	2	127
16:40-16:45	6	35	0	3	5	15	21	7	1	1	19	1	114
16:45-16:50	16	46	0	2	3	12	10	12	0	0	31	1	133
16:50-16:55	7	40	1	0	5	11	14	6	1	1	43	2	131
16:55-17:00	13	30	0	0	11	11	13	13	3	0	36	2	132
17:00-17:05	6	34	2	2	5	13	17	9	0	0	51	3	142
17:05-17:10	13	44	2	2	5	13	27	14	0	0	39	0	159
17:10-17:15	13	52	0	2	15	17	17	8	0	0	40	1	165
17:15-17:20	18	56	0	4	5	6	10	5	0	0	47	1	152
17:20-17:25	6	39	0	2	6	5	20	12	0	0	31	0	121
17:25-17:30	4	31	1	2	1	16	17	8	0	0	32	0	112
17:30-17:35	6	43	2	1	2	6	20	10	0	1	24	0	115
17:35-17:40	11	46	1	1	4	3	16	9	1	0	37	3	132
17:40-17:45	5	34	1	3	7	8	19	7	0	1	33	4	122
17:45-17:50	11	22	3	0	1	9	16	7	0	1	32	2	104
17:50-17:55	4	31	0	2	6	14	18	7	0	0	38	0	120
17:55-18:00	7	34	2	2	5	10	17	5	0	0	23	2	107
Total Survey	216	975	22	44	126	272	389	196	10	12	820	37	3119
PHF	.71	.86	.38	.59	.7	.82	.73	.69	.38	.38	.85	.68	.860
% Trucks	2.3	2.5	0	2.3	2.4	1.5	1.8	0	0	0	2.1	2.7	2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	6	0	0	5	0	0	1	0	
Hourly Totals													
16:00-17:00	112	509	8	21	64	152	175	95	9	9	393	21	1568
16:15-17:15	115	511	9	22	71	151	183	102	6	4	423	21	1618
16:30-17:30	120	511	6	23	66	140	190	107	6	3	441	16	1629
16:45-17:45	118	495	10	21	69	121	200	113	5	3	444	17	1616
17:00-18:00	104	466	14	23	62	120	214	101	1	3	427	16	1551

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
FRONT @ HIGHWAY 101



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

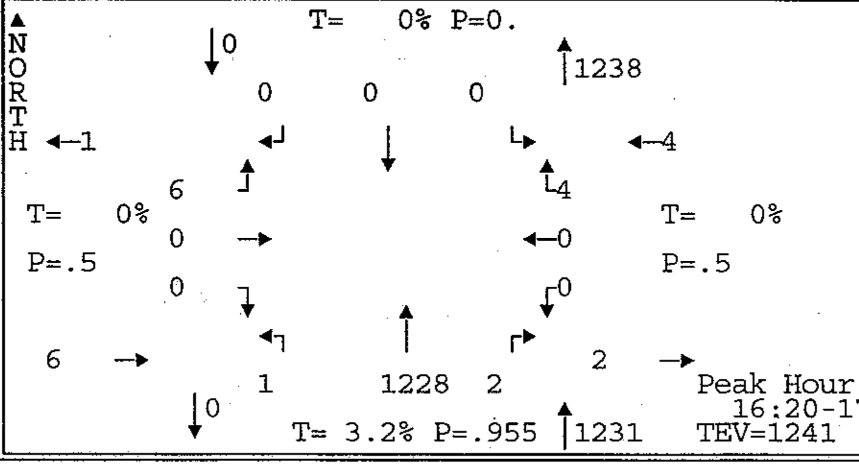
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V4ZS

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND Right	EAST BOUND Thru	EAST BOUND Left	SOUTH BOUND Right	SOUTH BOUND Thru	SOUTH BOUND Left	NORTH BOUND Left	NORTH BOUND Thru	NORTH BOUND Right	WEST BOUND Right	WEST BOUND Thru	WEST BOUND Left	ALL
16:00-16:05	0	117	0	0	0	0	0	0	0	1	106	0	224
16:05-16:10	0	118	0	0	0	0	0	0	2	1	84	0	205
16:10-16:15	0	124	0	0	0	0	0	0	3	1	90	0	218
16:15-16:20	1	120	0	0	0	0	1	0	2	0	90	0	214
16:20-16:25	0	109	0	0	0	0	1	0	2	1	113	0	226
16:25-16:30	0	124	0	0	0	0	1	0	2	0	97	0	224
16:30-16:35	0	133	0	0	0	0	1	0	2	1	103	0	240
16:35-16:40	0	124	0	0	0	0	0	0	2	0	106	0	232
16:40-16:45	0	133	0	0	0	0	0	0	1	3	104	0	241
16:45-16:50	0	117	0	0	0	0	0	0	3	1	120	0	241
16:50-16:55	0	127	0	0	0	0	1	0	0	0	124	0	252
16:55-17:00	0	130	0	0	0	0	0	0	0	2	92	0	224
17:00-17:05	0	130	0	0	0	0	0	0	2	0	98	0	230
17:05-17:10	0	147	0	0	0	0	0	0	3	4	107	0	261
17:10-17:15	0	154	0	0	0	0	0	0	2	3	103	0	262
17:15-17:20	0	170	0	0	0	0	0	0	3	0	95	0	268
17:20-17:25	0	114	0	0	0	0	0	0	3	1	112	0	230
17:25-17:30	0	152	0	0	0	0	0	0	2	0	94	0	248
17:30-17:35	0	139	0	0	0	0	0	0	5	1	109	0	254
17:35-17:40	0	138	0	0	0	0	1	0	1	0	100	0	240
17:40-17:45	0	140	0	0	0	0	0	0	4	1	81	0	226
17:45-17:50	0	118	0	0	0	0	1	0	1	0	89	0	209
17:50-17:55	0	105	0	0	0	0	0	0	2	0	68	0	175
17:55-18:00	0	127	0	0	0	0	0	0	0	0	97	0	224
Total Survey	1	3110	0	0	0	0	7	0	47	21	2382	0	5568
PHF	0	.88	0	0	0	0	.5	0	.63	.54	.9	0	.932
% Trucks	0	2.5	0	0	0	0	0	0	4.3	14.3	4	0	3.2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	5	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	1	1476	0	0	0	0	5	0	19	11	1229	0	2741
16:15-17:15	1	1548	0	0	0	0	5	0	21	15	1257	0	2847
16:30-17:30	0	1631	0	0	0	0	2	0	23	15	1258	0	2929
16:45-17:45	0	1658	0	0	0	0	2	0	28	13	1235	0	2936
17:00-18:00	0	1634	0	0	0	0	2	0	28	10	1153	0	2827

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
CEDAR @ BAY SHORE



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

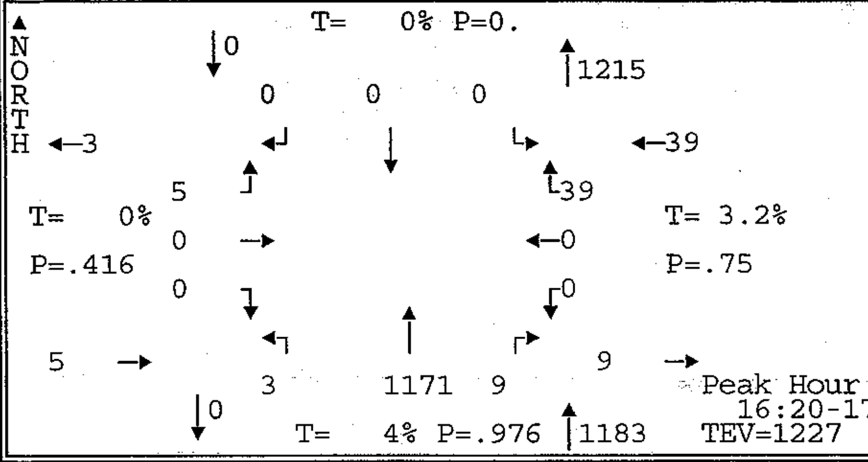
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V4ZV

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↓	→	↑	↵	↓	↳	↰	↑	↱	↓	←	↑	ALL
16:00-16:05	0	0	1	0	0	0	0	84	0	0	0	0	85
16:05-16:10	0	0	3	0	0	0	0	100	0	0	0	0	103
16:10-16:15	0	0	0	0	0	0	0	80	2	0	0	0	82
16:15-16:20	0	0	0	0	0	0	0	74	0	0	0	0	74
16:20-16:25	0	0	0	0	0	0	0	120	0	0	0	0	120
16:25-16:30	0	0	0	0	0	0	0	102	1	0	0	0	103
16:30-16:35	0	0	1	0	0	0	0	88	0	0	0	0	89
16:35-16:40	0	0	2	0	0	0	1	100	0	0	0	0	103
16:40-16:45	0	0	0	0	0	0	0	101	0	0	0	0	101
16:45-16:50	0	0	1	0	0	0	0	93	1	0	0	2	97
16:50-16:55	0	0	0	0	0	0	0	111	0	0	0	0	111
16:55-17:00	0	0	2	0	0	0	0	117	0	0	0	0	119
17:00-17:05	0	0	0	0	0	0	0	85	0	0	0	0	85
17:05-17:10	0	0	0	0	0	0	0	101	0	0	0	0	101
17:10-17:15	0	0	0	0	0	0	0	101	0	0	0	1	102
17:15-17:20	0	0	0	0	0	0	0	109	0	0	0	1	110
17:20-17:25	0	0	0	0	0	0	0	89	1	0	0	1	91
17:25-17:30	0	0	0	0	0	0	0	101	0	0	0	2	103
17:30-17:35	0	0	0	0	0	0	0	92	0	0	0	0	92
17:35-17:40	0	0	0	0	0	0	0	89	2	0	0	0	91
17:40-17:45	0	0	0	0	0	0	0	102	1	0	0	0	103
17:45-17:50	0	0	0	0	0	0	0	87	0	0	0	1	88
17:50-17:55	0	0	0	0	0	0	0	83	0	0	0	0	83
17:55-18:00	0	0	0	0	0	0	0	65	0	0	0	0	65
Total Survey	0	0	10	0	0	0	1	2274	8	0	0	8	2301
PHF	0	0	.5	0	0	0	.25	.96	.5	0	0	.5	.948
% Trucks	0	0	0	0	0	0	0	3.1	12.5	0	0	0	3.1
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	4	0	0	0	0	
Hourly Totals													
16:00-17:00	0	0	10	0	0	0	1	1170	4	0	0	2	1187
16:15-17:15	0	0	6	0	0	0	1	1193	2	0	0	3	1205
16:30-17:30	0	0	6	0	0	0	1	1196	2	0	0	7	1212
16:45-17:45	0	0	3	0	0	0	0	1190	5	0	0	7	1205
17:00-18:00	0	0	0	0	0	0	0	1104	4	0	0	6	1114

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
BIRCH @ BAYSHORE



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V4ZW

Peak Hour
16:20-17:20
TEV=1227

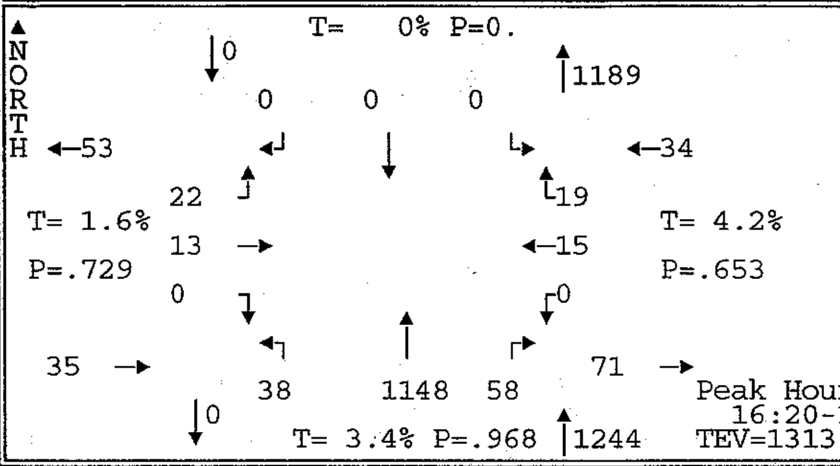
Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↴	→	↑	↵	↓	↳	↰	↑	↱	↓	←	↑	
16:00-16:05	0	0	0	0	0	0	0	95	2	0	0	2	99
16:05-16:10	0	0	0	0	0	0	0	83	0	0	0	3	86
16:10-16:15	0	0	0	0	0	0	0	81	2	0	0	1	84
16:15-16:20	0	0	0	0	0	0	0	79	0	0	0	2	81
16:20-16:25	0	0	0	0	0	0	0	111	1	0	0	2	114
16:25-16:30	0	0	0	0	0	0	0	96	0	0	0	4	100
16:30-16:35	0	0	0	0	0	0	1	92	1	0	0	6	100
16:35-16:40	0	0	2	0	0	0	0	94	1	0	0	1	98
16:40-16:45	0	0	0	0	0	0	1	99	0	0	0	4	104
16:45-16:50	0	0	0	0	0	0	0	96	0	0	0	3	99
16:50-16:55	0	0	0	0	0	0	1	100	1	0	0	6	108
16:55-17:00	0	0	0	0	0	0	0	105	0	0	0	1	106
17:00-17:05	0	0	0	0	0	0	0	89	1	0	0	3	93
17:05-17:10	0	0	1	0	0	0	0	91	0	0	0	3	95
17:10-17:15	0	0	0	0	0	0	0	93	2	0	0	3	98
17:15-17:20	0	0	2	0	0	0	0	105	2	0	0	3	112
17:20-17:25	0	0	0	0	0	0	0	88	0	0	0	4	92
17:25-17:30	0	0	0	0	0	0	0	85	0	0	0	2	87
17:30-17:35	0	0	2	0	0	0	1	102	0	0	0	1	106
17:35-17:40	0	0	0	0	0	0	0	92	0	0	0	2	94
17:40-17:45	0	0	3	0	0	0	0	82	0	0	0	1	86
17:45-17:50	0	0	0	0	0	0	0	94	0	0	0	1	95
17:50-17:55	0	0	0	0	0	0	0	81	1	0	0	3	85
17:55-18:00	0	0	0	0	0	0	0	61	0	0	0	1	62

Total Survey	0	0	10	0	0	0	4	2194	14	0	0	62	2284
PHF	0	0	.42	0	0	0	.38	.97	.56	0	0	.75	.976
% Trucks	0	0	0	0	0	0	0	4	0	0	0	3.2	3.9
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	6	0	0	1	0	

Hourly Totals													
16:00-17:00	0	0	2	0	0	0	3	1131	8	0	0	35	1179
16:15-17:15	0	0	3	0	0	0	3	1145	7	0	0	38	1196
16:30-17:30	0	0	5	0	0	0	3	1137	8	0	0	39	1192
16:45-17:45	0	0	8	0	0	0	2	1128	6	0	0	32	1176
17:00-18:00	0	0	8	0	0	0	1	1063	6	0	0	27	1105

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
ALDER @ BAYSHORE



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

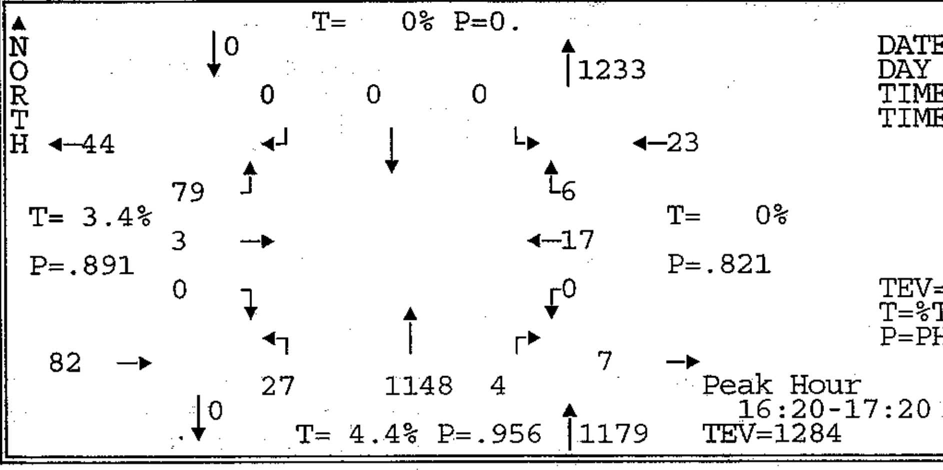
V4ZM

Peak Hour
16:20-17:20
TEV=1313

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↵	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	0	0	1	0	0	0	3	86	2	0	2	1	95
16:05-16:10	0	4	0	0	0	0	2	87	5	0	4	1	103
16:10-16:15	0	0	4	0	0	0	2	80	0	0	1	2	89
16:15-16:20	0	1	1	0	0	0	1	81	4	0	3	3	94
16:20-16:25	0	0	2	0	0	0	1	100	4	0	1	2	110
16:25-16:30	0	3	3	0	0	0	1	89	6	0	2	0	104
16:30-16:35	0	2	1	0	0	0	8	99	3	0	0	1	114
16:35-16:40	0	1	1	0	0	0	3	98	9	0	0	1	113
16:40-16:45	0	1	1	0	0	0	2	82	9	0	0	2	97
16:45-16:50	0	0	4	0	0	0	3	105	4	0	0	2	118
16:50-16:55	0	1	0	0	0	0	3	93	1	0	1	4	103
16:55-17:00	0	0	0	0	0	0	2	103	7	0	4	0	116
17:00-17:05	0	1	3	0	0	0	6	86	6	0	2	2	106
17:05-17:10	0	2	4	0	0	0	2	88	4	0	1	1	102
17:10-17:15	0	0	2	0	0	0	2	104	3	0	2	1	114
17:15-17:20	0	2	1	0	0	0	5	101	2	0	2	3	116
17:20-17:25	0	0	2	0	0	0	3	88	4	0	0	1	98
17:25-17:30	0	0	1	0	0	0	4	88	2	0	2	1	98
17:30-17:35	0	0	1	0	0	0	6	97	3	0	3	1	111
17:35-17:40	0	1	1	0	0	0	1	91	2	0	1	0	97
17:40-17:45	0	3	2	0	0	0	4	79	1	0	2	2	93
17:45-17:50	0	2	1	0	0	0	2	102	7	0	3	0	117
17:50-17:55	0	0	1	0	0	0	5	75	2	0	1	1	85
17:55-18:00	0	1	1	0	0	0	2	63	1	0	2	1	71
Total Survey	0	25	38	0	0	0	73	2165	91	0	39	33	2464
PHF	0	.54	.61	0	0	0	.73	.95	.66	0	.54	.59	.974
% Trucks	0	4	0	0	0	0	4.1	3.4	3.3	0	2.6	6.1	3.4
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	4	0	0	6	0	0	2	0	
Hourly Totals													
16:00-17:00	0	13	18	0	0	0	31	1103	54	0	18	19	1256
16:15-17:15	0	12	22	0	0	0	34	1128	60	0	16	19	1291
16:30-17:30	0	10	20	0	0	0	43	1135	54	0	14	19	1295
16:45-17:45	0	10	21	0	0	0	41	1123	39	0	20	18	1272
17:00-18:00	0	12	20	0	0	0	42	1062	37	0	21	14	1208

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
MARKET @ BAYSHORE



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

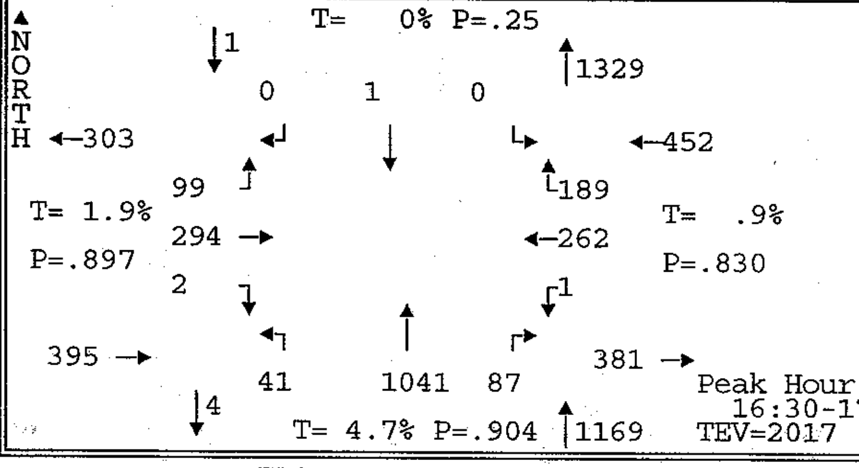
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V4ZP

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↵	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	2	0	3	0	0	0	0	71	0	0	0	0	76
16:05-16:10	0	1	6	0	0	0	3	83	0	0	2	0	95
16:10-16:15	0	1	13	0	0	0	1	81	0	0	0	0	96
16:15-16:20	0	1	4	0	0	0	4	90	1	0	2	0	102
16:20-16:25	0	0	7	0	0	0	2	92	0	0	3	0	104
16:25-16:30	0	1	4	0	0	0	5	98	1	0	1	1	111
16:30-16:35	0	0	10	0	0	0	3	89	2	0	1	0	105
16:35-16:40	0	0	3	0	0	0	2	102	0	0	1	0	108
16:40-16:45	0	0	9	0	0	0	2	108	0	0	2	0	121
16:45-16:50	0	0	7	0	0	0	2	79	0	0	0	1	89
16:50-16:55	0	1	6	0	0	0	2	110	0	0	0	1	120
16:55-17:00	0	1	4	0	0	0	1	95	0	0	2	1	104
17:00-17:05	0	0	6	0	0	0	2	83	0	0	2	0	93
17:05-17:10	0	0	12	0	0	0	1	103	1	0	1	0	118
17:10-17:15	0	0	5	0	0	0	2	96	0	0	2	1	106
17:15-17:20	0	0	6	0	0	0	3	93	0	0	2	1	105
17:20-17:25	0	0	4	0	0	0	4	84	1	0	0	0	93
17:25-17:30	0	0	5	0	0	0	3	98	0	0	1	2	109
17:30-17:35	0	0	3	0	0	0	0	91	0	0	2	0	96
17:35-17:40	0	1	5	0	0	0	1	82	2	0	0	2	93
17:40-17:45	0	0	5	0	0	0	1	103	0	0	2	1	112
17:45-17:50	0	0	1	0	0	0	1	79	0	0	1	0	82
17:50-17:55	0	0	5	0	0	0	2	60	0	0	0	2	69
17:55-18:00	0	0	5	0	0	0	0	66	0	0	1	0	72
Total Survey	2	7	138	0	0	0	47	2136	8	0	28	13	2379
PHF	0	.38	.86	0	0	0	.68	.96	.33	0	.85	.5	.961
% Trucks	0	0	3.6	0	0	0	0	4.5	0	0	0	0	4.3
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	11	0	0	3	0	0	0	0	
Hourly Totals													
16:00-17:00	2	6	76	0	0	0	27	1098	4	0	14	4	1231
16:15-17:15	0	4	77	0	0	0	28	1145	5	0	17	5	1281
16:30-17:30	0	2	77	0	0	0	27	1140	4	0	14	7	1271
16:45-17:45	0	3	68	0	0	0	22	1117	4	0	14	10	1238
17:00-18:00	0	1	62	0	0	0	20	1038	4	0	14	9	1148

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
JOHNSON @ BAYSHORE



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

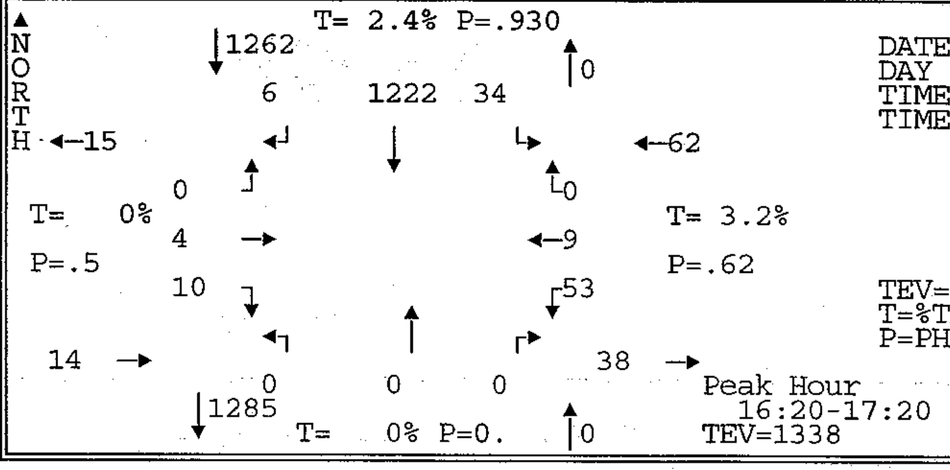
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5CH

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↓	→	↑	↲	↓	↳	↰	↑	↱	↓	←	↑	
16:00-16:05	0	20	9	0	0	0	2	65	10	0	23	7	136
16:05-16:10	0	32	6	0	1	0	1	75	8	0	29	19	171
16:10-16:15	0	22	8	0	2	0	2	86	10	0	22	13	165
16:15-16:20	0	23	10	0	0	0	2	70	3	0	21	25	154
16:20-16:25	0	13	7	0	0	0	3	104	7	0	16	12	162
16:25-16:30	0	23	8	0	0	0	3	80	11	0	11	21	157
16:30-16:35	0	19	8	0	0	0	2	87	7	1	21	19	164
16:35-16:40	0	40	1	0	0	0	7	73	8	0	23	22	174
16:40-16:45	0	27	15	0	0	0	3	84	9	0	17	18	173
16:45-16:50	0	13	7	0	0	0	1	98	4	0	16	8	147
16:50-16:55	2	25	9	0	0	0	2	100	6	0	25	16	185
16:55-17:00	0	36	9	0	0	0	3	99	10	0	26	10	193
17:00-17:05	0	11	12	0	1	0	4	76	7	0	14	10	135
17:05-17:10	0	29	6	0	0	0	5	72	5	0	32	14	163
17:10-17:15	0	23	8	0	0	0	5	91	11	0	26	17	181
17:15-17:20	0	17	9	0	0	0	2	98	6	0	23	24	179
17:20-17:25	0	34	6	0	0	0	2	69	5	0	17	15	148
17:25-17:30	0	20	9	0	0	0	5	94	9	0	22	16	175
17:30-17:35	0	28	10	0	0	0	4	68	7	0	28	12	157
17:35-17:40	0	20	7	0	0	0	3	80	6	0	27	15	158
17:40-17:45	0	11	7	0	0	0	1	88	4	0	15	21	147
17:45-17:50	0	30	6	0	0	0	0	60	9	0	16	29	150
17:50-17:55	0	21	7	0	0	0	0	68	9	0	21	20	146
17:55-18:00	0	18	0	0	0	0	0	75	10	0	15	16	134
Total Survey	2	555	184	0	4	0	62	1960	181	1	506	399	3854
PHF	.25	.85	.8	0	.25	0	.73	.88	.91	.25	.81	.8	.960
% Trucks	0	1.4	3.3	0	0	0	0	4.8	4.4	0	.6	1.3	3.2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	2	293	97	0	3	0	31	1021	93	1	250	190	1981
16:15-17:15	2	282	100	0	1	0	40	1034	88	1	248	192	1988
16:30-17:30	2	294	99	0	1	0	41	1041	87	1	262	189	2017
16:45-17:45	2	267	99	0	1	0	37	1033	80	0	271	178	1968
17:00-18:00	0	262	87	0	1	0	31	939	88	0	256	209	1873

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
ALDER @ BROADWAY



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

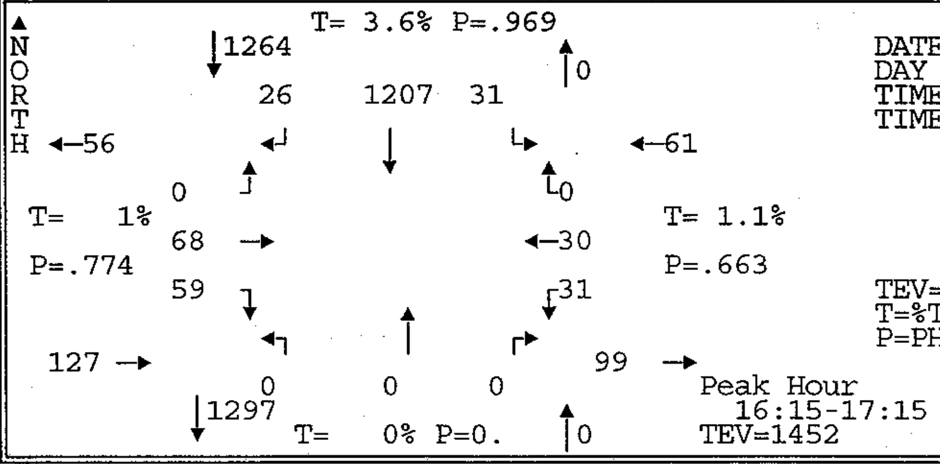
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V4ZN

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			
	↴	→	⬏	↵	↓	↳	↰	↑	↱	↓	←	↑	ALL
16:00-16:05	0	0	0	0	91	2	0	0	0	6	0	0	99
16:05-16:10	0	0	0	0	93	3	0	0	0	6	0	0	102
16:10-16:15	2	0	0	2	96	5	0	0	0	4	0	0	109
16:15-16:20	1	0	0	0	110	2	0	0	0	6	0	0	119
16:20-16:25	1	1	0	1	120	3	0	0	0	2	0	0	128
16:25-16:30	0	0	0	1	91	5	0	0	0	5	0	0	102
16:30-16:35	1	0	0	1	114	3	0	0	0	6	0	0	125
16:35-16:40	0	0	0	0	92	1	0	0	0	3	1	0	97
16:40-16:45	0	0	0	1	105	3	0	0	0	4	0	0	113
16:45-16:50	1	0	0	0	95	4	0	0	0	1	0	0	101
16:50-16:55	1	0	0	0	100	2	0	0	0	2	1	0	106
16:55-17:00	1	0	0	1	90	1	0	0	0	6	1	0	100
17:00-17:05	3	0	0	0	91	4	0	0	0	7	3	0	108
17:05-17:10	2	1	0	1	101	5	0	0	0	8	0	0	118
17:10-17:15	0	1	0	0	106	1	0	0	0	4	1	0	113
17:15-17:20	0	1	0	0	117	2	0	0	0	5	2	0	127
17:20-17:25	0	0	0	1	94	2	0	0	0	3	1	0	101
17:25-17:30	1	0	0	0	111	3	0	0	0	4	0	0	119
17:30-17:35	2	0	0	0	83	2	0	0	0	8	1	0	96
17:35-17:40	2	0	0	0	95	0	0	0	0	5	1	0	103
17:40-17:45	0	0	0	0	106	8	0	0	0	3	1	0	118
17:45-17:50	0	0	0	0	82	2	0	0	0	5	1	0	90
17:50-17:55	2	0	0	2	88	1	0	0	0	3	1	0	97
17:55-18:00	2	0	0	0	106	2	0	0	0	4	1	0	115
Total Survey	22	4	0	11	2377	66	0	0	0	110	16	0	2606
PHF	.42	.33	0	.5	.94	.77	0	0	0	.63	.45	0	.934
% Trucks	0	0	0	0	2.4	1.5	0	0	0	3.6	0	0	2.4
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	11	0	0	11	0	0	2	0	
Hourly Totals													
16:00-17:00	8	1	0	7	1197	34	0	0	0	51	3	0	1301
16:15-17:15	11	3	0	6	1215	34	0	0	0	54	7	0	1330
16:30-17:30	10	3	0	5	1216	31	0	0	0	53	10	0	1328
16:45-17:45	13	3	0	3	1189	34	0	0	0	56	12	0	1310
17:00-18:00	14	3	0	4	1180	32	0	0	0	59	13	0	1305

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
MARKET @ BROADWAY



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V4ZO

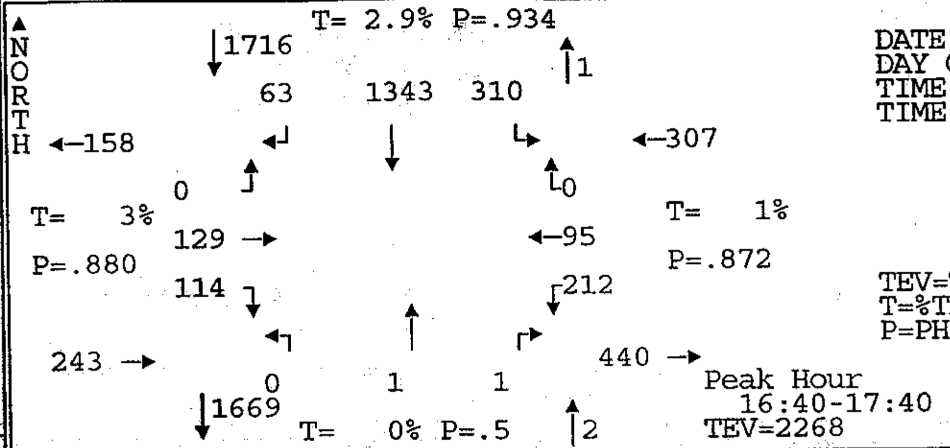
Peak Hour
16:15-17:15
TEV=1452

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
16:00-16:05	2	4	0	1	87	2	0	0	0	0	0	0	96
16:05-16:10	2	6	0	3	100	2	0	0	0	0	3	0	116
16:10-16:15	3	7	0	2	102	5	0	0	0	0	1	0	120
16:15-16:20	5	6	0	5	103	4	0	0	0	4	3	0	130
16:20-16:25	4	9	0	2	108	0	0	0	0	3	4	0	130
16:25-16:30	2	5	0	2	99	1	0	0	0	6	3	0	118
16:30-16:35	7	4	0	3	96	7	0	0	0	2	4	0	123
16:35-16:40	1	4	0	1	108	1	0	0	0	3	2	0	120
16:40-16:45	3	7	0	1	95	6	0	0	0	3	3	0	118
16:45-16:50	7	4	0	3	104	3	0	0	0	0	2	0	123
16:50-16:55	5	5	0	2	103	1	0	0	0	2	0	0	118
16:55-17:00	3	5	0	2	76	2	0	0	0	0	3	0	91
17:00-17:05	8	4	0	0	116	2	0	0	0	2	2	0	134
17:05-17:10	7	9	0	2	96	4	0	0	0	2	3	0	123
17:10-17:15	7	6	0	3	103	0	0	0	0	4	1	0	124
17:15-17:20	3	3	0	0	114	3	0	0	0	3	3	0	129
17:20-17:25	7	3	0	0	101	2	0	0	0	2	4	0	119
17:25-17:30	3	4	0	3	102	1	0	0	0	1	3	0	117
17:30-17:35	2	3	0	1	90	1	0	0	0	1	1	0	99
17:35-17:40	0	3	0	1	87	2	0	0	0	0	1	0	94
17:40-17:45	1	2	0	3	117	2	0	0	0	2	1	0	128
17:45-17:50	3	1	0	1	77	0	0	0	0	1	2	0	85
17:50-17:55	2	4	0	0	102	2	0	0	0	0	2	0	112
17:55-18:00	2	2	0	2	88	4	0	0	0	2	0	0	100
Total Survey	89	110	0	43	2374	57	0	0	0	43	51	0	2767
PHF	.67	.85	0	.72	.96	.55	0	0	0	.6	.68	0	.952
% Trucks	0	1.8	0	2.3	3.5	7	0	0	0	2.3	0	0	3.3
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	4	0	0	22	0	0	15	0	0	5	0	
Hourly Totals													
16:00-17:00	44	66	0	27	1181	34	0	0	0	23	28	0	1403
16:15-17:15	59	68	0	26	1207	31	0	0	0	31	30	0	1452
16:30-17:30	61	58	0	20	1214	32	0	0	0	24	30	0	1439
16:45-17:45	53	51	0	20	1209	23	0	0	0	19	24	0	1399
17:00-18:00	45	44	0	16	1193	23	0	0	0	20	23	0	1364

11R

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
JOHNSON @ BROADWAY



DATE OF COUNT: 08/14/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5CG

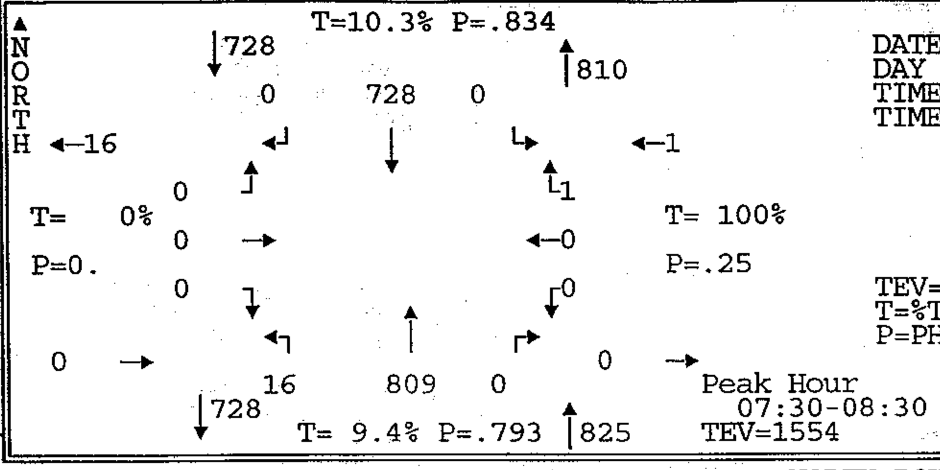
Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	4	14	0	1	84	26	0	0	0	19	9	0	157
16:05-16:10	10	8	0	5	103	28	0	0	0	20	3	0	177
16:10-16:15	6	14	0	5	95	23	0	0	0	22	7	0	172
16:15-16:20	5	14	0	10	100	29	0	0	0	11	6	0	175
16:20-16:25	4	19	0	5	116	19	0	0	0	16	8	0	187
16:25-16:30	4	11	0	4	102	20	0	0	0	11	7	0	159
16:30-16:35	11	10	0	4	102	22	0	0	0	15	7	0	171
16:35-16:40	10	8	0	3	95	27	0	0	0	20	11	0	174
16:40-16:45	10	13	0	4	123	30	0	0	0	15	7	0	202
16:45-16:50	12	10	0	1	106	25	0	0	0	16	9	0	179
16:50-16:55	10	14	0	10	84	27	0	0	0	14	8	0	167
16:55-17:00	8	10	0	5	114	29	0	0	0	20	5	0	191
17:00-17:05	7	11	0	3	111	19	0	1	0	16	6	0	174
17:05-17:10	10	12	0	9	101	29	0	0	0	23	9	0	193
17:10-17:15	9	9	0	9	128	18	0	0	0	22	9	0	204
17:15-17:20	13	8	0	5	128	24	0	0	0	16	9	0	203
17:20-17:25	14	7	0	7	108	32	0	0	1	10	7	0	186
17:25-17:30	7	17	0	2	110	28	0	0	0	17	9	0	190
17:30-17:35	9	10	0	4	106	24	0	0	0	21	8	0	182
17:35-17:40	5	8	0	4	124	25	0	0	0	22	9	0	197
17:40-17:45	7	11	0	3	104	13	0	0	0	19	3	0	160
17:45-17:50	5	6	0	6	107	24	0	0	0	6	4	0	158
17:50-17:55	7	5	0	5	96	25	0	0	1	19	7	0	165
17:55-18:00	3	1	0	5	93	24	0	0	0	15	2	0	143

Total Survey	190	250	0	119	2540	590	0	1	2	405	169	0	4266
PHF	.79	.87	0	.68	.92	.92	0	.25	.25	.87	.88	0	.945
% Trucks	2.6	3.2	0	2.5	3.3	1.4	0	0	0	.5	2.4	0	2.6
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	1	0	0	2	0	0	6	0	0	3	0	

Hourly Totals													
16:00-17:00	94	145	0	57	1224	305	0	0	0	199	87	0	2111
16:15-17:15	100	141	0	67	1282	294	0	1	0	199	92	0	2176
16:30-17:30	121	129	0	62	1310	310	0	1	1	204	96	0	2234
16:45-17:45	111	127	0	62	1324	293	0	1	1	216	91	0	2226
17:00-18:00	96	105	0	62	1316	285	0	1	2	206	82	0	2155

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
BROADWAY/BAYSHORE @ FIR



DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 07:00
TIME ENDED: 09:00

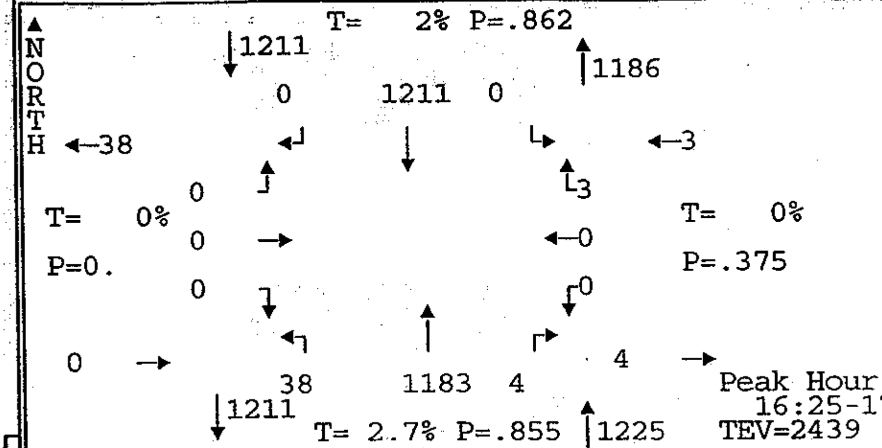
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5AX

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
07:00-07:05	0	0	0	0	37	0	1	44	0	0	0	0	82
07:05-07:10	0	0	0	0	41	0	0	43	0	0	0	0	84
07:10-07:15	0	0	0	0	28	0	0	43	0	0	0	0	71
07:15-07:20	0	0	0	0	37	0	0	53	0	0	0	0	90
07:20-07:25	0	0	0	0	27	0	0	45	0	0	0	0	72
07:25-07:30	0	0	0	0	43	0	1	49	0	0	0	0	93
07:30-07:35	0	0	0	0	54	0	0	57	0	0	0	0	111
07:35-07:40	0	0	0	0	51	0	1	64	0	0	0	0	116
07:40-07:45	0	0	0	0	63	0	1	70	0	0	0	0	134
07:45-07:50	0	0	0	0	54	0	2	83	0	0	0	0	139
07:50-07:55	0	0	0	0	67	0	1	85	0	0	0	0	153
07:55-08:00	0	0	0	0	88	0	0	89	0	0	0	0	177
08:00-08:05	0	0	0	0	63	0	0	66	0	0	0	0	129
08:05-08:10	0	0	0	0	59	0	0	73	0	0	0	0	132
08:10-08:15	0	0	0	0	62	0	1	48	0	0	0	1	112
08:15-08:20	0	0	0	0	58	0	3	57	0	0	0	0	118
08:20-08:25	0	0	0	0	51	0	5	61	0	0	0	0	117
08:25-08:30	0	0	0	0	58	0	2	56	0	0	0	0	116
08:30-08:35	0	0	0	0	51	0	0	56	0	0	0	0	107
08:35-08:40	0	0	0	0	42	0	0	60	0	0	0	0	102
08:40-08:45	0	0	0	0	61	0	0	69	0	0	0	0	130
08:45-08:50	0	0	0	0	77	0	2	54	0	0	0	0	133
08:50-08:55	0	0	0	1	72	0	0	63	0	0	0	0	136
08:55-09:00	0	0	0	0	78	0	3	63	0	0	0	0	144
Total Survey	0	0	0	1	1322	0	23	1451	0	0	0	1	2798
PHF	0	0	0	0	.83	0	.4	.79	0	0	0	.25	.828
% Trucks	0	0	0	0	10.3	0	13	9.3	0	0	0	100	9.8
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	7	0	0	0	0	0	0	0	
Hourly Totals													
07:00-08:00	0	0	0	0	590	0	7	725	0	0	0	0	1322
07:15-08:15	0	0	0	0	668	0	7	782	0	0	0	1	1458
07:30-08:30	0	0	0	0	728	0	16	809	0	0	0	1	1554
07:45-08:45	0	0	0	0	714	0	14	803	0	0	0	1	1532
08:00-09:00	0	0	0	1	732	0	16	726	0	0	0	1	1476

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
BROADWAY/BAYSHORE @ FIR



DATE OF COUNT: 08/13/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

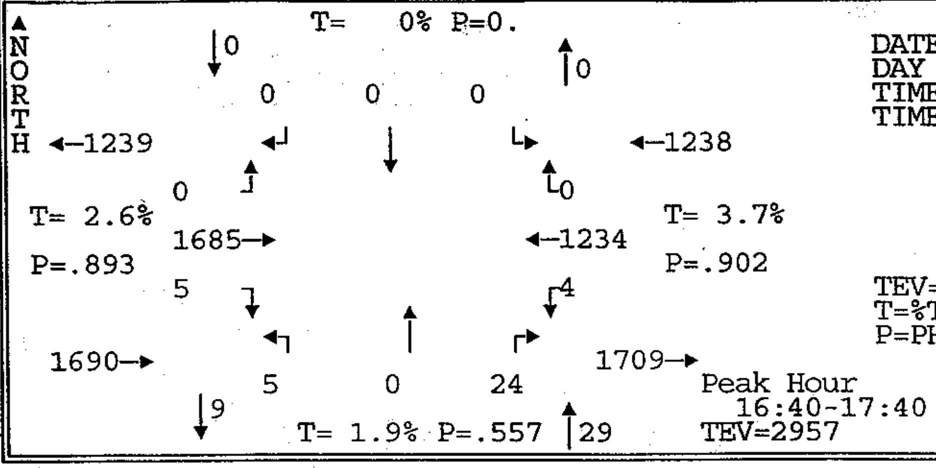
V5AY

Peak Hour
16:25-17:25
TEV=2439

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	EAST BOUND →	EAST BOUND ↱	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	0	0	0	0	87	0	0	89	0	0	0	0	176
16:05-16:10	0	0	0	0	116	0	6	81	0	0	0	0	203
16:10-16:15	0	0	0	0	104	0	5	86	0	1	0	0	196
16:15-16:20	0	0	0	0	95	0	6	88	0	0	0	0	189
16:20-16:25	0	0	0	0	101	0	0	77	0	1	0	0	179
16:25-16:30	0	0	0	0	113	0	7	93	1	0	0	0	214
16:30-16:35	0	0	0	0	105	0	1	103	0	0	0	0	209
16:35-16:40	0	0	0	0	105	0	0	94	0	0	0	2	201
16:40-16:45	0	0	0	0	83	0	4	114	1	0	0	0	202
16:45-16:50	0	0	0	0	88	0	4	86	1	0	0	0	179
16:50-16:55	0	0	0	0	86	0	2	81	0	0	0	0	169
16:55-17:00	0	0	0	0	95	0	3	93	0	0	0	0	191
17:00-17:05	0	0	0	0	79	0	3	84	0	0	0	0	166
17:05-17:10	0	0	0	0	112	0	7	109	0	0	0	1	229
17:10-17:15	0	0	0	0	121	0	3	124	0	0	0	0	248
17:15-17:20	0	0	0	0	118	0	3	111	1	0	0	0	233
17:20-17:25	0	0	0	0	106	0	1	91	0	0	0	0	198
17:25-17:30	0	0	0	0	74	0	1	96	0	0	0	0	171
17:30-17:35	0	0	0	0	86	0	3	86	0	0	0	1	176
17:35-17:40	0	0	0	0	99	0	1	75	0	0	0	0	175
17:40-17:45	0	0	0	0	91	0	1	78	0	0	0	0	170
17:45-17:50	0	0	0	0	79	0	2	89	0	0	0	1	171
17:50-17:55	0	0	0	0	84	0	1	67	0	0	0	0	152
17:55-18:00	0	0	0	0	84	0	2	55	0	0	0	0	141
Total Survey	0	0	0	0	2311	0	66	2150	4	2	0	5	4538
PHF	0	0	0	0	.86	0	.73	.86	.5	0	0	.38	.858
% Trucks	0	0	0	0	2	0	1.5	2.7	25	0	0	0	2.4
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	0	0	0	0	1178	0	38	1085	3	2	0	2	2308
16:15-17:15	0	0	0	0	1183	0	40	1146	3	1	0	3	2376
16:30-17:30	0	0	0	0	1172	0	32	1186	3	0	0	3	2396
16:45-17:45	0	0	0	0	1155	0	32	1114	2	0	0	2	2305
17:00-18:00	0	0	0	0	1133	0	28	1065	1	0	0	3	2230

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
HIGHWAY 101 (NEWPORT) @ FRONT



DATE OF COUNT: 08/20/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

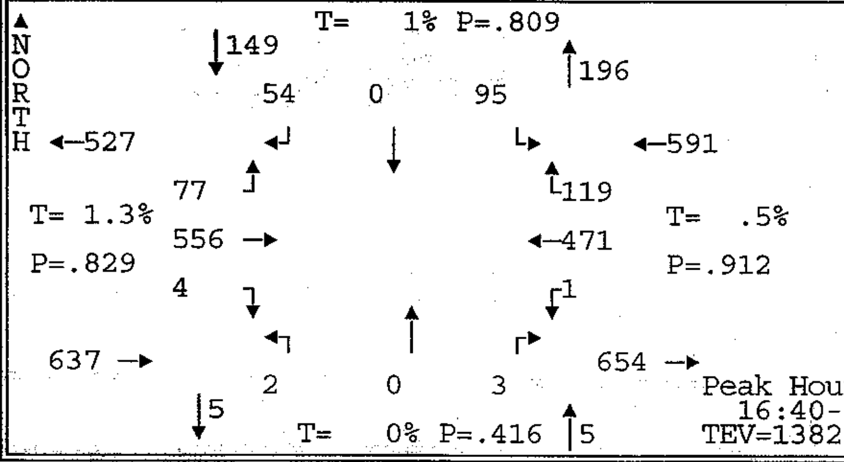
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5CJ

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↵	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	0	116	0	0	0	0	1	0	2	1	106	0	226
16:05-16:10	0	133	0	0	0	0	1	0	1	0	113	0	248
16:10-16:15	0	127	0	0	0	0	0	0	1	2	83	0	213
16:15-16:20	1	119	0	0	0	0	0	0	0	3	98	0	221
16:20-16:25	0	138	0	0	0	0	0	0	5	0	110	0	253
16:25-16:30	0	120	0	0	0	0	0	0	0	1	96	0	217
16:30-16:35	0	108	0	0	0	0	2	0	3	0	97	0	210
16:35-16:40	0	107	0	0	0	0	0	0	0	0	111	0	218
16:40-16:45	0	134	0	0	0	0	0	0	0	0	114	0	248
16:45-16:50	1	129	0	0	0	0	0	0	1	0	115	0	246
16:50-16:55	1	118	0	0	0	0	0	0	3	0	114	0	236
16:55-17:00	1	154	0	0	0	0	2	0	4	1	110	0	272
17:00-17:05	1	123	0	0	0	0	0	0	2	1	112	0	239
17:05-17:10	0	135	0	0	0	0	1	0	4	1	102	0	243
17:10-17:15	0	163	0	0	0	0	0	0	1	1	109	0	274
17:15-17:20	1	161	0	0	0	0	0	0	3	0	88	0	253
17:20-17:25	0	148	0	0	0	0	0	0	3	0	86	0	237
17:25-17:30	0	133	0	0	0	0	1	0	3	0	99	0	236
17:30-17:35	0	135	0	0	0	0	1	0	0	0	110	0	246
17:35-17:40	0	152	0	0	0	0	0	0	0	0	75	0	227
17:40-17:45	0	123	0	0	0	0	1	0	2	0	107	0	233
17:45-17:50	0	108	0	0	0	0	1	0	1	2	108	0	220
17:50-17:55	0	128	0	0	0	0	1	0	2	0	83	0	214
17:55-18:00	0	113	0	0	0	0	0	0	1	1	96	0	211
Total Survey	6	3125	0	0	0	0	12	0	42	14	2442	0	5641
PHF	.42	.89	0	0	0	0	.42	0	.6	.33	.9	0	.960
% Trucks	0	2.6	0	0	0	0	8.3	0	0	14.3	3.6	0	3
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	5	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	4	1503	0	0	0	0	6	0	20	8	1267	0	2808
16:15-17:15	5	1548	0	0	0	0	5	0	23	8	1288	0	2877
16:30-17:30	5	1613	0	0	0	0	6	0	27	4	1257	0	2912
16:45-17:45	5	1674	0	0	0	0	6	0	26	4	1227	0	2942
17:00-18:00	2	1622	0	0	0	0	6	0	22	6	1175	0	2833

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
NEWMARK @ BRUSSELS



DATE OF COUNT: 08/20/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

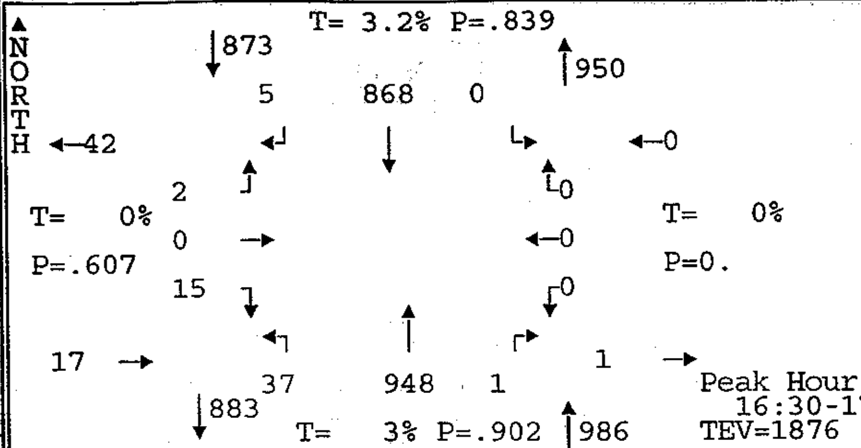
V5CK

Peak Hour
16:40-17:40
TEV=1382

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND RT	EAST BOUND TH	EAST BOUND LT	SOUTH BOUND RT	SOUTH BOUND TH	SOUTH BOUND LT	NORTH BOUND LT	NORTH BOUND TH	NORTH BOUND RT	WEST BOUND LT	WEST BOUND TH	WEST BOUND RT	ALL
16:00-16:05	0	43	5	6	0	14	0	0	0	0	29	5	102
16:05-16:10	0	31	3	5	0	5	0	0	1	1	23	7	76
16:10-16:15	0	52	6	9	0	9	0	0	1	0	34	6	117
16:15-16:20	0	49	4	5	0	7	0	0	0	0	41	8	114
16:20-16:25	0	46	5	2	0	7	0	0	0	0	45	10	115
16:25-16:30	1	35	5	5	0	8	0	0	1	0	24	5	84
16:30-16:35	0	37	6	5	0	6	0	0	0	0	44	7	105
16:35-16:40	0	49	5	2	0	8	0	0	0	0	39	11	114
16:40-16:45	0	42	2	7	0	12	0	0	0	0	39	16	118
16:45-16:50	0	66	4	0	0	5	0	0	0	0	35	7	117
16:50-16:55	0	46	5	6	0	8	0	0	0	0	35	2	102
16:55-17:00	0	43	2	6	0	6	0	0	0	0	44	9	110
17:00-17:05	1	35	7	10	0	10	1	0	0	0	40	6	110
17:05-17:10	1	38	7	2	0	11	0	0	0	0	41	9	109
17:10-17:15	1	51	15	3	0	7	0	0	1	0	33	8	119
17:15-17:20	0	60	7	3	0	8	0	0	0	1	40	21	140
17:20-17:25	0	52	6	5	0	11	1	0	1	0	40	8	124
17:25-17:30	0	40	5	3	0	6	0	0	0	0	40	12	106
17:30-17:35	0	43	6	5	0	5	0	0	0	0	36	9	104
17:35-17:40	1	40	11	4	0	6	0	0	1	0	48	12	123
17:40-17:45	0	47	7	2	0	8	0	0	1	0	42	5	112
17:45-17:50	0	33	2	3	0	6	0	0	0	0	31	9	84
17:50-17:55	0	49	5	2	0	5	0	0	0	0	31	6	98
17:55-18:00	0	33	3	5	0	7	0	0	0	0	36	8	92
Total Survey	5	1060	133	105	0	185	2	0	7	2	890	206	2595
PHF	.33	.85	.66	.61	0	.85	.5	0	.38	.25	.94	.73	.902
% Trucks	0	1.5	0	1	0	1.1	0	0	0	0	.6	0	.9
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	6	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	1	539	52	58	0	95	0	0	3	1	432	93	1274
16:15-17:15	4	537	67	53	0	95	1	0	2	0	460	98	1317
16:30-17:30	3	559	71	52	0	98	2	0	2	1	470	116	1374
16:45-17:45	4	561	82	49	0	91	2	0	4	1	474	108	1376
17:00-18:00	4	521	81	47	0	90	2	0	4	1	458	113	1321

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
CLARK @ HIGHWAY 101



DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

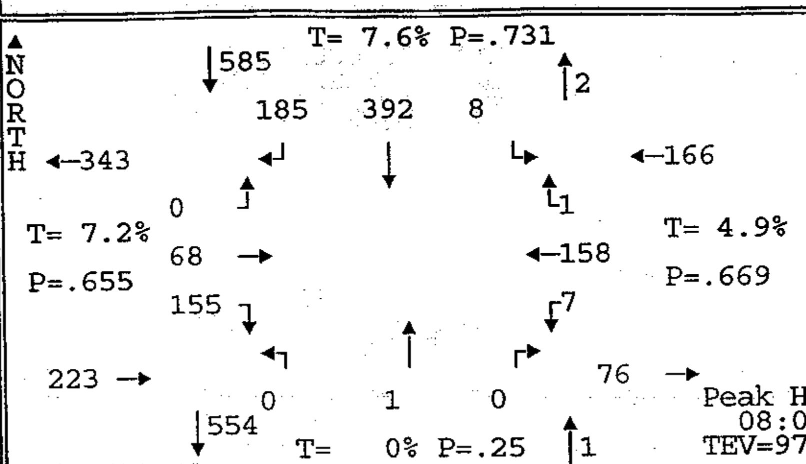
V5CD

Peak Hour
16:30-17:30
TEV=1876

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	1	0	0	1	80	0	1	70	0	0	0	0	153
16:05-16:10	1	0	0	0	84	0	1	73	0	0	0	0	159
16:10-16:15	0	0	0	0	80	0	1	97	0	0	0	0	178
16:15-16:20	1	0	0	0	79	0	3	72	0	0	0	0	155
16:20-16:25	0	0	0	0	65	0	0	63	0	0	0	0	128
16:25-16:30	1	0	0	0	73	0	1	71	0	0	0	0	146
16:30-16:35	0	0	0	0	74	0	5	89	0	0	0	0	168
16:35-16:40	0	0	0	0	76	0	2	65	0	0	0	0	143
16:40-16:45	2	0	0	0	67	0	2	68	1	0	0	0	140
16:45-16:50	1	0	0	0	84	0	3	96	0	0	0	0	184
16:50-16:55	2	0	0	0	63	0	4	66	0	0	0	0	135
16:55-17:00	1	0	0	2	60	0	3	77	0	0	0	0	143
17:00-17:05	2	0	0	2	62	0	3	74	0	0	0	0	143
17:05-17:10	1	0	1	1	87	0	4	75	0	0	0	0	169
17:10-17:15	1	0	0	0	98	0	1	87	0	0	0	0	187
17:15-17:20	2	0	1	0	74	0	2	104	0	0	0	0	183
17:20-17:25	3	0	0	0	56	0	2	71	0	0	0	0	132
17:25-17:30	0	0	0	0	67	0	6	76	0	0	0	0	149
17:30-17:35	1	0	0	0	43	0	0	101	0	0	0	0	145
17:35-17:40	0	0	1	0	68	0	3	53	0	0	0	0	125
17:40-17:45	1	0	0	1	71	0	2	75	0	0	0	0	150
17:45-17:50	0	0	0	0	70	0	1	65	0	0	0	0	136
17:50-17:55	0	0	1	0	45	0	3	70	0	0	0	0	119
17:55-18:00	2	0	0	0	46	0	3	73	0	0	0	0	124
Total Survey	23	0	4	7	1672	0	56	1831	1	0	0	0	3594
PHF	.63	0	.25	.25	.84	0	.93	.89	.25	0	0	0	.870
% Trucks	0	0	0	0	3.2	0	0	3.1	0	0	0	0	3.1
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	10	0	0	3	885	0	26	907	1	0	0	0	1832
16:15-17:15	12	0	1	5	888	0	31	903	1	0	0	0	1841
16:30-17:30	15	0	2	5	868	0	37	948	1	0	0	0	1876
16:45-17:45	15	0	3	6	833	0	33	955	0	0	0	0	1845
17:00-18:00	13	0	4	4	787	0	30	924	0	0	0	0	1762

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
CAPE ARAGO HIGHWAY @ HIGHWAY 101 SB



Peak Hour
08:00-09:00
TEV=975

DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 07:00
TIME ENDED: 09:00

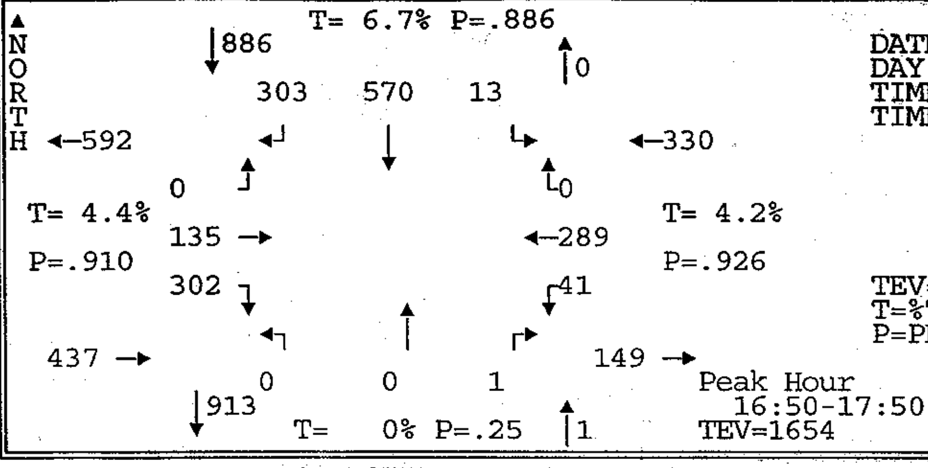
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5AD

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↴	→	↑	↲	↓	↳	↰	↑	↱	↓	←	↑	
07:00-07:05	2	0	0	4	13	0	0	0	0	1	2	0	22
07:05-07:10	1	1	0	3	9	0	0	0	0	0	1	0	15
07:10-07:15	6	1	0	5	14	0	0	0	0	1	6	0	33
07:15-07:20	6	2	0	1	9	0	0	0	0	1	4	0	23
07:20-07:25	7	0	0	5	9	0	0	0	0	0	3	0	24
07:25-07:30	3	3	0	6	14	1	0	0	0	0	2	0	29
07:30-07:35	6	3	0	5	19	1	0	0	0	1	6	0	41
07:35-07:40	7	2	0	10	23	0	0	0	0	1	10	0	53
07:40-07:45	8	4	0	8	22	0	0	0	0	0	12	0	54
07:45-07:50	4	3	0	4	22	0	0	0	0	1	4	0	38
07:50-07:55	11	2	0	17	37	0	0	0	0	1	9	0	77
07:55-08:00	11	3	0	10	17	0	0	0	0	0	12	0	53
08:00-08:05	6	2	0	10	26	0	0	0	0	0	9	0	53
08:05-08:10	6	2	0	12	31	0	0	1	0	1	9	0	62
08:10-08:15	11	7	0	14	20	1	0	0	0	0	10	0	63
08:15-08:20	8	3	0	13	22	0	0	0	0	0	9	0	55
08:20-08:25	9	2	0	6	26	1	0	0	0	0	10	0	54
08:25-08:30	10	4	0	20	38	1	0	0	0	0	13	0	86
08:30-08:35	14	3	0	13	21	0	0	0	0	0	8	0	59
08:35-08:40	14	8	0	13	43	0	0	0	0	1	12	0	91
08:40-08:45	20	9	0	23	31	0	0	0	0	4	18	0	105
08:45-08:50	15	5	0	21	41	2	0	0	0	0	9	0	93
08:50-08:55	20	7	0	23	43	1	0	0	0	1	28	1	124
08:55-09:00	22	16	0	17	50	2	0	0	0	0	23	0	130
Total Survey	227	92	0	263	600	10	0	1	0	14	229	1	1437
PHF	.68	.61	0	.69	.73	.4	0	.25	0	.35	.66	.25	.702
% Trucks	2.2	19.6	0	2.7	9.8	0	0	0	0	7.1	4.8	0	7
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	5	0	0	1	0	0	0	0	
Hourly Totals													
07:00-08:00	72	24	0	78	208	2	0	0	0	7	71	0	462
07:15-08:15	86	33	0	102	249	3	0	1	0	6	90	0	570
07:30-08:30	97	37	0	129	303	4	0	1	0	5	113	0	689
07:45-08:45	124	48	0	155	334	3	0	1	0	8	123	0	796
08:00-09:00	155	68	0	185	392	8	0	1	0	7	158	1	975

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
CAPE ARAGO HIGHWAY@ HIGHWAY 101 SB



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

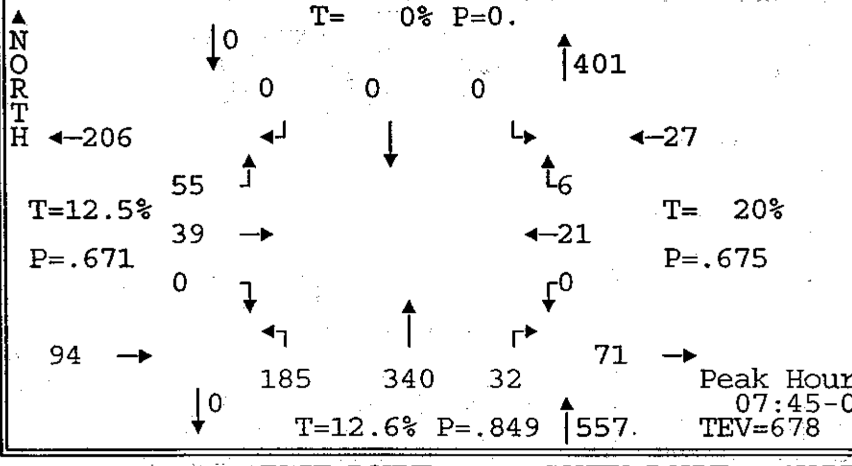
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5AE

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↓	→	↑	↲	↓	↳	↰	↑	↱	↓	←	↑	
16:00-16:05	31	6	0	27	63	1	0	0	0	3	29	0	160
16:05-16:10	26	10	0	15	45	1	0	0	0	4	24	0	125
16:10-16:15	26	9	0	22	66	1	0	0	0	6	24	0	154
16:15-16:20	24	7	0	23	52	1	0	0	0	3	26	0	136
16:20-16:25	21	14	0	18	50	4	0	0	0	5	26	0	138
16:25-16:30	18	7	0	24	60	1	0	0	0	3	16	0	129
16:30-16:35	21	18	0	22	47	1	2	0	0	1	17	0	129
16:35-16:40	19	5	0	15	47	2	0	0	0	6	21	0	115
16:40-16:45	22	8	0	19	41	0	0	0	0	3	29	0	122
16:45-16:50	19	13	0	20	48	0	0	0	0	4	25	0	129
16:50-16:55	24	15	0	29	48	3	0	0	0	1	22	0	142
16:55-17:00	19	16	0	15	50	4	0	0	0	7	29	0	140
17:00-17:05	24	13	0	31	46	0	0	0	0	3	22	0	139
17:05-17:10	26	11	0	31	58	1	0	0	0	4	18	0	149
17:10-17:15	25	13	0	24	57	1	0	0	1	5	22	0	148
17:15-17:20	31	14	0	32	45	1	0	0	0	3	22	0	148
17:20-17:25	22	14	0	25	44	0	0	0	0	3	23	0	131
17:25-17:30	27	11	0	26	43	0	0	0	0	7	26	0	140
17:30-17:35	30	6	0	24	40	0	0	0	0	4	26	0	130
17:35-17:40	21	7	0	19	54	0	0	0	0	1	25	0	127
17:40-17:45	28	9	0	23	37	2	0	0	0	1	29	0	129
17:45-17:50	25	6	0	24	48	1	0	0	0	2	25	0	131
17:50-17:55	21	2	0	21	45	1	0	0	0	10	24	0	124
17:55-18:00	21	12	0	23	41	1	0	0	0	3	24	0	125
Total Survey	571	246	0	552	1175	27	2	0	1	92	574	0	3240
PHF	.92	.77	0	.87	.89	.46	0	0	.25	.73	.9	0	.929
% Trucks	4.2	4.9	0	4.7	7.7	3.7	0	0	0	5.4	4	0	5.6
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	14	0	0	23	0	0	3	0	
Hourly Totals													
16:00-17:00	270	128	0	249	617	19	2	0	0	46	288	0	1619
16:15-17:15	262	140	0	271	604	18	2	0	1	45	273	0	1616
16:30-17:30	279	151	0	289	574	13	2	0	1	47	276	0	1632
16:45-17:45	296	142	0	299	570	12	0	0	1	43	289	0	1652
17:00-18:00	301	118	0	303	558	8	0	0	1	46	286	0	1621

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
CAPE ARAGO HIGHWAY @ HIGHWAY 101 NB



Peak Hour
07:45-08:45
TEV=678

DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 07:00
TIME ENDED: 09:00

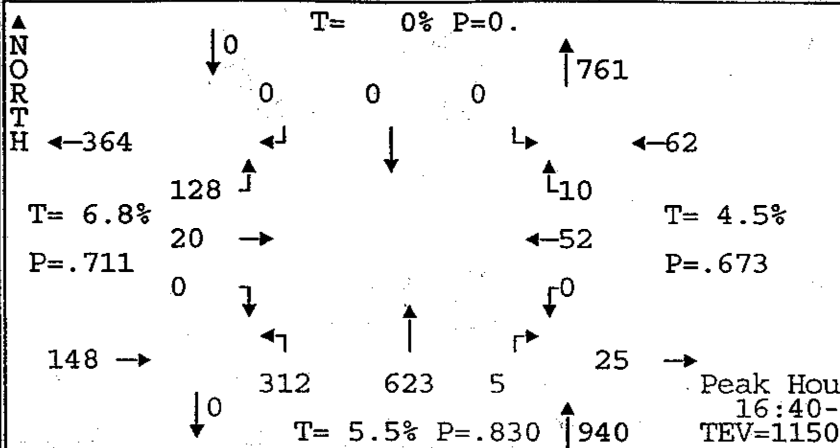
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5AF

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			
	↓	→	↑	↵	↓	↳	↰	↑	↱	↓	←	↑	ALL
07:00-07:05	0	2	1	0	0	0	9	21	0	0	0	0	33
07:05-07:10	0	1	3	0	0	0	10	18	0	0	1	0	33
07:10-07:15	0	4	3	0	0	0	9	23	0	0	1	0	40
07:15-07:20	0	3	1	0	0	0	11	21	0	0	0	0	36
07:20-07:25	0	1	3	0	0	0	10	28	2	0	0	0	44
07:25-07:30	0	1	2	0	0	0	8	23	1	0	0	0	35
07:30-07:35	0	0	6	0	0	0	11	25	0	0	2	0	44
07:35-07:40	0	2	6	0	0	0	12	22	1	0	2	0	45
07:40-07:45	0	1	7	0	0	0	15	28	2	0	1	1	55
07:45-07:50	0	2	4	0	0	0	24	33	5	0	0	0	68
07:50-07:55	0	9	9	0	0	0	18	40	3	0	2	0	81
07:55-08:00	0	3	8	0	0	0	19	20	2	0	0	0	52
08:00-08:05	0	1	1	0	0	0	18	26	5	0	2	1	54
08:05-08:10	0	3	3	0	0	0	16	25	2	0	2	1	52
08:10-08:15	0	4	1	0	0	0	10	28	0	0	1	0	44
08:15-08:20	0	6	7	0	0	0	18	28	3	0	1	1	64
08:20-08:25	0	3	3	0	0	0	6	16	1	0	3	2	34
08:25-08:30	0	4	2	0	0	0	14	29	4	0	0	1	54
08:30-08:35	0	0	5	0	0	0	13	22	2	0	1	0	43
08:35-08:40	0	3	8	0	0	0	15	36	3	0	5	0	70
08:40-08:45	0	1	4	0	0	0	14	37	2	0	4	0	62
08:45-08:50	0	4	3	0	0	0	23	23	4	0	6	0	63
08:50-08:55	0	3	5	0	0	0	10	29	1	0	5	0	53
08:55-09:00	0	2	2	0	0	0	17	28	1	0	2	2	54
Total Survey	0	63	97	0	0	0	330	629	44	0	41	9	1213
PHF	0	.7	.65	0	0	0	.76	.89	.8	0	.52	.38	.843
% Trucks	0	7.9	15.5	0	0	0	5.8	16.2	11.4	0	19.5	22.2	12.9
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	2	0	0	0	0	0	0	0	
Hourly Totals													
07:00-08:00	0	29	53	0	0	0	156	302	16	0	9	1	566
07:15-08:15	0	30	51	0	0	0	172	319	23	0	12	3	610
07:30-08:30	0	38	57	0	0	0	181	320	28	0	16	7	647
07:45-08:45	0	39	55	0	0	0	185	340	32	0	21	6	678
08:00-09:00	0	34	44	0	0	0	174	327	28	0	32	8	647

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
CAPE ARAGO HIGHWAY @ HIGHWAY 101 NB



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

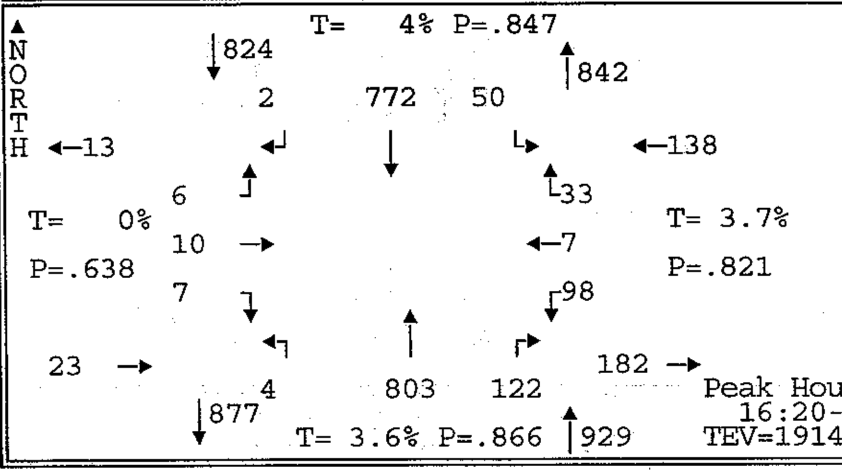
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5AG

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	0	3	11	0	0	0	19	46	1	0	4	1	85
16:05-16:10	0	2	12	0	0	0	23	61	0	0	5	2	105
16:10-16:15	0	2	12	0	0	0	23	50	0	0	6	1	94
16:15-16:20	0	2	20	0	0	0	18	38	0	0	4	1	83
16:20-16:25	0	3	15	0	0	0	25	51	1	0	2	0	97
16:25-16:30	0	1	9	0	0	0	21	55	0	0	6	0	92
16:30-16:35	0	0	8	0	0	0	25	43	1	0	4	0	81
16:35-16:40	0	0	6	0	0	0	25	57	0	0	3	0	91
16:40-16:45	0	4	10	0	0	0	26	37	1	0	5	0	83
16:45-16:50	0	3	11	0	0	0	29	66	1	0	2	1	113
16:50-16:55	0	0	5	0	0	0	27	52	0	0	3	1	88
16:55-17:00	0	0	16	0	0	0	27	27	0	0	4	1	75
17:00-17:05	0	3	11	0	0	0	20	43	0	0	8	1	86
17:05-17:10	0	2	8	0	0	0	25	44	0	0	6	3	88
17:10-17:15	0	3	15	0	0	0	27	71	1	0	4	0	121
17:15-17:20	0	2	16	0	0	0	26	53	0	0	4	2	103
17:20-17:25	0	3	13	0	0	0	31	74	0	0	5	0	126
17:25-17:30	0	0	13	0	0	0	17	50	0	0	1	0	81
17:30-17:35	0	0	6	0	0	0	24	53	1	0	6	0	90
17:35-17:40	0	0	4	0	0	0	33	53	1	0	4	1	96
17:40-17:45	0	0	4	0	0	0	20	43	0	0	2	1	70
17:45-17:50	0	2	6	0	0	0	12	45	0	0	2	2	69
17:50-17:55	0	2	7	0	0	0	17	52	3	0	0	1	82
17:55-18:00	0	1	4	0	0	0	17	43	2	0	3	0	70
Total Survey	0	38	242	0	0	0	557	1207	13	0	93	19	2169
PHF	0	.63	.73	0	0	0	.93	.79	.63	0	.72	.5	.821
% Trucks	0	10.5	6.2	0	0	0	3.1	6.7	0	0	3.2	10.5	5.6
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	2	0	0	1	0	0	0	0	
Hourly Totals													
16:00-17:00	0	20	135	0	0	0	288	583	5	0	48	8	1087
16:15-17:15	0	21	134	0	0	0	295	584	5	0	51	8	1098
16:30-17:30	0	20	132	0	0	0	305	617	4	0	49	9	1136
16:45-17:45	0	16	122	0	0	0	306	629	4	0	49	11	1137
17:00-18:00	0	18	107	0	0	0	269	624	8	0	45	11	1082

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
CASINO ENTRANCE @ HIGHWAY 101



Peak Hour
16:20-17:20
TEV=1914

DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

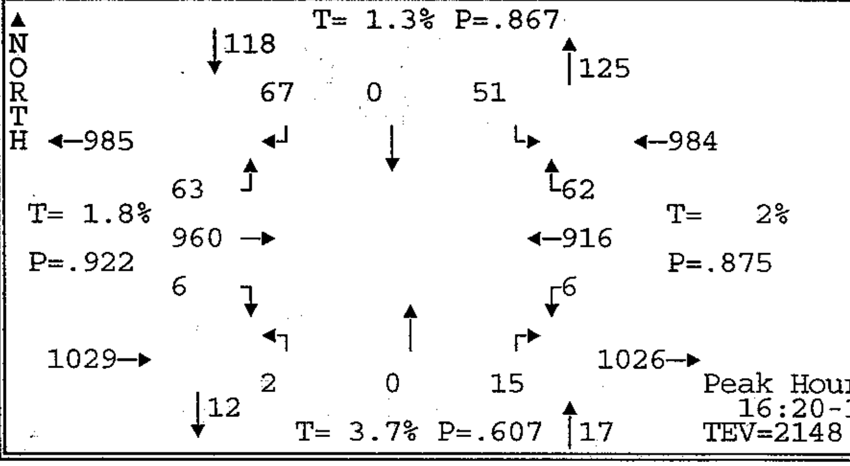
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5CE

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↴	→	↑	↲	↓	↳	↰	↑	↱	↓	←	↑	
16:00-16:05	0	0	0	2	70	2	1	60	7	9	0	2	153
16:05-16:10	4	0	1	0	76	3	1	75	10	3	0	2	175
16:10-16:15	1	0	0	0	69	3	0	70	15	13	0	7	178
16:15-16:20	0	0	0	0	56	3	0	55	5	8	0	8	135
16:20-16:25	0	1	0	0	74	6	2	54	9	7	0	2	155
16:25-16:30	1	0	0	0	58	2	0	65	16	5	0	3	150
16:30-16:35	1	1	1	0	67	1	0	63	9	12	0	6	161
16:35-16:40	0	0	0	1	62	8	0	67	8	4	2	1	153
16:40-16:45	2	2	0	0	63	4	0	60	11	9	0	2	153
16:45-16:50	0	0	0	1	63	4	1	74	15	8	0	3	169
16:50-16:55	1	0	0	0	55	5	0	60	9	6	2	0	138
16:55-17:00	0	1	2	0	52	2	0	64	13	9	0	3	146
17:00-17:05	0	0	1	0	63	5	0	56	5	11	0	1	142
17:05-17:10	1	2	0	0	84	8	0	72	10	5	0	4	186
17:10-17:15	1	0	0	0	80	3	0	90	10	12	3	5	204
17:15-17:20	0	3	2	0	51	2	1	78	7	10	0	3	157
17:20-17:25	0	0	1	0	46	1	0	61	12	10	0	0	131
17:25-17:30	0	0	1	0	44	2	0	78	9	10	0	3	147
17:30-17:35	1	0	0	0	31	4	0	70	16	2	0	3	127
17:35-17:40	0	0	0	0	82	2	0	39	8	5	0	3	139
17:40-17:45	1	0	0	0	56	2	1	74	10	8	0	5	157
17:45-17:50	0	2	2	0	55	3	1	48	10	4	1	5	131
17:50-17:55	0	0	2	1	45	2	0	65	7	1	0	4	127
17:55-18:00	0	0	0	0	45	3	0	49	9	7	0	6	119
Total Survey	14	12	13	5	1447	80	8	1547	240	178	8	81	3633
PHF	.58	.5	.5	.25	.85	.78	.5	.84	.82	.88	.58	.69	.874
% Trucks	0	0	0	0	3.9	5	0	4	1.3	2.8	0	6.2	3.7
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	1	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	10	5	4	4	765	43	5	767	127	93	4	39	1866
16:15-17:15	7	7	4	2	777	51	3	780	120	96	7	38	1892
16:30-17:30	6	9	8	2	730	45	2	823	118	106	7	31	1887
16:45-17:45	5	6	7	1	707	40	3	816	124	96	5	33	1843
17:00-18:00	4	7	9	1	682	37	3	780	113	85	4	42	1767

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
OAK @ CAPE ARAGO WAY



Peak Hour
16:20-17:20
TEV=2148

DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

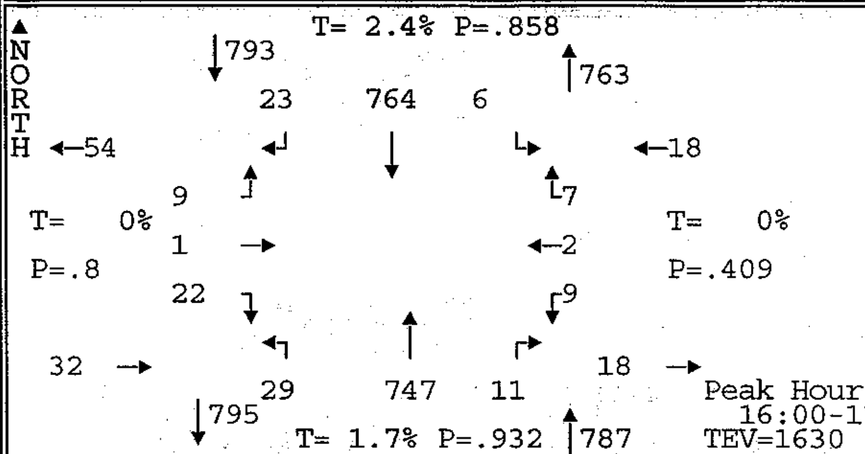
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BU

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ←	↓	→	NORTH BOUND ←	↑	→	WEST BOUND ↓	←	↑	ALL
16:00-16:05	1	76	6	5	0	7	1	0	3	0	69	3	171
16:05-16:10	0	83	4	2	0	6	0	0	1	0	73	6	175
16:10-16:15	1	60	9	7	0	2	0	0	1	0	89	4	173
16:15-16:20	0	84	7	6	0	3	0	0	1	0	71	4	176
16:20-16:25	1	79	5	4	0	7	0	0	1	1	74	5	177
16:25-16:30	1	71	2	8	0	5	0	0	4	1	82	8	182
16:30-16:35	2	66	2	8	0	2	0	0	0	0	88	3	171
16:35-16:40	0	84	2	7	0	4	0	0	0	1	62	6	166
16:40-16:45	2	93	4	8	0	4	0	0	2	0	71	2	186
16:45-16:50	0	83	6	0	0	1	1	0	2	0	80	4	177
16:50-16:55	0	82	9	3	0	6	1	0	0	0	76	3	180
16:55-17:00	0	70	8	8	0	8	0	0	3	0	51	7	155
17:00-17:05	0	78	6	4	0	2	0	0	1	0	73	5	169
17:05-17:10	0	86	5	5	0	4	0	0	1	3	63	4	171
17:10-17:15	0	81	8	8	0	5	0	0	1	0	85	7	195
17:15-17:20	0	87	6	4	0	3	0	0	0	0	111	8	219
17:20-17:25	1	62	4	3	0	6	0	0	1	0	68	4	149
17:25-17:30	0	59	2	8	0	9	0	0	0	1	80	9	168
17:30-17:35	0	67	2	7	0	4	0	0	1	1	76	8	166
17:35-17:40	0	70	6	3	0	5	0	0	1	0	48	2	135
17:40-17:45	0	60	4	7	0	5	0	0	0	0	66	7	149
17:45-17:50	0	70	7	5	0	4	0	0	0	1	64	3	154
17:50-17:55	0	65	7	4	0	6	0	0	0	0	62	10	154
17:55-18:00	0	65	2	4	0	2	0	0	0	1	73	3	150
Total Survey	9	1781	123	128	0	110	3	0	24	10	1755	125	4068
PHF	.38	.92	.68	.73	0	.8	.25	0	.75	.5	.88	.82	.917
% Trucks	0	1.9	1.6	2.3	0	0	0	0	4.2	0	2.1	.8	1.9
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	8	931	64	66	0	55	3	0	18	3	886	55	2089
16:15-17:15	6	957	64	69	0	51	2	0	16	6	876	58	2105
16:30-17:30	5	931	62	66	0	54	2	0	11	5	908	62	2106
16:45-17:45	1	885	66	60	0	58	2	0	11	5	877	68	2033
17:00-18:00	1	850	59	62	0	55	0	0	6	7	869	70	1979

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
17TH @ BROADWAY



Peak Hour
16:00-17:00
TEV=1630

DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BT

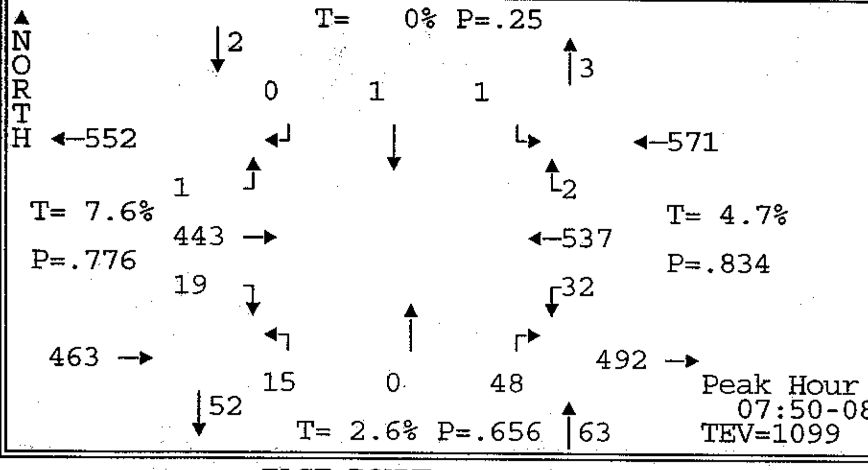
Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↵	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	2	0	2	1	58	1	1	78	1	0	0	0	144
16:05-16:10	1	0	0	3	63	1	3	62	1	2	0	0	136
16:10-16:15	3	0	1	3	71	0	4	61	0	0	1	1	145
16:15-16:20	1	1	1	0	71	0	1	59	1	0	0	0	135
16:20-16:25	2	0	0	4	81	1	0	55	0	0	0	0	143
16:25-16:30	2	0	1	1	60	0	2	58	0	0	0	1	125
16:30-16:35	3	0	0	1	63	1	3	64	1	0	0	1	137
16:35-16:40	2	0	1	2	62	1	3	68	0	1	0	0	140
16:40-16:45	3	0	1	1	56	0	5	58	2	0	0	0	126
16:45-16:50	1	0	0	1	61	1	3	56	1	1	0	1	126
16:50-16:55	0	0	2	2	61	0	1	65	1	1	0	1	134
16:55-17:00	2	0	0	4	57	0	3	63	3	4	1	2	139
17:00-17:05	0	0	0	5	50	0	3	65	0	0	0	1	124
17:05-17:10	3	0	0	0	69	0	2	76	0	0	0	1	151
17:10-17:15	1	0	2	3	58	0	4	63	0	0	0	0	131
17:15-17:20	1	0	2	3	62	0	1	54	0	0	0	0	123
17:20-17:25	3	0	0	2	61	1	4	67	0	0	0	0	138
17:25-17:30	5	0	1	3	59	0	2	50	0	0	0	1	121
17:30-17:35	3	0	2	1	54	0	3	54	0	0	0	0	117
17:35-17:40	2	0	0	3	66	0	2	49	1	1	0	1	125
17:40-17:45	2	0	1	0	53	0	3	44	0	0	1	0	104
17:45-17:50	3	0	1	2	44	0	3	50	0	0	0	0	103
17:50-17:55	0	0	0	0	47	0	3	48	0	0	0	0	98
17:55-18:00	1	0	0	1	39	0	1	53	0	0	0	1	96

Total Survey	46	1	18	46	1426	7	60	1420	12	10	3	12	3061
PHF	.69	.25	.75	.82	.86	.75	.66	.93	.55	.38	.5	.44	.958
% Trucks	0	0	0	0	2.5	0	1.7	1.8	0	0	0	0	2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	2	0	0	10	0	0	0	0	

Hourly Totals													
16:00-17:00	22	1	9	23	764	6	29	747	11	9	2	7	1630
16:15-17:15	20	1	8	24	749	4	30	750	9	7	1	8	1611
16:30-17:30	24	0	9	27	719	4	34	749	8	7	1	8	1590
16:45-17:45	23	0	10	27	711	2	31	706	6	7	2	8	1533
17:00-18:00	24	0	9	23	662	1	31	673	1	1	1	5	1431

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
HARRISON @ VIRGINIA



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

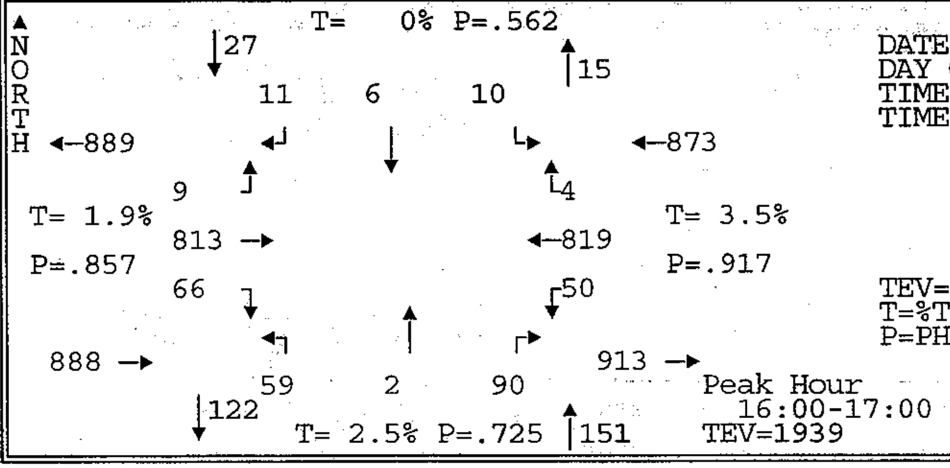
V5AL

Peak Hour
07:50-08:50
TEV=1099

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			
	↓	→	↑	↲	↓	↳	↰	↑	↱	↓	←	↑	ALL
07:00-07:05	0	20	0	0	0	0	0	0	1	3	20	0	44
07:05-07:10	0	23	0	0	0	0	1	0	4	1	21	0	50
07:10-07:15	1	17	0	1	0	0	1	0	1	1	25	0	47
07:15-07:20	1	29	0	1	0	0	0	0	1	3	28	0	63
07:20-07:25	0	27	0	0	0	0	1	0	1	0	22	0	51
07:25-07:30	1	31	0	0	0	0	2	0	2	0	41	0	77
07:30-07:35	1	35	0	0	0	0	1	0	5	1	28	0	71
07:35-07:40	0	38	0	0	0	0	4	0	4	2	44	0	92
07:40-07:45	0	35	0	0	0	0	2	0	4	4	54	0	99
07:45-07:50	1	33	0	0	0	0	2	0	5	4	38	0	83
07:50-07:55	1	57	0	0	0	0	2	0	4	3	66	0	133
07:55-08:00	3	52	1	0	0	0	1	0	7	5	58	0	127
08:00-08:05	2	33	0	0	1	1	5	0	5	2	36	1	86
08:05-08:10	0	27	0	0	0	0	0	0	5	5	31	0	68
08:10-08:15	3	23	0	0	0	0	0	0	4	3	37	0	70
08:15-08:20	0	36	0	0	0	0	1	0	4	0	42	1	84
08:20-08:25	0	35	0	0	0	0	0	0	6	0	35	0	76
08:25-08:30	3	33	0	0	0	0	1	0	3	3	36	0	79
08:30-08:35	2	29	0	0	0	0	1	0	2	5	43	0	82
08:35-08:40	1	39	0	0	0	0	0	0	4	0	47	0	91
08:40-08:45	2	36	0	0	0	0	4	0	4	4	47	0	97
08:45-08:50	2	43	0	0	0	0	0	0	0	2	59	0	106
08:50-08:55	5	42	0	1	0	0	1	0	3	2	43	0	97
08:55-09:00	4	26	0	1	0	0	3	0	2	3	60	0	99
Total Survey	33	799	1	4	1	1	33	0	81	56	961	2	1972
PHF	.79	.78	.25	0	.25	.25	.47	0	.71	.67	.84	.5	.794
% Trucks	3	7.8	0	0	0	0	3	0	2.5	5.4	4.7	0	5.8
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	2	0	0	2	0	0	2	0	0	0	0	
Hourly Totals													
07:00-08:00	9	397	1	2	0	0	17	0	39	27	445	0	937
07:15-08:15	13	420	1	1	1	1	20	0	47	32	483	1	1020
07:30-08:30	14	437	1	0	1	1	19	0	56	32	505	2	1068
07:45-08:45	18	433	1	0	1	1	17	0	53	34	516	2	1076
08:00-09:00	24	402	0	2	1	1	16	0	42	29	516	2	1035

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
HARRISON @ VIRGINIA



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

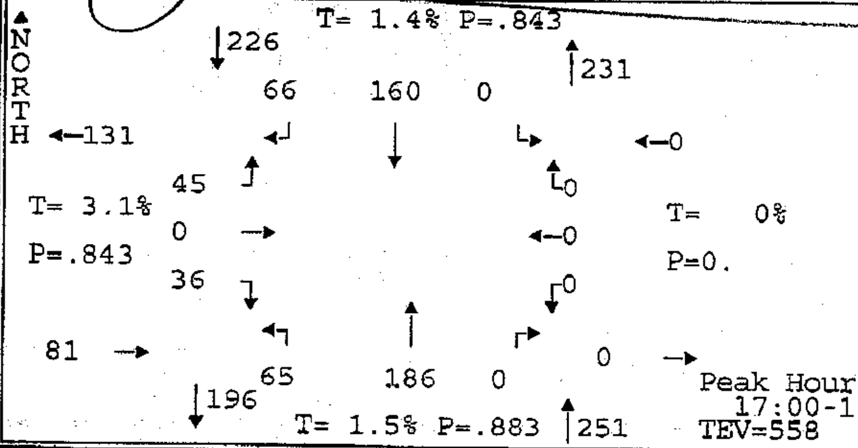
V5AM

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	4	64	0	0	2	0	3	0	14	4	65	0	156
16:05-16:10	6	67	2	1	0	0	6	0	5	2	69	1	159
16:10-16:15	5	74	0	1	1	0	10	0	14	5	74	0	184
16:15-16:20	3	82	4	1	1	4	5	1	6	2	72	0	181
16:20-16:25	6	82	0	1	0	0	2	1	5	0	60	0	157
16:25-16:30	6	76	0	2	0	3	5	0	8	4	66	1	171
16:30-16:35	3	73	1	0	0	2	4	0	5	7	79	0	174
16:35-16:40	6	57	0	1	0	0	3	0	8	7	74	0	156
16:40-16:45	10	59	1	1	1	1	10	0	8	6	60	0	157
16:45-16:50	6	63	0	1	1	0	3	0	7	4	60	0	145
16:50-16:55	7	49	0	2	0	0	4	0	3	4	69	1	139
16:55-17:00	4	67	1	0	0	0	4	0	7	5	71	1	160
17:00-17:05	3	64	0	0	0	3	2	0	8	3	68	0	151
17:05-17:10	4	62	1	0	0	0	1	0	6	3	68	0	145
17:10-17:15	1	78	1	0	0	3	3	3	14	2	76	0	181
17:15-17:20	1	75	1	1	0	2	3	1	6	4	86	0	180
17:20-17:25	3	68	0	1	0	1	7	2	7	6	55	0	150
17:25-17:30	4	74	0	1	1	2	3	0	6	3	52	0	146
17:30-17:35	1	71	1	1	1	2	2	1	9	2	65	0	156
17:35-17:40	5	51	0	0	0	1	3	0	1	2	74	3	140
17:40-17:45	3	44	2	0	0	0	1	1	8	5	52	2	118
17:45-17:50	2	47	0	0	1	1	4	0	6	3	56	0	120
17:50-17:55	4	50	0	4	0	1	0	0	8	3	58	0	128
17:55-18:00	3	49	0	0	1	1	8	1	4	2	53	0	122
Total Survey	100	1546	15	19	10	27	96	11	173	88	1582	9	3676
PHF	.72	.85	.38	.69	.5	.36	.7	.25	.68	.63	.93	.5	.925
% Trucks	0	2.1	0	0	0	0	2.1	0	2.9	1.1	3.5	11.1	2.6
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	12	0	0	8	0	0	4	0	0	0	0	
Hourly Totals													
16:00-17:00	66	813	9	11	6	10	59	2	90	50	819	4	1939
16:15-17:15	59	812	9	9	3	16	46	5	85	47	823	3	1917
16:30-17:30	52	789	6	8	3	14	47	6	85	54	818	2	1884
16:45-17:45	42	766	7	7	3	14	36	8	82	43	796	7	1811
17:00-18:00	34	733	6	8	4	17	37	9	83	38	763	5	1737

(39)

INTERSECTION ~~TURN MOVEMENT COUNT~~ SUMMARY REPORT
PONY CREEK ROAD AT CROWELL LANE



DATE OF COUNT: 09/17/02
DAY OF WEEK: Tue
TIME STARTED: 15:10
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

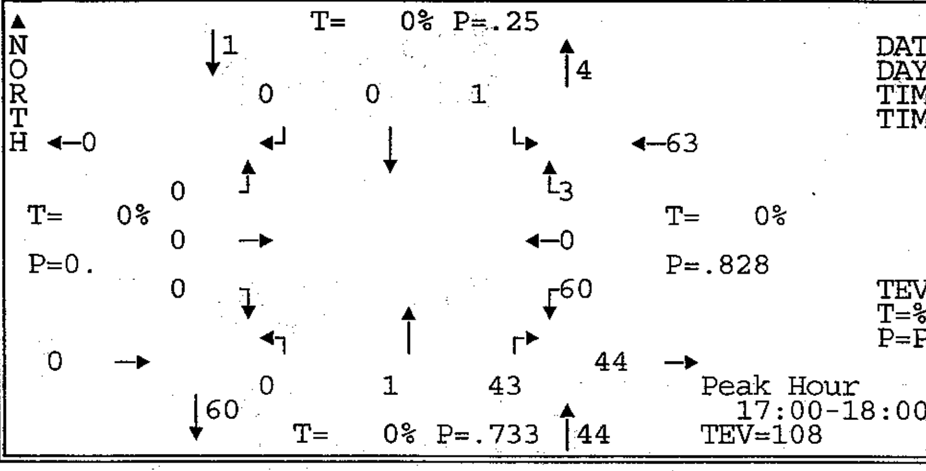
PMML

Peak Hour
17:00-18:00
TEV=558

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↵	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
15:10-15:15	8	0	10	9	11	0	2	13	0	0	0	0	53
15:15-15:20	16	0	20	8	14	0	5	14	0	0	0	0	77
15:20-15:25	13	0	16	10	20	0	4	15	0	0	0	0	78
15:25-15:30	4	0	14	4	11	0	0	20	0	0	0	0	53
15:30-15:35	9	0	1	2	16	0	2	12	0	0	0	0	42
15:35-15:40	0	0	0	0	0	0	0	0	0	0	0	0	0
15:40-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-15:50	0	0	0	0	0	0	0	0	0	0	0	0	0
15:50-15:55	0	0	0	0	0	0	0	0	0	0	0	0	0
15:55-16:00	4	0	2	5	17	0	4	9	0	0	0	0	41
16:00-16:05	3	0	6	3	15	0	4	16	0	0	0	0	47
16:05-16:10	5	0	5	5	24	0	4	22	0	0	0	0	65
16:10-16:15	6	0	6	5	15	0	4	21	0	0	0	0	57
16:15-16:20	3	0	4	2	9	0	4	28	0	0	0	0	50
16:20-16:25	2	0	2	3	18	0	9	13	0	0	0	0	47
16:25-16:30	5	0	3	8	16	0	1	10	0	0	0	0	43
16:30-16:35	2	0	9	4	15	0	1	13	0	0	0	0	44
16:35-16:40	4	0	4	4	11	0	4	8	0	0	0	0	35
16:40-16:45	3	0	4	8	15	0	4	16	0	0	0	0	50
16:45-16:50	2	0	1	3	11	0	2	13	0	0	0	0	32
16:50-16:55	4	0	2	7	12	0	3	13	0	0	0	0	41
16:55-17:00	2	0	2	5	11	0	4	20	0	0	0	0	44
17:00-17:05	2	0	5	5	18	0	5	13	0	0	0	0	48
17:05-17:10	3	0	1	6	12	0	7	13	0	0	0	0	42
17:10-17:15	4	0	0	6	14	0	5	13	0	0	0	0	42
17:15-17:20	1	0	5	4	8	0	5	17	0	0	0	0	40
17:20-17:25	5	0	3	8	18	0	11	15	0	0	0	0	60
17:25-17:30	2	0	4	8	8	0	4	19	0	0	0	0	45
17:30-17:35	0	0	8	8	17	0	3	17	0	0	0	0	53
17:35-17:40	2	0	6	4	12	0	5	16	0	0	0	0	45
17:40-17:45	3	0	3	7	10	0	3	20	0	0	0	0	46
17:45-17:50	1	0	0	5	13	0	5	15	0	0	0	0	39
17:50-17:55	3	0	3	4	14	0	6	13	0	0	0	0	43
17:55-18:00	10	0	7	1	16	0	6	15	0	0	0	0	55
Total Survey	131	0	156	161	421	0	126	462	0	0	0	0	1457
PHF	.64	0	.63	.69	.91	0	.77	.88	0	0	0	0	.882
% Trucks	1.5	0	4.5	1.9	1.2	0	1.6	1.5	0	0	0	0	1.8
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	2	0	0	5	0	0	2	0	0	0	0	
Hourly Totals													
15:10-16:10	62	0	74	46	128	0	25	121	0	0	0	0	456
15:25-16:25	36	0	40	29	125	0	31	141	0	0	0	0	402
15:40-16:40	34	0	41	39	140	0	35	140	0	0	0	0	429
15:55-16:55	43	0	48	57	178	0	44	182	0	0	0	0	552
16:10-17:10	38	0	43	60	163	0	48	181	0	0	0	0	533
16:25-17:25	37	0	39	68	161	0	52	164	0	0	0	0	521
16:40-17:40	30	0	41	72	156	0	58	185	0	0	0	0	542
16:55-17:55	28	0	40	70	155	0	63	191	0	0	0	0	547

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
CROWELL LANE @ PACIFIC



DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

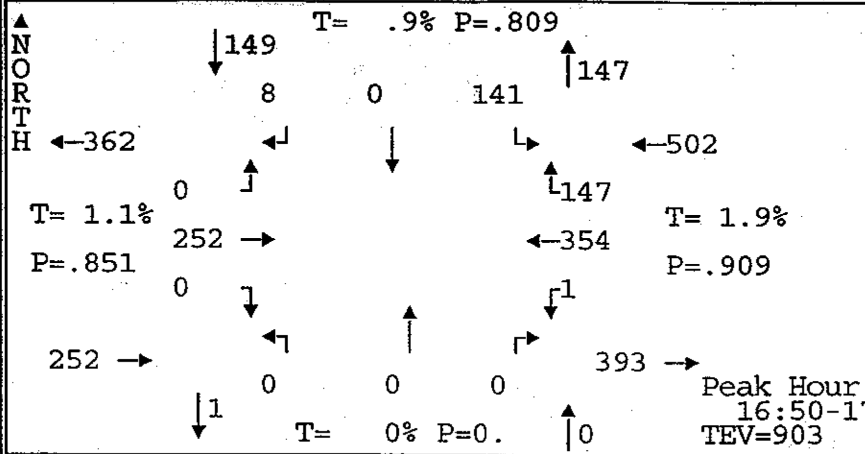
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BR

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	0	0	0	0	0	0	0	0	7	1	0	0	8
16:05-16:10	0	0	0	0	0	0	0	0	1	2	0	0	3
16:10-16:15	0	0	0	0	0	0	0	0	4	3	0	0	7
16:15-16:20	0	0	0	0	0	0	0	0	4	4	0	0	8
16:20-16:25	0	0	0	0	0	0	0	0	3	6	0	0	9
16:25-16:30	0	0	0	0	0	0	0	0	1	5	0	0	6
16:30-16:35	0	0	0	0	0	0	0	0	3	5	0	0	8
16:35-16:40	0	0	0	0	0	0	0	0	4	6	0	0	10
16:40-16:45	0	0	0	0	0	0	0	0	3	7	0	0	10
16:45-16:50	0	0	0	0	0	0	0	0	4	0	0	0	4
16:50-16:55	0	0	0	0	0	1	0	0	2	1	0	0	4
16:55-17:00	0	0	0	0	0	0	0	0	2	5	0	0	7
17:00-17:05	0	0	0	0	0	0	0	0	8	6	0	0	14
17:05-17:10	0	0	0	0	0	0	0	0	5	3	0	0	8
17:10-17:15	0	0	0	0	0	0	0	0	1	5	0	2	8
17:15-17:20	0	0	0	0	0	0	0	0	1	6	0	0	7
17:20-17:25	0	0	0	0	0	0	0	0	1	6	0	0	7
17:25-17:30	0	0	0	0	0	0	0	0	2	3	0	0	5
17:30-17:35	0	0	0	0	0	0	0	0	3	2	0	0	5
17:35-17:40	0	0	0	0	0	0	0	0	3	7	0	0	10
17:40-17:45	0	0	0	0	0	1	0	1	4	5	0	0	11
17:45-17:50	0	0	0	0	0	0	0	0	5	5	0	0	10
17:50-17:55	0	0	0	0	0	0	0	0	4	7	0	1	12
17:55-18:00	0	0	0	0	0	0	0	0	6	5	0	0	11
Total Survey	0	0	0	0	0	2	0	1	81	105	0	3	192
PHF	0	0	0	0	0	.25	0	.25	.72	.88	0	.38	.818
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	7	0	0	0	0	
Hourly Totals													
16:00-17:00	0	0	0	0	0	1	0	0	38	45	0	0	84
16:15-17:15	0	0	0	0	0	1	0	0	40	53	0	2	96
16:30-17:30	0	0	0	0	0	1	0	0	36	53	0	2	92
16:45-17:45	0	0	0	0	0	2	0	1	36	49	0	2	90
17:00-18:00	0	0	0	0	0	1	0	1	43	60	0	3	108

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
MAPLE @ VIRGINIA



DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

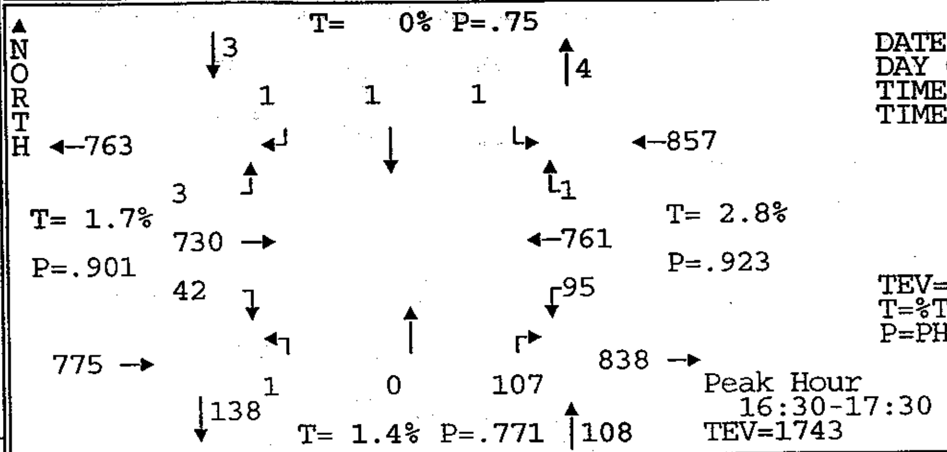
V5BP

Peak Hour
16:50-17:50
TEV=903

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
16:00-16:05	0	20	0	1	0	15	0	0	0	0	19	4	59
16:05-16:10	0	15	0	0	0	20	0	0	0	0	27	19	81
16:10-16:15	0	14	0	0	0	16	0	0	0	0	26	17	73
16:15-16:20	0	19	0	0	0	18	0	0	0	0	25	8	70
16:20-16:25	0	18	0	1	0	14	0	0	0	0	22	12	67
16:25-16:30	0	13	0	1	0	11	0	0	0	0	22	14	61
16:30-16:35	0	24	0	0	0	10	0	0	0	0	21	7	62
16:35-16:40	0	23	0	2	0	21	0	0	0	0	16	6	68
16:40-16:45	6	15	0	1	0	6	0	0	0	0	20	14	62
16:45-16:50	0	20	0	2	0	13	0	0	0	0	18	9	62
16:50-16:55	0	20	0	2	0	8	0	0	0	0	26	14	70
16:55-17:00	0	29	0	1	0	9	0	0	0	0	28	12	79
17:00-17:05	0	25	0	0	0	14	0	0	0	0	35	12	86
17:05-17:10	0	17	0	2	0	14	0	0	0	0	31	7	71
17:10-17:15	0	14	0	1	0	15	0	0	0	0	27	10	67
17:15-17:20	0	26	0	0	0	7	0	0	0	1	30	19	83
17:20-17:25	0	17	0	0	0	19	0	0	0	0	30	13	79
17:25-17:30	0	20	0	0	0	6	0	0	0	0	31	14	71
17:30-17:35	0	25	0	0	0	16	0	0	0	0	29	10	80
17:35-17:40	0	15	0	1	0	10	0	0	0	0	32	12	70
17:40-17:45	0	22	0	0	0	14	0	0	0	0	27	12	75
17:45-17:50	0	22	0	1	0	9	0	0	0	0	28	12	72
17:50-17:55	0	21	0	0	0	6	0	0	0	0	22	16	65
17:55-18:00	0	15	0	1	0	12	0	0	0	0	28	10	66
Total Survey	6	469	0	17	0	303	0	0	0	1	620	283	1699
PHF	0	.85	0	.67	0	.82	0	0	0	.25	.94	.8	.956
% Trucks	0	1.1	0	0	0	1	0	0	0	0	1	3.9	1.5
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	3	0	
Hourly Totals													
16:00-17:00	6	230	0	11	0	161	0	0	0	0	270	136	814
16:15-17:15	6	237	0	13	0	153	0	0	0	0	291	125	825
16:30-17:30	6	250	0	11	0	142	0	0	0	1	313	137	860
16:45-17:45	0	250	0	9	0	145	0	0	0	1	344	144	893
17:00-18:00	0	239	0	6	0	142	0	0	0	1	350	147	885

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
VIRGINIA @ SAFEWAY DRIVEWAY



DATE OF COUNT: 08/20/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

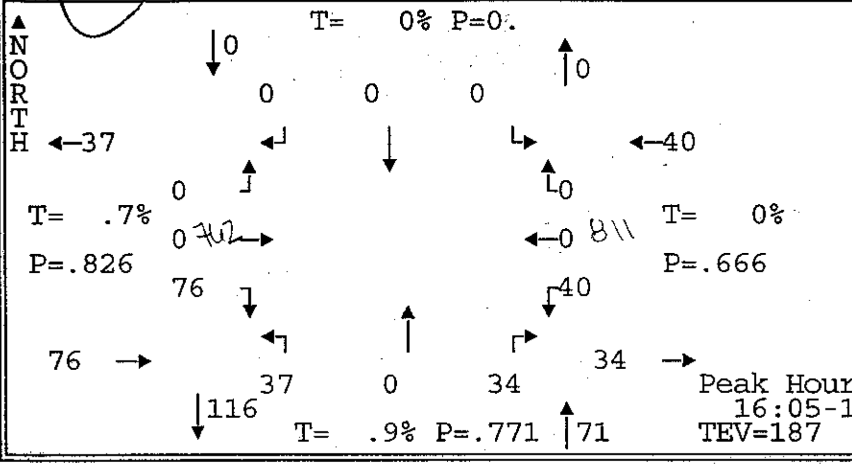
V5CR

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↴	→	↑	↵	↓	↳	↰	↑	↱	↓	←	↑	
16:00-16:05	1	62	0	0	0	0	0	0	11	7	64	0	145
16:05-16:10	3	86	0	0	0	0	0	0	15	7	55	1	167
16:10-16:15	1	58	0	0	0	0	0	0	3	7	68	0	137
16:15-16:20	3	60	1	0	0	2	1	0	4	5	68	2	146
16:20-16:25	1	58	0	0	0	1	2	0	8	8	57	0	135
16:25-16:30	2	59	0	0	0	1	0	0	7	5	52	0	126
16:30-16:35	1	70	1	0	0	0	1	0	11	9	61	0	154
16:35-16:40	3	65	0	0	0	0	0	0	1	5	58	1	133
16:40-16:45	3	55	0	0	0	1	0	0	9	6	53	0	127
16:45-16:50	6	52	1	0	0	0	0	0	8	6	64	0	137
16:50-16:55	2	58	0	0	0	0	0	0	11	8	74	0	153
16:55-17:00	5	57	0	0	0	0	0	0	11	10	58	0	141
17:00-17:05	1	52	0	0	0	0	0	0	11	7	69	0	140
17:05-17:10	5	62	0	1	0	0	0	0	13	7	63	0	151
17:10-17:15	2	59	0	0	0	0	0	0	6	8	60	0	135
17:15-17:20	3	82	0	0	0	0	0	0	7	9	76	0	177
17:20-17:25	7	60	0	0	0	0	0	0	12	10	69	0	158
17:25-17:30	4	58	1	0	1	0	0	0	7	10	56	0	137
17:30-17:35	4	47	0	0	0	0	0	0	14	4	52	0	121
17:35-17:40	6	64	0	0	0	0	0	0	5	7	61	0	143
17:40-17:45	1	52	0	0	0	0	0	0	12	6	68	0	139
17:45-17:50	1	57	0	1	0	1	0	0	6	6	44	1	117
17:50-17:55	1	62	1	0	0	3	0	0	7	7	52	0	133
17:55-18:00	4	46	1	0	0	1	0	0	6	8	40	0	106
Total Survey	70	1441	6	2	1	10	4	0	205	172	1442	5	3358
PHF	.75	.9	.75	.25	.25	.25	.25	0	.76	.82	.93	.25	.923
% Trucks	4.3	1.6	0	0	0	0	0	0	1.5	.6	3.1	0	2.2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	5	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	31	740	3	0	0	5	4	0	99	83	732	4	1701
16:15-17:15	34	707	3	1	0	5	4	0	100	84	737	3	1678
16:30-17:30	42	730	3	1	1	1	1	0	107	95	761	1	1743
16:45-17:45	46	703	2	1	1	0	0	0	117	92	770	0	1732
17:00-18:00	39	701	3	2	1	5	0	0	106	89	710	1	1657

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
VIRGINIA @ PONY VILLAGE DRIVEWAY A

70



Peak Hour
16:05-17:05
TEV=187

DATE OF COUNT: 08/20/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

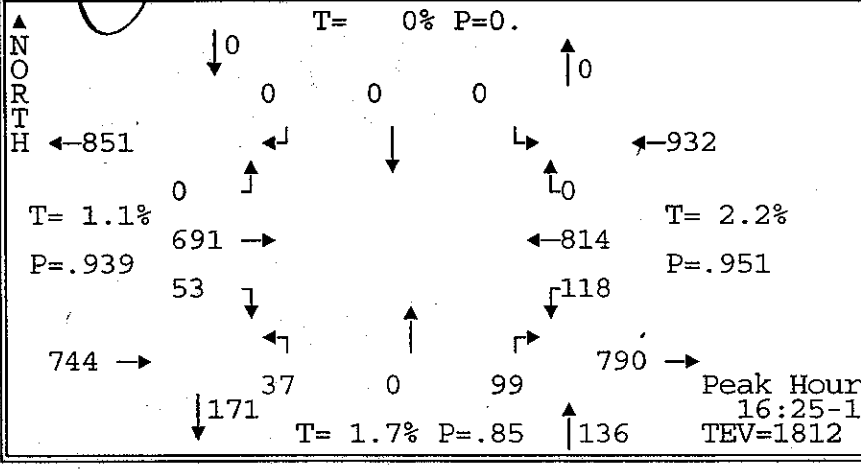
V5CS

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↓	→	↑	←	↓	→	←	↑	→	↓	←	↑	
16:00-16:05	7	0	0	0	0	0	3	0	1	0	0	0	11
16:05-16:10	10	0	0	0	0	0	3	0	1	5	0	0	19
16:10-16:15	8	0	0	0	0	0	6	0	2	2	0	0	18
16:15-16:20	5	0	0	0	0	0	5	0	2	6	0	0	18
16:20-16:25	6	0	0	0	0	0	1	0	3	5	0	0	15
16:25-16:30	8	0	0	0	0	0	2	0	1	4	0	0	15
16:30-16:35	4	0	0	0	0	0	1	0	5	1	0	0	11
16:35-16:40	6	0	0	0	0	0	4	0	3	2	0	0	15
16:40-16:45	11	0	0	0	0	0	3	0	7	5	0	0	26
16:45-16:50	0	0	0	0	0	0	2	0	1	4	0	0	7
16:50-16:55	10	0	0	0	0	0	3	0	1	2	0	0	16
16:55-17:00	4	0	0	0	0	0	4	0	4	2	0	0	14
17:00-17:05	4	0	0	0	0	0	3	0	4	2	0	0	13
17:05-17:10	5	0	0	0	0	0	2	0	2	1	0	0	10
17:10-17:15	7	0	0	0	0	0	1	0	2	4	0	0	14
17:15-17:20	8	0	0	0	0	0	3	0	3	1	0	0	15
17:20-17:25	6	0	0	0	0	0	0	0	2	3	0	0	11
17:25-17:30	7	0	0	0	0	0	0	0	2	3	0	0	12
17:30-17:35	1	0	0	0	0	0	1	0	1	1	0	0	4
17:35-17:40	7	0	0	0	0	0	6	0	1	2	0	0	16
17:40-17:45	6	0	0	0	0	0	2	0	0	5	0	0	13
17:45-17:50	6	0	0	0	0	0	2	0	1	1	0	0	10
17:50-17:55	3	0	0	0	0	0	2	0	1	2	0	0	8
17:55-18:00	4	0	0	0	0	0	2	0	0	3	0	0	9
Total Survey	143	0	0	0	0	0	61	0	50	66	0	0	320
PHF	.83	0	0	0	0	0	.66	0	.57	.67	0	0	.85
% Trucks	.7	0	0	0	0	0	0	0	2	0	0	0	.6
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	79	0	0	0	0	0	37	0	31	38	0	0	185
16:15-17:15	70	0	0	0	0	0	31	0	35	38	0	0	174
16:30-17:30	72	0	0	0	0	0	26	0	36	30	0	0	164
16:45-17:45	65	0	0	0	0	0	27	0	23	30	0	0	145
17:00-18:00	64	0	0	0	0	0	24	0	19	28	0	0	135

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
VIRGINIA @ PONY VILLAGE DRIVEWAY B

69



DATE OF COUNT: 08/20/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

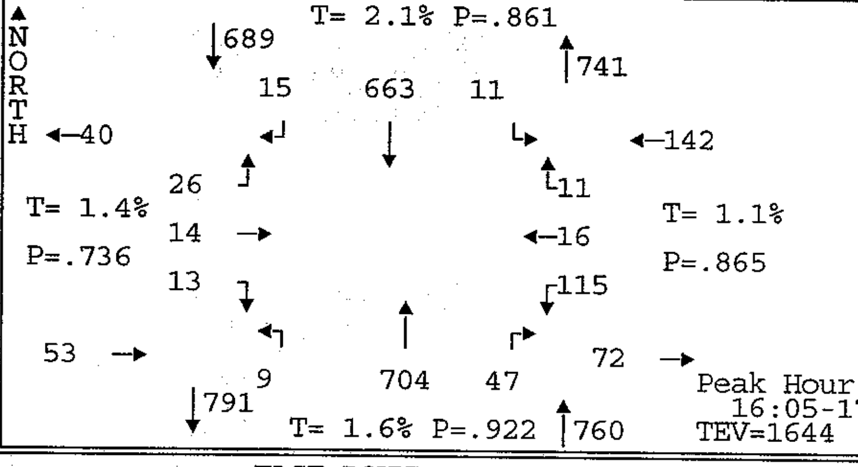
V5CT

Peak Hour
16:25-17:25
TEV=1812

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	1	61	0	0	0	0	6	0	7	10	61	0	146
16:05-16:10	3	79	0	0	0	0	3	0	6	16	73	0	180
16:10-16:15	6	52	0	0	0	0	6	0	9	4	65	0	142
16:15-16:20	3	52	0	0	0	0	5	0	14	3	68	0	145
16:20-16:25	1	57	0	0	0	0	2	0	10	6	56	0	132
16:25-16:30	2	54	0	0	0	0	4	0	9	11	63	0	143
16:30-16:35	1	73	0	0	0	0	3	0	7	9	61	0	154
16:35-16:40	5	50	0	0	0	0	5	0	5	12	63	0	140
16:40-16:45	4	54	0	0	0	0	4	0	9	10	56	0	137
16:45-16:50	6	53	0	0	0	0	3	0	6	10	70	0	148
16:50-16:55	3	57	0	0	0	0	5	0	11	12	74	0	162
16:55-17:00	8	52	0	0	0	0	1	0	10	9	63	0	143
17:00-17:05	2	58	0	0	0	0	1	0	12	10	74	0	157
17:05-17:10	8	65	0	0	0	0	0	0	11	8	72	0	164
17:10-17:15	2	49	0	0	0	0	3	0	7	9	69	0	139
17:15-17:20	7	67	0	0	0	0	6	0	7	7	72	0	166
17:20-17:25	5	59	0	0	0	0	2	0	5	11	77	0	159
17:25-17:30	6	53	0	0	0	0	4	0	13	6	57	0	139
17:30-17:35	0	48	1	0	0	0	5	0	4	13	60	0	131
17:35-17:40	3	58	0	0	0	0	4	0	11	1	57	0	134
17:40-17:45	1	56	0	0	0	0	6	0	12	8	65	0	148
17:45-17:50	5	48	0	0	0	0	3	0	6	7	59	0	128
17:50-17:55	5	59	0	0	0	0	2	0	8	9	52	0	135
17:55-18:00	2	44	0	0	0	0	3	0	10	7	47	0	113
Total Survey	89	1358	1	0	0	0	86	0	209	208	1534	0	3485
PHF	.74	.95	0	0	0	0	.77	0	.75	.92	.93	0	.965
% Trucks	1.1	1.1	0	0	0	0	1.2	0	1.9	1.4	2.3	0	1.7
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	43	694	0	0	0	0	47	0	103	112	773	0	1772
16:15-17:15	45	674	0	0	0	0	36	0	111	109	789	0	1764
16:30-17:30	57	690	0	0	0	0	37	0	103	113	808	0	1808
16:45-17:45	51	675	1	0	0	0	40	0	109	104	810	0	1790
17:00-18:00	46	664	1	0	0	0	39	0	106	96	761	0	1713

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
16TH @ BROADWAY



DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BS

Peak Hour
16:05-17:05
TEV=1644

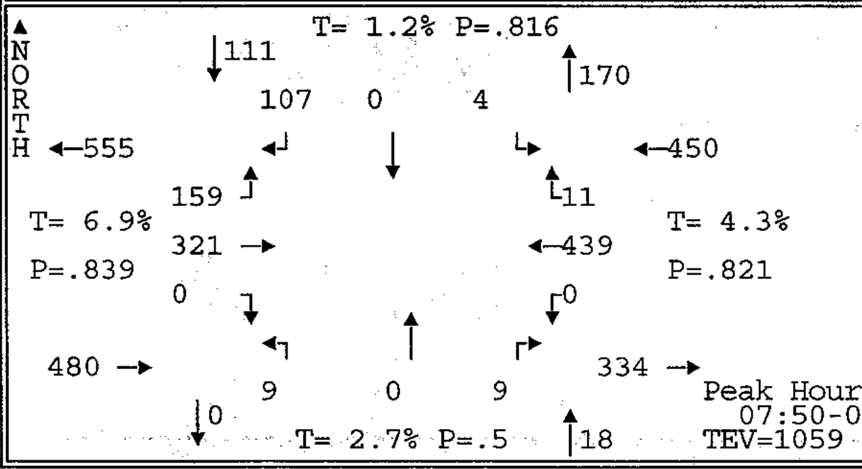
Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	0	0	2	3	57	1	1	62	1	13	0	0	140
16:05-16:10	2	0	3	2	50	0	2	81	1	9	3	1	154
16:10-16:15	0	0	2	1	59	0	0	58	5	12	1	1	139
16:15-16:20	1	0	2	2	54	0	1	55	3	12	1	1	132
16:20-16:25	0	0	2	1	71	1	1	56	2	11	1	0	146
16:25-16:30	1	0	2	0	70	1	0	41	3	12	0	3	133
16:30-16:35	2	2	1	2	43	0	2	63	5	8	3	1	132
16:35-16:40	2	2	5	1	60	1	1	60	6	10	0	0	148
16:40-16:45	1	2	1	0	53	1	0	65	4	6	1	0	134
16:45-16:50	1	1	1	0	54	3	0	53	7	3	1	0	124
16:50-16:55	1	4	3	1	56	0	1	57	1	10	0	0	134
16:55-17:00	2	2	2	3	43	1	0	52	5	12	3	1	126
17:00-17:05	0	1	2	2	50	3	1	63	5	10	2	3	142
17:05-17:10	1	0	2	2	58	1	0	69	4	5	2	2	146
17:10-17:15	0	1	1	0	44	1	0	66	5	12	1	1	132
17:15-17:20	0	0	0	1	64	0	1	64	3	5	0	0	138
17:20-17:25	1	0	0	1	43	0	0	46	5	7	0	2	105
17:25-17:30	0	0	1	0	64	0	0	68	4	8	0	1	146
17:30-17:35	0	1	0	2	46	1	0	47	7	3	0	0	107
17:35-17:40	0	0	0	0	58	0	0	50	3	7	1	0	119
17:40-17:45	0	0	1	1	49	0	1	38	7	13	1	0	111
17:45-17:50	0	0	1	0	46	0	2	42	6	9	1	1	108
17:50-17:55	1	0	1	2	38	1	2	46	4	8	2	1	106
17:55-18:00	0	1	1	4	36	0	0	40	5	11	1	1	100

Total Survey	16	17	36	31	1266	16	16	1342	101	216	25	20	3102
PHF	.65	.5	.81	.63	.85	.55	.75	.91	.69	.82	.8	.69	.967
% Trucks	6.3	0	0	0	2.1	6.3	0	1.7	0	.9	0	5	1.8
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	6	0	0	8	0	0	3	0	

Hourly Totals													
16:00-17:00	13	13	26	16	670	9	9	703	43	118	14	8	1642
16:15-17:15	12	15	24	14	656	13	7	700	50	111	15	12	1629
16:30-17:30	11	15	19	13	632	11	6	726	54	96	13	11	1607
16:45-17:45	6	10	13	13	629	10	4	673	56	95	11	10	1530
17:00-18:00	3	4	10	15	596	7	7	639	58	98	11	12	1460

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
MEADE @ VIRGINIA



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

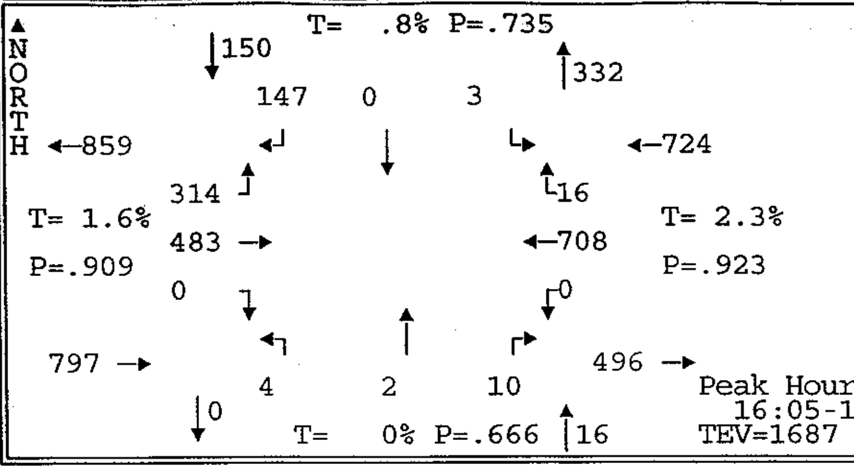
V5AH

Peak Hour
07:50-08:50
TEV=1059

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ←	↓	→	NORTH BOUND ←	↑	→	WEST BOUND ↓	←	↑	ALL
07:00-07:05	0	15	6	3	0	0	1	0	0	0	25	1	51
07:05-07:10	0	11	14	0	0	0	0	0	0	0	18	1	44
07:10-07:15	0	17	3	3	0	2	0	0	0	0	31	2	58
07:15-07:20	0	14	15	5	0	0	0	1	0	0	20	0	55
07:20-07:25	0	23	11	4	0	0	0	0	1	0	23	0	62
07:25-07:30	0	18	9	0	0	1	1	0	0	0	33	1	63
07:30-07:35	0	21	11	3	0	0	3	0	1	0	31	0	70
07:35-07:40	1	28	17	7	0	1	0	0	5	0	34	1	94
07:40-07:45	0	25	12	3	0	0	0	0	2	0	41	2	85
07:45-07:50	0	25	14	6	0	0	1	0	0	0	51	0	97
07:50-07:55	0	42	12	13	0	0	1	0	2	0	58	1	129
07:55-08:00	0	34	17	11	0	2	2	0	2	0	34	1	103
08:00-08:05	0	23	15	5	0	0	1	0	1	0	35	2	82
08:05-08:10	0	22	10	6	0	1	1	0	0	0	32	2	74
08:10-08:15	0	18	14	9	0	1	1	0	0	0	24	0	67
08:15-08:20	0	25	11	8	0	0	1	0	0	0	30	0	75
08:20-08:25	0	27	13	6	0	0	0	0	0	0	32	1	79
08:25-08:30	0	27	7	10	0	0	0	0	1	0	28	1	74
08:30-08:35	0	22	15	10	0	0	0	0	2	0	32	0	81
08:35-08:40	0	25	12	12	0	0	0	0	1	0	39	1	90
08:40-08:45	0	32	15	12	0	0	1	0	0	0	46	0	106
08:45-08:50	0	24	18	5	0	0	1	0	0	0	49	2	99
08:50-08:55	0	29	11	7	0	0	0	0	1	0	38	0	86
08:55-09:00	0	17	14	9	0	0	1	1	0	0	48	1	91
Total Survey	1	564	296	157	0	8	16	2	19	0	832	20	1915
PHF	0	.81	.88	.79	0	.33	.56	0	.45	0	.82	.55	.843
% Trucks	0	8.7	3.4	1.3	0	0	0	0	5.3	0	4.4	0	5.2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	4	0	0	1	0	0	0	0	0	0	0	
Hourly Totals													
07:00-08:00	1	273	141	58	0	6	9	1	13	0	399	10	911
07:15-08:15	1	293	157	72	0	6	11	1	14	0	416	10	981
07:30-08:30	1	317	153	87	0	5	11	0	14	0	430	11	1029
07:45-08:45	0	322	155	108	0	4	9	0	9	0	441	9	1057
08:00-09:00	0	291	155	99	0	2	7	1	6	0	433	10	1004

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
MEADE @ VIRGINIA



Peak Hour
16:05-17:05
TEV=1687

DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

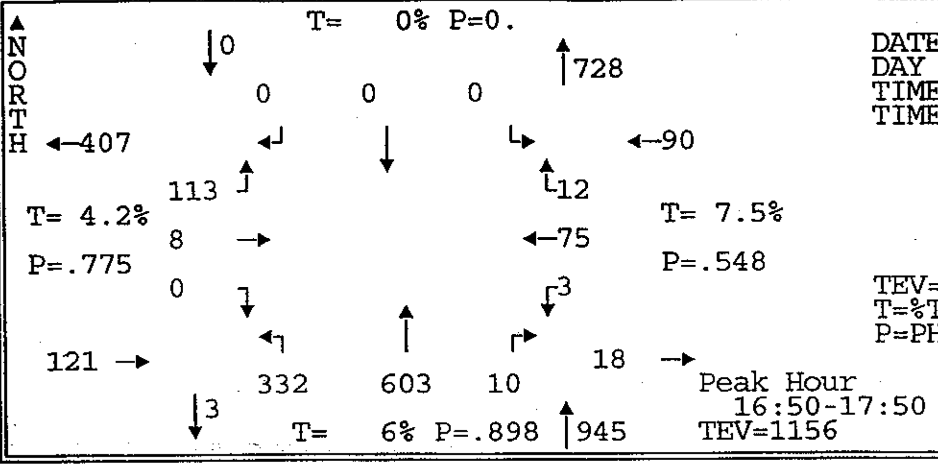
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5AI

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	0	43	20	7	0	2	1	0	1	0	57	2	133
16:05-16:10	0	61	20	11	0	0	1	0	1	0	53	1	148
16:10-16:15	0	44	25	16	0	0	0	0	3	0	70	0	158
16:15-16:20	0	46	23	7	0	1	0	0	0	0	71	1	149
16:20-16:25	0	46	29	8	0	0	0	1	1	0	44	1	130
16:25-16:30	0	37	29	17	0	0	0	0	1	0	55	1	140
16:30-16:35	0	39	33	21	0	0	1	0	0	0	64	2	160
16:35-16:40	0	30	27	12	0	1	0	0	1	0	65	1	137
16:40-16:45	0	39	28	7	0	0	1	0	1	0	47	5	128
16:45-16:50	0	32	25	14	0	1	1	1	1	0	57	0	132
16:50-16:55	0	35	17	13	0	0	0	0	0	0	56	2	123
16:55-17:00	0	38	30	9	0	0	0	0	0	0	64	1	142
17:00-17:05	0	36	28	12	0	0	0	0	1	0	62	1	140
17:05-17:10	1	41	21	9	0	1	1	0	0	0	57	0	131
17:10-17:15	0	48	33	11	0	0	0	0	1	0	70	1	164
17:15-17:20	1	41	22	17	0	0	0	0	0	0	63	0	144
17:20-17:25	0	38	28	5	0	0	4	0	2	0	41	1	119
17:25-17:30	0	33	36	10	0	0	1	0	0	0	43	3	126
17:30-17:35	0	36	30	14	0	0	0	0	0	0	56	0	136
17:35-17:40	0	31	24	11	0	0	1	0	0	0	52	0	119
17:40-17:45	0	26	19	7	0	1	1	0	0	0	42	1	97
17:45-17:50	0	21	25	5	0	0	0	0	0	0	64	0	115
17:50-17:55	0	32	23	6	0	1	0	0	0	0	53	1	116
17:55-18:00	0	32	25	7	0	0	2	0	0	0	44	1	111
Total Survey	2	905	620	256	0	8	15	2	14	0	1350	26	3198
PHF	0	.8	.86	.74	0	.38	.5	.5	.63	0	.91	.5	.926
% Trucks	0	2.2	.8	.8	0	0	0	0	0	0	2.4	0	1.8
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	3	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	0	490	306	142	0	5	5	2	10	0	703	17	1680
16:15-17:15	1	467	323	140	0	4	4	2	7	0	712	16	1676
16:30-17:30	2	450	328	140	0	3	9	1	7	0	689	17	1646
16:45-17:45	2	435	313	132	0	3	9	1	5	0	663	10	1573
17:00-18:00	2	415	314	114	0	3	10	0	4	0	647	9	1518

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
SHERIDAN AVENUE @ VIRGINIA AVENUE



DATE OF COUNT: 08/20/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

PMME

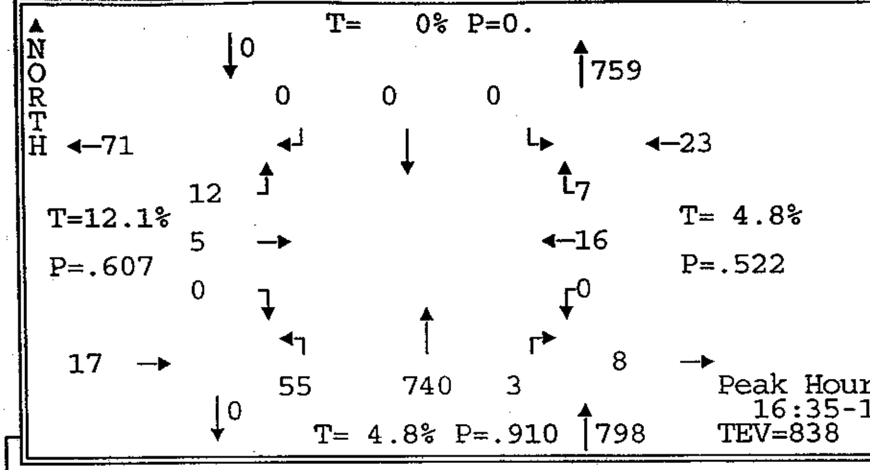
Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↓	→	↑	↲	↓	↳	↰	↑	↱	↓	←	↑	
16:00-16:05	0	3	7	0	0	0	32	57	3	0	5	1	108
16:05-16:10	0	4	11	0	0	0	20	37	3	0	1	2	78
16:10-16:15	0	0	11	0	0	0	34	51	2	0	2	0	100
16:15-16:20	0	3	6	0	0	0	18	43	5	0	6	3	84
16:20-16:25	0	4	13	0	0	0	21	53	2	0	4	1	98
16:25-16:30	0	1	14	0	0	0	18	54	2	0	5	3	97
16:30-16:35	0	1	5	0	0	0	20	47	1	0	5	0	79
16:35-16:40	0	0	11	0	0	0	24	52	2	0	3	0	92
16:40-16:45	0	3	12	0	0	0	19	49	1	0	4	1	89
16:45-16:50	0	0	5	0	0	0	23	50	2	0	5	1	86
16:50-16:55	0	3	9	0	0	0	17	50	2	3	13	1	98
16:55-17:00	0	1	9	0	0	0	28	49	2	0	7	0	96
17:00-17:05	0	1	16	0	0	0	23	34	1	0	5	2	82
17:05-17:10	0	1	10	0	0	0	22	47	0	0	19	1	100
17:10-17:15	0	1	8	0	0	0	30	53	0	0	6	2	100
17:15-17:20	0	0	9	0	0	0	38	57	1	0	10	3	118
17:20-17:25	0	0	9	0	0	0	25	52	1	0	8	3	98
17:25-17:30	0	0	8	0	0	0	29	60	0	0	2	0	99
17:30-17:35	0	0	7	0	0	0	31	38	0	0	2	0	78
17:35-17:40	0	0	13	0	0	0	28	61	2	0	1	0	105
17:40-17:45	0	0	10	0	0	0	32	48	1	0	2	0	93
17:45-17:50	0	1	5	0	0	0	29	54	0	0	0	0	89
17:50-17:55	0	2	8	0	0	0	17	31	1	0	3	0	62
17:55-18:00	0	1	14	0	0	0	24	43	0	0	2	0	84

Total Survey	0	30	230	0	0	0	602	1170	34	3	120	24	2213
PHF	0	.4	.81	0	0	0	.89	.89	.5	.25	.54	.38	.908
% Trucks	0	0	4.8	0	0	0	3.8	6.8	14.7	0	5.8	16.7	5.9
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	1	0	0	0	0	0	0	0	0	0	0	

Hourly Totals													
16:00-17:00	0	23	113	0	0	0	274	592	27	3	60	13	1105
16:15-17:15	0	19	118	0	0	0	263	581	20	3	82	15	1101
16:30-17:30	0	11	111	0	0	0	298	600	13	3	87	14	1137
16:45-17:45	0	7	113	0	0	0	326	599	12	3	80	13	1153
17:00-18:00	0	7	117	0	0	0	328	578	7	0	60	11	1108

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
CALIFORNIA @ SHERIDAN



DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

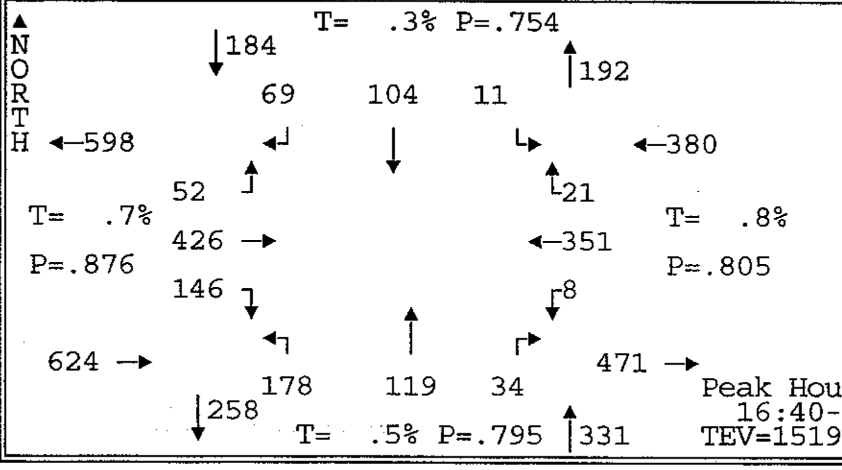
V5BN

Peak Hour
16:35-17:35
TEV=838

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	↑	SOUTH BOUND ↵	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	0	0	3	0	0	0	5	48	1	0	1	0	58
16:05-16:10	0	1	0	0	0	0	6	50	2	0	0	0	59
16:10-16:15	0	0	0	0	0	0	7	61	1	0	2	0	71
16:15-16:20	0	1	1	0	0	0	2	64	0	0	2	0	70
16:20-16:25	0	0	2	0	0	0	4	54	0	0	1	0	61
16:25-16:30	0	0	0	0	0	0	4	43	0	0	4	1	52
16:30-16:35	0	0	3	0	0	0	3	57	0	0	0	0	63
16:35-16:40	0	0	1	0	0	0	1	64	0	0	1	0	67
16:40-16:45	0	1	1	0	0	0	6	65	0	0	2	0	75
16:45-16:50	0	3	0	0	0	0	4	46	1	0	0	0	54
16:50-16:55	0	0	2	0	0	0	6	59	0	0	0	0	67
16:55-17:00	0	0	1	0	0	0	4	56	0	0	2	1	64
17:00-17:05	0	0	1	0	0	0	5	61	0	0	3	1	71
17:05-17:10	0	0	1	0	0	0	5	60	0	0	2	2	70
17:10-17:15	0	1	1	0	0	0	6	64	0	0	1	2	75
17:15-17:20	0	0	1	0	0	0	6	68	0	0	0	1	76
17:20-17:25	0	0	1	0	0	0	6	69	0	0	0	0	76
17:25-17:30	0	0	1	0	0	0	2	52	1	0	3	0	59
17:30-17:35	0	0	1	0	0	0	4	76	1	0	2	0	84
17:35-17:40	0	0	1	0	0	0	2	58	1	0	0	0	62
17:40-17:45	0	1	0	0	0	0	4	40	2	0	3	1	51
17:45-17:50	0	0	0	0	0	0	5	57	0	0	2	0	64
17:50-17:55	0	0	1	0	0	0	5	61	0	0	0	1	68
17:55-18:00	0	0	2	0	0	0	6	59	0	0	1	0	68
Total Survey	0	8	25	0	0	0	108	1392	10	0	32	10	1585
PHF	0	.31	.75	0	0	0	.76	.92	.38	0	.57	.35	.922
% Trucks	0	25	8	0	0	0	1.9	5.1	0	0	0	20	5
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	1	0	0	2	0	0	0	0	
Hourly Totals													
16:00-17:00	0	6	14	0	0	0	52	667	5	0	15	2	761
16:15-17:15	0	6	14	0	0	0	50	693	1	0	18	7	789
16:30-17:30	0	5	14	0	0	0	54	721	2	0	14	7	817
16:45-17:45	0	5	11	0	0	0	54	709	6	0	16	8	809
17:00-18:00	0	2	11	0	0	0	56	725	5	0	17	8	824

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
SHERMAN @ NEWMARK



Peak Hour
16:40-17:40
TEV=1519

DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

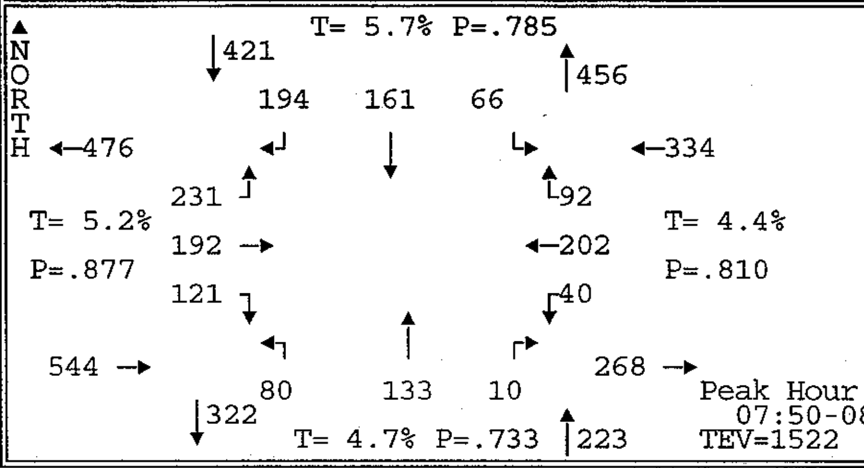
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5CC

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ←	↓	→	NORTH BOUND ←	↑	→	WEST BOUND ↓	←	↑	ALL
16:00-16:05	12	30	5	2	5	0	17	11	4	2	29	3	120
16:05-16:10	15	32	7	8	11	2	7	9	4	2	23	1	121
16:10-16:15	11	40	7	6	6	1	8	1	7	0	40	3	130
16:15-16:20	17	38	3	5	9	1	15	5	5	0	18	0	116
16:20-16:25	6	34	2	6	10	2	6	10	1	2	36	2	117
16:25-16:30	15	40	10	2	12	2	4	4	1	1	21	0	112
16:30-16:35	11	30	3	8	6	1	13	11	1	2	25	1	112
16:35-16:40	12	24	3	6	15	1	18	5	1	0	29	0	114
16:40-16:45	9	45	7	6	8	1	9	9	2	0	32	1	129
16:45-16:50	9	33	2	4	6	2	9	8	1	1	34	2	111
16:50-16:55	9	29	2	5	8	0	10	12	3	1	38	5	122
16:55-17:00	16	25	5	5	7	1	17	10	3	0	33	4	126
17:00-17:05	13	28	3	12	12	2	21	8	2	1	16	1	119
17:05-17:10	16	39	6	8	10	0	21	12	1	1	35	0	149
17:10-17:15	12	39	6	5	10	2	22	15	2	1	25	1	140
17:15-17:20	19	37	4	3	7	1	13	7	4	0	44	0	139
17:20-17:25	14	40	5	2	11	2	18	10	2	0	27	2	133
17:25-17:30	4	39	2	8	11	0	7	4	6	2	26	1	110
17:30-17:35	13	36	1	4	7	0	16	12	2	0	22	3	116
17:35-17:40	12	36	9	7	7	0	15	12	6	1	19	1	125
17:40-17:45	13	34	3	5	6	2	17	4	0	1	28	1	114
17:45-17:50	6	25	9	2	7	0	15	8	0	1	28	0	101
17:50-17:55	18	33	2	1	9	1	16	10	1	0	30	1	122
17:55-18:00	6	29	2	10	11	2	10	8	1	3	18	0	100
Total Survey	288	815	108	130	211	26	324	205	60	22	676	33	2898
PHF	.78	.92	.81	.69	.81	.55	.7	.85	.61	.67	.84	.48	.887
% Trucks	1	.7	0	0	.5	0	.6	.5	0	0	.9	0	.7
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	2	0	0	4	0	0	2	0	0	0	0	
Hourly Totals													
16:00-17:00	142	400	56	63	103	14	133	95	33	11	358	22	1430
16:15-17:15	145	404	52	72	113	15	165	109	23	10	342	17	1467
16:30-17:30	144	408	48	72	111	13	178	111	28	9	364	18	1504
16:45-17:45	150	415	48	68	102	12	186	114	32	9	347	21	1504
17:00-18:00	146	415	52	67	108	12	191	110	27	11	318	11	1468

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
NEWMARK @ BROADWAY



Peak Hour
07:50-08:50
TEV=1522

DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 07:00
TIME ENDED: 09:00

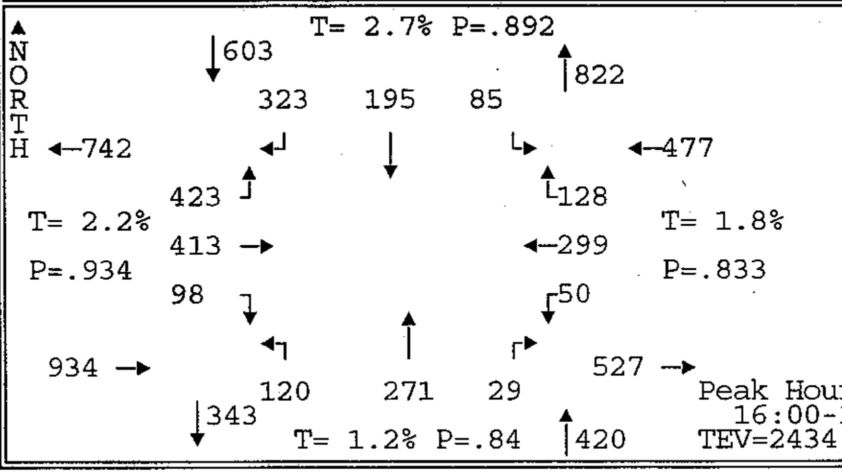
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5AP

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
07:00-07:05	7	9	7	10	4	2	0	8	1	0	12	5	65
07:05-07:10	1	5	8	6	4	5	3	3	1	2	10	5	53
07:10-07:15	5	10	7	3	8	2	3	8	0	2	2	1	51
07:15-07:20	8	5	10	3	9	4	0	5	1	0	10	5	60
07:20-07:25	10	13	17	7	6	3	0	9	1	2	13	3	84
07:25-07:30	6	11	13	4	8	13	3	5	0	2	8	2	75
07:30-07:35	6	14	21	7	11	4	3	11	1	1	14	6	99
07:35-07:40	9	13	14	7	9	4	4	12	0	2	5	2	81
07:40-07:45	10	21	18	10	12	4	6	10	0	2	15	3	111
07:45-07:50	7	17	14	19	12	7	6	15	2	2	15	5	121
07:50-07:55	13	24	19	13	23	5	7	11	2	4	22	7	150
07:55-08:00	11	16	19	22	24	7	9	10	1	3	12	13	147
08:00-08:05	14	17	22	8	13	6	5	9	1	6	23	11	135
08:05-08:10	9	16	16	8	11	3	6	8	0	1	25	8	111
08:10-08:15	11	14	27	13	7	5	2	5	1	6	17	6	114
08:15-08:20	8	17	13	18	9	5	6	7	0	2	11	7	103
08:20-08:25	8	16	17	10	10	1	9	12	0	1	18	8	110
08:25-08:30	9	10	17	14	11	5	9	9	0	3	16	6	109
08:30-08:35	10	15	18	23	7	6	6	9	3	3	17	4	121
08:35-08:40	9	10	24	21	10	7	5	12	1	2	12	5	118
08:40-08:45	6	13	16	26	20	8	10	23	0	5	14	8	149
08:45-08:50	13	24	23	18	16	8	6	18	1	4	15	9	155
08:50-08:55	7	16	17	14	14	9	9	14	0	4	15	7	126
08:55-09:00	6	16	34	20	14	7	7	7	2	4	20	7	144
Total Survey	203	342	411	304	272	130	124	240	19	63	341	143	2592
PHF	.8	.84	.89	.69	.67	.72	.83	.63	.63	.77	.78	.72	.880
% Trucks	5.4	3.2	6.8	6.9	4.4	5.4	2.4	5.8	5.3	3.2	4.1	5.6	5.1
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
07:00-08:00	93	158	167	111	130	60	44	107	10	22	138	57	1097
07:15-08:15	114	181	210	121	145	65	51	110	10	31	179	71	1288
07:30-08:30	115	195	217	149	152	56	72	119	8	33	193	82	1391
07:45-08:45	115	185	222	195	157	65	80	130	11	38	202	88	1488
08:00-09:00	110	184	244	193	142	70	80	133	9	41	203	86	1495

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
NEWMARK @ BROADWAY



Peak Hour
16:00-17:00
TEV=2434

DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

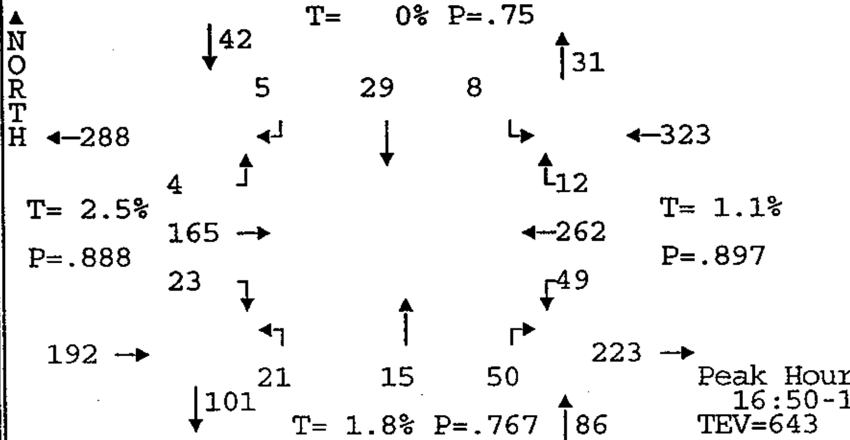
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5AQ

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↵	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	13	41	37	27	12	4	7	23	3	5	26	15	213
16:05-16:10	14	32	32	32	15	9	15	28	0	3	30	7	217
16:10-16:15	6	32	39	30	33	5	11	31	4	1	23	10	225
16:15-16:20	10	39	46	29	6	10	12	19	4	5	17	11	208
16:20-16:25	4	41	30	28	18	9	12	17	0	7	26	9	201
16:25-16:30	11	37	29	25	13	4	9	17	3	4	22	12	186
16:30-16:35	10	34	36	29	25	8	7	26	2	7	18	10	212
16:35-16:40	8	39	31	30	13	6	10	15	2	6	43	18	221
16:40-16:45	10	24	29	19	23	9	17	41	5	3	21	9	210
16:45-16:50	4	34	37	21	2	10	8	14	0	6	26	11	173
16:50-16:55	3	33	31	31	20	5	4	24	5	2	20	9	187
16:55-17:00	5	27	46	22	15	6	8	16	1	1	27	7	181
17:00-17:05	5	22	31	22	22	5	16	28	2	4	27	8	192
17:05-17:10	6	30	38	19	19	19	14	27	0	4	29	11	216
17:10-17:15	7	36	36	20	6	12	11	21	5	4	30	11	199
17:15-17:20	8	43	43	24	10	2	4	24	2	6	38	19	223
17:20-17:25	7	19	31	21	9	5	17	22	3	3	24	11	172
17:25-17:30	7	28	33	18	19	6	3	20	1	5	14	7	161
17:30-17:35	17	33	27	20	5	8	13	7	3	3	33	12	181
17:35-17:40	7	35	41	26	9	9	10	14	2	2	33	8	196
17:40-17:45	10	30	22	28	14	4	17	15	2	2	29	7	180
17:45-17:50	10	37	28	21	10	6	9	11	1	8	25	14	180
17:50-17:55	7	24	15	26	12	9	9	15	5	1	19	8	150
17:55-18:00	4	25	51	22	13	3	8	19	2	3	16	6	172
Total Survey	193	775	819	590	343	173	251	494	57	95	616	250	4656
PHF	.74	.88	.9	.89	.8	.85	.79	.83	.73	.69	.83	.8	.929
% Trucks	3.1	2.8	1.5	3.4	2	1.7	1.6	1	1.8	3.2	1.9	.8	2.1
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	98	413	423	323	195	85	120	271	29	50	299	128	2434
16:15-17:15	83	396	420	295	182	103	128	265	29	53	306	126	2386
16:30-17:30	80	369	422	276	183	93	119	278	28	51	317	131	2347
16:45-17:45	86	370	416	272	150	91	125	232	26	42	330	121	2261
17:00-18:00	95	362	396	267	148	88	131	223	28	45	317	122	2222

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
VIRGINIA @ OAK



Peak Hour
16:50-17:50
TEV=643

DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

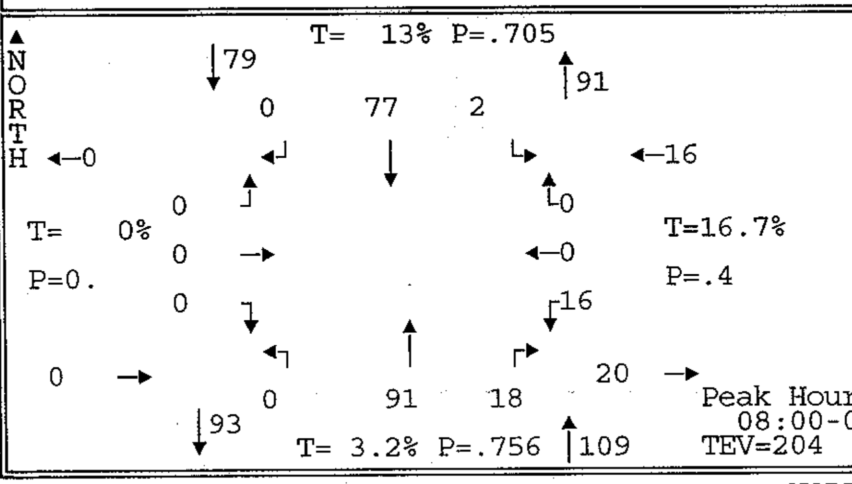
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BQ

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	2	15	1	0	2	1	1	2	1	1	14	1	41
16:05-16:10	3	9	1	0	4	1	4	1	1	7	17	0	48
16:10-16:15	3	10	0	1	5	1	2	3	1	5	12	2	45
16:15-16:20	2	11	0	0	5	3	4	0	6	3	18	1	53
16:20-16:25	3	10	0	0	3	1	4	3	3	4	17	0	48
16:25-16:30	0	10	0	0	3	1	1	1	1	4	14	1	36
16:30-16:35	2	17	1	0	3	1	2	2	3	5	14	0	50
16:35-16:40	2	15	0	0	3	1	2	1	4	4	11	0	43
16:40-16:45	1	14	0	0	1	0	3	1	2	4	16	3	45
16:45-16:50	0	10	1	0	1	1	3	1	5	3	10	1	36
16:50-16:55	4	12	0	1	4	1	2	2	5	2	22	0	55
16:55-17:00	1	18	0	0	1	1	0	2	7	3	24	2	59
17:00-17:05	1	13	1	0	2	2	0	1	4	6	17	2	49
17:05-17:10	3	14	0	2	4	1	1	1	2	9	22	1	60
17:10-17:15	1	9	0	0	2	1	3	0	7	4	21	1	49
17:15-17:20	1	17	1	0	2	0	3	0	4	6	20	0	54
17:20-17:25	2	13	0	1	2	0	1	5	5	2	23	1	55
17:25-17:30	4	8	1	0	4	2	2	1	5	3	19	2	51
17:30-17:35	0	14	0	1	1	0	3	0	6	6	27	1	59
17:35-17:40	1	11	0	0	0	0	1	2	2	3	24	0	44
17:40-17:45	2	19	0	0	2	0	3	0	1	2	27	0	56
17:45-17:50	3	17	1	0	5	0	2	1	2	3	16	2	52
17:50-17:55	1	17	0	0	1	0	3	0	4	4	18	0	48
17:55-18:00	4	8	1	0	1	2	5	2	2	4	17	0	46
Total Survey	46	311	9	6	61	21	55	32	83	97	440	21	1182
PHF	.82	.88	.5	.63	.91	.5	.75	.63	.78	.64	.84	.6	.956
% Trucks	2.2	2.6	0	0	0	0	1.8	0	2.4	0	1.1	4.8	1.5
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	6	0	0	1	0	0	0	0	0	3	0	
Hourly Totals													
16:00-17:00	23	151	4	2	35	13	28	19	39	45	189	11	559
16:15-17:15	20	153	3	3	32	14	25	15	49	51	206	12	583
16:30-17:30	22	160	5	4	29	11	22	17	53	51	219	13	606
16:45-17:45	20	158	4	5	25	9	22	15	53	49	256	11	627
17:00-18:00	23	160	5	4	26	8	27	13	44	52	251	10	623

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
MAPLE LEAF @ AIRPORT WAY



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5AJ

Peak Hour
08:00-09:00
TEV=204

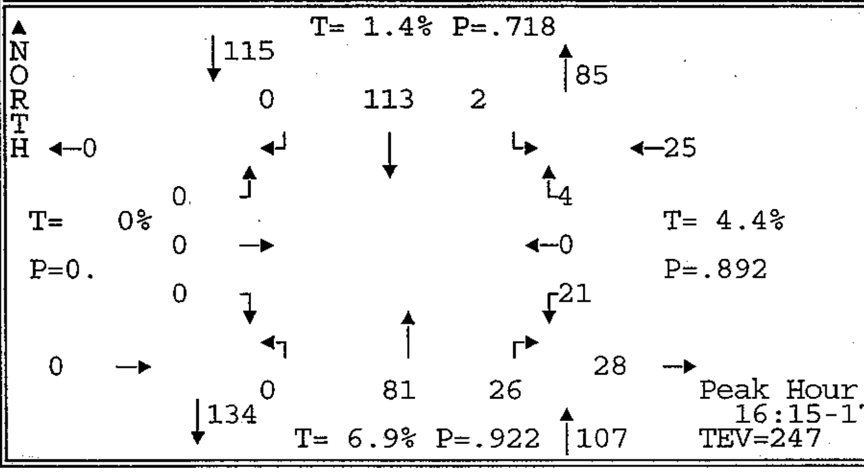
Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			
	↓	→	↑	↲	↓	↳	↰	↑	↱	↓	←	↑	ALL
07:00-07:05	0	0	0	0	1	0	0	10	1	0	0	0	12
07:05-07:10	0	0	0	0	1	1	0	5	0	1	0	0	8
07:10-07:15	0	0	0	0	4	0	0	5	0	0	0	0	9
07:15-07:20	0	0	0	0	2	1	0	3	0	0	0	0	6
07:20-07:25	0	0	0	0	0	1	0	6	0	0	0	0	7
07:25-07:30	0	0	0	0	1	0	0	9	3	1	0	0	14
07:30-07:35	0	0	0	0	5	1	0	3	0	1	0	1	11
07:35-07:40	0	0	0	0	8	0	0	14	4	1	0	1	28
07:40-07:45	0	0	0	0	1	0	0	12	0	2	0	0	15
07:45-07:50	0	0	0	0	2	0	0	11	1	1	0	0	15
07:50-07:55	0	0	0	0	5	0	0	10	2	0	0	0	17
07:55-08:00	0	0	0	0	2	0	0	8	3	3	0	2	18
08:00-08:05	0	0	0	0	3	0	0	5	1	0	0	0	9
08:05-08:10	0	0	0	0	7	0	0	7	1	0	0	0	15
08:10-08:15	0	0	0	0	6	0	0	8	2	0	0	0	16
08:15-08:20	0	0	0	0	3	0	0	8	1	2	0	0	14
08:20-08:25	0	0	0	0	4	0	0	13	1	0	0	0	18
08:25-08:30	0	0	0	0	4	0	0	12	1	2	0	0	19
08:30-08:35	0	0	0	0	9	0	0	4	0	1	0	0	14
08:35-08:40	0	0	0	0	12	0	0	2	3	1	0	0	18
08:40-08:45	0	0	0	0	6	0	0	14	2	0	0	0	22
08:45-08:50	0	0	0	0	10	0	0	11	2	0	0	0	23
08:50-08:55	0	0	0	0	9	1	0	4	2	1	0	0	17
08:55-09:00	0	0	0	0	4	1	0	3	2	9	0	0	19

Total Survey	0	0	0	0	109	6	0	187	32	26	0	4	364
PHF	0	0	0	0	.69	.25	0	.69	.64	.4	0	0	.809
% Trucks	0	0	0	0	12.8	16.7	0	3.2	3.1	19.2	0	0	7.4
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	1	0	0	0	0	

Hourly Totals													
07:00-08:00	0	0	0	0	32	4	0	96	14	10	0	4	160
07:15-08:15	0	0	0	0	42	3	0	96	17	9	0	4	171
07:30-08:30	0	0	0	0	50	1	0	111	17	12	0	4	195
07:45-08:45	0	0	0	0	63	0	0	102	18	10	0	2	195
08:00-09:00	0	0	0	0	77	2	0	91	18	16	0	0	204

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
MAPLE LEAF @ AIRPORT WAY



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

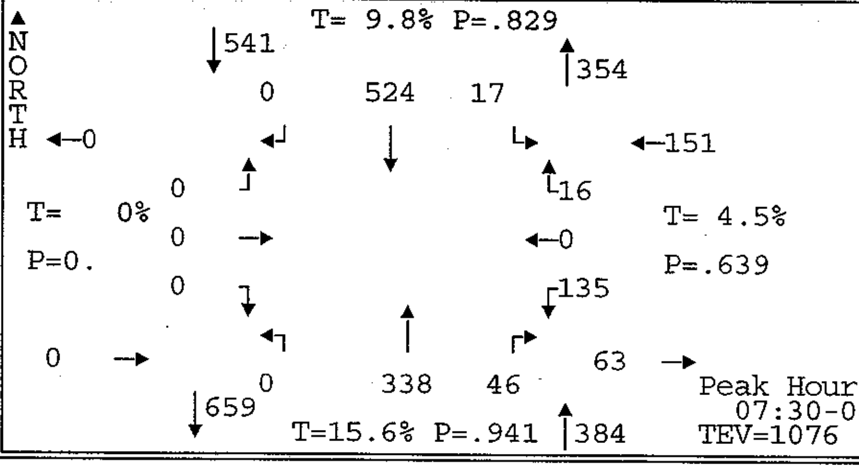
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5AK

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↵	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	0	0	0	0	12	0	0	5	3	1	0	0	21
16:05-16:10	0	0	0	0	13	0	0	6	0	4	0	0	23
16:10-16:15	0	0	0	0	5	0	0	9	4	0	0	1	19
16:15-16:20	0	0	0	0	15	0	0	10	1	1	0	0	27
16:20-16:25	0	0	0	0	7	0	0	7	2	3	0	1	20
16:25-16:30	0	0	0	0	10	0	0	8	1	2	0	0	21
16:30-16:35	0	0	0	0	5	0	0	7	1	1	0	0	14
16:35-16:40	0	0	0	0	12	1	0	9	2	4	0	0	28
16:40-16:45	0	0	0	0	3	0	0	8	0	1	0	0	12
16:45-16:50	0	0	0	0	10	0	0	4	2	1	0	1	18
16:50-16:55	0	0	0	0	5	0	0	4	5	2	0	0	16
16:55-17:00	0	0	0	0	13	0	0	3	6	1	0	0	23
17:00-17:05	0	0	0	0	14	0	0	6	1	2	0	0	23
17:05-17:10	0	0	0	0	12	1	0	5	1	2	0	0	21
17:10-17:15	0	0	0	0	7	0	0	10	4	1	0	2	24
17:15-17:20	0	0	0	0	9	0	0	12	3	0	0	0	24
17:20-17:25	0	0	0	0	8	0	0	7	1	2	0	1	19
17:25-17:30	0	0	0	0	13	0	0	7	3	1	0	0	24
17:30-17:35	0	0	0	0	9	0	0	2	1	1	0	0	13
17:35-17:40	0	0	0	0	6	0	0	7	2	4	0	1	20
17:40-17:45	0	0	0	0	3	0	0	3	3	0	0	0	9
17:45-17:50	0	0	0	0	6	0	0	5	3	1	0	1	16
17:50-17:55	0	0	0	0	8	1	0	3	4	0	0	1	17
17:55-18:00	0	0	0	0	3	0	0	4	0	1	0	0	8
Total Survey	0	0	0	0	208	3	0	151	53	36	0	9	460
PHF	0	0	0	0	.72	.5	0	.81	.5	.75	0	.5	.908
% Trucks	0	0	0	0	1	33.3	0	6	9.4	2.8	0	11.1	4.1
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	0	0	0	0	110	1	0	80	27	21	0	3	242
16:15-17:15	0	0	0	0	113	2	0	81	26	21	0	4	247
16:30-17:30	0	0	0	0	111	2	0	82	29	18	0	4	246
16:45-17:45	0	0	0	0	109	1	0	70	32	17	0	5	234
17:00-18:00	0	0	0	0	98	2	0	71	26	15	0	6	218

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
HIGHWAY 101 @ BAY DRIVE



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 07:00
TIME ENDED: 09:00

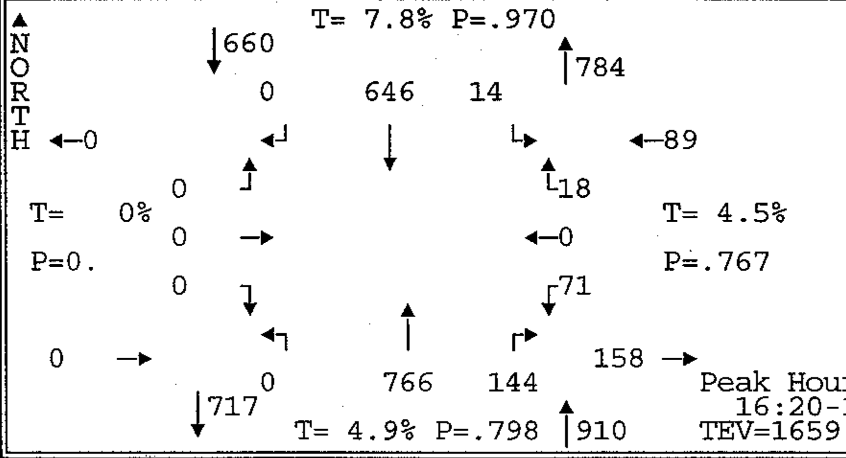
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V4ZR

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
07:00-07:05	0	0	0	0	26	0	0	35	3	7	0	0	71
07:05-07:10	0	0	0	0	32	3	0	32	3	7	0	1	78
07:10-07:15	0	0	0	0	24	3	0	19	6	8	0	2	62
07:15-07:20	0	0	0	0	31	1	0	28	4	9	0	4	77
07:20-07:25	0	0	0	0	29	0	0	36	2	11	0	4	82
07:25-07:30	0	0	0	0	37	1	0	28	0	13	0	0	79
07:30-07:35	0	0	0	0	39	4	0	31	4	9	0	0	87
07:35-07:40	0	0	0	0	48	0	0	34	2	11	0	1	96
07:40-07:45	0	0	0	0	61	2	0	24	2	13	0	2	104
07:45-07:50	0	0	0	0	45	1	0	26	3	18	0	2	95
07:50-07:55	0	0	0	0	54	0	0	37	2	22	0	2	117
07:55-08:00	0	0	0	0	41	1	0	19	4	10	0	0	75
08:00-08:05	0	0	0	0	47	0	0	31	5	11	0	1	95
08:05-08:10	0	0	0	0	33	0	0	29	4	3	0	0	69
08:10-08:15	0	0	0	0	34	0	0	29	3	8	0	2	76
08:15-08:20	0	0	0	0	37	0	0	28	9	14	0	4	92
08:20-08:25	0	0	0	0	48	1	0	27	4	7	0	2	89
08:25-08:30	0	0	0	0	37	8	0	23	4	9	0	0	81
08:30-08:35	0	0	0	0	32	1	0	28	3	8	0	0	72
08:35-08:40	0	0	0	0	43	0	0	25	4	6	0	2	80
08:40-08:45	0	0	0	0	34	1	0	23	6	11	0	0	75
08:45-08:50	0	0	0	1	41	2	0	29	6	7	0	1	87
08:50-08:55	0	0	0	0	45	4	0	44	4	8	0	0	105
08:55-09:00	0	0	0	0	48	0	0	30	11	8	0	1	98
Total Survey	0	0	0	1	946	33	0	695	98	238	0	31	2042
PHF	0	0	0	0	.82	.47	0	.95	.68	.64	0	.5	.851
% Trucks	0	0	0	100	9.5	15.2	0	16	13.3	4.2	0	6.5	11.4
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
07:00-08:00	0	0	0	0	467	16	0	349	35	138	0	18	1023
07:15-08:15	0	0	0	0	499	10	0	352	35	138	0	18	1052
07:30-08:30	0	0	0	0	524	17	0	338	46	135	0	16	1076
07:45-08:45	0	0	0	0	485	13	0	325	51	127	0	15	1016
08:00-09:00	0	0	0	1	479	17	0	346	63	100	0	13	1019

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
HIGHWAY 101 @ BAY DRIVE



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

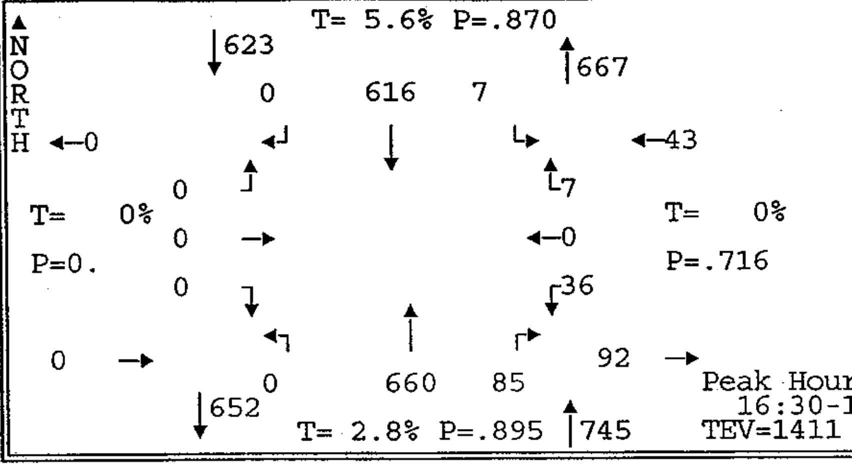
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V4ZQ

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↓	→	↑	↙	↓	↘	↖	↑	↗	↓	←	↑	
16:00-16:05	0	0	0	0	51	1	0	60	12	5	0	0	129
16:05-16:10	0	0	0	0	70	3	0	59	12	7	0	3	154
16:10-16:15	0	0	0	0	70	3	0	72	14	2	0	2	163
16:15-16:20	0	0	0	0	46	4	0	64	11	6	0	1	132
16:20-16:25	0	0	0	0	61	2	0	70	18	3	0	0	154
16:25-16:30	0	0	0	0	59	1	0	52	9	11	0	4	136
16:30-16:35	0	0	0	0	45	0	0	70	10	6	0	0	131
16:35-16:40	0	0	0	0	55	2	0	70	9	5	0	3	144
16:40-16:45	0	0	0	0	48	1	0	52	10	6	0	2	119
16:45-16:50	0	0	0	0	51	0	0	73	7	12	0	0	143
16:50-16:55	0	0	0	0	57	1	0	57	12	5	0	2	134
16:55-17:00	0	0	0	0	59	0	0	43	9	2	0	1	114
17:00-17:05	0	0	0	0	48	0	0	45	9	8	0	3	113
17:05-17:10	0	0	0	0	48	4	0	66	16	7	0	1	142
17:10-17:15	0	0	0	0	64	0	0	79	14	6	0	0	163
17:15-17:20	0	0	0	0	51	3	0	89	21	0	0	2	166
17:20-17:25	0	0	0	0	50	1	0	71	17	2	0	1	142
17:25-17:30	0	0	0	0	37	2	0	61	14	8	0	3	125
17:30-17:35	0	0	0	0	49	2	0	68	19	5	0	1	144
17:35-17:40	0	0	0	0	42	2	0	52	23	8	0	3	130
17:40-17:45	0	0	0	0	49	0	0	60	13	12	0	3	137
17:45-17:50	0	0	0	0	35	1	0	55	9	11	0	4	115
17:50-17:55	0	0	0	0	45	2	0	55	12	11	0	1	126
17:55-18:00	0	0	0	0	34	1	0	46	10	9	0	1	101
Total Survey	0	0	0	0	1224	36	0	1489	310	157	0	41	3257
PHF	0	0	0	0	.97	.5	0	.82	.71	.77	0	.64	.880
% Trucks	0	0	0	0	7.8	8.3	0	5.3	2.9	2.5	0	12.2	6
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	0	0	0	0	672	18	0	742	133	70	0	18	1653
16:15-17:15	0	0	0	0	641	15	0	741	134	77	0	17	1625
16:30-17:30	0	0	0	0	613	14	0	776	148	67	0	18	1636
16:45-17:45	0	0	0	0	605	15	0	764	174	75	0	20	1653
17:00-18:00	0	0	0	0	552	18	0	747	177	87	0	23	1604

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
HIGHWAY 101 @ NORTH BAY DRIVE



DATE OF COUNT: 08/20/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

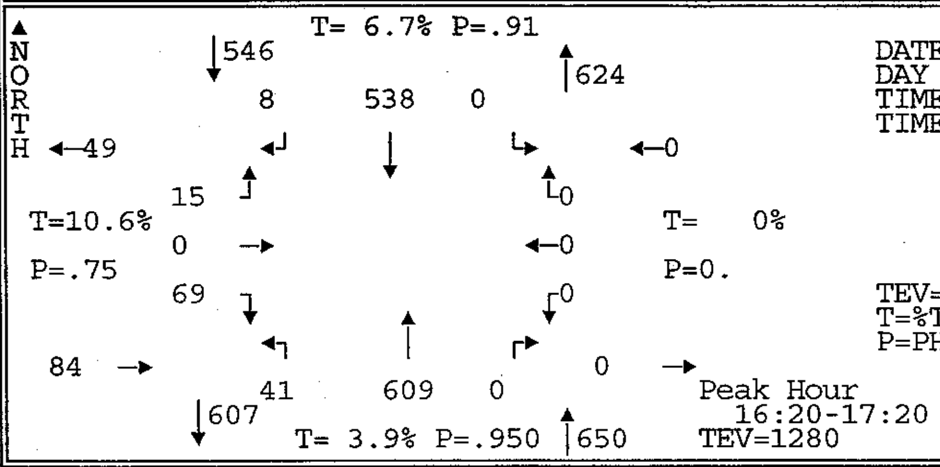
V5CL

Peak Hour
16:30-17:30
TEV=1411

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↴	→	↱	↲	↓	↳	↰	↑	↱	↓	←	↑	
16:00-16:05	0	0	0	0	62	2	0	37	5	6	0	1	113
16:05-16:10	0	0	0	0	45	2	0	45	6	3	0	3	104
16:10-16:15	0	0	0	0	44	0	0	50	8	7	0	1	110
16:15-16:20	0	0	0	0	49	0	0	61	11	5	0	1	127
16:20-16:25	0	0	0	0	49	0	0	51	3	2	0	1	106
16:25-16:30	0	0	0	0	48	0	0	44	9	5	0	0	106
16:30-16:35	0	0	0	0	50	2	0	45	3	2	0	0	102
16:35-16:40	0	0	0	0	58	1	0	66	7	2	0	4	138
16:40-16:45	0	0	0	0	46	0	0	57	4	3	0	1	111
16:45-16:50	0	0	0	0	56	2	0	52	9	4	0	1	124
16:50-16:55	0	0	0	0	43	0	0	45	6	3	0	1	98
16:55-17:00	0	0	0	0	50	0	0	54	4	4	0	0	112
17:00-17:05	0	0	0	0	46	1	0	56	7	3	0	0	113
17:05-17:10	0	0	0	0	70	1	0	61	4	4	0	0	140
17:10-17:15	0	0	0	0	49	0	0	52	18	1	0	0	120
17:15-17:20	0	0	0	0	59	0	0	62	11	4	0	0	136
17:20-17:25	0	0	0	0	40	0	0	56	2	4	0	0	102
17:25-17:30	0	0	0	0	49	0	0	54	10	2	0	0	115
17:30-17:35	0	0	0	0	31	0	0	46	13	3	0	0	93
17:35-17:40	0	0	0	0	37	4	0	56	8	5	0	1	111
17:40-17:45	0	0	0	0	40	1	0	55	7	1	0	1	105
17:45-17:50	0	0	0	0	50	0	0	44	9	3	0	0	106
17:50-17:55	0	0	0	0	31	1	0	44	3	3	0	0	82
17:55-18:00	0	0	0	0	46	1	0	47	6	7	0	1	108
Total Survey	0	0	0	0	1148	18	0	1240	173	86	0	17	2682
PHF	0	0	0	0	.87	.58	0	.94	.64	.82	0	.29	.890
% Trucks	0	0	0	0	5.7	0	0	3.1	0	0	0	0	3.9
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	0	0	0	0	600	9	0	607	75	46	0	14	1351
16:15-17:15	0	0	0	0	614	7	0	644	85	38	0	9	1397
16:30-17:30	0	0	0	0	616	7	0	660	85	36	0	7	1411
16:45-17:45	0	0	0	0	570	9	0	649	99	38	0	4	1369
17:00-18:00	0	0	0	0	548	9	0	633	98	40	0	3	1331

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
HIGHWAY 101 @ TRANS PACIFIC PARKWAY



DATE OF COUNT: 08/20/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

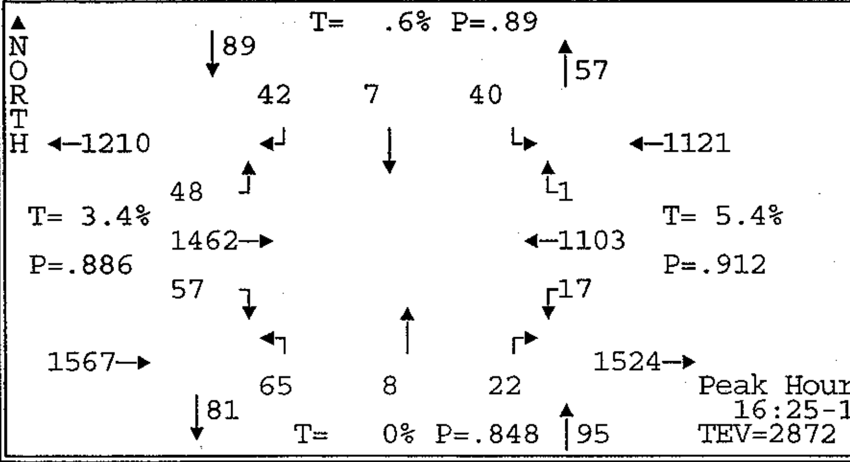
V5CM

Peak Hour
16:20-17:20
TEV=1280

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↵	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	13	0	2	0	52	0	3	42	0	0	0	0	112
16:05-16:10	14	0	1	0	44	0	7	45	0	0	0	0	111
16:10-16:15	12	0	3	4	33	0	3	43	0	0	0	0	98
16:15-16:20	6	0	1	0	35	0	4	49	0	0	0	0	95
16:20-16:25	5	0	1	1	50	0	2	46	0	0	0	0	105
16:25-16:30	3	0	1	1	42	0	7	55	0	0	0	0	109
16:30-16:35	6	0	0	2	44	0	2	45	0	0	0	0	99
16:35-16:40	3	0	0	0	61	0	4	50	0	0	0	0	118
16:40-16:45	4	0	1	0	37	0	5	65	0	0	0	0	112
16:45-16:50	6	0	1	0	44	0	5	34	0	0	0	0	90
16:50-16:55	10	0	4	3	29	0	4	49	0	0	0	0	99
16:55-17:00	5	0	1	1	51	0	1	49	0	0	0	0	108
17:00-17:05	5	0	3	0	36	0	3	56	0	0	0	0	103
17:05-17:10	6	0	2	0	55	0	0	43	0	0	0	0	106
17:10-17:15	5	0	1	0	56	0	2	56	0	0	0	0	120
17:15-17:20	11	0	0	0	33	0	6	61	0	0	0	0	111
17:20-17:25	5	0	1	0	41	0	6	49	0	0	0	0	102
17:25-17:30	8	0	0	1	42	0	4	45	0	0	0	0	100
17:30-17:35	3	0	2	1	27	0	1	56	0	0	0	0	90
17:35-17:40	3	0	1	3	40	0	2	50	0	0	0	0	99
17:40-17:45	3	0	1	1	25	0	3	49	0	0	0	0	82
17:45-17:50	4	0	0	2	44	0	4	41	0	0	0	0	95
17:50-17:55	6	0	2	0	30	0	3	41	0	0	0	0	82
17:55-18:00	4	0	1	1	31	0	1	38	0	0	0	0	76
Total Survey	150	0	30	21	982	0	82	1157	0	0	0	0	2422
PHF	.78	0	.47	.5	.91	0	.73	.95	0	0	0	0	.949
% Trucks	8.7	0	20	33.3	6.1	0	11	3.4	0	0	0	0	5.5
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	87	0	16	12	522	0	47	572	0	0	0	0	1256
16:15-17:15	64	0	16	8	540	0	39	597	0	0	0	0	1264
16:30-17:30	74	0	14	7	529	0	42	602	0	0	0	0	1268
16:45-17:45	70	0	17	10	479	0	37	597	0	0	0	0	1210
17:00-18:00	63	0	14	9	460	0	35	585	0	0	0	0	1166

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
HIGHWAY 101 @ FLANAGAN



DATE OF COUNT: 08/21/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5CN

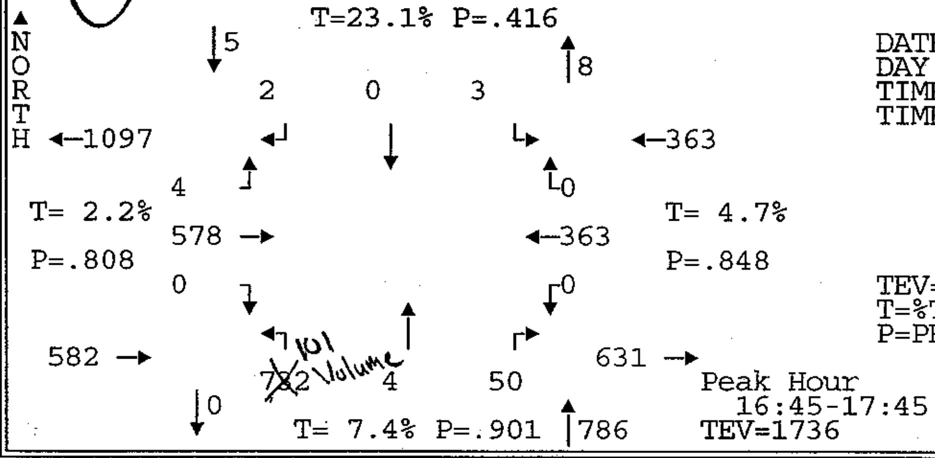
Peak Hour
16:25-17:25
TEV=2872

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↴	→	↰	↲	↓	↳	↰	↑	↱	↓	←	↑	
16:00-16:05	5	103	1	5	0	1	5	1	2	4	81	1	209
16:05-16:10	6	122	6	4	2	0	5	3	2	1	88	1	240
16:10-16:15	7	129	4	6	1	5	8	0	1	3	79	0	243
16:15-16:20	3	123	3	4	0	2	10	0	2	2	82	0	231
16:20-16:25	4	106	5	4	0	1	6	0	1	0	90	1	218
16:25-16:30	2	116	4	2	1	4	4	1	3	4	108	0	249
16:30-16:35	8	130	3	6	2	4	6	1	3	1	93	0	257
16:35-16:40	10	137	1	2	0	1	7	0	2	1	99	1	261
16:40-16:45	2	117	3	3	1	6	8	1	0	2	90	0	233
16:45-16:50	4	99	10	2	0	3	6	0	2	1	106	0	233
16:50-16:55	3	105	3	3	0	5	6	3	1	1	75	0	205
16:55-17:00	3	97	4	4	3	3	4	1	2	2	82	0	205
17:00-17:05	4	126	3	5	0	0	3	0	1	0	98	0	240
17:05-17:10	2	122	7	6	0	2	8	0	6	3	88	0	244
17:10-17:15	7	128	3	3	0	5	8	0	1	0	96	0	251
17:15-17:20	4	154	2	3	0	4	3	0	0	0	74	0	244
17:20-17:25	8	131	5	3	0	3	2	1	1	2	94	0	250
17:25-17:30	5	130	2	0	2	1	7	0	2	3	87	0	239
17:30-17:35	6	141	3	3	0	4	5	0	0	1	79	0	242
17:35-17:40	5	138	4	1	0	4	2	1	0	0	95	0	250
17:40-17:45	8	116	4	1	0	3	8	0	2	1	84	0	227
17:45-17:50	5	110	3	5	0	2	10	0	1	0	85	0	221
17:50-17:55	1	95	3	4	0	3	9	0	2	0	91	0	208
17:55-18:00	1	103	4	0	1	0	3	0	1	1	67	0	181
Total Survey	113	2878	90	79	13	66	143	13	38	33	2111	4	5581
PHF	.71	.88	.71	.7	.58	.71	.77	.5	.61	.71	.92	.25	.936
% Trucks	2.7	3.5	0	1.3	0	0	0	0	0	0	5.5	0	4
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	10	0	0	0	0	0	8	0	
Hourly Totals													
16:00-17:00	57	1384	47	45	10	35	75	11	21	22	1073	4	2784
16:15-17:15	52	1406	49	44	7	36	76	7	24	17	1107	2	2827
16:30-17:30	60	1476	46	40	8	37	68	7	21	16	1082	1	2862
16:45-17:45	59	1487	50	34	5	37	62	6	18	14	1058	0	2830
17:00-18:00	56	1494	43	34	3	31	68	2	17	11	1038	0	2797

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
HIGHWAY 101 @ COOS RIVER HIGHWAY @ (COOS RIVER @ MULLEN)

(66)



DATE OF COUNT: 08/21/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

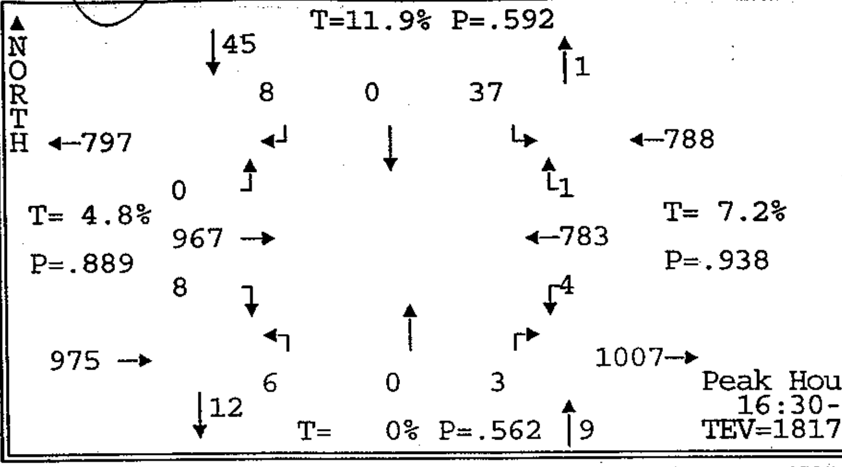
V5CV

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	↰	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	0	37	0	3	0	1	68	3	5	0	28	0	145
16:05-16:10	0	50	0	0	0	1	53	1	4	0	38	0	147
16:10-16:15	0	43	0	0	0	0	56	2	3	0	33	0	137
16:15-16:20	0	49	0	0	0	1	58	1	6	0	18	0	133
16:20-16:25	0	44	0	1	0	0	63	0	3	0	29	0	140
16:25-16:30	0	37	0	0	0	0	74	0	3	0	39	0	153
16:30-16:35	0	36	2	1	0	0	51	0	0	0	42	0	132
16:35-16:40	0	42	0	0	0	0	74	1	5	0	30	0	152
16:40-16:45	0	57	0	0	0	0	45	0	2	0	45	0	149
16:45-16:50	0	46	2	0	0	0	70	2	7	0	30	0	157
16:50-16:55	0	33	1	0	0	0	61	0	4	0	32	0	131
16:55-17:00	0	42	0	0	0	0	50	1	0	0	36	0	129
17:00-17:05	0	32	0	0	0	0	56	0	2	0	39	0	129
17:05-17:10	0	35	0	0	0	0	75	0	6	0	25	0	141
17:10-17:15	0	54	0	2	0	1	67	0	5	0	29	0	158
17:15-17:20	0	55	0	0	0	0	60	0	5	0	21	0	141
17:20-17:25	0	57	0	0	0	0	49	0	4	0	25	0	135
17:25-17:30	0	57	0	0	0	0	75	1	6	0	28	0	167
17:30-17:35	0	47	1	0	0	2	57	0	2	0	29	0	138
17:35-17:40	0	75	0	0	0	0	46	0	3	0	35	0	159
17:40-17:45	0	45	0	0	0	0	66	0	6	0	34	0	151
17:45-17:50	0	51	0	0	0	0	64	0	2	0	19	0	136
17:50-17:55	0	49	1	0	0	0	49	0	1	1	32	0	133
17:55-18:00	0	33	0	0	0	0	54	0	3	0	26	0	116
Total Survey	0	1106	7	7	0	6	1441	12	87	1	742	0	3409
PHF	0	.81	.33	.25	0	.38	.91	.33	.78	0	.85	0	.935
% Trucks	0	1.9	42.9	0	0	50	7.2	25	8	0	4.7	0	5.2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	0	516	5	5	0	3	723	11	42	0	400	0	1705
16:15-17:15	0	507	5	4	0	2	744	5	43	0	394	0	1704
16:30-17:30	0	546	5	3	0	1	733	5	46	0	382	0	1721
16:45-17:45	0	578	4	2	0	3	732	4	50	0	363	0	1736
17:00-18:00	0	590	2	2	0	3	718	1	45	1	342	0	1704

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
HIGHWAY 101 @ COOS RIVER HIGHWAY (101 @ EDWARDS)

(59)



DATE OF COUNT: 08/21/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5CW

Peak Hour
16:30-17:30
TEV=1817

Traffic Smithy
(503) 641-6333

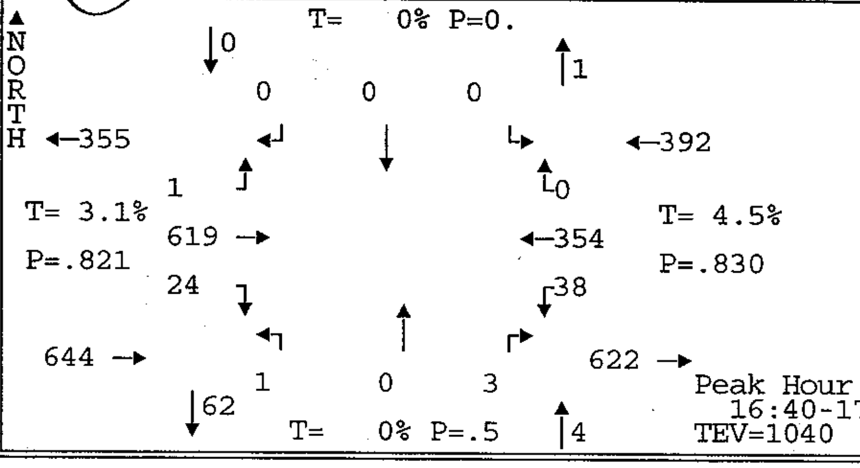
TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			
	↴	→	↑	↵	↓	↳	↰	↑	↱	↓	←	↑	ALL
16:00-16:05	2	48	0	1	0	9	4	0	0	0	68	0	132
16:05-16:10	1	72	0	2	0	4	1	0	0	0	56	0	136
16:10-16:15	1	69	0	1	0	5	1	0	0	0	57	0	134
16:15-16:20	0	89	0	0	0	3	1	0	0	0	64	0	157
16:20-16:25	0	72	0	0	0	0	0	0	1	0	70	0	143
16:25-16:30	1	78	0	1	0	1	0	0	0	0	69	0	150
16:30-16:35	2	91	0	1	0	2	0	0	0	1	67	0	164
16:35-16:40	0	94	0	1	0	2	1	0	0	0	68	0	166
16:40-16:45	0	79	0	0	0	4	1	0	1	1	52	0	138
16:45-16:50	1	76	0	2	0	2	0	0	0	1	82	0	164
16:50-16:55	0	44	0	0	0	5	0	0	0	0	52	1	102
16:55-17:00	1	78	0	1	0	2	0	0	0	0	57	0	139
17:00-17:05	1	77	0	0	0	10	0	0	0	1	55	0	144
17:05-17:10	1	71	0	2	0	4	1	0	0	0	75	0	154
17:10-17:15	1	97	0	0	0	3	1	0	1	0	78	0	181
17:15-17:20	0	78	0	0	0	2	1	0	0	0	57	0	138
17:20-17:25	1	97	0	1	0	0	0	0	1	0	61	0	161
17:25-17:30	0	85	0	0	0	1	1	0	0	0	79	0	166
17:30-17:35	1	64	0	0	0	5	1	0	0	1	57	0	129
17:35-17:40	0	93	0	1	0	7	0	0	0	0	67	0	168
17:40-17:45	2	79	0	1	0	5	0	0	0	0	63	0	150
17:45-17:50	0	62	0	0	0	5	1	0	0	0	64	0	132
17:50-17:55	1	77	0	1	0	3	1	0	0	0	60	0	143
17:55-18:00	2	52	0	0	0	1	0	0	0	0	52	0	107

	EB ↴	EB →	EB ↑	SB ↵	SB ↓	SB ↳	NB ↰	NB ↑	NB ↱	WB ↓	WB ←	WB ↑	ALL
Total Survey	19	1822	0	16	0	85	16	0	4	5	1530	1	3498
PHF	.67	.89	0	.67	0	.54	.5	0	.38	.5	.93	.25	.946
% Trucks	0	4.9	0	6.3	0	12.9	0	0	0	0	7.2	0	6
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	1	0	0	2	0	0	1	0	0	1	0	

Hourly Totals	EB ↴	EB →	EB ↑	SB ↵	SB ↓	SB ↳	NB ↰	NB ↑	NB ↱	WB ↓	WB ←	WB ↑	ALL
16:00-17:00	9	890	0	10	0	39	9	0	2	3	762	1	1725
16:15-17:15	8	946	0	8	0	38	5	0	3	4	789	1	1802
16:30-17:30	8	967	0	8	0	37	6	0	3	4	783	1	1817
16:45-17:45	9	939	0	8	0	46	5	0	2	3	783	1	1796
17:00-18:00	10	932	0	6	0	46	7	0	2	2	768	0	1773

105

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
COOS RIVER HIGHWAY @ HIGHWAY 101 (COOS @ EDWARDS)



Peak Hour 16:40-17:40
TEV=1040

DATE OF COUNT: 08/21/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

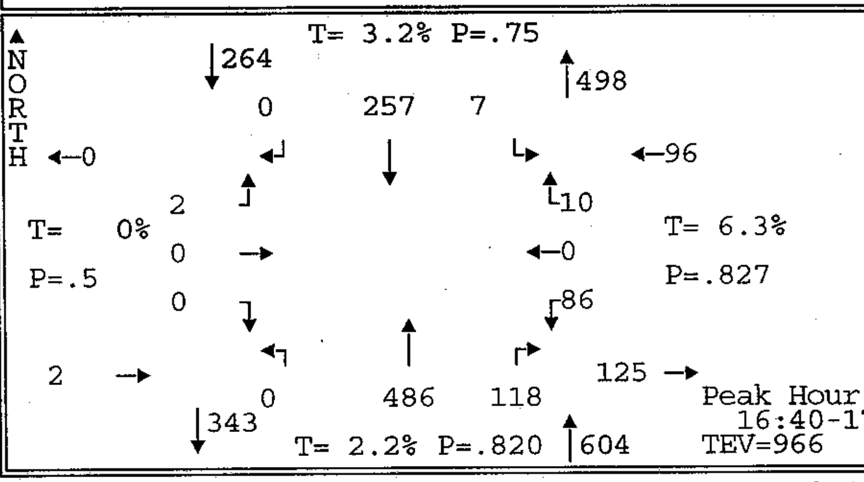
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5CU

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	4	43	0	0	0	0	0	0	0	3	28	0	78
16:05-16:10	2	52	0	0	0	0	0	0	0	2	33	0	89
16:10-16:15	3	36	0	0	0	0	0	0	0	3	29	0	71
16:15-16:20	2	57	0	0	0	0	0	0	0	1	27	0	87
16:20-16:25	3	36	0	0	0	0	0	0	0	1	27	0	67
16:25-16:30	0	43	0	0	0	0	0	0	0	1	37	0	81
16:30-16:35	1	44	0	0	0	0	0	0	2	3	37	0	87
16:35-16:40	0	47	0	0	0	0	0	0	0	2	38	0	87
16:40-16:45	3	55	0	0	0	0	0	0	0	3	32	0	93
16:45-16:50	1	48	0	0	0	0	1	0	0	3	33	0	86
16:50-16:55	2	32	0	0	0	0	0	0	1	5	27	0	67
16:55-17:00	3	40	0	0	0	0	0	0	0	7	38	0	88
17:00-17:05	3	37	0	0	0	0	0	0	1	2	36	0	79
17:05-17:10	1	44	0	0	0	0	0	0	0	4	31	0	80
17:10-17:15	0	60	0	0	0	0	0	0	0	1	18	0	79
17:15-17:20	1	61	0	0	0	0	0	0	0	1	26	0	89
17:20-17:25	4	53	0	0	0	0	0	0	0	1	22	0	80
17:25-17:30	3	57	1	0	0	0	0	0	0	2	29	0	92
17:30-17:35	1	63	0	0	0	0	0	0	1	2	26	0	93
17:35-17:40	2	69	0	0	0	0	0	0	0	7	36	0	114
17:40-17:45	2	58	0	0	0	0	0	0	0	3	21	0	84
17:45-17:50	0	44	0	0	0	0	0	0	0	4	31	0	79
17:50-17:55	0	50	0	0	0	0	0	0	0	1	19	0	70
17:55-18:00	1	34	0	0	0	0	0	0	0	2	26	0	63
Total Survey	42	1163	1	0	0	0	1	0	5	64	707	0	1983
PHF	.75	.82	.25	0	0	0	.25	0	.38	.63	.84	0	.869
% Trucks	11.9	2.8	0	0	0	0	0	0	0	10.9	4	0	3.6
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	3	0	0	3	0	0	3	0	0	0	0	
Hourly Totals													
16:00-17:00	24	533	0	0	0	0	1	0	3	34	386	0	981
16:15-17:15	19	543	0	0	0	0	1	0	4	33	381	0	981
16:30-17:30	22	578	1	0	0	0	1	0	4	34	367	0	1007
16:45-17:45	23	622	1	0	0	0	1	0	3	38	343	0	1031
17:00-18:00	18	630	1	0	0	0	0	0	2	30	321	0	1002

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
COOS RIVER HIGHWAY @ OLIVE BARBER ROAD



DATE OF COUNT: 08/21/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5CO

Peak Hour
16:40-17:40
TEV=966

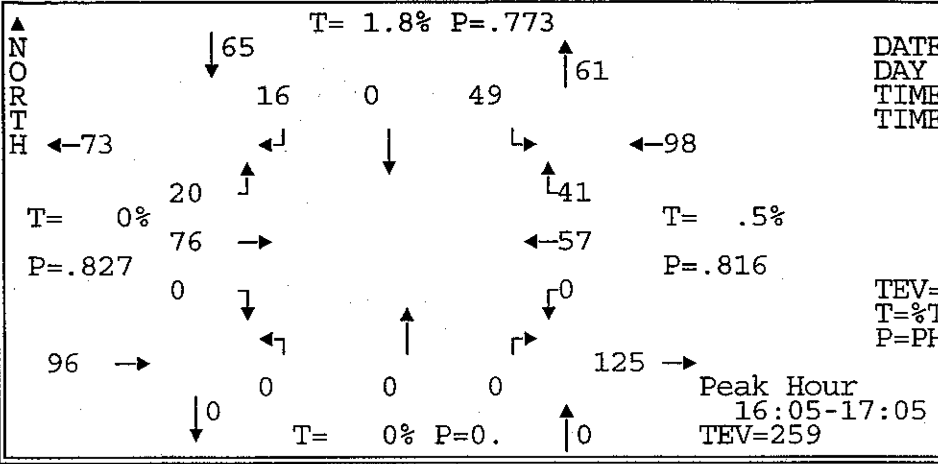
Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↓	→	↑	↵	↓	↳	↰	↑	↱	↓	←	↑	
16:00-16:05	0	0	0	0	20	1	0	35	4	7	0	1	68
16:05-16:10	0	0	0	0	25	0	0	42	11	6	0	1	85
16:10-16:15	0	0	0	0	17	1	0	29	8	3	0	0	58
16:15-16:20	0	0	0	0	16	1	0	45	11	6	0	1	80
16:20-16:25	0	0	0	0	26	0	0	33	4	6	0	1	70
16:25-16:30	0	0	0	0	32	1	0	29	9	4	0	1	76
16:30-16:35	0	0	0	0	20	0	0	27	11	6	1	1	66
16:35-16:40	0	0	0	0	34	1	0	33	14	6	0	1	89
16:40-16:45	0	0	0	0	20	0	0	44	9	4	0	1	78
16:45-16:50	0	0	0	0	24	1	0	38	7	9	0	0	79
16:50-16:55	0	0	1	0	36	0	0	25	8	5	0	2	77
16:55-17:00	0	0	0	0	26	1	0	32	9	11	0	0	79
17:00-17:05	0	0	0	0	17	1	0	31	7	8	0	1	65
17:05-17:10	0	0	0	0	17	0	0	36	8	8	0	0	69
17:10-17:15	0	0	1	0	13	1	0	43	11	3	0	0	72
17:15-17:20	0	0	0	0	15	1	0	50	11	7	0	2	86
17:20-17:25	0	0	0	0	17	0	0	39	12	8	0	2	78
17:25-17:30	0	0	0	0	19	2	0	44	13	10	0	0	88
17:30-17:35	0	0	0	0	29	0	0	45	12	7	0	2	95
17:35-17:40	0	0	0	0	24	0	0	59	11	6	0	0	100
17:40-17:45	0	0	0	0	21	0	0	42	11	2	0	0	76
17:45-17:50	0	0	0	0	19	1	0	34	13	12	0	0	79
17:50-17:55	0	0	0	0	15	2	0	39	10	3	0	1	70
17:55-18:00	0	0	0	0	21	0	0	29	3	10	0	0	63

Total Survey	0	0	2	0	523	15	0	903	227	157	1	18	1846
PHF	0	0	.5	0	.75	.58	0	.82	.8	.8	0	.63	.853
% Trucks	0	0	0	0	3.3	0	0	1.7	4.4	7	0	0	2.9
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	

Hourly Totals													
16:00-17:00	0	0	1	0	296	7	0	412	105	73	1	10	905
16:15-17:15	0	0	2	0	281	7	0	416	108	76	1	9	900
16:30-17:30	0	0	2	0	258	8	0	442	120	85	1	10	926
16:45-17:45	0	0	2	0	258	7	0	484	120	84	0	9	964
17:00-18:00	0	0	1	0	227	8	0	491	122	84	0	8	941

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
LIBBY LANE @ WILSHIRE LANE



DATE OF COUNT: 08/21/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

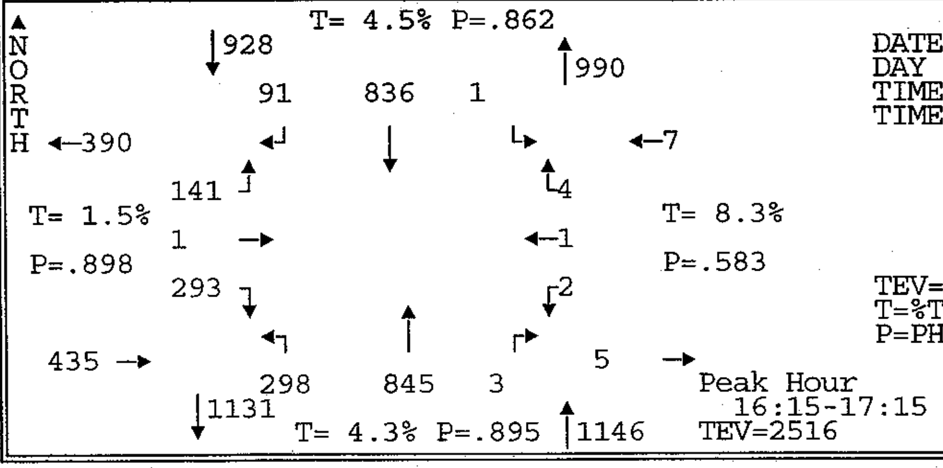
V5CP

Peak Hour
16:05-17:05
TEV=259

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↓	→	↑	↲	↓	↳	↰	↑	↱	↓	←	↑	
16:00-16:05	0	6	0	4	0	2	0	0	0	0	2	5	19
16:05-16:10	0	9	2	3	0	2	0	0	0	0	5	6	27
16:10-16:15	0	9	1	0	0	4	0	0	0	0	7	6	27
16:15-16:20	0	5	3	3	0	5	0	0	0	0	3	3	22
16:20-16:25	0	7	1	4	0	3	0	0	0	0	3	3	21
16:25-16:30	0	5	3	0	0	6	0	0	0	0	6	7	27
16:30-16:35	0	4	4	3	0	5	0	0	0	0	3	1	20
16:35-16:40	0	11	2	0	0	5	0	0	0	0	2	1	21
16:40-16:45	0	6	0	0	0	1	0	0	0	0	4	4	15
16:45-16:50	0	4	1	1	0	7	0	0	0	0	8	0	21
16:50-16:55	0	5	3	1	0	5	0	0	0	0	1	1	16
16:55-17:00	0	4	0	1	0	2	0	0	0	0	9	3	19
17:00-17:05	0	7	0	0	0	4	0	0	0	0	6	6	23
17:05-17:10	0	7	0	0	0	3	0	0	0	0	4	2	16
17:10-17:15	0	4	2	0	0	5	0	0	0	0	8	3	22
17:15-17:20	0	10	1	2	0	2	0	0	0	0	5	3	23
17:20-17:25	0	5	1	0	0	5	0	0	0	0	6	2	19
17:25-17:30	0	8	2	3	0	2	0	0	0	0	5	2	22
17:30-17:35	0	6	0	2	0	4	0	0	0	0	0	4	16
17:35-17:40	0	3	0	4	0	2	0	0	0	0	4	3	16
17:40-17:45	0	5	0	2	0	3	0	0	0	0	5	3	18
17:45-17:50	0	2	1	1	0	2	0	0	0	0	4	2	12
17:50-17:55	0	8	3	0	0	0	0	0	0	0	3	1	15
17:55-18:00	0	2	2	1	0	0	0	0	0	0	6	3	14
Total Survey	0	142	32	35	0	79	0	0	0	0	109	74	471
PHF	0	.83	.56	.57	0	.77	0	0	0	0	.79	.68	.851
% Trucks	0	0	0	2.9	0	1.3	0	0	0	0	.9	0	.6
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	0	75	20	20	0	47	0	0	0	0	53	40	255
16:15-17:15	0	69	19	13	0	51	0	0	0	0	57	34	243
16:30-17:30	0	75	16	11	0	46	0	0	0	0	61	28	237
16:45-17:45	0	68	10	16	0	44	0	0	0	0	61	32	231
17:00-18:00	0	67	12	15	0	32	0	0	0	0	56	34	216

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
NEWMARK @ HIGHWAY 101



DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

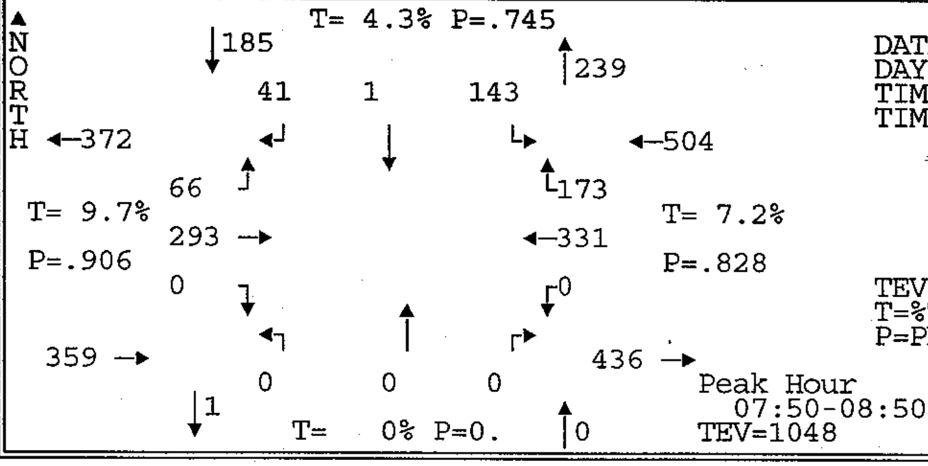
V5CF

Peak Hour
16:15-17:15
TEV=2516

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	20	0	12	0	87	0	25	75	0	0	0	0	219
16:05-16:10	24	0	17	11	61	0	31	70	0	1	0	0	215
16:10-16:15	36	0	14	7	65	1	13	55	0	0	0	0	191
16:15-16:20	30	0	14	10	68	0	22	52	0	0	0	0	196
16:20-16:25	20	1	10	4	71	0	18	81	1	1	0	1	208
16:25-16:30	26	0	13	6	81	0	21	65	0	0	0	0	212
16:30-16:35	19	0	10	10	62	0	22	67	0	0	0	0	190
16:35-16:40	27	0	10	10	73	0	18	76	1	0	0	0	215
16:40-16:45	26	0	18	9	61	0	24	65	0	0	0	0	203
16:45-16:50	25	0	15	9	51	0	35	66	0	0	0	0	201
16:50-16:55	22	0	8	8	58	0	39	63	0	0	0	1	199
16:55-17:00	19	0	8	4	74	1	15	75	0	0	0	1	197
17:00-17:05	33	0	14	9	81	0	27	76	1	0	0	0	241
17:05-17:10	22	0	15	4	96	0	18	73	0	0	1	1	230
17:10-17:15	24	0	6	8	60	0	39	86	0	1	0	0	224
17:15-17:20	22	0	26	5	51	1	14	60	1	1	0	0	181
17:20-17:25	15	0	17	6	35	0	29	67	0	0	0	0	169
17:25-17:30	29	0	15	3	41	0	23	49	0	0	0	0	160
17:30-17:35	27	0	15	4	82	1	18	46	0	0	0	0	193
17:35-17:40	23	0	9	7	46	0	18	70	0	0	0	0	173
17:40-17:45	20	0	10	6	59	0	29	59	0	0	0	0	183
17:45-17:50	19	0	6	3	48	0	21	72	0	0	0	0	169
17:50-17:55	29	0	13	9	42	0	17	38	0	1	0	1	150
17:55-18:00	19	1	13	4	34	0	23	48	0	0	0	1	143
Total Survey	576	2	308	156	1487	4	559	1554	4	5	1	6	4662
PHF	.93	.25	.82	.78	.83	.25	.76	.9	.75	.5	.25	.5	.905
% Trucks	1	0	2.3	1.9	4.6	50	.9	5.5	0	20	0	0	3.8
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	294	1	149	88	812	2	283	810	2	2	0	3	2446
16:15-17:15	293	1	141	91	836	1	298	845	3	2	1	4	2516
16:30-17:30	283	0	162	85	743	2	303	823	3	2	1	3	2410
16:45-17:45	281	0	158	73	734	3	304	790	2	2	1	3	2351
17:00-18:00	282	1	159	68	675	2	276	744	2	3	1	3	2216

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
WOODLAND @ OCEAN BLVD



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 07:00
TIME ENDED: 09:00

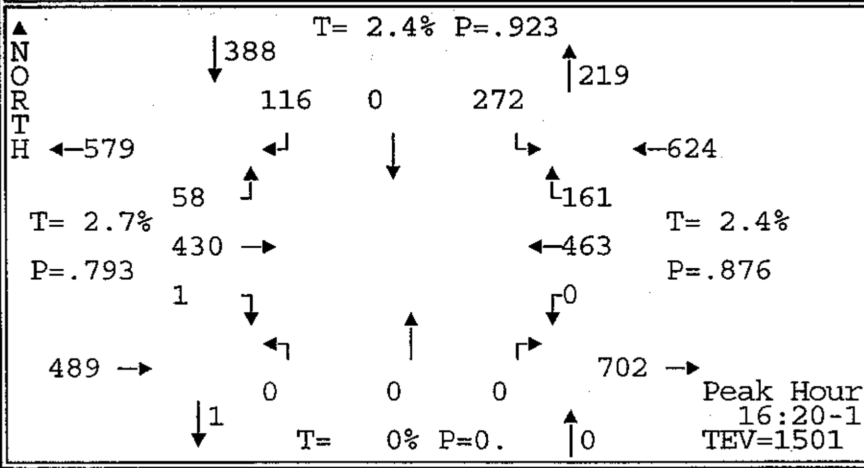
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5AR

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	⬏	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	⬑	ALL
07:00-07:05	0	11	3	2	0	7	0	0	0	0	9	7	39
07:05-07:10	0	13	3	0	0	0	0	0	0	0	18	3	37
07:10-07:15	0	14	2	2	0	7	0	0	0	0	8	4	37
07:15-07:20	0	11	2	3	0	11	0	0	0	0	13	5	45
07:20-07:25	0	15	5	0	0	3	0	0	0	0	14	7	44
07:25-07:30	0	16	0	2	0	9	0	0	0	0	18	8	53
07:30-07:35	0	16	4	0	0	10	0	0	0	0	13	10	53
07:35-07:40	0	20	3	4	0	14	0	0	0	0	13	6	60
07:40-07:45	0	32	3	4	0	9	0	0	0	0	22	13	83
07:45-07:50	0	34	5	6	0	12	0	0	0	0	27	13	97
07:50-07:55	0	26	7	8	0	13	0	0	0	0	37	13	104
07:55-08:00	0	24	4	6	1	22	0	0	0	0	46	15	118
08:00-08:05	0	31	7	3	0	9	0	0	0	0	29	12	91
08:05-08:10	0	24	7	6	0	9	0	0	0	0	17	15	78
08:10-08:15	0	26	2	1	0	12	0	0	0	0	21	10	72
08:15-08:20	0	20	4	0	0	8	0	0	0	0	24	10	66
08:20-08:25	0	33	5	2	0	10	0	0	0	0	22	12	84
08:25-08:30	0	13	5	1	0	8	0	0	0	0	18	21	66
08:30-08:35	0	27	5	4	0	7	0	0	0	0	26	15	84
08:35-08:40	0	26	7	3	0	12	0	0	0	0	28	11	87
08:40-08:45	0	21	8	4	0	10	0	0	0	0	28	19	90
08:45-08:50	0	22	5	3	0	23	0	0	0	0	35	20	108
08:50-08:55	0	23	4	3	0	13	0	0	0	0	27	22	92
08:55-09:00	0	26	3	4	0	13	0	0	0	0	25	16	87
Total Survey	0	524	103	71	1	251	0	0	0	0	538	287	1775
PHF	0	.9	.82	.6	.25	.79	0	0	0	0	.74	.87	.837
% Trucks	0	10.1	7.8	8.5	0	3.2	0	0	0	0	9.1	3.5	7.5
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
07:00-08:00	0	232	41	37	1	117	0	0	0	0	238	104	770
07:15-08:15	0	275	49	43	1	133	0	0	0	0	270	127	898
07:30-08:30	0	299	56	41	1	136	0	0	0	0	289	150	972
07:45-08:45	0	305	66	44	1	132	0	0	0	0	323	166	1037
08:00-09:00	0	292	62	34	0	134	0	0	0	0	300	183	1005

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
WOODLAND @ OCEAN BLVD



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

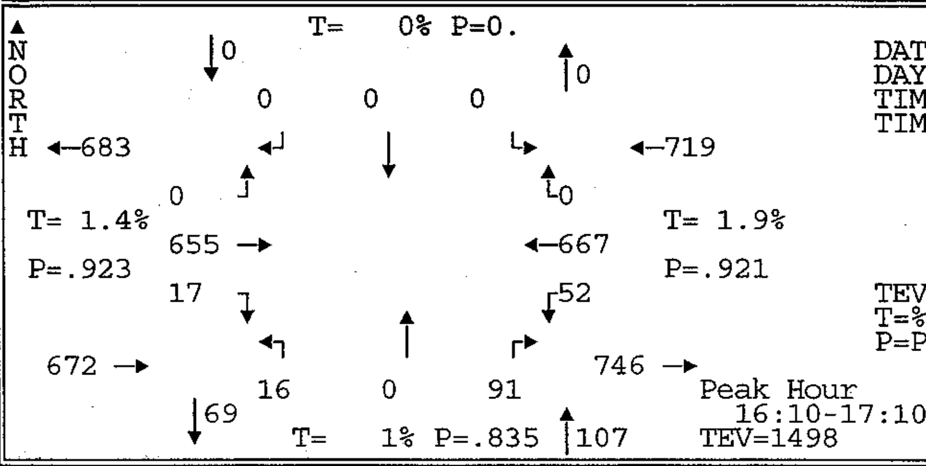
V5AS

Peak Hour
16:20-17:20
TEV=1501

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
16:00-16:05	0	33	8	18	0	21	0	0	0	0	26	14	120
16:05-16:10	0	36	6	8	0	26	0	0	0	0	32	12	120
16:10-16:15	0	51	5	14	0	18	0	0	0	0	42	10	140
16:15-16:20	0	35	4	11	0	28	0	0	0	0	33	14	125
16:20-16:25	0	30	4	8	0	23	0	0	0	0	39	8	112
16:25-16:30	0	27	2	11	0	27	0	0	0	0	44	7	118
16:30-16:35	0	40	6	15	0	21	0	0	0	0	31	17	130
16:35-16:40	1	38	7	8	0	13	0	0	0	0	35	12	114
16:40-16:45	0	29	4	9	0	21	0	0	0	0	30	14	107
16:45-16:50	0	39	5	12	0	26	0	0	0	0	31	10	123
16:50-16:55	0	32	3	4	0	23	0	0	0	0	38	13	113
16:55-17:00	0	28	6	9	0	24	0	0	0	0	49	15	131
17:00-17:05	0	31	3	12	0	23	0	0	0	0	38	16	123
17:05-17:10	0	42	7	10	0	23	0	0	0	0	43	17	142
17:10-17:15	0	47	6	11	0	24	0	0	0	0	45	17	150
17:15-17:20	0	47	5	7	0	24	0	0	0	0	40	15	138
17:20-17:25	0	19	1	5	0	19	0	0	0	0	49	10	103
17:25-17:30	0	33	6	5	0	17	0	0	0	0	45	15	121
17:30-17:35	0	31	5	11	0	17	0	0	0	0	40	8	112
17:35-17:40	0	40	5	4	0	16	0	0	0	0	44	12	121
17:40-17:45	0	27	3	7	0	18	0	0	0	0	41	16	112
17:45-17:50	0	21	2	14	0	16	0	0	0	0	33	13	99
17:50-17:55	0	21	3	2	0	13	0	0	0	0	32	17	88
17:55-18:00	0	30	1	5	0	18	0	0	0	0	34	14	102
Total Survey	1	807	107	220	0	499	0	0	0	0	914	316	2864
PHF	.25	.79	.81	.85	0	.93	0	0	0	0	.89	.81	.872
% Trucks	0	2.7	2.8	2.3	0	2.4	0	0	0	0	2.8	.9	2.5
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	1	0	0	0	0	0	2	0	
Hourly Totals													
16:00-17:00	1	418	60	127	0	271	0	0	0	0	430	146	1453
16:15-17:15	1	418	57	120	0	276	0	0	0	0	456	160	1488
16:30-17:30	1	425	59	107	0	258	0	0	0	0	474	171	1495
16:45-17:45	0	416	55	97	0	254	0	0	0	0	503	164	1489
17:00-18:00	0	389	47	93	0	228	0	0	0	0	484	170	1411

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
CAPE ARAGO WAY @ LA CLAIR



DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

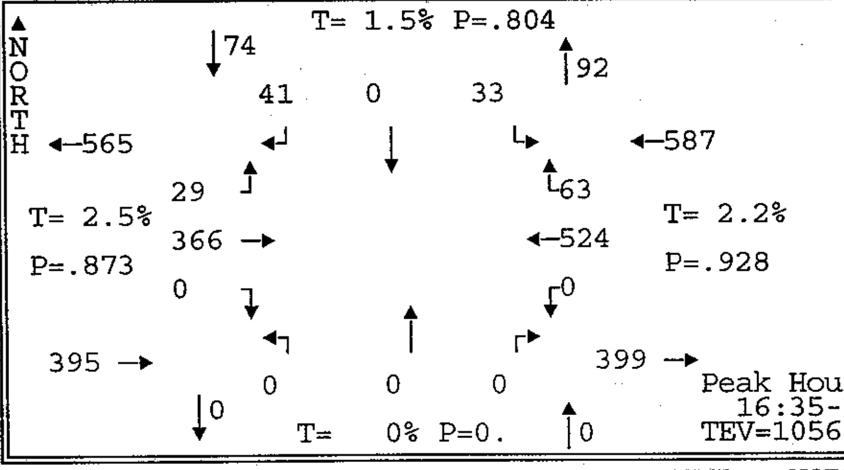
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BV

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ←	↓	→	NORTH BOUND ←	↑	→	WEST BOUND ↓	←	↑	ALL
16:00-16:05	2	55	0	0	0	0	0	0	4	3	44	0	108
16:05-16:10	0	49	0	0	0	0	1	0	7	9	57	0	123
16:10-16:15	3	44	0	0	0	0	3	0	10	4	65	0	129
16:15-16:20	1	68	0	0	0	0	0	0	8	1	58	0	136
16:20-16:25	0	59	0	0	0	0	1	0	2	4	61	0	127
16:25-16:30	1	43	0	0	0	0	2	0	3	3	59	0	111
16:30-16:35	1	56	0	0	0	0	0	0	8	5	63	0	133
16:35-16:40	1	59	0	0	0	0	4	0	13	3	51	0	131
16:40-16:45	1	59	0	0	0	0	0	0	7	3	51	0	121
16:45-16:50	4	58	0	0	0	0	1	0	7	9	45	0	124
16:50-16:55	1	57	0	0	0	0	1	0	9	3	54	0	125
16:55-17:00	0	44	0	0	0	0	1	0	5	8	40	0	98
17:00-17:05	2	48	0	0	0	0	2	0	5	4	62	0	123
17:05-17:10	2	60	0	0	0	0	1	0	14	5	58	0	140
17:10-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:20	1	46	0	0	0	0	0	0	4	5	68	0	124
17:20-17:25	1	41	0	0	0	0	2	0	5	4	60	0	113
17:25-17:30	2	52	0	0	0	0	2	0	1	4	59	0	120
17:30-17:35	3	35	0	0	0	0	2	0	8	9	50	0	107
17:35-17:40	0	47	0	0	0	0	1	0	5	3	37	0	93
17:40-17:45	2	41	0	0	0	0	0	0	7	4	52	0	106
17:45-17:50	0	38	0	0	0	0	2	0	9	5	53	0	107
17:50-17:55	2	50	0	0	0	0	2	0	11	4	39	0	108
17:55-18:00	2	38	0	0	0	0	2	0	9	5	47	0	103
Total Survey	32	1147	0	0	0	0	30	0	161	107	1233	0	2710
PHF	.71	.93	0	0	0	0	.67	0	.81	.65	.91	0	.955
% Trucks	0	1.5	0	0	0	0	0	0	1.2	2.8	1.8	0	1.6
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	10	0	0	6	0	0	84	0	0	8	0	
Hourly Totals													
16:00-17:00	15	651	0	0	0	0	14	0	83	55	648	0	1466
16:15-17:15	14	611	0	0	0	0	13	0	81	48	602	0	1369
16:30-17:30	16	580	0	0	0	0	14	0	78	53	611	0	1352
16:45-17:45	18	529	0	0	0	0	13	0	70	58	585	0	1273
17:00-18:00	17	496	0	0	0	0	16	0	78	52	585	0	1244

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
LA CLAIR @ OCEAN BLVD



Peak Hour
16:35-17:35
TEV=1056

DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

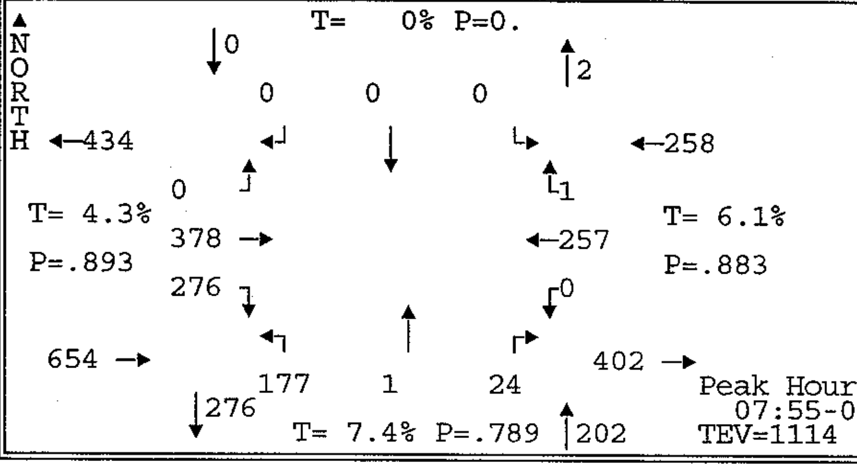
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5CA

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↴	→	↑	↵	↓	↳	↰	↑	↱	↓	←	↑	
16:00-16:05	0	26	5	5	0	3	0	0	0	0	34	8	81
16:05-16:10	0	31	1	1	0	1	0	0	0	0	34	6	74
16:10-16:15	0	33	1	3	0	3	0	0	0	0	38	4	82
16:15-16:20	0	27	0	0	0	1	0	0	0	0	30	4	62
16:20-16:25	0	26	2	4	0	0	0	0	0	0	38	8	78
16:25-16:30	0	17	2	4	0	4	0	0	0	0	25	4	56
16:30-16:35	0	33	0	4	0	1	0	0	0	0	39	8	85
16:35-16:40	0	26	2	4	0	9	0	0	0	0	46	5	92
16:40-16:45	0	33	3	3	0	2	0	0	0	0	42	8	91
16:45-16:50	0	37	2	4	0	1	0	0	0	0	43	6	93
16:50-16:55	0	29	3	4	0	4	0	0	0	0	42	6	88
16:55-17:00	0	26	4	6	0	2	0	0	0	0	42	9	89
17:00-17:05	0	37	2	2	0	3	0	0	0	0	49	4	97
17:05-17:10	0	42	2	4	0	1	0	0	0	0	48	6	103
17:10-17:15	0	30	0	2	0	1	0	0	0	0	43	4	80
17:15-17:20	0	28	0	5	0	1	0	0	0	0	46	3	83
17:20-17:25	0	29	6	3	0	2	0	0	0	0	42	0	82
17:25-17:30	0	26	0	1	0	6	0	0	0	0	34	5	72
17:30-17:35	0	23	5	3	0	1	0	0	0	0	47	7	86
17:35-17:40	0	26	4	4	0	3	0	0	0	0	40	3	80
17:40-17:45	0	18	6	2	0	3	0	0	0	0	24	6	59
17:45-17:50	0	24	3	3	0	3	0	0	0	0	35	4	72
17:50-17:55	0	18	6	3	0	3	0	0	0	0	31	5	66
17:55-18:00	0	22	0	4	0	1	0	0	0	0	30	6	63
Total Survey	0	667	59	78	0	59	0	0	0	0	922	129	1914
PHF	0	.84	.66	.73	0	.69	0	0	0	0	.94	.75	.913
% Trucks	0	2.5	1.7	1.3	0	1.7	0	0	0	0	2	3.9	2.2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	2	0	0	0	0	0	0	0	0	3	0	
Hourly Totals													
16:00-17:00	0	344	25	42	0	31	0	0	0	0	453	76	971
16:15-17:15	0	363	22	41	0	29	0	0	0	0	487	72	1014
16:30-17:30	0	376	24	42	0	33	0	0	0	0	516	64	1055
16:45-17:45	0	351	34	40	0	28	0	0	0	0	500	59	1012
17:00-18:00	0	323	34	36	0	28	0	0	0	0	469	53	943

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
OCEAN BLVD @ CAPE ARAGO WAY



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

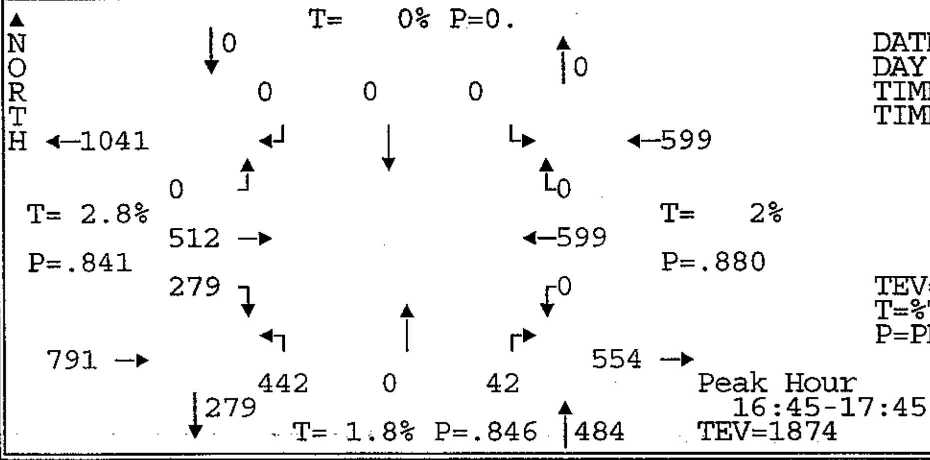
V5AN

Peak Hour
07:55-08:55
TEV=1114

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	→	↰	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
07:00-07:05	13	11	0	0	0	0	9	0	2	0	9	0	44
07:05-07:10	5	21	0	0	0	0	7	0	1	0	10	0	44
07:10-07:15	13	13	0	0	0	0	7	0	0	0	8	0	41
07:15-07:20	14	26	0	0	1	0	7	0	1	0	8	0	57
07:20-07:25	18	23	0	0	0	0	4	0	0	0	18	0	63
07:25-07:30	16	21	0	0	0	0	9	0	0	0	8	0	54
07:30-07:35	14	14	0	0	0	0	9	0	0	0	13	0	50
07:35-07:40	24	30	0	0	0	0	6	0	0	0	20	0	80
07:40-07:45	20	28	0	0	0	0	10	0	1	0	9	0	68
07:45-07:50	25	36	0	0	0	0	14	1	2	0	20	0	98
07:50-07:55	25	44	0	0	0	0	18	0	1	0	22	0	110
07:55-08:00	30	42	0	0	0	0	20	0	4	0	27	0	123
08:00-08:05	29	31	0	0	0	0	17	0	9	0	18	0	104
08:05-08:10	19	32	0	0	0	0	14	0	0	0	21	0	86
08:10-08:15	19	28	0	0	0	0	9	0	0	0	24	0	80
08:15-08:20	21	18	0	0	0	0	15	0	2	0	18	0	74
08:20-08:25	24	34	0	0	0	0	18	0	1	0	21	1	99
08:25-08:30	16	30	0	0	0	0	11	0	0	0	14	0	71
08:30-08:35	30	29	0	0	0	0	8	0	0	0	22	0	89
08:35-08:40	17	28	0	0	0	0	10	0	2	0	19	0	76
08:40-08:45	24	32	0	0	0	0	16	0	2	0	23	0	97
08:45-08:50	18	37	0	0	0	0	13	0	2	0	27	0	97
08:50-08:55	29	37	0	0	0	0	26	1	2	0	23	0	118
08:55-09:00	27	28	1	0	0	0	12	0	0	0	23	0	91
Total Survey	490	673	1	0	1	0	289	2	32	0	425	1	1914
PHF	.88	.89	0	0	0	0	.8	.25	.46	0	.88	.25	.889
% Trucks	4.9	3.9	0	0	0	0	6.6	0	15.6	0	6.1	0	5.2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	2	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
07:00-08:00	217	309	0	0	1	0	120	1	12	0	172	0	832
07:15-08:15	253	355	0	0	1	0	137	1	18	0	208	0	973
07:30-08:30	266	367	0	0	0	0	161	1	20	0	227	1	1043
07:45-08:45	279	384	0	0	0	0	170	1	23	0	249	1	1107
08:00-09:00	273	364	1	0	0	0	169	1	20	0	253	1	1082

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
OCEAN BLVD @ CAPE ARAGO HIGHWAY



DATE OF COUNT: 08/14/02
DAY OF WEEK: WED
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

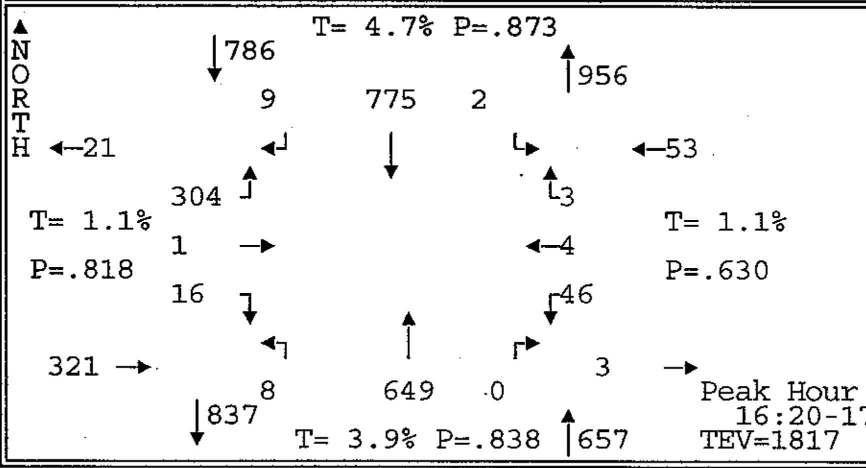
V5AO

Peak Hour
16:45-17:45
TEV=1874

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↴	→	↑	↲	↓	↳	↰	↑	↱	↓	←	↑	
16:00-16:05	22	53	0	0	0	0	34	0	2	0	35	0	146
16:05-16:10	31	53	0	0	0	0	22	0	3	0	50	0	159
16:10-16:15	23	32	0	0	0	0	33	0	4	1	45	0	138
16:15-16:20	21	50	0	0	0	0	31	0	2	0	46	0	150
16:20-16:25	18	41	0	0	0	0	35	0	2	0	53	0	149
16:25-16:30	28	43	0	0	0	0	23	0	2	0	53	0	149
16:30-16:35	28	43	0	0	0	0	31	0	4	0	44	0	150
16:35-16:40	27	40	0	0	0	0	25	0	1	0	42	0	135
16:40-16:45	31	36	0	0	0	0	21	0	3	0	51	0	142
16:45-16:50	28	42	0	0	0	0	33	0	2	0	41	0	146
16:50-16:55	28	38	0	0	0	0	29	0	4	0	52	0	151
16:55-17:00	14	34	0	0	0	0	29	0	8	0	42	0	127
17:00-17:05	23	51	0	0	0	0	38	0	7	0	63	0	182
17:05-17:10	23	55	0	0	0	0	38	0	1	0	58	0	175
17:10-17:15	35	48	0	0	0	0	51	0	1	0	49	0	184
17:15-17:20	18	34	0	0	0	0	41	0	3	0	40	0	136
17:20-17:25	19	37	0	0	0	0	41	0	6	0	53	0	156
17:25-17:30	29	33	0	0	0	0	37	0	4	0	37	0	140
17:30-17:35	22	42	0	0	0	0	30	0	2	0	54	0	150
17:35-17:40	26	52	0	0	0	0	36	0	3	0	66	0	183
17:40-17:45	14	46	0	0	0	0	39	0	1	0	44	0	144
17:45-17:50	16	28	0	0	0	0	19	0	1	0	52	0	116
17:50-17:55	25	33	0	0	0	0	24	0	3	0	35	0	120
17:55-18:00	24	41	0	0	0	0	30	0	1	0	31	0	127
Total Survey	573	1005	0	0	0	0	770	0	70	1	1136	0	3555
PHF	.86	.83	0	0	0	0	.83	0	.55	0	.88	0	.865
% Trucks	2.1	3.2	0	0	0	0	1.4	0	5.7	0	2	0	2.3
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	1	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	299	505	0	0	0	0	346	0	37	1	554	0	1742
16:15-17:15	304	521	0	0	0	0	384	0	37	0	594	0	1840
16:30-17:30	303	491	0	0	0	0	414	0	44	0	572	0	1824
16:45-17:45	279	512	0	0	0	0	442	0	42	0	599	0	1874
17:00-18:00	274	500	0	0	0	0	424	0	33	0	582	0	1813

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
FLORIDA @ HIGHWAY 101



DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

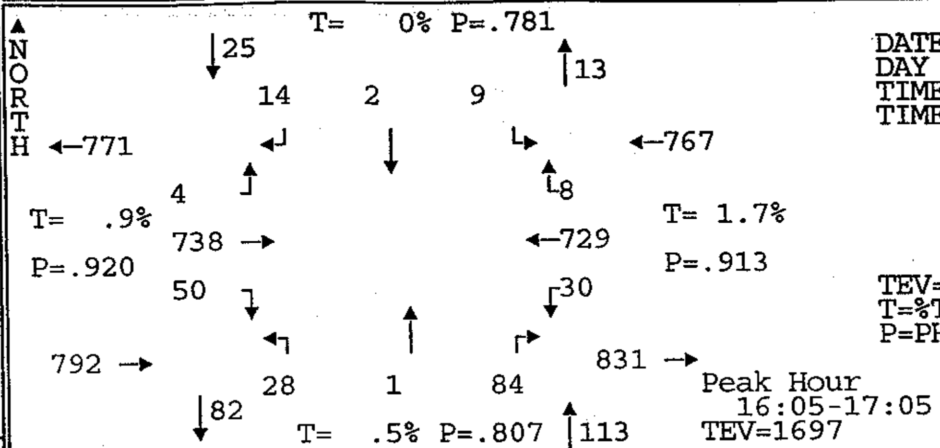
V5BM

Peak Hour
16:20-17:20
TEV=1817

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	1	0	14	1	63	0	1	44	1	4	2	1	132
16:05-16:10	0	0	22	2	81	0	0	46	1	2	0	1	155
16:10-16:15	3	0	21	2	63	0	0	54	0	0	1	0	144
16:15-16:20	0	0	31	0	48	0	0	62	0	2	0	0	143
16:20-16:25	2	0	24	3	103	0	1	51	0	4	0	0	188
16:25-16:30	2	0	19	0	54	0	1	38	0	3	1	0	118
16:30-16:35	4	0	19	1	64	0	2	62	0	2	0	1	155
16:35-16:40	2	0	35	1	49	2	0	54	0	3	0	0	146
16:40-16:45	1	0	33	0	64	0	1	52	0	5	1	0	157
16:45-16:50	1	0	26	1	64	0	1	49	0	1	0	2	145
16:50-16:55	0	0	20	1	65	0	0	57	0	4	0	0	147
16:55-17:00	0	0	34	1	60	0	1	41	0	2	0	0	139
17:00-17:05	0	0	17	0	62	0	0	50	0	5	0	0	134
17:05-17:10	1	1	21	0	73	0	0	74	0	8	0	0	178
17:10-17:15	1	0	26	1	60	0	0	46	0	7	1	0	142
17:15-17:20	2	0	30	0	57	0	1	75	0	2	1	0	168
17:20-17:25	2	0	30	0	58	0	2	53	0	5	1	0	151
17:25-17:30	1	0	28	1	46	0	1	62	0	1	0	0	140
17:30-17:35	1	0	23	1	57	0	1	63	0	1	0	0	147
17:35-17:40	3	0	22	1	84	0	1	51	0	1	1	0	164
17:40-17:45	1	0	28	1	43	0	0	38	0	2	0	0	113
17:45-17:50	2	0	24	0	66	0	1	52	1	4	1	0	151
17:50-17:55	0	0	25	0	40	0	2	50	0	2	1	0	120
17:55-18:00	1	0	24	2	58	1	0	55	0	1	0	1	143
Total Survey	31	1	596	20	1482	3	17	1279	3	71	11	6	3520
PHF	.5	.25	.81	.56	.88	.25	.5	.83	0	.57	.5	.38	.930
% Trucks	3.2	0	1	10	4.7	0	0	4	0	1.4	0	0	3.7
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	6	0	0	5	0	0	12	0	
Hourly Totals													
16:00-17:00	16	0	298	13	778	2	8	610	2	32	5	5	1769
16:15-17:15	14	1	305	9	766	2	7	636	0	46	3	3	1792
16:30-17:30	15	1	319	7	722	2	9	675	0	45	4	3	1802
16:45-17:45	13	1	305	8	729	0	8	659	0	39	4	2	1768
17:00-18:00	15	1	298	7	704	1	9	669	1	39	6	1	1751

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
MARION @ CAPE ARAGO WAY



DATE OF COUNT: 08/15/02
DAY OF WEEK: THU
TIME STARTED: 16:00
TIME ENDED: 18:00

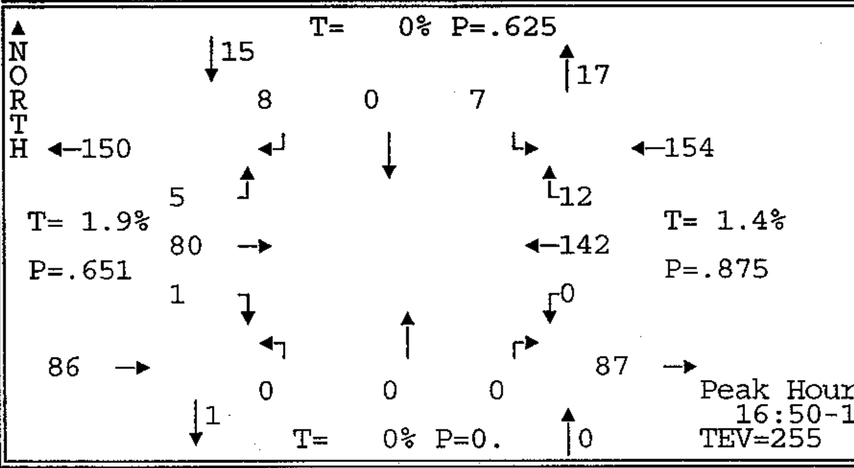
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5BO

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	6	62	0	0	1	2	2	1	7	1	66	0	148
16:05-16:10	3	74	0	1	0	2	3	0	7	4	68	1	163
16:10-16:15	6	61	0	2	0	1	3	0	8	3	66	0	150
16:15-16:20	5	65	1	1	1	0	0	0	5	1	62	1	142
16:20-16:25	3	60	0	1	0	0	0	0	7	1	76	0	148
16:25-16:30	3	56	1	1	0	0	1	0	7	5	57	0	131
16:30-16:35	6	73	0	0	0	2	5	0	10	3	40	2	141
16:35-16:40	5	50	0	1	0	0	1	0	9	3	60	0	129
16:40-16:45	5	57	0	0	0	1	2	0	8	1	50	1	125
16:45-16:50	5	57	2	2	1	0	4	0	4	1	67	0	143
16:50-16:55	3	62	0	3	0	1	1	0	7	3	54	2	136
16:55-17:00	4	56	0	0	0	1	7	0	7	2	56	0	133
17:00-17:05	2	67	0	2	0	1	1	1	5	3	73	1	156
17:05-17:10	8	66	0	0	0	0	1	0	6	2	53	0	136
17:10-17:15	2	57	1	0	0	0	3	0	6	5	59	1	134
17:15-17:20	2	57	0	2	0	0	8	0	5	1	60	1	136
17:20-17:25	5	50	0	0	0	0	3	0	4	1	59	0	122
17:25-17:30	3	55	0	0	0	0	1	0	4	2	61	0	126
17:30-17:35	1	53	0	0	0	0	5	0	1	2	61	0	123
17:35-17:40	3	43	0	0	0	1	0	0	5	2	61	0	115
17:40-17:45	7	57	0	0	0	0	3	0	4	0	51	0	122
17:45-17:50	3	50	0	0	0	0	2	0	4	2	53	0	114
17:50-17:55	2	53	0	0	0	0	4	0	7	2	48	0	116
17:55-18:00	4	44	0	0	0	0	7	0	1	3	53	0	112
Total Survey	96	1385	5	16	3	12	67	2	138	53	1414	10	3201
PHF	.78	.92	.5	.7	.5	.75	.58	.25	.78	.68	.89	.67	.932
% Trucks	0	1	0	0	0	0	0	0	.7	3.8	1.6	0	1.2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	4	0	0	1	0	0	0	0	0	4	0	
Hourly Totals													
16:00-17:00	54	733	4	12	3	10	29	1	86	28	722	7	1689
16:15-17:15	51	726	5	11	2	6	26	1	81	30	707	8	1654
16:30-17:30	50	707	3	10	1	6	37	1	75	27	692	8	1617
16:45-17:45	45	680	3	9	1	4	37	1	58	24	715	5	1582
17:00-18:00	42	652	1	4	0	2	38	1	52	25	692	3	1512

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
VIRGINIA @ CHANNEL



DATE OF COUNT: 08/20/02
DAY OF WEEK: TUE
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

V5CQ

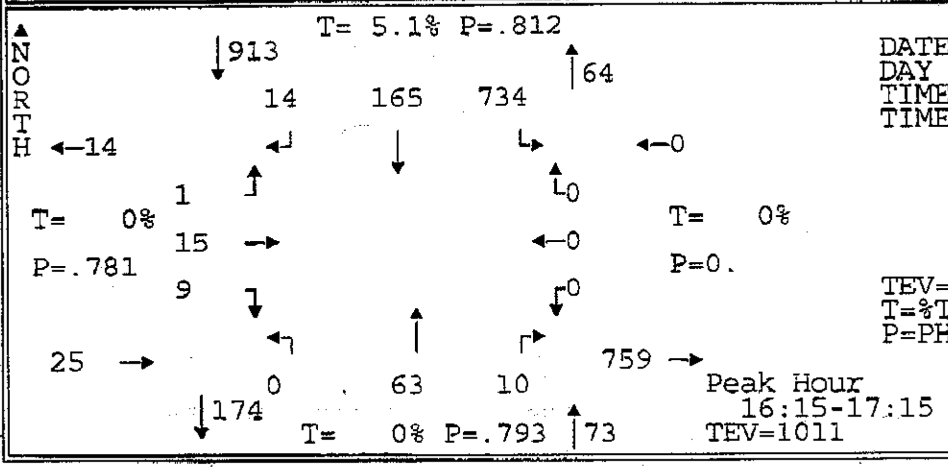
Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND			SOUTH BOUND			NORTH BOUND			WEST BOUND			ALL
	↓	→	↑	←	↓	→	←	↑	→	↓	←	↑	
16:00-16:05	0	6	0	1	0	1	0	0	0	0	12	1	21
16:05-16:10	0	7	0	0	0	1	0	0	0	0	5	0	13
16:10-16:15	0	4	0	0	0	0	0	0	0	0	19	1	24
16:15-16:20	0	7	0	0	0	0	0	0	0	0	13	0	20
16:20-16:25	0	7	0	1	0	0	0	0	0	0	7	0	15
16:25-16:30	0	5	1	1	0	1	0	0	0	0	9	0	17
16:30-16:35	0	3	0	0	0	0	0	0	0	0	7	0	10
16:35-16:40	0	6	0	1	0	0	0	0	0	0	12	1	20
16:40-16:45	0	4	0	2	0	0	0	0	0	0	5	2	13
16:45-16:50	0	11	0	1	0	0	0	0	0	0	8	0	20
16:50-16:55	0	10	0	1	0	0	0	0	0	0	11	2	24
16:55-17:00	0	4	0	1	0	0	0	0	0	0	14	0	19
17:00-17:05	0	3	0	1	0	1	0	0	0	0	10	2	17
17:05-17:10	0	6	0	0	0	0	0	0	0	0	7	1	14
17:10-17:15	1	5	0	1	0	1	0	0	0	0	11	0	19
17:15-17:20	0	8	0	0	0	3	0	0	0	0	13	0	24
17:20-17:25	0	11	3	0	0	0	0	0	0	0	12	0	26
17:25-17:30	0	9	2	2	0	1	0	0	0	0	18	1	33
17:30-17:35	0	4	0	2	0	0	0	0	0	0	9	1	16
17:35-17:40	0	5	0	0	0	0	0	0	0	0	9	1	15
17:40-17:45	0	5	0	0	0	1	0	0	0	0	12	0	18
17:45-17:50	0	10	0	0	0	0	0	0	0	0	16	4	30
17:50-17:55	0	7	2	1	0	0	0	0	0	0	8	1	19
17:55-18:00	0	4	0	0	0	0	0	0	0	0	14	1	19

Total Survey	1	151	8	16	0	10	0	0	0	0	261	19	466
PHF	.25	.71	.25	.5	0	.44	0	0	0	0	.83	.6	.768
% Trucks	0	1.3	12.5	0	0	0	0	0	0	0	1.5	0	1.5
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	6	0	

Hourly Totals													
16:00-17:00	0	74	1	9	0	3	0	0	0	0	122	7	216
16:15-17:15	1	71	1	10	0	3	0	0	0	0	114	8	208
16:30-17:30	1	80	5	10	0	6	0	0	0	0	128	9	239
16:45-17:45	1	81	5	9	0	7	0	0	0	0	134	8	245
17:00-18:00	1	77	7	7	0	7	0	0	0	0	139	12	250

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
HIGHWAY 101 SOUTHBOUND/SHERMAN AVENUE AT WASHINGTON STREET



DATE OF COUNT: 09/18/02
DAY OF WEEK: Wed
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

PMMN

Peak Hour
16:15-17:15
TEV=1011

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	→	↑	SOUTH BOUND ↲	↓	↳	NORTH BOUND ↰	↑	↱	WEST BOUND ↓	←	↑	ALL
16:00-16:05	0	3	1	1	12	69	0	5	0	0	0	0	91
16:05-16:10	3	0	0	2	10	62	0	6	0	0	0	0	83
16:10-16:15	2	1	0	0	11	59	0	3	0	0	0	0	76
16:15-16:20	1	0	0	0	18	57	0	5	0	0	0	0	81
16:20-16:25	0	1	0	2	9	55	0	9	0	0	0	0	76
16:25-16:30	0	3	0	2	12	51	0	5	1	0	0	0	74
16:30-16:35	2	1	0	3	8	55	0	5	1	0	0	0	75
16:35-16:40	1	0	1	1	2	70	0	1	0	0	0	0	76
16:40-16:45	2	0	0	1	12	54	0	4	0	0	0	0	73
16:45-16:50	0	1	0	2	15	60	0	8	1	0	0	0	87
16:50-16:55	0	3	0	1	11	57	0	6	1	0	0	0	79
16:55-17:00	1	1	0	1	20	55	0	3	0	0	0	0	81
17:00-17:05	0	3	0	0	19	90	0	2	3	0	0	0	117
17:05-17:10	1	1	0	1	25	70	0	8	1	0	0	0	107
17:10-17:15	1	1	0	0	14	60	0	7	2	0	0	0	85
17:15-17:20	2	3	0	1	14	48	0	3	1	0	0	0	72
17:20-17:25	0	2	0	1	7	40	0	7	2	0	0	0	59
17:25-17:30	0	3	0	0	16	60	0	5	1	0	0	0	85
17:30-17:35	1	1	0	3	8	40	0	8	0	0	0	0	61
17:35-17:40	1	0	0	2	9	55	0	3	0	0	0	0	70
17:40-17:45	1	2	0	1	17	53	0	3	0	0	0	0	77
17:45-17:50	1	0	0	1	16	47	0	7	0	0	0	0	72
17:50-17:55	0	1	0	0	7	56	0	9	0	0	0	0	73
17:55-18:00	0	0	0	2	8	45	0	6	0	0	0	0	61

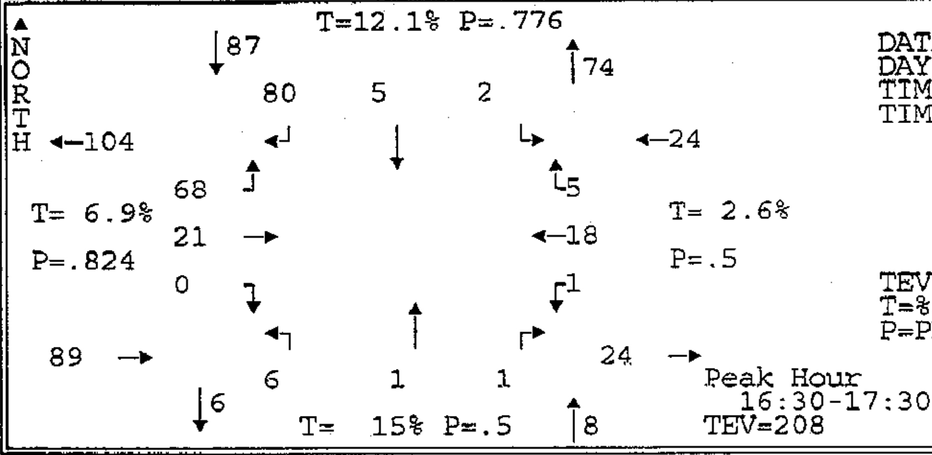
Washington St. | SB RT @ Wash. St. | SB RT onto Sherman | SB Thr onto 101SB | Eastbound on Sherman

Not used in Excel or Traffix

Total Survey	20	31	2	28	300	1368	0	128	14	0	0	0	1891
PHF	.45	.54	.25	.5	.64	.83	0	.83	.42	0	0	0	.817
% Trucks	0	0	0	0	.7	6.1	0	0	0	0	0	0	4.5
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	1	0	0	14	0	0	0	0	0	4	0	

Hourly Totals													
16:00-17:00	12	14	2	16	140	704	0	60	4	0	0	0	952
16:15-17:15	9	15	1	14	165	734	0	63	10	0	0	0	1011
16:30-17:30	10	19	1	12	163	719	0	59	13	0	0	0	996
16:45-17:45	8	21	0	13	175	688	0	63	12	0	0	0	980
17:00-18:00	8	17	0	12	160	664	0	68	10	0	0	0	939

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
BROADWAY AT LOCKHART



DATE OF COUNT: 09/18/02
DAY OF WEEK: Wed
TIME STARTED: 16:00
TIME ENDED: 18:00

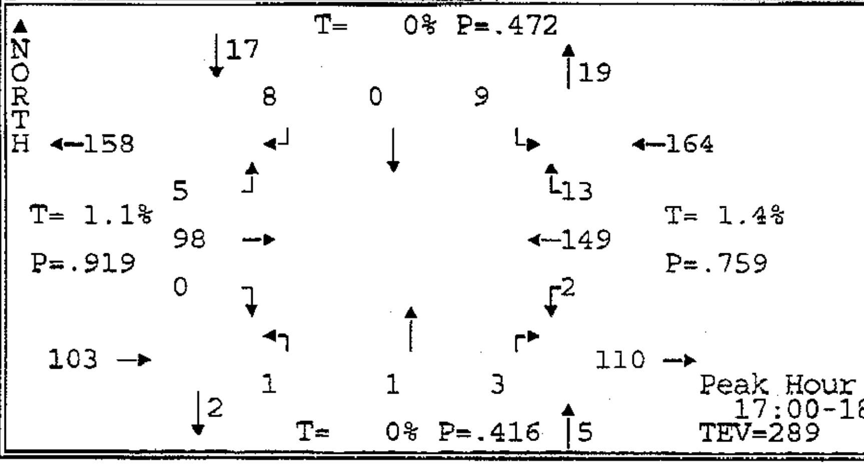
TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

PMMO

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ←	SOUTH BOUND ↓	SOUTH BOUND →	NORTH BOUND ←	NORTH BOUND ↑	NORTH BOUND →	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	0	1	3	5	2	1	2	1	0	0	0	1	16
16:05-16:10	1	0	2	6	0	0	0	0	0	0	1	0	10
16:10-16:15	1	3	3	6	1	0	2	0	0	0	2	1	19
16:15-16:20	0	0	2	12	1	1	2	2	0	0	1	1	22
16:20-16:25	1	1	4	9	0	0	0	1	0	0	1	0	17
16:25-16:30	0	0	5	3	0	0	0	0	1	0	1	0	10
16:30-16:35	0	4	4	11	2	0	2	0	0	0	6	1	30
16:35-16:40	0	1	5	7	0	1	2	0	0	0	4	0	20
16:40-16:45	0	1	3	7	0	0	0	0	0	0	1	0	12
16:45-16:50	0	3	3	3	1	0	0	0	0	0	0	2	12
16:50-16:55	0	3	5	6	0	0	0	0	1	0	1	0	16
16:55-17:00	0	2	4	5	0	0	0	0	0	0	1	1	13
17:00-17:05	0	1	6	6	0	0	0	0	0	0	1	0	14
17:05-17:10	0	3	3	7	1	0	0	1	0	1	0	0	16
17:10-17:15	0	1	11	10	0	0	0	0	0	0	2	0	24
17:15-17:20	0	0	9	5	1	1	1	0	0	0	0	0	17
17:20-17:25	0	0	6	8	0	0	1	0	0	0	2	0	17
17:25-17:30	0	2	9	5	0	0	0	0	0	0	0	1	17
17:30-17:35	0	0	3	2	0	0	0	0	0	0	1	1	7
17:35-17:40	0	4	2	1	1	1	0	0	0	0	0	0	9
17:40-17:45	0	1	2	6	0	0	0	1	0	0	0	0	10
17:45-17:50	0	2	7	8	0	0	0	0	0	0	0	0	17
17:50-17:55	0	1	4	6	0	0	0	0	0	0	3	0	14
17:55-18:00	0	0	3	5	1	0	0	0	0	0	1	0	10
Total Survey	3	34	108	149	11	5	12	6	2	1	29	9	369
PHF	0	.66	.65	.8	.63	.5	.38	.25	.25	.25	.41	.42	.838
% Trucks	0	8.8	6.5	11.4	18.2	20	25	0	0	0	0	11.1	9.2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	3	19	43	80	7	3	10	4	2	0	19	7	197
16:15-17:15	1	20	55	86	5	2	6	4	2	1	19	5	206
16:30-17:30	0	21	68	80	5	2	6	1	1	1	18	5	208
16:45-17:45	0	20	63	64	4	2	2	2	1	1	8	5	172
17:00-18:00	0	15	65	69	4	2	2	2	0	1	10	2	172

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
VIRGINIA AT ARTHUR



DATE OF COUNT: 09/18/02
DAY OF WEEK: Wed
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

PMMP

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↴	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	0	6	0	0	0	1	0	0	0	0	7	2	16
16:05-16:10	0	7	1	0	0	1	0	0	0	0	9	0	18
16:10-16:15	0	9	0	1	0	0	0	0	0	0	11	0	21
16:15-16:20	0	9	0	0	0	0	0	0	0	0	7	1	17
16:20-16:25	0	6	0	0	0	0	0	0	0	0	11	1	18
16:25-16:30	0	2	0	1	0	2	0	0	0	0	12	0	17
16:30-16:35	0	5	0	1	0	0	0	0	0	0	8	2	16
16:35-16:40	0	7	0	2	0	0	0	0	0	0	13	1	23
16:40-16:45	0	4	1	0	0	0	0	0	0	0	7	0	12
16:45-16:50	0	9	0	1	0	2	0	0	0	0	11	0	23
16:50-16:55	0	10	0	0	0	1	0	0	0	0	17	0	28
16:55-17:00	0	8	0	0	0	0	0	0	0	0	3	0	11
17:00-17:05	0	7	0	0	0	1	0	0	1	0	8	1	18
17:05-17:10	0	7	1	0	0	0	0	0	0	2	11	1	22
17:10-17:15	0	10	0	0	0	0	0	0	0	0	15	0	25
17:15-17:20	0	9	0	1	0	0	0	0	1	0	12	1	24
17:20-17:25	0	9	0	1	0	0	0	1	1	0	17	1	30
17:25-17:30	0	6	0	2	0	2	0	0	0	0	21	2	33
17:30-17:35	0	7	1	0	0	3	0	0	0	0	13	0	24
17:35-17:40	0	7	2	1	0	1	0	0	0	0	11	2	24
17:40-17:45	0	11	0	2	0	0	0	0	0	0	11	0	24
17:45-17:50	0	7	0	1	0	1	1	0	0	0	6	1	17
17:50-17:55	0	8	0	0	0	0	0	0	0	0	10	1	19
17:55-18:00	0	10	1	0	0	1	0	0	0	0	14	3	29
Total Survey	0	180	7	14	0	16	1	1	3	2	265	20	509
PHF	0	.88	.42	.5	0	.38	.25	.25	.38	.25	.73	.65	.830
% Trucks	0	1.1	0	0	0	0	0	0	0	0	1.5	0	1.2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	3	0	0	2	0	0	8	0	
Hourly Totals													
16:00-17:00	0	82	2	6	0	7	0	0	0	0	116	7	220
16:15-17:15	0	84	2	5	0	6	0	0	1	2	123	7	230
16:30-17:30	0	91	2	8	0	6	0	1	3	2	143	9	265
16:45-17:45	0	100	4	8	0	10	0	1	3	2	150	8	286
17:00-18:00	0	98	5	8	0	9	1	1	3	2	149	13	289

ROADWAY TRAFFIC SURVEY

Roadway: CENTRAL AVENUE
Location: WEST OF 10TH
Direction: WEST BOUND
Date: 8/13/2
Day of Week: TUESDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00- :05	:05- :10	:10- :15	:15- :20	:20- :25	:25- :30	:30- :35	:35- :40	:40- :45	:45- :50	:50- :55	:55- :00	Hour Tot.
00-01	1	3	1	3	3	1	1	2	1	1	2	1	20
01-02	5	0	1	0	0	0	1	9	4	3	1	6	30
02-03	2	2	1	2	2	1	1	1	1	1	2	5	21
03-04	2	4	1	0	0	0	0	0	0	1	1	0	9
04-05	4	2	1	2	2	2	5	4	5	4	1	3	35
05-06	6	0	5	1	11	2	5	8	9	8	11	3	69
06-07	7	9	4	8	8	19	14	12	20	24	28	15	168
07-08	23	13	19	17	27	22	22	32	36	51	55	34	351
08-09	35	26	33	34	40	34	43	46	50	48	40	42	471
09-10	28	33	51	55	35	43	27	45	47	48	52	54	518
10-11	45	45	50	57	55	40	50	47	48	47	51	61	596
11-12	70	69	68	60	47	56	43	57	51	60	49	61	691
12-13	70	68	65	59	58	74	61	40	49	61	58	66	729
13-14	49	59	56	58	68	58	53	63	52	45	45	61	667
14-15	61	49	55	36	67	47	51	58	45	54	44	52	619
15-16	43	55	52	59	46	49	61	65	54	60	51	42	637
16-17	51	51	51	47	48	52	52	48	44	47	54	64	609
17-18	63	65	55	51	57	51	53	53	44	52	54	41	639
18-19	39	48	44	43	38	29	35	30	27	39	32	29	433
19-20	32	34	42	24	24	20	35	31	23	20	25	25	335
20-21	21	15	14	8	14	18	25	19	25	26	23	17	225
21-22	22	21	11	19	18	25	17	12	17	12	17	10	201
22-23	17	11	10	8	6	9	13	5	10	4	9	5	107
23-24	5	9	8	7	9	11	4	3	3	5	3	3	70

Daily Total: 8250
AM Peak Hour (10:50-11:50) 693 — 8.4 % of Daily Total
PM Peak Hour (12:00-13:00) 729 — 8.84 % of Daily Total
4th Highest Hour (17:00-18:00)639 — 7.75 % of Daily Total
8th Highest Hour (10:00-11:00)596 — 7.22 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: CENTRAL AVENUE
Location: WEST OF 10TH
Direction: WEST BOUND
Date: 8/14/2
Day of Week: WEDNESDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00- :05	:05- :10	:10- :15	:15- :20	:20- :25	:25- :30	:30- :35	:35- :40	:40- :45	:45- :50	:50- :55	:55- :00	Hour Tot.
00-01	3	5	7	6	1	2	4	3	2	4	1	1	39
01-02	1	1	2	2	2	4	1	4	0	0	0	1	18
02-03	2	2	2	1	0	1	1	2	3	3	1	1	19
03-04	3	1	1	1	0	1	0	1	0	3	0	0	11
04-05	4	3	0	0	2	4	1	2	3	4	4	1	28
05-06	2	4	2	1	2	3	5	10	7	3	11	5	55
06-07	8	10	11	8	7	14	17	22	22	26	21	20	186
07-08	11	19	18	21	26	16	27	32	37	47	46	30	330
08-09	31	30	35	34	38	38	42	33	45	52	51	32	461
09-10	39	37	42	30	30	37	45	26	40	46	44	47	463
10-11	50	48	30	63	50	38	47	46	43	48	49	50	562
11-12	59	41	46	62	49	48	58	56	54	56	50	53	632
12-13	61	55	73	49	56	54	54	60	56	58	61	57	694
13-14	69	46	48	56	55	48	41	40	55	45	52	45	600
14-15	52	54	40	54	54	52	44	54	53	55	59	52	623
15-16	71	57	49	64	53	62	50	66	73	59	68	54	726
16-17	55	51	45	42	43	56	50	49	46	51	63	62	613
17-18	65	69	60	56	54	48	38	57	44	54	42	41	628
18-19	46	43	39	38	46	31	28	37	36	43	30	29	446
19-20	45	45	34	33	28	26	14	27	28	24	29	22	355
20-21	30	20	21	21	16	17	16	25	27	25	17	20	255
21-22	21	14	23	22	19	14	17	21	14	20	13	11	209
22-23	8	8	14	14	7	8	11	8	10	2	2	6	98
23-24	2	6	5	10	10	5	6	1	5	3	3	5	61

Daily Total: 8112
AM Peak Hour (11:00-12:00) 632 — 7.79 % of Daily Total
PM Peak Hour (15:00-16:00) 726 — 8.95 % of Daily Total
4th Highest Hour (17:00-18:00)628 — 7.74 % of Daily Total
8th Highest Hour (10:00-11:00)562 — 6.93 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: CENTRAL AVENUE
Location: WEST OF 10TH
Direction: WEST BOUND
Date: 8/15/2
Day of Week: THURSDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00- :05	:05- :10	:10- :15	:15- :20	:20- :25	:25- :30	:30- :35	:35- :40	:40- :45	:45- :50	:50- :55	:55- :00	Hour Tot.
00-01	4	3	2	3	7	3	4	3	2	1	1	1	34
01-02	0	4	2	1	1	2	1	3	3	3	0	1	21
02-03	3	1	1	3	2	2	1	0	0	3	3	3	22
03-04	0	2	0	1	2	2	1	2	2	2	0	0	14
04-05	1	1	0	1	3	1	4	2	5	8	3	1	30
05-06	3	0	5	6	4	1	5	7	7	4	10	7	59
06-07	7	9	3	12	19	9	13	20	21	16	26	20	175
07-08	11	15	17	19	28	20	26	32	49	61	49	41	368
08-09	40	33	36	25	34	35	43	40	35	42	48	28	439
09-10	53	44	35	47	31	41	31	41	32	37	43	41	476
10-11	50	36	39	51	35	34	39	41	65	51	43	48	532
11-12	61	47	46	47	58	52	46	61	63	64	70	52	667
12-13	66	63	63	51	47	49	46	56	56	65	53	63	678
13-14	48	63	55	64	58	43	63	49	38	61	57	58	657
14-15	79	54	46	46	54	61	57	60	50	50	63	75	695
15-16	38	64	36	72	61	64	72	57	40	46	53	61	664
16-17	59	48	62	41	44	53	54	47	53	53	60	48	622
17-18	62	68	74	51	66	48	56	64	61	44	41	38	673
18-19	45	42	41	35	28	32	32	25	41	29	35	32	417
19-20	39	40	34	30	30	19	19	26	27	34	26	31	355
20-21	24	25	21	27	19	16	27	15	24	15	24	19	256
21-22	26	30	14	19	18	16	11	17	16	7	11	9	194
22-23	11	9	14	15	5	10	9	13	12	5	8	13	124
23-24	11	6	10	6	6	12	7	5	5	7	4	2	81

Daily Total: 8253
AM Peak Hour (11:00-12:00) 667 — 8.08 % of Daily Total
PM Peak Hour (16:45-17:45) 711 — 8.62 % of Daily Total
4th Highest Hour (11:00-12:00)667 — 8.08 % of Daily Total
8th Highest Hour (10:00-11:00)532 — 6.45 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: CENTRAL AVENUE
Location: WEST OF 10TH
Direction: EAST BOUND
Date: 8/13/2
Day of Week: TUESDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00-:05	:05-:10	:10-:15	:15-:20	:20-:25	:25-:30	:30-:35	:35-:40	:40-:45	:45-:50	:50-:55	:55-:00	Hour Tot.
00-01	5	4	5	3	1	4	1	2	1	0	0	2	28
01-02	3	3	0	2	4	5	4	3	0	4	1	1	30
02-03	2	4	3	1	4	2	2	2	5	3	1	0	29
03-04	2	0	2	1	2	0	2	1	2	3	5	2	22
04-05	3	8	3	4	5	4	8	6	5	5	3	5	59
05-06	14	6	15	5	6	8	7	8	6	9	8	11	103
06-07	8	16	7	29	13	15	14	17	21	16	19	23	198
07-08	19	17	26	21	28	31	28	48	47	46	47	53	411
08-09	35	37	32	43	23	33	40	30	56	42	37	47	455
09-10	32	35	39	31	34	36	41	41	50	68	48	48	503
10-11	41	39	38	52	41	53	63	43	49	40	34	45	538
11-12	43	48	46	61	57	41	57	61	59	57	58	56	644
12-13	43	54	53	55	52	64	49	53	57	55	55	68	658
13-14	69	59	62	72	43	54	45	43	40	45	49	43	624
14-15	60	48	56	48	52	53	47	64	54	58	53	67	660
15-16	56	56	56	60	63	58	50	55	46	57	47	53	657
16-17	58	57	60	56	53	59	58	50	59	50	54	36	650
17-18	59	73	61	45	49	46	53	45	38	32	50	47	598
18-19	55	33	29	52	37	27	42	26	37	32	29	32	431
19-20	36	37	26	32	27	20	29	24	31	25	24	23	334
20-21	34	29	17	20	19	23	16	18	26	24	20	21	267
21-22	24	19	16	21	17	17	17	11	14	15	16	11	198
22-23	14	6	6	8	9	8	4	10	7	6	9	6	93
23-24	6	12	3	4	8	7	7	8	8	0	3	3	69

Daily Total: 8259
AM Peak Hour (11:00-12:00) 644 — 7.8 % of Daily Total
PM Peak Hour (12:20-13:20) 715 — 8.66 % of Daily Total
4th Highest Hour (16:00-17:00) 650 — 7.87 % of Daily Total
8th Highest Hour (10:00-11:00) 538 — 6.51 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: CENTRAL AVENUE
Location: WEST OF 10TH
Direction: EAST BOUND
Date: 8/14/2
Day of Week: WEDNESDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00- :05	:05- :10	:10- :15	:15- :20	:20- :25	:25- :30	:30- :35	:35- :40	:40- :45	:45- :50	:50- :55	:55- :00	Hour Tot.
00-01	0	4	1	2	1	5	3	2	3	6	1	5	33
01-02	1	3	4	1	2	1	1	4	2	0	3	0	22
02-03	3	2	2	4	2	2	3	5	0	3	0	1	27
03-04	0	0	1	2	0	2	3	2	3	1	7	2	23
04-05	2	1	3	7	6	5	3	9	5	8	3	2	54
05-06	13	6	9	8	9	6	5	8	5	6	7	6	88
06-07	8	14	16	17	17	19	17	14	15	14	22	20	193
07-08	15	23	15	25	30	31	26	35	49	54	49	47	399
08-09	37	37	39	29	28	40	41	36	54	53	46	36	476
09-10	34	37	35	37	41	42	43	38	46	41	34	41	469
10-11	37	42	36	39	52	63	37	46	62	49	33	50	546
11-12	41	60	40	55	60	59	60	61	58	64	52	63	673
12-13	57	51	58	68	59	53	60	59	52	65	60	59	701
13-14	58	55	45	45	46	45	48	56	63	60	61	53	635
14-15	53	48	52	55	51	51	45	59	71	58	55	62	660
15-16	44	58	65	47	44	59	59	62	56	59	51	52	656
16-17	40	71	60	43	47	63	57	62	55	49	47	42	636
17-18	69	62	59	58	58	57	49	54	51	54	44	42	657
18-19	53	28	45	33	40	30	44	35	30	47	43	44	472
19-20	32	29	21	31	13	17	25	29	31	28	27	26	309
20-21	28	30	18	19	16	30	26	14	19	20	26	13	259
21-22	25	15	19	25	8	7	11	12	13	10	10	17	172
22-23	9	11	17	8	6	3	6	14	9	9	4	5	101
23-24	9	8	2	3	8	9	4	5	1	5	2	5	61

Daily Total: 8322

AM Peak Hour (11:00-12:00)	673	8.09 % of Daily Total
PM Peak Hour (12:10-13:10)	706	8.48 % of Daily Total
4th Highest Hour (17:00-18:00)	657	7.89 % of Daily Total
8th Highest Hour (10:00-11:00)	546	6.56 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: CENTRAL AVENUE
Location: WEST OF 10TH
Direction: EAST BOUND
Date: 8/15/2
Day of Week: THURSDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00- :05	:05- :10	:10- :15	:15- :20	:20- :25	:25- :30	:30- :35	:35- :40	:40- :45	:45- :50	:50- :55	:55- :00	Hour Tot.
00-01	6	1	4	4	1	2	2	3	1	4	4	1	33
01-02	3	4	1	2	1	2	0	1	1	2	2	2	21
02-03	3	7	4	1	3	0	1	3	4	1	0	2	29
03-04	2	0	2	1	2	1	3	4	4	2	3	2	26
04-05	2	7	4	2	1	5	11	5	3	4	12	5	61
05-06	13	4	6	8	7	7	7	3	4	9	6	11	85
06-07	10	12	14	23	16	18	13	12	18	20	16	24	196
07-08	17	20	18	27	24	34	23	46	52	50	46	37	394
08-09	39	34	36	27	39	31	28	51	45	53	34	37	454
09-10	19	41	47	31	34	45	31	39	45	51	42	43	468
10-11	56	34	41	40	54	48	55	44	44	62	46	46	570
11-12	40	46	37	62	67	55	70	55	63	51	76	56	678
12-13	57	52	61	53	54	46	48	49	47	68	70	62	667
13-14	58	38	54	52	45	44	46	63	65	63	67	58	653
14-15	50	57	56	62	54	64	60	60	66	50	57	44	680
15-16	44	57	56	51	59	52	64	67	55	60	44	63	672
16-17	63	71	56	64	57	44	49	46	58	52	37	68	665
17-18	52	51	64	54	39	46	67	45	40	41	35	37	571
18-19	48	43	33	37	34	45	31	30	37	42	45	21	446
19-20	33	26	34	30	23	29	25	28	22	29	21	18	318
20-21	27	21	22	18	22	17	26	23	12	20	17	17	242
21-22	19	17	15	13	21	15	12	20	13	7	18	9	179
22-23	15	12	11	16	15	15	9	5	9	6	2	9	124
23-24	3	5	7	2	7	5	4	7	3	1	4	4	52

Daily Total: 8284
AM Peak Hour (11:00-12:00) 678 8.18 % of Daily Total
PM Peak Hour (13:35-14:35) 719 8.68 % of Daily Total
4th Highest Hour (12:00-13:00)667 8.05 % of Daily Total
8th Highest Hour (10:00-11:00)570 6.88 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: VIRGINIA AVENUE
Location: WEST OF HARRISON
Direction: WEST BOUND
Date: 8/13/2
Day of Week: TUESDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00- :05	:05- :10	:10- :15	:15- :20	:20- :25	:25- :30	:30- :35	:35- :40	:40- :45	:45- :50	:50- :55	:55- :00	Hour Tot.
00-01	8	4	3	4	5	4	10	8	3	6	5	3	63
01-02	2	1	6	3	2	1	7	0	5	2	1	1	31
02-03	9	3	1	1	0	2	2	2	2	1	3	7	33
03-04	2	4	1	0	1	2	5	9	1	4	6	7	42
04-05	6	4	2	2	4	4	5	3	7	3	8	3	51
05-06	3	6	3	3	9	3	7	10	11	9	7	11	82
06-07	16	13	10	12	6	19	23	23	33	22	25	21	223
07-08	24	31	24	37	36	42	48	52	63	66	35	34	492
08-09	43	53	38	36	42	45	59	53	46	72	51	56	594
09-10	31	45	39	54	47	55	57	69	56	52	49	56	610
10-11	50	69	45	52	77	68	47	50	90	66	75	72	761
11-12	69	80	82	61	79	63	65	77	80	80	69	86	891
12-13	86	100	92	83	71	84	73	79	80	61	80	81	970
13-14	71	72	72	63	92	70	67	48	52	66	70	79	822
14-15	58	54	83	65	62	78	75	66	68	65	76	60	810
15-16	73	77	63	75	70	64	68	73	67	65	67	82	844
16-17	84	80	68	77	69	78	84	62	83	70	70	77	902
17-18	86	81	63	67	63	69	67	56	61	61	59	67	800
18-19	50	58	52	46	48	63	57	55	48	56	33	48	614
19-20	51	35	40	40	30	37	37	33	36	37	40	37	453
20-21	38	29	40	31	24	43	38	35	29	31	21	28	387
21-22	26	33	45	33	38	37	30	30	29	30	22	9	362
22-23	18	15	15	25	17	20	15	16	19	13	10	15	198
23-24	8	14	14	8	7	18	9	9	11	10	5	4	117

Daily Total: 11152
AM Peak Hour (11:00-12:00) 891 — 7.99 % of Daily Total
PM Peak Hour (12:00-13:00) 970 — 8.7 % of Daily Total
4th Highest Hour (15:00-16:00)844 — 7.57 % of Daily Total
8th Highest Hour (10:00-11:00)761 — 6.82 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: VIRGINIA AVENUE
Location: WEST OF HARRISON
Direction: WEST BOUND
Date: 8/14/2
Day of Week: WEDNESDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00- :05	:05- :10	:10- :15	:15- :20	:20- :25	:25- :30	:30- :35	:35- :40	:40- :45	:45- :50	:50- :55	:55- :00	Hour Tot.
00-01	3	2	8	2	4	8	4	7	3	4	7	5	57
01-02	4	2	2	3	7	3	2	1	2	2	3	2	33
02-03	1	2	5	5	4	2	0	3	1	5	1	6	35
03-04	1	1	5	3	1	6	4	5	7	5	2	8	48
04-05	7	5	5	4	2	5	2	3	8	6	9	1	57
05-06	5	6	6	7	5	5	3	5	9	13	2	13	79
06-07	11	6	11	7	14	25	25	21	39	27	27	22	235
07-08	24	27	27	33	39	45	39	57	53	65	60	40	509
08-09	28	37	58	49	42	48	46	51	55	47	45	30	536
09-10	35	55	47	36	54	61	49	49	66	57	50	57	616
10-11	49	58	61	47	67	55	84	73	70	66	71	70	771
11-12	55	66	54	71	68	74	70	80	69	88	70	82	847
12-13	101	79	81	81	81	95	83	63	83	80	59	70	956
13-14	78	85	80	87	78	96	68	77	83	66	64	64	926
14-15	57	97	64	73	71	80	62	71	62	84	95	67	883
15-16	67	61	76	83	67	64	71	79	71	78	80	77	874
16-17	83	71	69	74	67	83	69	73	64	83	80	86	902
17-18	82	95	80	66	69	73	71	63	75	68	76	54	872
18-19	69	67	46	45	51	45	44	58	70	44	48	38	625
19-20	51	37	43	40	32	29	27	34	33	33	45	41	445
20-21	38	50	28	33	40	34	39	45	34	38	32	22	433
21-22	22	28	36	37	34	21	20	29	31	19	16	19	312
22-23	18	17	18	15	10	18	12	10	9	12	14	11	164
23-24	14	17	3	8	14	14	2	7	7	12	8	7	113

Daily Total: 11328
AM Peak Hour (11:00-12:00) 847 7.48 % of Daily Total
PM Peak Hour (12:00-13:00) 956 8.44 % of Daily Total
4th Highest Hour (14:00-15:00)883 7.79 % of Daily Total
8th Highest Hour (10:00-11:00)771 6.81 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: VIRGINIA AVENUE
Location: WEST OF HARRISON
Direction: WEST BOUND
Date: 8/15/2
Day of Week: THURSDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00- :05	:05- :10	:10- :15	:15- :20	:20- :25	:25- :30	:30- :35	:35- :40	:40- :45	:45- :50	:50- :55	:55- :00	Hour Tot.
00-01	4	6	7	6	4	8	6	7	4	5	7	2	66
01-02	7	5	2	4	4	3	2	2	4	7	1	0	41
02-03	1	3	6	0	0	2	2	3	1	1	2	3	24
03-04	0	4	2	1	1	4	8	5	8	9	5	4	51
04-05	8	6	10	6	8	5	3	6	2	7	8	4	73
05-06	2	6	6	5	4	3	7	6	10	14	6	11	80
06-07	9	11	19	7	19	22	16	29	42	32	33	23	262
07-08	24	27	28	33	37	30	49	65	52	46	61	38	490
08-09	36	35	40	48	48	35	38	59	48	60	39	56	542
09-10	47	47	47	52	48	52	48	65	51	65	63	41	626
10-11	59	47	57	53	54	47	68	57	69	66	67	68	712
11-12	69	77	60	62	71	48	75	76	75	76	82	89	860
12-13	83	81	83	91	69	72	60	85	76	95	78	81	954
13-14	85	83	75	83	76	85	76	73	84	87	49	93	949
14-15	86	73	85	82	68	79	65	78	68	66	77	62	889
15-16	74	77	76	72	72	64	82	74	89	90	61	89	920
16-17	85	74	83	86	75	53	71	78	70	72	82	85	914
17-18	87	72	81	76	60	77	81	61	62	63	67	65	852
18-19	74	52	43	52	48	41	55	57	44	44	43	29	582
19-20	27	31	36	37	39	29	27	34	32	35	49	25	401
20-21	34	41	35	38	41	41	37	39	35	38	22	38	439
21-22	26	32	22	23	25	23	19	22	18	21	18	11	260
22-23	17	15	18	20	9	16	19	11	11	10	6	19	171
23-24	7	5	19	11	10	10	3	14	10	8	12	7	116

Daily Total: 11274
AM Peak Hour (11:00-12:00) 860 — 7.63 % of Daily Total
PM Peak Hour (12:35-13:35) 978 — 8.67 % of Daily Total
4th Highest Hour (16:00-17:00) 914 — 8.11 % of Daily Total
8th Highest Hour (10:00-11:00) 712 — 6.32 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: VIRGINIA AVENUE
Location: WEST OF HARRISON
Direction: EAST BOUND
Date: 8/13/2
Day of Week: TUESDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00- :05	:05- :10	:10- :15	:15- :20	:20- :25	:25- :30	:30- :35	:35- :40	:40- :45	:45- :50	:50- :55	:55- :00	Hour Tot.
00-01	3	7	6	5	5	0	3	2	2	1	1	5	40
01-02	3	3	0	6	3	3	3	5	0	0	5	0	31
02-03	3	3	3	2	1	3	0	5	2	2	1	1	26
03-04	0	2	1	1	0	2	1	5	1	2	2	4	21
04-05	6	5	4	2	0	4	4	3	2	5	9	8	52
05-06	5	7	8	11	10	5	13	10	10	15	5	10	109
06-07	5	21	11	13	21	11	17	27	20	25	13	23	207
07-08	23	19	32	27	36	36	37	42	37	57	57	40	443
08-09	28	26	40	37	38	35	41	37	48	53	36	49	468
09-10	38	44	48	30	38	41	51	46	51	48	53	55	543
10-11	53	46	43	58	60	57	67	56	66	62	59	65	692
11-12	64	62	65	63	49	70	82	72	80	68	69	80	824
12-13	74	75	67	65	70	73	88	89	84	63	76	79	903
13-14	74	81	68	68	56	79	70	70	74	60	67	70	837
14-15	70	62	59	60	79	66	70	74	70	55	77	64	806
15-16	77	79	62	52	62	66	74	81	59	67	68	59	806
16-17	83	85	89	84	93	74	68	78	66	74	61	81	936
17-18	64	85	83	75	77	74	58	48	55	52	61	58	790
18-19	55	51	57	49	59	63	59	57	52	43	62	48	655
19-20	32	32	41	32	40	45	52	42	54	38	28	43	479
20-21	44	40	45	39	36	29	30	25	30	24	32	36	410
21-22	23	26	35	33	16	27	17	20	22	29	23	18	289
22-23	16	24	25	18	20	17	16	15	10	10	6	11	188
23-24	21	11	5	12	7	6	12	8	10	6	4	10	112

Daily Total: 10667
AM Peak Hour (11:00-12:00) 824 — 7.72 % of Daily Total
PM Peak Hour (16:00-17:00) 936 — 8.77 % of Daily Total
4th Highest Hour (11:00-12:00) 824 — 7.72 % of Daily Total
8th Highest Hour (10:00-11:00) 692 — 6.49 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: VIRGINIA AVENUE
Location: WEST OF HARRISON
Direction: EAST BOUND
Date: 8/14/2
Day of Week: WEDNESDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00-:05	:05-:10	:10-:15	:15-:20	:20-:25	:25-:30	:30-:35	:35-:40	:40-:45	:45-:50	:50-:55	:55-:00	Hour Tot.
00-01	3	8	7	5	2	5	4	3	4	1	3	1	46
01-02	3	4	3	5	0	1	3	4	2	3	1	3	32
02-03	4	1	2	0	1	3	2	0	2	4	2	2	23
03-04	1	1	0	2	1	3	4	4	5	1	4	3	29
04-05	4	3	4	3	4	3	4	7	6	5	4	2	49
05-06	7	12	8	6	12	6	11	14	18	10	12	8	124
06-07	13	15	10	12	16	15	16	16	24	20	22	20	199
07-08	26	23	25	35	31	29	44	48	36	49	44	44	434
08-09	42	42	53	29	34	44	41	44	44	42	56	46	517
09-10	48	39	31	46	46	53	31	43	51	46	56	49	539
10-11	44	50	48	46	59	48	57	65	59	69	49	62	656
11-12	61	63	64	68	59	73	67	70	55	75	67	72	794
12-13	84	63	48	67	80	74	91	72	86	72	88	86	911
13-14	74	77	76	73	94	72	69	74	69	70	59	56	863
14-15	69	77	54	59	59	64	66	75	71	67	70	83	814
15-16	69	74	56	65	73	82	66	67	63	71	84	75	845
16-17	76	68	96	77	78	66	75	73	77	71	84	73	914
17-18	64	75	71	73	63	62	74	67	70	84	42	52	797
18-19	59	52	61	62	68	56	47	55	51	45	36	34	626
19-20	44	51	39	46	40	38	39	31	53	41	28	29	479
20-21	45	44	38	35	34	39	36	22	39	34	16	28	410
21-22	42	36	33	36	19	16	11	20	25	20	19	21	298
22-23	21	28	20	22	25	7	8	13	10	9	7	14	184
23-24	20	6	13	14	6	9	7	10	9	4	3	4	105

Daily Total: 10688
AM Peak Hour (11:00-12:00) 794 — 7.43 % of Daily Total
PM Peak Hour (12:25-13:25) 963 — 9.01 % of Daily Total
4th Highest Hour (15:00-16:00)845 — 7.91 % of Daily Total
8th Highest Hour (10:00-11:00)656 — 6.14 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: VIRGINIA AVENUE
Location: WEST OF HARRISON
Direction: EAST BOUND
Date: 8/15/2
Day of Week: THURSDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00- :05	:05- :10	:10- :15	:15- :20	:20- :25	:25- :30	:30- :35	:35- :40	:40- :45	:45- :50	:50- :55	:55- :00	Hour Tot.
00-01	9	8	7	5	4	4	4	12	3	7	6	2	71
01-02	5	1	9	3	2	6	1	6	4	3	5	3	48
02-03	2	1	1	3	2	0	4	0	2	3	2	0	20
03-04	2	3	0	0	4	3	1	4	1	2	3	2	25
04-05	5	5	5	5	7	6	7	0	4	5	4	4	57
05-06	9	11	11	11	8	11	8	6	7	16	13	14	125
06-07	8	8	22	11	15	18	13	30	21	22	25	31	224
07-08	30	37	33	15	28	36	34	33	36	47	54	49	432
08-09	54	46	38	36	47	35	38	51	38	51	40	41	515
09-10	47	52	40	51	36	42	57	44	43	51	61	52	576
10-11	42	37	58	51	43	59	59	59	58	58	52	69	645
11-12	78	70	60	62	79	68	73	61	60	78	70	59	818
12-13	65	67	78	76	84	77	78	91	69	78	81	76	920
13-14	71	82	71	78	79	78	82	66	75	68	79	86	915
14-15	74	69	74	64	58	63	89	74	74	61	70	85	855
15-16	77	81	77	84	71	71	68	75	88	67	71	76	906
16-17	79	89	82	75	72	72	93	82	68	73	69	78	932
17-18	81	83	82	77	52	65	65	70	72	69	63	52	831
18-19	78	43	71	61	48	48	47	52	46	37	51	41	623
19-20	43	40	45	36	46	40	25	42	45	44	33	41	480
20-21	37	33	38	40	44	40	39	38	33	20	33	28	423
21-22	32	34	21	20	24	31	23	30	21	16	25	14	291
22-23	21	17	25	26	20	15	17	6	9	12	11	6	185
23-24	4	22	14	10	4	9	9	11	9	6	8	13	119

Daily Total: 11036
AM Peak Hour (10:55-11:55) 828 — 7.5 % of Daily Total
PM Peak Hour (15:40-16:40) 946 — 8.57 % of Daily Total
4th Highest Hour (15:00-16:00)906 — 8.21 % of Daily Total
8th Highest Hour (10:00-11:00)645 — 5.84 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: EMPIRE BLVD
Location: SOUTH OF NEWMARK
Direction: NORTH BOUND
Date: 8/13/2
Day of Week: TUESDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00- :05	:05- :10	:10- :15	:15- :20	:20- :25	:25- :30	:30- :35	:35- :40	:40- :45	:45- :50	:50- :55	:55- :00	Hour Tot.
00-01	3	3	1	3	4	4	3	2	3	0	2	2	30
01-02	2	0	1	0	2	2	0	1	1	1	3	0	13
02-03	2	1	0	1	2	1	2	2	1	1	1	2	16
03-04	1	1	0	0	1	2	5	0	2	5	0	2	19
04-05	0	0	2	3	3	4	5	3	3	2	1	2	28
05-06	3	5	2	5	7	11	8	10	5	13	7	7	83
06-07	10	16	11	11	15	12	17	16	15	16	20	15	174
07-08	15	12	23	19	14	28	37	23	34	41	41	26	313
08-09	30	23	23	36	26	33	17	27	26	37	24	23	325
09-10	25	24	34	31	26	45	27	39	40	33	23	34	381
10-11	28	27	42	33	41	29	45	35	39	36	28	37	420
11-12	22	42	44	38	38	26	44	36	58	36	33	40	457
12-13	41	38	41	26	32	37	47	44	46	41	39	57	489
13-14	39	34	39	44	50	41	44	38	54	57	35	41	516
14-15	43	56	37	54	51	37	44	37	54	41	51	30	535
15-16	43	45	54	48	39	44	54	52	36	44	56	51	566
16-17	32	42	43	39	44	59	48	48	39	25	30	31	480
17-18	40	43	44	32	46	47	43	33	24	30	30	47	459
18-19	39	41	36	21	34	33	32	28	41	20	33	31	389
19-20	27	28	36	27	21	23	32	35	28	16	20	27	320
20-21	22	23	22	28	18	16	26	21	31	30	31	23	291
21-22	15	17	26	21	16	5	18	18	10	15	13	7	181
22-23	7	6	8	16	9	2	2	14	6	7	4	6	87
23-24	6	10	6	5	4	3	4	7	6	4	2	2	59

Daily Total: 6631
AM Peak Hour (11:00-12:00) 457 — 6.89 % of Daily Total
PM Peak Hour (15:00-16:00) 566 — 8.54 % of Daily Total
4th Highest Hour (12:00-13:00)489 — 7.37 % of Daily Total
8th Highest Hour (10:00-11:00)420 — 6.33 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: EMPIRE BLVD
Location: SOUTH OF NEWMARK
Direction: NORTH BOUND
Date: 8/14/2
Day of Week: WEDNESDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00- :05	:05- :10	:10- :15	:15- :20	:20- :25	:25- :30	:30- :35	:35- :40	:40- :45	:45- :50	:50- :55	:55- :00	Hour Tot.
00-01	1	6	5	1	4	4	3	0	5	3	3	1	36
01-02	4	5	0	2	1	1	0	1	1	2	2	2	21
02-03	0	2	2	1	1	0	3	3	3	1	1	0	17
03-04	1	1	3	0	2	1	1	0	0	2	4	2	17
04-05	2	2	0	1	5	3	6	6	2	5	4	2	38
05-06	5	4	3	8	1	5	17	9	7	9	6	6	80
06-07	12	7	14	9	12	16	15	14	13	18	17	9	156
07-08	15	19	14	15	26	21	41	28	33	31	35	30	308
08-09	25	25	29	34	25	28	30	39	29	27	30	33	354
09-10	23	37	40	33	25	39	36	43	37	29	22	35	399
10-11	34	23	35	33	34	31	43	53	38	31	36	39	430
11-12	39	37	34	42	33	44	48	43	48	51	48	32	499
12-13	47	54	37	37	37	40	40	46	41	44	43	30	496
13-14	42	31	35	44	48	37	49	51	34	40	27	38	476
14-15	45	46	48	36	42	46	33	39	67	44	26	66	538
15-16	41	35	44	42	39	33	49	47	45	51	37	34	497
16-17	54	39	34	47	27	39	37	43	50	31	17	49	467
17-18	49	47	33	35	45	27	34	22	44	32	26	25	419
18-19	32	26	29	25	33	24	31	25	32	35	27	21	340
19-20	21	30	25	28	33	25	19	20	27	24	19	19	290
20-21	25	21	23	12	24	25	12	18	17	18	15	19	229
21-22	11	11	18	12	9	19	10	19	9	6	11	11	146
22-23	13	10	6	5	6	7	7	6	3	7	13	4	87
23-24	5	6	2	5	5	5	4	5	2	4	3	2	48

Daily Total: 6388
AM Peak Hour (10:55-11:55) 506 — 7.92 % of Daily Total
PM Peak Hour (14:00-15:00) 538 — 8.42 % of Daily Total
4th Highest Hour (12:00-13:00)496 — 7.76 % of Daily Total
8th Highest Hour (17:00-18:00)419 — 6.56 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: EMPIRE BLVD
Location: SOUTH OF NEWMARK
Direction: NORTH BOUND
Date: 8/15/2
Day of Week: THURSDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00- :05	:05- :10	:10- :15	:15- :20	:20- :25	:25- :30	:30- :35	:35- :40	:40- :45	:45- :50	:50- :55	:55- :00	Hour Tot.
00-01	4	2	5	2	1	1	0	1	3	0	0	4	23
01-02	2	1	2	2	1	1	0	1	0	1	1	1	13
02-03	3	1	4	1	0	0	4	2	0	0	1	1	17
03-04	0	3	2	3	2	1	3	2	3	3	2	0	24
04-05	1	1	1	2	1	6	7	4	3	3	2	3	34
05-06	4	5	3	5	4	6	10	9	3	7	6	4	66
06-07	10	16	9	11	11	18	21	13	18	13	13	12	165
07-08	15	17	25	15	15	25	25	51	33	41	41	33	336
08-09	20	35	34	23	23	21	38	21	31	38	34	24	342
09-10	33	28	32	21	43	29	29	31	34	31	37	30	378
10-11	54	22	31	41	48	41	38	41	32	33	33	33	447
11-12	41	45	56	48	43	45	40	35	51	52	50	34	540
12-13	44	32	46	29	31	30	49	55	45	45	30	50	486
13-14	40	57	41	43	46	24	44	49	51	33	38	29	495
14-15	38	49	47	44	44	48	38	42	33	48	44	22	497
15-16	44	30	45	44	39	52	43	35	44	26	43	48	493
16-17	53	46	32	53	29	31	37	40	39	34	37	49	480
17-18	43	32	46	39	30	33	46	36	29	31	28	27	420
18-19	42	36	27	24	25	27	25	28	32	23	31	19	339
19-20	30	22	19	21	24	29	28	21	14	27	18	21	274
20-21	19	24	14	19	15	19	21	13	15	18	14	19	210
21-22	21	23	10	16	19	17	14	9	13	19	10	9	180
22-23	8	8	7	12	5	9	12	8	4	2	5	3	83
23-24	5	6	5	7	4	3	5	2	4	7	3	5	56

Daily Total: 6398
AM Peak Hour (11:00-12:00) 540 — 8.44 % of Daily Total
PM Peak Hour (12:25-13:25) 531 — 8.3 % of Daily Total
4th Highest Hour (15:00-16:00)493 — 7.71 % of Daily Total
8th Highest Hour (17:00-18:00)420 — 6.56 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: EMPIRE BLVD
Location: SOUTH OF NEWMARK
Direction: SOUTH BOUND
Date: 8/13/2
Day of Week: TUESDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00-:05	:05-:10	:10-:15	:15-:20	:20-:25	:25-:30	:30-:35	:35-:40	:40-:45	:45-:50	:50-:55	:55-:00	Hour Tot.
00-01	8	5	4	2	4	4	2	2	3	2	2	2	40
01-02	1	3	1	1	4	1	3	1	3	4	2	3	27
02-03	0	6	2	1	1	3	1	1	1	2	0	2	20
03-04	2	1	1	1	0	1	2	1	4	2	2	2	19
04-05	1	1	2	0	2	2	0	1	1	0	1	2	13
05-06	3	2	7	6	6	5	6	1	8	4	3	3	54
06-07	7	3	7	2	4	10	5	9	5	9	6	7	74
07-08	14	8	8	12	13	8	14	17	20	15	21	9	159
08-09	20	17	18	19	17	17	12	13	18	24	17	25	217
09-10	20	16	19	28	19	22	24	32	32	33	34	26	305
10-11	29	30	23	32	31	34	36	36	28	27	41	41	388
11-12	45	41	44	50	47	37	44	27	40	43	41	43	502
12-13	55	52	43	43	48	49	49	52	48	48	46	32	565
13-14	47	57	34	39	37	50	45	40	37	42	54	32	514
14-15	48	45	35	40	53	53	53	53	33	56	47	53	569
15-16	46	38	55	45	46	35	43	51	42	45	37	36	519
16-17	31	56	49	45	46	40	41	42	43	48	44	44	529
17-18	54	40	42	57	49	48	55	41	51	34	36	30	537
18-19	40	36	47	39	27	32	36	39	35	34	30	24	419
19-20	30	35	28	30	33	28	25	28	44	18	25	28	352
20-21	35	29	26	29	26	21	20	31	11	21	18	15	282
21-22	24	21	22	25	20	20	21	13	8	13	11	11	209
22-23	7	10	15	5	6	13	16	7	6	11	10	9	115
23-24	5	10	12	5	6	5	5	9	7	5	3	6	78

Daily Total: 6506
AM Peak Hour (11:00-12:00) 502 — 7.72 % of Daily Total
PM Peak Hour (14:20-15:20) 585 — 8.99 % of Daily Total
4th Highest Hour (16:00-17:00)529 — 8.13 % of Daily Total
8th Highest Hour (18:00-19:00)419 — 6.44 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: EMPIRE BLVD
Location: SOUTH OF NEWMARK
Direction: SOUTH BOUND
Date: 8/14/2
Day of Week: WEDNESDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00- :05	:05- :10	:10- :15	:15- :20	:20- :25	:25- :30	:30- :35	:35- :40	:40- :45	:45- :50	:50- :55	:55- :00	Hour Tot.
00-01	3	4	1	2	7	0	7	5	3	2	4	0	38
01-02	1	0	3	1	2	3	5	3	3	1	1	0	23
02-03	2	1	2	1	2	4	1	2	3	0	4	3	25
03-04	1	2	0	1	0	1	0	1	2	2	3	2	15
04-05	0	1	0	2	2	0	4	0	2	3	3	5	22
05-06	1	2	2	6	8	6	6	2	3	8	2	6	52
06-07	3	7	9	3	4	5	11	2	12	5	7	5	73
07-08	15	8	9	17	13	15	18	23	15	16	13	18	180
08-09	11	16	11	17	18	13	19	12	23	26	22	24	212
09-10	14	29	23	16	20	27	32	29	32	19	29	28	298
10-11	39	24	23	31	27	30	31	28	33	38	43	37	384
11-12	38	35	37	39	40	28	37	49	41	35	36	40	455
12-13	49	41	37	43	38	41	40	43	44	45	36	49	506
13-14	39	49	39	51	46	46	45	45	28	32	50	43	513
14-15	47	40	41	46	42	34	61	48	39	48	59	51	556
15-16	50	54	39	44	35	47	45	50	35	41	45	52	537
16-17	48	42	48	41	37	36	43	45	41	51	43	41	516
17-18	47	46	44	50	40	45	39	49	50	52	41	28	531
18-19	30	33	42	40	34	33	41	38	28	28	35	30	412
19-20	37	29	26	29	29	20	28	23	15	24	16	18	294
20-21	27	35	24	20	21	31	15	15	21	27	24	21	281
21-22	12	12	19	6	17	16	7	11	11	14	13	8	146
22-23	13	9	16	10	8	6	7	8	10	8	11	6	112
23-24	9	11	7	11	9	7	3	9	5	4	0	4	79

Daily Total: 6260
AM Peak Hour (10:45-11:45) 462 — 7.38 % of Daily Total
PM Peak Hour (14:30-15:30) 575 — 9.19 % of Daily Total
4th Highest Hour (16:00-17:00)516 — 8.24 % of Daily Total
8th Highest Hour (18:00-19:00)412 — 6.58 % of Daily Total

ROADWAY TRAFFIC SURVEY

Roadway: EMPIRE BLVD
Location: SOUTH OF NEWMARK
Direction: SOUTH BOUND
Date: 8/15/2
Day of Week: THURSDAY
Axles per Vehicles: 2

Traffic Smithy
Traffic Survey Service

Hour of Day	:00-:05	:05-:10	:10-:15	:15-:20	:20-:25	:25-:30	:30-:35	:35-:40	:40-:45	:45-:50	:50-:55	:55-:00	Hour Tot.
00-01	6	3	6	6	1	3	7	4	1	6	2	2	47
01-02	3	3	2	2	3	1	1	1	3	0	2	1	22
02-03	4	1	1	3	2	2	0	0	0	3	0	0	16
03-04	2	0	1	4	0	0	2	0	3	6	1	3	22
04-05	0	0	2	1	0	1	1	1	2	3	5	3	19
05-06	0	6	3	7	2	7	2	3	4	3	2	3	42
06-07	5	3	3	5	5	5	5	8	11	5	5	8	68
07-08	17	12	8	13	17	16	6	14	11	24	21	20	179
08-09	16	21	24	13	19	25	13	25	14	12	21	20	223
09-10	15	19	19	19	32	22	23	27	20	23	29	27	275
10-11	22	28	34	36	24	22	25	29	30	26	33	38	347
11-12	33	30	37	39	45	42	40	42	39	38	41	39	465
12-13	51	37	51	41	49	34	39	53	35	57	46	44	537
13-14	56	40	34	36	32	51	37	49	33	52	44	26	490
14-15	43	41	43	45	48	40	39	43	40	46	40	37	505
15-16	51	41	50	38	42	37	44	36	48	43	52	44	526
16-17	45	50	41	31	47	51	45	42	48	46	49	49	544
17-18	48	60	46	53	65	41	28	47	46	38	27	36	535
18-19	35	42	32	29	34	32	43	28	40	26	27	28	396
19-20	26	27	26	25	27	26	30	25	25	22	29	27	315
20-21	32	20	21	27	28	20	21	22	25	27	21	19	283
21-22	19	18	16	12	21	10	15	14	12	10	13	22	182
22-23	15	17	11	13	10	8	7	7	9	6	12	8	123
23-24	8	12	10	3	6	6	8	9	8	7	5	7	89

Daily Total: 6250
AM Peak Hour (11:00-12:00) 465 — 7.44 % of Daily Total
PM Peak Hour (16:25-17:25) 602 — 9.63 % of Daily Total
4th Highest Hour (15:00-16:00) 526 — 8.42 % of Daily Total
8th Highest Hour (18:00-19:00) 396 — 6.34 % of Daily Total

Level of Service Description

TRAFFIC LEVELS OF SERVICE

Analysis of traffic volumes is useful in understanding the general nature of traffic in an area, but by itself indicates neither the ability of the street network to carry additional traffic nor the quality of service afforded by the street facilities. For this, the concept of *level of service* has been developed to subjectively describe traffic performance. Level of service can be measured at intersections and along key roadway segments.

Level of service categories are similar to report card ratings for traffic performance. Intersections are typically the controlling bottlenecks of traffic flow and the ability of a roadway system to carry traffic efficiently is generally diminished in their vicinities. Levels of Service A, B and C indicate conditions where traffic moves without significant delays over periods of peak travel demand. Level of service D and E are progressively worse peak hour operating conditions and F conditions represent where demand exceeds the capacity of an intersection. Most urban communities set level of service D as the minimum acceptable level of service for peak hour operation and plan for level of service C or better for all other times of the day. The *Highway Capacity Manual* provides level of service calculation methodology for both intersections and arterials.[1] The following three sections provide interpretations of the analysis approaches.

---

1 *2000 Highway Capacity Manual*, Transportation Research Board, Washington D.C., 2000, Chapters 16 and 17.

ALL-WAY STOP CONTROLLED INTERSECTIONS

Unsignalized intersections and all-way stop controlled intersections are each subject to a separate capacity analysis methodology. All-way stop controlled intersection operations are reported by leg of the intersection.

This method calculates a delay value for each approach to the intersection. The *2000 Highway Capacity Manual* describes the detailed methodology. The following table describes the amount of delay associated with each level of service.

Delay (Seconds)	Level of Service
0 - 10	A
10 - 15	B
15 - 25	C
25 - 35	D
35 - 50	E
> 50	F

Source: 2000 *Highway Capacity Manual,* Transportation Research Board, Washington, D.C.

UNSIGNALIZED INTERSECTIONS (Two-Way Stop Controlled)

Unsignalized intersection level of service is reported for the major street and minor street (generally, left turn movements). The method assesses available and critical gaps in the traffic stream which make it possible for side street traffic to enter the main street flow. The *2000 Highway Capacity Manual* describes the detailed methodology. It is not unusual for an intersection to experience level of service E or F conditions for the minor street left turn movement. It should be understood that, often, a poor level of service is experienced by only a few vehicles and the intersection as a whole operates acceptably.

Unsignalized intersection levels of service are described in the following table.

Level of Service	Expected Delay	(Sec/Veh)
A	Little or no delay	0-10.0
B	Short traffic delay	>10.1-15.0
C	Average traffic delays	>15.1-25.0
D	Long traffic delays	>25.1-35.0
E	Very long traffic delays	>35.1-50.0
F	Extreme delays potentially affecting other traffic movements in the intersection	> 50

Source: 2000 *Highway Capacity Manual*, Transportation Research Board Washington, D.C.

SIGNALIZED INTERSECTIONS

For signalized intersections, level of service is evaluated based upon average vehicle delay experienced by vehicles entering an intersection. Control delay (or signal delay) includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. In previous versions of this chapter of the HCM (1994 and earlier), delay included only stopped delay. As delay increases, the level of service decreases. Calculations for signalized and unsignalized intersections are different due to the variation in traffic control. The *2000 Highway Capacity Manual* provides the basis for these calculations.

Level of Service	Delay (secs.)	Description
A	≤10.00	**Free Flow/Insignificant Delays:** No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Most vehicles do not stop at all. Progression is extremely favorable and most vehicles arrive during the green phase.
B	10.1-20.0	**Stable Operation/Minimal Delays:** An occasional approach phase is fully utilized. Many drivers begin to feel somewhat restricted within platoons of vehicles. This level generally occurs with good progression, short cycle lengths, or both.
C	20.1-35.0	**Stable Operation/Acceptable Delays:** Major approach phases fully utilized. Most drivers feel somewhat restricted. Higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, and the number of vehicles stopping is significant.
D	35.1-55.0	**Approaching Unstable/Tolerable Delays:** The influence of congestion becomes more noticeable. Drivers may have to wait through more than one red signal indication. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. The proportion of vehicles not stopping declines, and individual cycle failures are noticeable.
E	55.1-80.0	**Unstable Operation/Significant Delays:** Volumes at or near capacity. Vehicles may wait though several signal cycles. Long queues form upstream from intersection. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are a frequent occurrence.
F	≥80.0	**Forced Flow/Excessive Delays:** Represents jammed conditions. Queues may block upstream intersections. This level occurs when arrival flow rates exceed intersection capacity, and is considered to be unacceptable to most drivers. Poor progression, long cycle lengths, and v/c ratios approaching 1.0 may contribute to these high delay levels.

Source: *2000 Highway Capacity Manual*, Transportation Research Board, Washington D.C.

Level of Service Analysis

Scenario Report

Scenario:	PM existing
Command:	PM existing
Volume:	PM existing
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Paths
Routes:	Default Routes
Configuration:	Default Configuration

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/C	Future LOS	Future Del/ Veh	Future V/C	Change in
# 1 6th at D St.	B	3.7	0.000	B	3.7	0.000	+ 0.000 V/C
# 3 7th at Ingersoll	A	8.7	0.328	A	8.7	0.328	+ 0.000 V/C
# 7 Hwy 101 at Flanagan	B	10.4	0.635	B	10.4	0.635	+ 0.000 D/V
# 8 Hwy 101 at 1st	D	1.0	0.000	D	1.0	0.000	+ 0.000 V/C
# 9 Hwy 101 at S Front St.	F	0.4	0.000	F	0.4	0.000	+ 0.000 V/C
# 10 Broadway at Lockhart	A	7.6	0.128	A	7.6	0.128	+ 0.000 V/C
# 11 Lockhart at 2nd	B	4.4	0.000	B	4.4	0.000	+ 0.000 V/C
# 12 Lockhart at 7th	B	3.3	0.000	B	3.3	0.000	+ 0.000 V/C
# 13 10th at Central	C	21.9	0.601	C	21.9	0.601	+ 0.000 D/V
# 14 4th at Elrod	B	11.3	0.409	B	11.3	0.409	+ 0.000 V/C
# 15 2nd at Ingersoll	B	5.2	0.000	B	5.2	0.000	+ 0.000 V/C
# 16 Commercial at Broadway	B	11.7	0.529	B	11.7	0.529	+ 0.000 D/V
# 18 Broadway at Market	B	10.3	0.513	B	10.3	0.513	+ 0.000 D/V
# 19 Bayshore at Market	D	0.6	0.000	D	0.6	0.000	+ 0.000 V/C
# 20 Broadway at Hall SB	A	6.7	0.476	A	6.7	0.476	+ 0.000 D/V
# 21 Broadway at Johnson	B	17.3	0.570	B	17.3	0.570	+ 0.000 D/V
# 22 Johnson at Bayshore	B	19.3	0.638	B	19.3	0.638	+ 0.000 D/V
# 23 Bayshore at Alder	C	0.4	0.000	C	0.4	0.000	+ 0.000 V/C
# 24 Broadway at Alder	C	0.6	0.000	C	0.6	0.000	+ 0.000 V/C
# 25 Bayshore at Commercial	A	0.0	0.000	A	0.0	0.000	+ 0.000 V/C
# 26 Bayshore at Cedar	B	0.1	0.000	B	0.1	0.000	+ 0.000 V/C
# 27 Bayshore at Birch	B	0.2	0.000	B	0.2	0.000	+ 0.000 V/C
# 28 Bayshore at Fir	B	0.0	0.000	B	0.0	0.000	+ 0.000 V/C
# 29 Broadway at Fir	C	0.3	0.000	C	0.3	0.000	+ 0.000 V/C
# 30 Hwy 101 at Koosbay	B	12.5	0.560	B	12.5	0.560	+ 0.000 D/V

Intersection	Base LOS	Base Del/Veh	Base V/C	Future LOS	Future Del/Veh	Future V/C	Change in
# 31 Ocean Blvd. at Butler	A	3.7	0.309	A	3.7	0.309	+ 0.000 D/V
# 32 Hwy 101 at Newmark	C	29.6	0.743	C	29.6	0.743	+ 0.000 D/V
# 33 Newmark at Sherman	C	27.8	0.576	C	27.8	0.576	+ 0.000 D/V
# 34 Newmark at Brussels	A	8.5	0.391	A	8.5	0.391	+ 0.000 D/V
# 35 Pony Creek at Crowell	B	3.5	0.000	B	3.5	0.000	+ 0.000 V/C
# 36 Virginia at Harrison	B	12.1	0.408	B	12.1	0.408	+ 0.000 D/V
# 37 Virginia at Safeway entrance	F	3.0	0.000	F	3.0	0.000	+ 0.000 V/C
# 38 Virginia at Pony Villiage entr	E	1.4	0.000	E	1.4	0.000	+ 0.000 V/C
# 39 Sherman at Hwy 101 South	D	1.3	0.000	D	1.3	0.000	+ 0.000 V/C
# 40 Virginia at Meade	D	4.1	0.000	D	4.1	0.000	+ 0.000 V/C
# 41 Virginia at Marion	E	1.6	0.000	E	1.6	0.000	+ 0.000 V/C
# 42 Virginia at Maple	C	2.9	0.000	C	2.9	0.000	+ 0.000 V/C
# 43 Maple at East Airport Way	A	2.1	0.000	A	2.1	0.000	+ 0.000 V/C
# 44 Virginia at Arthur	A	0.5	0.000	A	0.5	0.000	+ 0.000 V/C
# 45 Virginia at Channel St.	B	2.0	0.000	B	2.0	0.000	+ 0.000 V/C
# 46 Lakeshore at Crocker	A	5.0	0.000	A	5.0	0.000	+ 0.000 V/C
# 47 Virginia at Oak	C	2.0	0.000	C	2.0	0.000	+ 0.000 V/C
# 48 Newmark at Oak	B	10.2	0.489	B	10.2	0.489	+ 0.000 D/V
# 49 Newmark at Morrison	C	1.1	0.000	C	1.1	0.000	+ 0.000 V/C
# 50 Empire Blvd. at Pacific	C	2.4	0.000	C	2.4	0.000	+ 0.000 V/C
# 51 Virginia at Hwy 101 North	B	14.1	0.401	B	14.1	0.401	+ 0.000 D/V
# 52 Virginia at Hwy 101 South	B	18.4	0.482	B	18.4	0.482	+ 0.000 D/V
# 53 California at Hwy 101 North	B	0.2	0.000	B	0.2	0.000	+ 0.000 V/C
# 54 Florida at Sherman	C	20.3	0.542	C	20.3	0.542	+ 0.000 D/V
# 55 Broadway at 16th	B	13.9	0.408	B	13.9	0.408	+ 0.000 D/V
# 56 Broadway at Newmark	D	52.5	0.955	D	52.5	0.955	+ 0.000 D/V

Intersection	Base LOS	Base Del/Veh	Base V/C	Future LOS	Future Del/Veh	Future V/C	Change in
# 57 Newmark at Laclair	C	0.8	0.000	C	0.8	0.000	+ 0.000 V/C
# 58 Newmark at Ocean Blvd.	B	14.3	0.524	B	14.3	0.524	+ 0.000 D/V
# 59 Thompson at Koosbay	C	5.0	0.000	C	5.0	0.000	+ 0.000 V/C
# 60 Woodland at Thompson	B	2.9	0.000	B	2.9	0.000	+ 0.000 V/C
# 61 Ocean Blvd. at Woodland	B	19.8	0.465	B	19.8	0.465	+ 0.000 D/V
# 62 Ocean Blvd. at Radar	B	3.0	0.000	B	3.0	0.000	+ 0.000 V/C
# 63 Hwy 101 at Clark	D	0.3	0.000	D	0.3	0.000	+ 0.000 V/C
# 64 Hwy 101 at Casino entrance	B	14.5	0.489	B	14.5	0.489	+ 0.000 D/V
# 65 Libby at Wilshire	A	3.4	0.000	A	3.4	0.000	+ 0.000 V/C
# 66 Hwy 101 at E Bay Dr.	A	3.1	0.624	A	3.1	0.624	+ 0.000 D/V
# 67 Hwy 101 at North Bay	E	2.8	0.000	E	2.8	0.000	+ 0.000 V/C
# 68 Hwy 101 at Trans Pacific	C	1.4	0.000	C	1.4	0.000	+ 0.000 V/C
# 70 1st at Hall NB	A	3.7	0.356	A	3.7	0.356	+ 0.000 D/V
# 71 Broadway at 17th	E	0.6	0.000	E	0.6	0.000	+ 0.000 V/C
# 72 Virginia at Pony Villiage enta	D	1.7	0.000	D	1.7	0.000	+ 0.000 V/C
# 73 Coos River Hwy at Olive Barber	C	2.5	0.000	C	2.5	0.000	+ 0.000 V/C
# 74 Ocean Blve at Laclair	B	2.4	0.000	B	2.4	0.000	+ 0.000 V/C
# 75 Central at 7th	B	7.3	0.602	B	7.3	0.602	+ 0.000 V/C
# 76 Coos River Hwy at Edwards	B	2.6	0.000	B	2.6	0.000	+ 0.000 V/C
# 77 Coos River Hwy at Mullen	D	1.0	0.000	D	1.0	0.000	+ 0.000 V/C
# 78 Hwy 101 at Edwards	E	0.5	0.000	E	0.5	0.000	+ 0.000 V/C
# 79 11th at Elrod	A	6.7	0.000	A	6.7	0.000	+ 0.000 V/C
# 80 US 101/Coos River Hwy (Bunker	C	30.7	0.616	C	30.7	0.616	+ 0.000 D/V

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 6th at D St.

Average Delay (sec/veh): 3.7 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Uncontrolled			Uncontrolled			Stop Sign			Stop Sign	
Rights:		Include			Include			Include			Include	
Lanes:	0 1	0	0 1	0 0	1!	0 0	0 0	0	1 0	0 1	0	0 0
Volume Module:												
Base Vol:	175	0	375	0	0	0	0	10	75	150	30	0
Growth 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
Initial Bse:	175	0	375	0	0	0	0	10	75	150	30	0
User 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
PHF 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
PHF Volume:	175	0	375	0	0	0	0	10	75	150	30	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	175	0	375	0	0	0	0	10	75	150	30	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	6.6	6.3	7.2	6.6	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	4.1	3.4	3.5	4.0	xxxxx
Capacity Module:												
Cnflict Vol:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	725	0	393	350	xxxxx
Potent Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	346	0	562	569	xxxxx
Move Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	346	0	549	569	xxxxx
Level Of Service Module:												
Stopped Del:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	2937	552	xxxx	xxxxx
Shrd StpDel:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.3	14.6	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	A	B	*	*
ApproachDel:		xxxxxx			xxxxxx			6.3			14.6	
ApproachLOS:		*			*			A			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #3 7th at Ingersoll

Cycle (sec): 100 Critical Vol./Cap. (X): 0.328
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 8.7
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Stop Sign			Stop Sign			Stop Sign			Stop Sign	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 0	0 0	1!	0 0	0 1	0	0 0	0 1	0	0 0
Volume Module:												
Base Vol:	10	110	0	10	225	50	30	10	0	5	15	0
Growth 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
Initial Bse:	10	110	0	10	225	50	30	10	0	5	15	0
User 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
PHF 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
PHF Volume:	10	110	0	10	225	50	30	10	0	5	15	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	110	0	10	225	50	30	10	0	5	15	0
PCE 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
MLF 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
Final Vol.:	10	110	0	10	225	50	30	10	0	5	15	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.08	0.92	0.00	0.03	0.79	0.18	0.75	0.25	0.00	0.25	0.75	0.00
Final Sat.:	67	737	0	30	686	152	510	170	0	171	513	0
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	xxxx	0.33	0.33	0.33	0.06	0.06	xxxx	0.03	0.03	xxxx
Crit Moves:	****				****			****			****	
Delay/Veh:	8.1	8.1	0.0	9.0	9.0	9.0	8.2	8.2	0.0	8.0	8.0	0.0
Delay 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
AdjDel/Veh:	8.1	8.1	0.0	9.0	9.0	9.0	8.2	8.2	0.0	8.0	8.0	0.0
LOS by Move:	A	A	*	A	A	A	A	A	*	A	A	*
ApproachDel:		8.1			9.0			8.2			8.0	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.1			9.0			8.2			8.0	
LOS by Appr:		A			A			A			A	

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #7 Hwy 101 at Flanagan

Cycle (sec):	100	Critical Vol./Cap. (X):	0.635
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	10.4
Optimal Cycle:	52	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	70	10	30	35	10	40	30	1530	80	25	1200	5
Growth 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
Initial Bse:	70	10	30	35	10	40	30	1530	80	25	1200	5
User 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
PHF 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
PHF Volume:	70	10	30	35	10	40	30	1530	80	25	1200	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	10	30	35	10	40	30	1530	80	25	1200	5
PCE 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
MLF 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
Final Vol.:	70	10	30	35	10	40	30	1530	80	25	1200	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.71	0.71	0.71	0.79	0.79	0.79	0.92	0.92	0.92	0.90	0.90	0.90
Lanes:	0.64	0.09	0.27	0.41	0.12	0.47	1.00	1.90	0.10	1.00	1.99	0.01
Final Sat.:	858	123	368	615	176	703	1753	3308	173	1718	3419	14
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.06	0.06	0.06	0.02	0.46	0.46	0.01	0.35	0.35
Crit Moves:		****						****		****		
Green/Cycle:	0.13	0.13	0.13	0.13	0.13	0.13	0.03	0.73	0.73	0.02	0.72	0.72
Volume/Cap:	0.63	0.63	0.63	0.44	0.44	0.44	0.49	0.63	0.63	0.63	0.49	0.49
Uniform Del:	41.3	41.3	41.3	40.3	40.3	40.3	47.4	6.9	6.9	48.4	6.2	6.2
IncremntDel:	7.5	7.5	7.5	1.6	1.6	1.6	6.0	0.5	0.5	29.4	0.2	0.2
Delay 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
Delay/Veh:	48.9	48.9	48.9	41.9	41.9	41.9	53.4	7.4	7.4	77.8	6.3	6.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.9	48.9	48.9	41.9	41.9	41.9	53.4	7.4	7.4	77.8	6.3	6.3
DesignQueue:	3	0	1	2	0	2	2	26	1	1	21	0

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #8 Hwy 101 at 1st

Average Delay (sec/veh): 1.0 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0	2	0 0	0 0	1	1 0	0 0	0	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	85	1150	0	0	1670	30	0	0	130	0	0	0
Growth 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
Initial Bse:	85	1150	0	0	1670	30	0	0	130	0	0	0
User 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
PHF 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
PHF Volume:	85	1150	0	0	1670	30	0	0	130	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	85	1150	0	0	1670	30	0	0	130	0	0	0
Critical Gap Module:												
Critical Gp:	4.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	7.0	xxxxx	xxxx	xxxxx
FollowUpTim:	2.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1700	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	850	xxxx	xxxx	xxxxx
Potent Cap.:	353	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	298	xxxx	xxxx	xxxxx
Move Cap.:	353	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	298	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	18.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	26.1	xxxxx	xxxx	xxxxx
LOS by Move:	C	*	*	*	*	*	*	*	D	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			26.1			xxxxxx		
ApproachLOS:	*			*			D			*		

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
         2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #9 Hwy 101 at S Front St.
********************************************************************************
Average Delay (sec/veh):        0.4       Worst Case Level Of Service:
********************************************************************************
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:         Stop Sign        Stop Sign      Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:         0  0  1! 0  0   0  0  0  0  0   0  0  1  1  0   1  0  2  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:        5    0    30     0    0     0     0 1835     5    10 1195     0
Growth 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
Initial Bse:     5    0    30     0    0     0     0 1835     5    10 1195     0
User 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
PHF 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
PHF Volume:      5    0    30     0    0     0     0 1835     5    10 1195     0
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:      5    0    30     0    0     0     0 1835     5    10 1195     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:   6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.2 xxxx xxxxx
FollowUpTim:   3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: 2455 xxxx   920  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1840 xxxx xxxxx
Potent Cap.:    25 xxxx   273  xxxx xxxx xxxxx  xxxx xxxx xxxxx   319 xxxx xxxxx
Move Cap.:      25 xxxx   273  xxxx xxxx xxxxx  xxxx xxxx xxxxx   319 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  16.7 xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     *     C    *     *
Movement:      LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx  112 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx 50.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:        50.9            xxxxxx           xxxxxx           xxxxxx
ApproachLOS:          F                *                *                *
```



```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Base Volume Alternative)
********************************************************************************
Intersection #10 Broadway at Lockhart
********************************************************************************
Cycle (sec):          100              Critical Vol./Cap. (X):        0.128
Loss Time (sec):        0 (Y+R =  4 sec) Average Delay (sec/veh):        7.6
Optimal Cycle:          0              Level Of Service:                 A
********************************************************************************
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:         Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:      0    0     0     0    0     0     0    0     0     0    0     0
Lanes:         1  0  0  0  0   0  0  1! 0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       15    0     0     5   10   100    50   25     0     0   45     5
Growth 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
Initial Bse:    15    0     0     5   10   100    50   25     0     0   45     5
User 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
PHF 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
PHF Volume:     15    0     0     5   10   100    50   25     0     0   45     5
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    15    0     0     5   10   100    50   25     0     0   45     5
PCE 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
MLF 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
Final Vol.:     15    0     0     5   10   100    50   25     0     0   45     5
------------|---------------||---------------||---------------||---------------
Saturation Flow Module:
Adjustment:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:        1.00 0.00  0.00  0.04 0.09  0.87  0.67 0.33  0.00  0.00 0.90  0.10
Final Sat.:    738    0     0    39   78   784   523  262     0     0  743    83
------------|---------------||---------------||---------------||---------------
Capacity Analysis Module:
Vol/Sat:      0.02 xxxx  xxxx  0.13 0.13  0.13  0.10 0.10  xxxx  xxxx 0.06  0.06
Crit Moves:   ****                        ****  ****                  ****
Delay/Veh:     7.8  0.0   0.0   7.4  7.4   7.4   7.9  7.9   0.0   0.0  7.5   7.5
Delay 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
AdjDel/Veh:    7.8  0.0   0.0   7.4  7.4   7.4   7.9  7.9   0.0   0.0  7.5   7.5
LOS by Move:     A    *     *     A    A     A     A    A     *     *    A     A
ApproachDel:       7.8              7.4              7.9              7.5
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.8              7.4              7.9              7.5
LOS by Appr:        A                A                A                A
********************************************************************************
```

```
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
                    Level Of Service Computation Report
         2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #11 Lockhart at 2nd
*******************************************************************************
Average Delay (sec/veh):     4.4          Worst Case Level Of Service:
*******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign      Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      20     5     5     5     5    85    70    15    20     5    25    10
Growth 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
Initial Bse:   20     5     5     5     5    85    70    15    20     5    25    10
User 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
PHF 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
PHF Volume:    20     5     5     5     5    85    70    15    20     5    25    10
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Final Vol.:    20     5     5     5     5    85    70    15    20     5    25    10
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  7.1   6.5   6.2   7.2   6.6   6.3   4.1  xxxx xxxxx   4.1  xxxx xxxxx
FollowUpTim:  3.5   4.0   3.3   3.6   4.1   3.4   2.2  xxxx xxxxx   2.2  xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:  250   210    25   210   215    30    35  xxxx xxxxx    35  xxxx xxxxx
Potent Cap.:  708   691  1057   739   676  1033  1570  xxxx xxxxx  1557  xxxx xxxxx
Move Cap.:    621   656  1057   703   642  1033  1570  xxxx xxxxx  1557  xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx  xxxx xxxxx xxxxx  xxxx xxxxx   7.4  xxxx xxxxx   7.3  xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     A     *     *     A     *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   674 xxxxx  xxxx   978 xxxxx  xxxx  xxxx xxxxx  xxxx  xxxx xxxxx
Shrd StpDel:xxxxx  10.6 xxxxx xxxxx   9.1 xxxxx xxxxx  xxxx xxxxx xxxxx  xxxx xxxxx
Shared LOS:     *     B     *     *     A     *     *     *     *     *     *     *
ApproachDel:        10.6              9.1            xxxxxx            xxxxxx
ApproachLOS:          B                 A                *                 *
```



```
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
                    Level Of Service Computation Report
         2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #12 Lockhart at 7th
*******************************************************************************
Average Delay (sec/veh):     3.3          Worst Case Level Of Service:
*******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign      Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  1! 0  0   0  0  1! 0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0     0     0     5     0   155    70   225     0     0   295    15
Growth 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
Initial Bse:    0     0     0     5     0   155    70   225     0     0   295    15
User 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
PHF 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
PHF Volume:     0     0     0     5     0   155    70   225     0     0   295    15
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Final Vol.:     0     0     0     5     0   155    70   225     0     0   295    15
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx  xxxx xxxxx   6.4  xxxx   6.2   4.1  xxxx xxxxx xxxxx  xxxx xxxxx
FollowUpTim:xxxxx  xxxx xxxxx   3.5  xxxx   3.3   2.2  xxxx xxxxx xxxxx  xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx  xxxx xxxxx   668  xxxx   303   310  xxxx xxxxx  xxxx  xxxx xxxxx
Potent Cap.: xxxx  xxxx xxxxx   425  xxxx   740  1250  xxxx xxxxx  xxxx  xxxx xxxxx
Move Cap.:   xxxx  xxxx xxxxx   406  xxxx   740  1250  xxxx xxxxx  xxxx  xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx  xxxx xxxxx xxxxx  xxxx xxxxx   8.0  xxxx xxxxx xxxxx  xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     A     *     *     *     *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx     0 xxxxx  xxxx   721 xxxxx  xxxx  xxxx xxxxx  xxxx  xxxx xxxxx
Shrd StpDel:xxxxx  xxxx xxxxx xxxxx  11.4 xxxxx   8.0  xxxx xxxxx xxxxx  xxxx xxxxx
Shared LOS:     *     *     *     *     B     *     A     *     *     *     *     *
ApproachDel:      xxxxxx             11.4            xxxxxx            xxxxxx
ApproachLOS:          *                 B                *                 *
```

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #13 10th at Central

Cycle (sec): 100 Critical Vol./Cap. (X): 0.601
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 21.9
Optimal Cycle: 48 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 0 1 0			1 0 0 1 0			0 1 0 0 1			0 1 0 1 0		
Volume Module:												
Base Vol:	215	110	0	145	100	30	10	610	175	0	505	10
Growth 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
Initial Bse:	215	110	0	145	100	30	10	610	175	0	505	10
User 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
PHF 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
PHF Volume:	215	110	0	145	100	30	10	610	175	0	505	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	215	110	0	145	100	30	10	610	175	0	505	10
PCE 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
MLF 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
Final Vol.:	215	110	0	145	100	30	10	610	175	0	505	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.94	0.99	1.00	0.93	0.95	0.95	0.97	0.97	0.83	0.95	0.93	0.93
Lanes:	1.00	1.00	0.00	1.00	0.77	0.23	0.02	0.98	1.00	0.00	1.96	0.04
Final Sat.:	1787	1881	0	1769	1382	415	30	1814	1583	0	3459	68
Capacity Analysis Module:												
Vol/Sat:	0.12	0.06	0.00	0.08	0.07	0.07	0.34	0.34	0.11	0.00	0.15	0.15
Crit Moves:	****				****			****				
Green/Cycle:	0.20	0.13	0.00	0.19	0.12	0.12	0.56	0.56	0.56	0.00	0.56	0.56
Volume/Cap:	0.60	0.44	0.00	0.44	0.60	0.60	0.60	0.60	0.20	0.00	0.26	0.26
Uniform Del:	36.4	39.9	0.0	36.0	41.7	41.7	14.6	14.6	10.9	0.0	11.4	11.4
IncremntDel:	2.9	1.2	0.0	0.9	4.7	4.7	1.0	1.0	0.1	0.0	0.1	0.1
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Delay/Veh:	39.2	41.1	0.0	36.9	46.4	46.4	15.6	15.6	11.0	0.0	11.4	11.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.2	41.1	0.0	36.9	46.4	46.4	15.6	15.6	11.0	0.0	11.4	11.4
DesignQueue:	10	5	0	7	5	1	0	16	4	0	13	0

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #14 4th at Elrod

Cycle (sec): 100 Critical Vol./Cap. (X): 0.409
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 11.3
Optimal Cycle: 0 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 0 1 0			1 0 0 1 0			0 0 0 1 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	60	120	50	230	235	25	0	75	30	50	55	70
Growth 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
Initial Bse:	60	120	50	230	235	25	0	75	30	50	55	70
User 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
PHF 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
PHF Volume:	60	120	50	230	235	25	0	75	30	50	55	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	60	120	50	230	235	25	0	75	30	50	55	70
PCE 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
MLF 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
Final Vol.:	60	120	50	230	235	25	0	75	30	50	55	70
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.71	0.29	1.00	0.90	0.10	0.00	0.71	0.29	0.29	0.31	0.40
Final Sat.:	537	425	177	578	575	61	0	404	162	171	188	239
Capacity Analysis Module:												
Vol/Sat:	0.11	0.28	0.28	0.40	0.41	0.41	xxxx	0.19	0.19	0.29	0.29	0.29
Crit Moves:		****			****			****			****	
Delay/Veh:	9.9	10.5	10.5	12.6	11.9	11.9	0.0	10.1	10.1	10.8	10.8	10.8
Delay 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
AdjDel/Veh:	9.9	10.5	10.5	12.6	11.9	11.9	0.0	10.1	10.1	10.8	10.8	10.8
LOS by Move:	A	B	B	B	B	B	*	B	B	B	B	B
ApproachDel:		10.4			12.2			10.1			10.8	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		10.4			12.2			10.1			10.8	
LOS by Appr:		B			B			B			B	

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #15 2nd at Ingersoll

Average Delay (sec/veh): 5.2 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 0 1 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	10	70	10	10	30	10	0	20	10	10	50	20
Growth 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
Initial Bse:	10	70	10	10	30	10	0	20	10	10	50	20
User 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
PHF 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
PHF Volume:	10	70	10	10	30	10	0	20	10	10	50	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	70	10	10	30	10	0	20	10	10	50	20
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	125	115	25	145	110	60	xxxx	xxxx	xxxxx	30	xxxx	xxxxx
Potent Cap.:	849	775	1051	828	784	1011	xxxx	xxxx	xxxxx	1583	xxxx	xxxxx
Move Cap.:	812	770	1051	760	779	1011	xxxx	xxxx	xxxxx	1583	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	799	xxxxx	xxxx	812	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	10.1	xxxxx	xxxxx	9.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	A	*	*	*	*	*	*	*
ApproachDel:		10.1			9.7			xxxxxx			xxxxxx	
ApproachLOS:		B			A			*			*	

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #16 Commercial at Broadway

Cycle (sec): 100 Critical Vol./Cap. (X): 0.529
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 11.7
Optimal Cycle: 33 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			0 0 2 0 1			0 0 0 0 0			0 1 1 0 0		
Volume Module:												
Base Vol:	0	0	0	0	1355	110	0	0	0	30	310	0
Growth 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
Initial Bse:	0	0	0	0	1355	110	0	0	0	30	310	0
User 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
PHF 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
PHF Volume:	0	0	0	0	1355	110	0	0	0	30	310	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	1355	110	0	0	0	30	310	0
PCE 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
MLF 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
Final Vol.:	0	0	0	0	1355	110	0	0	0	30	310	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.91	0.82	1.00	1.00	1.00	0.93	0.93	1.00
Lanes:	0.00	0.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	0.18	1.82	0.00
Final Sat.:	0	0	0	0	3473	1554	0	0	0	312	3226	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.39	0.07	0.00	0.00	0.00	0.10	0.10	0.00
Crit Moves:					****					****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.74	0.74	0.00	0.00	0.00	0.18	0.18	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.53	0.10	0.00	0.00	0.00	0.53	0.53	0.00
Uniform Del:	0.0	0.0	0.0	0.0	5.6	3.7	0.0	0.0	0.0	37.0	37.0	0.0
IncremntDel:	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.8	0.8	0.0
Delay Adj:	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	5.8	3.7	0.0	0.0	0.0	37.9	37.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	5.8	3.7	0.0	0.0	0.0	37.9	37.9	0.0
DesignQueue:	0	0	0	0	22	2	0	0	0	1	14	0

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #18 Broadway at Market

Cycle (sec): 100 Critical Vol./Cap. (X): 0.513
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 10.3
Optimal Cycle: 33 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	0 1	0	1 0	0 0	0	1 0	0 1	0	0 0
Volume Module:												
Base Vol:	0	0	0	25	1260	20	0	75	90	30	25	0
Growth 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
Initial Bse:	0	0	0	25	1260	20	0	75	90	30	25	0
User 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
PHF 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
PHF Volume:	0	0	0	25	1260	20	0	75	90	30	25	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	25	1260	20	0	75	90	30	25	0
PCE 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
MLF 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
Final Vol.:	0	0	0	25	1260	20	0	75	90	30	25	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.92	0.92	0.85	0.85	1.00
Lanes:	0.00	0.00	0.00	0.04	1.93	0.03	0.00	0.45	0.55	0.55	0.45	0.00
Final Sat.:	0	0	0	66	3340	53	0	792	950	884	737	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.38	0.38	0.38	0.00	0.09	0.09	0.03	0.03	0.00
Crit Moves:						****		****				
Green/Cycle:	0.00	0.00	0.00	0.74	0.74	0.74	0.00	0.18	0.18	0.18	0.18	0.00
Volume/Cap:	0.00	0.00	0.00	0.51	0.51	0.51	0.00	0.51	0.51	0.18	0.18	0.00
Uniform Del:	0.0	0.0	0.0	5.6	5.6	5.6	0.0	36.7	36.7	34.4	34.4	0.0
IncremntDel:	0.0	0.0	0.0	0.2	0.2	0.2	0.0	1.4	1.4	0.3	0.3	0.0
Delay Adj:	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	0.0	0.0	0.0	5.8	5.8	5.8	0.0	38.1	38.1	34.7	34.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	5.8	5.8	5.8	0.0	38.1	38.1	34.7	34.7	0.0
DesignQueue:	0	0	0	0	20	0	0	3	4	1	1	0

Traffix 7.5.0715 (c) 2002 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #19 Bayshore at Market

Average Delay (sec/veh): 0.6 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	1 0	0 0	0	0 0	1 0	0	0 0	0 0	1	0 0
Volume Module:												
Base Vol:	30	1195	10	0	0	0	90	0	0	0	15	0
Growth 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
Initial Bse:	30	1195	10	0	0	0	90	0	0	0	15	0
User 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
PHF 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
PHF Volume:	30	1195	10	0	0	0	90	0	0	0	15	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	30	1195	10	0	0	0	90	0	0	0	15	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.1	xxxx	xxxxx	xxxxx	6.5	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	xxxxx	xxxxx	4.0	xxxxx
Capacity Module:												
Cnflict Vol:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	665	xxxx	xxxxx	xxxx	1260	xxxxx
Potent Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	372	xxxx	xxxxx	xxxx	172	xxxxx
Move Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	347	xxxx	xxxxx	xxxx	172	xxxxx
Level Of Service Module:												
Stopped Del:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	19.0	xxxx	xxxxx	xxxxx	27.9	xxxxx
LOS by Move:	A	*	*	*	*	*	C	*	*	*	D	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:		xxxxxx			xxxxxx			19.0			27.9	
ApproachLOS:		*			*			C			D	

Traffix 7.5.0715 (c) 2002 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #20 Broadway at Hall SB

Cycle (sec): 100 Critical Vol./Cap. (X): 0.476
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 6.7
Optimal Cycle: 31 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			0 1 1 1 0			0 0 0 1 0			0 1 0 0 0		
Volume Module:												
Base Vol:	0	0	0	30	1870	20	0	30	65	50	40	0
Growth 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
Initial Bse:	0	0	0	30	1870	20	0	30	65	50	40	0
User 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
PHF 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
PHF Volume:	0	0	0	30	1870	20	0	30	65	50	40	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	30	1870	20	0	30	65	50	40	0
PCE 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
MLF 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
Final Vol.:	0	0	0	30	1870	20	0	30	65	50	40	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.88	0.88	0.88	1.00	0.90	0.90	0.86	0.86	1.00
Lanes:	0.00	0.00	0.00	0.05	2.92	0.03	0.00	0.32	0.68	0.56	0.44	0.00
Final Sat.:	0	0	0	79	4896	52	0	539	1169	908	726	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.38	0.38	0.38	0.00	0.06	0.06	0.06	0.06	0.00
Crit Moves:				****				****				
Green/Cycle:	0.00	0.00	0.00	0.80	0.80	0.80	0.00	0.12	0.12	0.12	0.12	0.00
Volume/Cap:	0.00	0.00	0.00	0.48	0.48	0.48	0.00	0.48	0.48	0.47	0.47	0.00
Uniform Del:	0.0	0.0	0.0	3.1	3.1	3.1	0.0	41.3	41.3	41.3	41.3	0.0
IncremntDel:	0.0	0.0	0.0	0.1	0.1	0.1	0.0	1.8	1.8	1.8	1.8	0.0
Delay Adj:	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	0.0	0.0	0.0	3.2	3.2	3.2	0.0	43.1	43.1	43.1	43.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	3.2	3.2	3.2	0.0	43.1	43.1	43.1	43.1	0.0
DesignQueue:	0	0	0	0	22	0	0	1	3	2	2	0

Traffix 7.5.0715 (c) 2002 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #21 Broadway at Johnson

Cycle (sec): 100 Critical Vol./Cap. (X): 0.570
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 17.3
Optimal Cycle: 36 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			1 0 2 1 0			0 0 1 1 0			1 0 1 0 0		
Volume Module:												
Base Vol:	0	0	0	285	1430	90	0	115	130	245	110	0
Growth 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
Initial Bse:	0	0	0	285	1430	90	0	115	130	245	110	0
User 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
PHF 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
PHF Volume:	0	0	0	285	1430	90	0	115	130	245	110	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	285	1430	90	0	115	130	245	110	0
PCE 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
MLF 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
Final Vol.:	0	0	0	285	1430	90	0	115	130	245	110	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.96	0.88	0.88	1.00	0.85	0.85	0.59	0.99	1.00
Lanes:	0.00	0.00	0.00	1.00	2.82	0.18	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	0	0	0	1828	4696	296	0	1612	1612	1114	1881	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.16	0.30	0.30	0.00	0.07	0.08	0.22	0.06	0.00
Crit Moves:					****					****		
Green/Cycle:	0.00	0.00	0.00	0.53	0.53	0.53	0.00	0.39	0.39	0.39	0.39	0.00
Volume/Cap:	0.00	0.00	0.00	0.29	0.57	0.57	0.00	0.18	0.21	0.57	0.15	0.00
Uniform Del:	0.0	0.0	0.0	12.9	15.6	15.6	0.0	20.3	20.5	24.2	20.0	0.0
IncremntDel:	0.0	0.0	0.0	0.2	0.3	0.3	0.0	0.1	0.1	1.8	0.1	0.0
Delay Adj:	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	0.0	0.0	0.0	13.0	15.9	15.9	0.0	20.4	20.6	26.0	20.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.0	15.9	15.9	0.0	20.4	20.6	26.0	20.1	0.0
DesignQueue:	0	0	0	8	40	3	0	4	5	9	4	0

Traffix 7.5.0715 (c) 2002 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #22 Johnson at Bayshore

Cycle (sec):	100	Critical Vol./Cap. (X):	0.638
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	19.3
Optimal Cycle:	42	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	1 0	1	0 0	0 0	0	0 1	1 0	0	0 0	1 0	1
Volume Module:												
Base Vol:	25	1190	80	0	0	0	100	295	0	0	270	135
Growth 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
Initial Bse:	25	1190	80	0	0	0	100	295	0	0	270	135
User 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
PHF 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
PHF Volume:	25	1190	80	0	0	0	100	295	0	0	270	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	25	1190	80	0	0	0	100	295	0	0	270	135
PCE 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
MLF 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
Final Vol.:	25	1190	80	0	0	0	100	295	0	0	270	135
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	0.77	0.81	1.00	1.00	1.00	0.61	0.61	1.00	1.00	0.99	0.84
Lanes:	0.04	1.96	1.00	0.00	0.00	0.00	0.51	1.49	0.00	0.00	1.00	1.00
Final Sat.:	60	2861	1537	0	0	0	585	1725	0	0	1881	1599
Capacity Analysis Module:												
Vol/Sat:	0.42	0.42	0.05	0.00	0.00	0.00	0.17	0.17	0.00	0.00	0.14	0.08
Crit Moves:	****							****				
Green/Cycle:	0.65	0.65	0.65	0.00	0.00	0.00	0.27	0.27	0.00	0.00	0.27	0.27
Volume/Cap:	0.64	0.64	0.08	0.00	0.00	0.00	0.64	0.64	0.00	0.00	0.54	0.32
Uniform Del:	10.4	10.4	6.4	0.0	0.0	0.0	32.3	32.3	0.0	0.0	31.3	29.3
IncremntDel:	0.7	0.7	0.0	0.0	0.0	0.0	2.2	2.2	0.0	0.0	1.1	0.4
Delay Adj:	1.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	11.1	11.1	6.4	0.0	0.0	0.0	34.5	34.5	0.0	0.0	32.4	29.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.1	11.1	6.4	0.0	0.0	0.0	34.5	34.5	0.0	0.0	32.4	29.7
DesignQueue:	1	25	2	0	0	0	4	12	0	0	11	6

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #23 Bayshore at Alder

Average Delay (sec/veh):	0.4	Worst Case Level Of Service:	

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0 1	0	0 0	0 0	0	0 1	0 0	0	0 0	0 1	0
Volume Module:												
Base Vol:	30	1205	50	0	0	0	15	5	0	0	20	25
Growth 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
Initial Bse:	30	1205	50	0	0	0	15	5	0	0	20	25
User 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
PHF 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
PHF Volume:	30	1205	50	0	0	0	15	5	0	0	20	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	30	1205	50	0	0	0	15	5	0	0	20	25
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.1	6.5	xxxxx	xxxxx	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	xxxxx	xxxxx	4.0	3.3
Capacity Module:												
Cnflict Vol:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	673	1315	xxxxx	xxxx	1290	628
Potent Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	369	158	xxxxx	xxxx	162	480
Move Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	317	158	xxxxx	xxxx	162	480
Level Of Service Module:												
Stopped Del:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	253	xxxx	xxxxx	xxxx	xxxx	256
Shrd StpDel:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	20.4	xxxx	xxxxx	xxxxx	xxxx	22.0
Shared LOS:	A	*	*	*	*	*	C	*	*	*	*	C
ApproachDel:		xxxxxx			xxxxxx			20.4			22.0	
ApproachLOS:		*			*			C			C	

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #24 Broadway at Alder

Average Delay (sec/veh): 0.6 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 1 0 1 0			0 0 0 1 0			0 1 0 0 0		
Volume Module:												
Base Vol:	0	0	0	30	1295	5	0	10	10	70	10	0
Growth 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
Initial Bse:	0	0	0	30	1295	5	0	10	10	70	10	0
User 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
PHF 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
PHF Volume:	0	0	0	30	1295	5	0	10	10	70	10	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	30	1295	5	0	10	10	70	10	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	6.5	6.2	7.1	6.5	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	4.0	3.3	3.5	4.0	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	xxxx	1358	650	713	1360	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	xxxx	150	473	346	148	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	xxxx	150	473	321	148	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	228	280	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	22.3	22.9	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	C	C	*	*
ApproachDel:		xxxxxx			xxxxxx			22.3			22.9	
ApproachLOS:		*			*			C			C	

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #25 Bayshore at Commercial

Average Delay (sec/veh): 0.0 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 1 0 0			0 0 0 0 0			0 0 0 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	290	1170	0	0	0	0	0	0	0	0	0	0
Growth 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
Initial Bse:	290	1170	0	0	0	0	0	0	0	0	0	0
User 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
PHF 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
PHF Volume:	290	1170	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	290	1170	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:		xxxxxx			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		*			*			*			*	

```
----------------------------------------------------------------------------
----------------------------------------------------------------------------
                  Level Of Service Computation Report
         2000 HCM Unsignalized Method (Base Volume Alternative)
****************************************************************************
Intersection #26 Bayshore at Cedar
****************************************************************************
Average Delay (sec/veh):       0.1        Worst Case Level Of Service:
****************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  1  0  1  0   0  0  0  0  0   1  0  0  0  0   0  0  0  0  1
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0 1285     5     0     0     0    10     0     0     0     0    10
Growth 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
Initial Bse:    0 1285     5     0     0     0    10     0     0     0     0    10
User 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
PHF 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
PHF Volume:     0 1285     5     0     0     0    10     0     0     0     0    10
Reduct Vol:     0    0     0     0     0     0     0     0     0     0     0     0
Final Vol.:     0 1285     5     0     0     0    10     0     0     0     0    10
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx xxxxx xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx xxxxx xxxx   3.3
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   643 xxxx xxxxx  xxxx xxxx   645
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   390 xxxx xxxxx  xxxx xxxx   476
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   381 xxxx xxxxx  xxxx xxxx   476
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  14.7 xxxx xxxxx xxxxx xxxx  12.7
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     B
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      xxxxxx           xxxxxx             14.7             12.7
ApproachLOS:        *                *                  B                B
```



```
----------------------------------------------------------------------------
----------------------------------------------------------------------------
                  Level Of Service Computation Report
         2000 HCM Unsignalized Method (Base Volume Alternative)
****************************************************************************
Intersection #27 Bayshore at Birch
****************************************************************************
Average Delay (sec/veh):       0.2        Worst Case Level Of Service:
****************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  1  0  1  0   0  0  0  0  0   0  1  0  0  0   0  0  0  0  1
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       5 1195    10     0     0     0     0     0     0     0     0    50
Growth 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
Initial Bse:    5 1195    10     0     0     0     0     0     0     0     0    50
User 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
PHF 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
PHF Volume:     5 1195    10     0     0     0     0     0     0     0     0    50
Reduct Vol:     0    0     0     0     0     0     0     0     0     0     0     0
Final Vol.:     5 1195    10     0     0     0     0     0     0     0     0    50
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.2
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:    0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   603
Potent Cap.:    0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   497
Move Cap.:      0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   497
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.0
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     B
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx    0 xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      xxxxxx           xxxxxx           xxxxxx             13.0
ApproachLOS:        *                *                *                  B
```

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #28 Bayshore at Fir

Average Delay (sec/veh): 0.0 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0 1	0	0 0	0 0	0	0 0	0 0	0	0 0	0 0	1
Volume Module:												
Base Vol:	0	1375	5	0	0	0	0	0	0	0	0	5
Growth 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
Initial Bse:	0	1375	5	0	0	0	0	0	0	0	0	5
User 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
PHF 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
PHF Volume:	0	1375	5	0	0	0	0	0	0	0	0	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	1375	5	0	0	0	0	0	0	0	0	5
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	690
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	449
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	449
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	13.1
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	B
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:		xxxxxx			xxxxxx			xxxxxx			13.1	
ApproachLOS:		*			*			*			B	

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #29 Broadway at Fir

Average Delay (sec/veh): 0.3 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0 0	0	0 0	1 1	0	0 0	0 0	1	1 0	0 0	0
Volume Module:												
Base Vol:	0	0	0	0	1405	0	0	0	0	50	0	0
Growth 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
Initial Bse:	0	0	0	0	1405	0	0	0	0	50	0	0
User 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
PHF 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
PHF Volume:	0	0	0	0	1405	0	0	0	0	50	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	0	1405	0	0	0	0	50	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	703	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	403	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	403	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	15.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	C	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:		xxxxxx			xxxxxx			xxxxxx			15.2	
ApproachLOS:		*			*			*			C	

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #30 Hwy 101 at Koosbay

Cycle (sec): 100 — Critical Vol./Cap. (X): 0.560
Loss Time (sec): 12 (Y+R = 4 sec) — Average Delay (sec/veh): 12.5
Optimal Cycle: 45 — Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2 0 0			0 0 1 1 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	90	1030	0	0	1180	15	20	0	135	0	0	0
Growth 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
Initial Bse:	90	1030	0	0	1180	15	20	0	135	0	0	0
User 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
PHF 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
PHF Volume:	90	1030	0	0	1180	15	20	0	135	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	90	1030	0	0	1180	15	20	0	135	0	0	0
PCE 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
MLF 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
Final Vol.:	90	1030	0	0	1180	15	20	0	135	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.90	1.00	1.00	0.91	0.91	0.85	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.97	0.03	0.13	0.00	0.87	0.00	0.00	0.00
Final Sat.:	1718	3437	0	0	3422	44	209	0	1409	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.30	0.00	0.00	0.34	0.34	0.10	0.00	0.10	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.09	0.71	0.00	0.00	0.62	0.62	0.17	0.00	0.17	0.00	0.00	0.00
Volume/Cap:	0.56	0.42	0.00	0.00	0.56	0.56	0.56	0.00	0.56	0.00	0.00	0.00
Uniform Del:	43.4	6.1	0.0	0.0	11.3	11.3	38.0	0.0	38.0	0.0	0.0	0.0
IncremntDel:	4.4	0.1	0.0	0.0	0.3	0.3	2.6	0.0	2.6	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	47.8	6.2	0.0	0.0	11.6	11.6	40.6	0.0	40.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.8	6.2	0.0	0.0	11.6	11.6	40.6	0.0	40.6	0.0	0.0	0.0
DesignQueue:	5	18	0	0	27	0	1	0	6	0	0	0

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #31 Ocean Blvd. at Butler

Cycle (sec): 100 — Critical Vol./Cap. (X): 0.309
Loss Time (sec): 8 (Y+R = 4 sec) — Average Delay (sec/veh): 3.7
Optimal Cycle: 24 — Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			1 0 0 0 1			0 1 0 1 0			0 1 0 1 0		
Volume Module:												
Base Vol:	0	0	0	5	0	50	50	695	20	50	680	20
Growth 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
Initial Bse:	0	0	0	5	0	50	50	695	20	50	680	20
User 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
PHF 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
PHF Volume:	0	0	0	5	0	50	50	695	20	50	680	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	5	0	50	50	695	20	50	680	20
PCE 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
MLF 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
Final Vol.:	0	0	0	5	0	50	50	695	20	50	680	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.94	1.00	0.84	0.79	0.79	0.79	0.78	0.78	0.78
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.13	1.82	0.05	0.13	1.82	0.05
Final Sat.:	0	0	0	1787	0	1599	197	2743	79	198	2697	79
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.03	0.25	0.25	0.25	0.25	0.25	0.25
Crit Moves:						****		****				
Green/Cycle:	0.00	0.00	0.00	0.10	0.00	0.10	0.82	0.82	0.82	0.82	0.82	0.82
Volume/Cap:	0.00	0.00	0.00	0.03	0.00	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Uniform Del:	0.0	0.0	0.0	40.5	0.0	41.7	2.2	2.2	2.2	2.2	2.2	2.2
IncremntDel:	0.0	0.0	0.0	0.1	0.0	1.1	0.1	0.1	0.1	0.1	0.1	0.1
Delay Adj:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	0.0	0.0	0.0	40.6	0.0	42.8	2.3	2.3	2.3	2.3	2.3	2.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	40.6	0.0	42.8	2.3	2.3	2.3	2.3	2.3	2.3
DesignQueue:	0	0	0	0	0	3	1	7	0	1	7	0

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #32 Hwy 101 at Newmark

Cycle (sec):	120	Critical Vol./Cap. (X):	0.743
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	29.6
Optimal Cycle:	69	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 1 1 0			1 0 2 0 1			1 0 0 1 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	335	940	5	0	950	85	140	0	315	5	5	5
Growth 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
Initial Bse:	335	940	5	0	950	85	140	0	315	5	5	5
User 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
PHF 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
PHF Volume:	335	940	5	0	950	85	140	0	315	5	5	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	335	940	5	0	950	85	140	0	315	5	5	5
PCE 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
MLF 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
Final Vol.:	335	940	5	0	950	85	140	0	315	5	5	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.91	0.91	0.91	1.00	0.90	0.81	0.74	1.00	0.83	0.81	0.81	0.81
Lanes:	1.00	1.99	0.01	1.00	2.00	1.00	1.00	0.00	1.00	0.34	0.33	0.33
Final Sat.:	1736	3451	18	1900	3437	1537	1408	0	1583	512	512	512
Capacity Analysis Module:												
Vol/Sat:	0.19	0.27	0.27	0.00	0.28	0.06	0.10	0.00	0.20	0.01	0.01	0.01
Crit Moves:	****				****				****			
Green/Cycle:	0.26	0.63	0.63	0.00	0.37	0.37	0.27	0.00	0.27	0.27	0.27	0.27
Volume/Cap:	0.74	0.43	0.43	0.00	0.74	0.15	0.37	0.00	0.74	0.04	0.04	0.04
Uniform Del:	40.7	11.2	11.2	0.0	32.7	25.0	35.7	0.0	40.1	32.5	32.5	32.5
IncremntDel:	6.5	0.1	0.1	0.0	2.4	0.1	0.6	0.0	6.9	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	47.3	11.3	11.3	0.0	35.1	25.2	36.3	0.0	47.1	32.5	32.5	32.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.3	11.3	11.3	0.0	35.1	25.2	36.3	0.0	47.1	32.5	32.5	32.5
DesignQueue:	17	25	0	0	43	4	7	0	16	0	0	0

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #33 Newmark at Sherman

Cycle (sec):	100	Critical Vol./Cap. (X):	0.576
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	27.8
Optimal Cycle:	55	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module:												
Base Vol:	225	135	30	10	110	65	65	460	190	10	415	5
Growth 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
Initial Bse:	225	135	30	10	110	65	65	460	190	10	415	5
User 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
PHF 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
PHF Volume:	225	135	30	10	110	65	65	460	190	10	415	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	225	135	30	10	110	65	65	460	190	10	415	5
PCE 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
MLF 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
Final Vol.:	225	135	30	10	110	65	65	460	190	10	415	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.94	0.96	0.96	0.95	0.94	0.94	0.94	0.99	0.84	0.94	0.99	0.99
Lanes:	1.00	0.82	0.18	1.00	0.63	0.37	1.00	1.00	1.00	1.00	0.99	0.01
Final Sat.:	1787	1497	333	1805	1127	666	1787	1881	1599	1787	1855	22
Capacity Analysis Module:												
Vol/Sat:	0.13	0.09	0.09	0.01	0.10	0.10	0.04	0.24	0.12	0.01	0.22	0.22
Crit Moves:	****				****		****				****	
Green/Cycle:	0.22	0.37	0.37	0.02	0.17	0.17	0.06	0.44	0.44	0.01	0.39	0.39
Volume/Cap:	0.58	0.25	0.25	0.25	0.58	0.58	0.58	0.55	0.27	0.55	0.58	0.58
Uniform Del:	34.9	22.1	22.1	48.0	38.2	38.2	45.5	20.6	17.7	49.3	24.1	24.1
IncremntDel:	2.1	0.2	0.2	3.2	2.7	2.7	7.1	0.8	0.2	32.5	1.1	1.1
Delay 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
Delay/Veh:	37.0	22.3	22.3	51.2	40.9	40.9	52.7	21.4	17.9	81.8	25.2	25.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.0	22.3	22.3	51.2	40.9	40.9	52.7	21.4	17.9	81.8	25.2	25.2
DesignQueue:	10	5	1	1	5	3	3	15	6	1	15	0

```
---------------------------------------------------------------------------
---------------------------------------------------------------------------
                     Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
***************************************************************************
Intersection #34 Newmark at Brussels
***************************************************************************
Cycle (sec):         100              Critical Vol./Cap. (X):        0.391
Loss Time (sec):       8 (Y+R =  4 sec) Average Delay (sec/veh):       8.5
Optimal Cycle:        27              Level Of Service:                  A
***************************************************************************
Approach:       North Bound      South Bound      East Bound      West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:         Permitted        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0    0     0     0    0     0     0    0     0     0
Lanes:         0  0  1! 0  0    0  1  0  0  1    0  1  0  1  0    0  1  0  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       5     0    10  105     0    45  110   650     5    5   450   150
Growth 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
Initial Bse:    5     0    10  105     0    45  110   650     5    5   450   150
User 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
PHF 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
PHF Volume:     5     0    10  105     0    45  110   650     5    5   450   150
Reduct Vol:     0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol:    5     0    10  105     0    45  110   650     5    5   450   150
PCE 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
MLF 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
Final Vol.:     5     0    10  105     0    45  110   650     5    5   450   150
------------|---------------||---------------||---------------||---------------
Saturation Flow Module:
Sat/Lane:    1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900  1900
Adjustment:  0.85  1.00  0.85 0.70  1.00  0.84 0.72  0.72  0.72 0.86  0.86  0.86
Lanes:       0.33  0.00  0.67 1.00  0.00  1.00 0.29  1.70  0.01 0.02  1.49  0.49
Final Sat.:   539     0  1078 1322     0  1599  393  2321    18   27  2432   811
------------|---------------||---------------||---------------||---------------
Capacity Analysis Module:
Vol/Sat:     0.01  0.00  0.01 0.08  0.00  0.03 0.28  0.28  0.28 0.19  0.19  0.19
Crit Moves:                   ****                   ****
Green/Cycle: 0.20  0.00  0.20 0.20  0.00  0.20 0.72  0.72  0.72 0.72  0.72  0.72
Volume/Cap:  0.05  0.00  0.05 0.39  0.00  0.14 0.39  0.39  0.39 0.26  0.26  0.26
Uniform Del: 32.0   0.0  32.0 34.5   0.0  32.7  5.6   5.6   5.6  4.9   4.9   4.9
IncremntDel:  0.1   0.0   0.1  0.9   0.0   0.2  0.1   0.1   0.1  0.1   0.1   0.1
Delay Adj:   1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Delay/Veh:   32.1   0.0  32.1 35.4   0.0  32.9  5.7   5.7   5.7  5.0   5.0   5.0
User DelAdj: 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
AdjDel/Veh:  32.1   0.0  32.1 35.4   0.0  32.9  5.7   5.7   5.7  5.0   5.0   5.0
DesignQueue:    0     0     0    5     0     2    2    11     0    0     7     2
***************************************************************************
```



```
---------------------------------------------------------------------------
---------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
***************************************************************************
Intersection #35 Pony Creek at Crowell
***************************************************************************
Average Delay (sec/veh):       3.5      Worst Case Level Of Service:
***************************************************************************
Approach:       North Bound      South Bound      East Bound      West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:         0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      50   285     0    0   190    50   60     0    55    0     0     0
Growth 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
Initial Bse:   50   285     0    0   190    50   60     0    55    0     0     0
User 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
PHF 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
PHF Volume:    50   285     0    0   190    50   60     0    55    0     0     0
Reduct Vol:     0     0     0    0     0     0    0     0     0    0     0     0
Final Vol.:    50   285     0    0   190    50   60     0    55    0     0     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  4.1  xxxx xxxxx xxxxx xxxx xxxxx  6.4  xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2  xxxx xxxxx xxxxx xxxx xxxxx  3.5  xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:  240  xxxx xxxxx  xxxx xxxx xxxxx  600  xxxx   215  xxxx xxxx xxxxx
Potent Cap.: 1327  xxxx xxxxx  xxxx xxxx xxxxx  462  xxxx   822  xxxx xxxx xxxxx
Move Cap.:   1327  xxxx xxxxx  xxxx xxxx xxxxx  449  xxxx   822  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:  7.8  xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A     *     *    *     *     *    *     *     *    *     *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx  xxxx xxxxx  xxxx xxxx xxxxx  xxxx   573 xxxxx  xxxx xxxx xxxxx
Shrd StpDel:  7.8  xxxx xxxxx xxxxx xxxx xxxxx xxxxx  12.9 xxxxx xxxxx xxxx xxxxx
Shared LOS:     A     *     *    *     *     *    *     B     *    *     *     *
ApproachDel:      xxxxxx           xxxxxx            12.9            xxxxxx
ApproachLOS:        *                *                 B                *
```

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #36 Virginia at Harrison

Cycle (sec): 100 Critical Vol./Cap. (X): 0.408
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 12.1
Optimal Cycle: 36 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	0 0	1!	0 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	85	5	100	15	10	10	25	890	55	35	860	5
Growth 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
Initial Bse:	85	5	100	15	10	10	25	890	55	35	860	5
User 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
PHF 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
PHF Volume:	85	5	100	15	10	10	25	890	55	35	860	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	85	5	100	15	10	10	25	890	55	35	860	5
PCE 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
MLF 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
Final Vol.:	85	5	100	15	10	10	25	890	55	35	860	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.68	0.68	0.83	0.85	0.85	0.85	0.93	0.92	0.92	0.91	0.91	0.91
Lanes:	0.94	0.06	1.00	0.43	0.29	0.28	1.00	1.88	0.12	1.00	1.99	0.01
Final Sat.:	1223	72	1568	691	461	461	1769	3302	204	1736	3449	20
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.06	0.02	0.02	0.02	0.01	0.27	0.27	0.02	0.25	0.25
Crit Moves:		****						****		****		
Green/Cycle:	0.17	0.17	0.17	0.17	0.17	0.17	0.04	0.66	0.66	0.05	0.67	0.67
Volume/Cap:	0.41	0.41	0.37	0.13	0.13	0.13	0.37	0.41	0.41	0.41	0.37	0.37
Uniform Del:	37.0	37.0	36.8	35.2	35.2	35.2	46.9	7.9	7.9	46.1	7.2	7.2
IncremntDel:	1.2	1.2	0.9	0.2	0.2	0.2	3.4	0.1	0.1	3.1	0.1	0.1
Delay 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
Delay/Veh:	38.2	38.2	37.7	35.4	35.4	35.4	50.4	8.0	8.0	49.3	7.3	7.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.2	38.2	37.7	35.4	35.4	35.4	50.4	8.0	8.0	49.3	7.3	7.3
DesignQueue:	4	0	5	1	0	0	1	18	1	2	17	0

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #37 Virginia at Safeway entrance

Average Delay (sec/veh): 3.0 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0	0 1	0 0	1	0 0	0 1	0	1 0	1 0	2	0 0
Volume Module:												
Base Vol:	0	0	105	0	5	0	5	800	55	115	805	0
Growth 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
Initial Bse:	0	0	105	0	5	0	5	800	55	115	805	0
User 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
PHF 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
PHF Volume:	0	0	105	0	5	0	5	800	55	115	805	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	105	0	5	0	5	800	55	115	805	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	6.9	xxxxx	6.5	xxxxx	4.1	xxxx	xxxxx	4.2	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	3.3	xxxxx	4.0	xxxxx	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	428	xxxx	1900	xxxxx	805	xxxx	xxxxx	855	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	578	xxxx	70	xxxxx	815	xxxx	xxxxx	774	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	578	xxxx	59	xxxxx	815	xxxx	xxxxx	774	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	12.6	xxxxx	71.3	xxxxx	9.4	xxxx	xxxxx	10.5	xxxx	xxxxx
LOS by Move:	*	*	B	*	F	*	A	*	*	B	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	A	*	*	*	*	*
ApproachDel:		12.6			71.3			xxxxxx			xxxxxx	
ApproachLOS:		B			F			*			*	

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #38 Virginia at Pony Villiage entrance A
********************************************************************************
Average Delay (sec/veh):       1.4       Worst Case Level Of Service:
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  1  1  0    1  0  2  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      55     0    20     0     0     0     0   815    90    50   835     0
Growth 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
Initial Bse:   55     0    20     0     0     0     0   815    90    50   835     0
User 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
PHF 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
PHF Volume:    55     0    20     0     0     0     0   815    90    50   835     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Final Vol.:    55     0    20     0     0     0     0   815    90    50   835     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: 1378 xxxx   453  xxxx xxxx xxxxx  xxxx xxxx xxxxx   905 xxxx xxxxx
Potent Cap.:  137 xxxx   557  xxxx xxxx xxxxx  xxxx xxxx xxxxx   760 xxxx xxxxx
Move Cap.:    130 xxxx   557  xxxx xxxx xxxxx  xxxx xxxx xxxxx   760 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     B    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  164 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx 44.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    E     *     *    *     *     *    *     *     *    *     *
ApproachDel:       44.4             xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         E                *                *                *
```



```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #39 Sherman at Hwy 101 South
********************************************************************************
Average Delay (sec/veh):       1.3       Worst Case Level Of Service:
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  0  0  0    1  0  1  1  0    0  1  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0     0     0    20   880   230    25    70     0     0     0     0
Growth 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
Initial Bse:    0     0     0    20   880   230    25    70     0     0     0     0
User 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
PHF 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
PHF Volume:     0     0     0    20   880   230    25    70     0     0     0     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Final Vol.:     0     0     0    20   880   230    25    70     0     0     0     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx   6.4  6.5 xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx   3.5  4.0 xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  1035 1035 xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx     0 xxxx xxxxx   259  234 xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx     0 xxxx xxxxx   259  234 xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   240 xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  29.5 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     D    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             29.5           xxxxxx
ApproachLOS:       *                *                D                *
```

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #40 Virginia at Meade

Average Delay (sec/veh): 4.1 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0 1 0			0 0 1! 0 0			0 1 1 0 0			0 0 1 1 0		
Volume Module:												
Base Vol:	5	0	15	5	0	135	270	605	0	0	775	10
Growth 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
Initial Bse:	5	0	15	5	0	135	270	605	0	0	775	10
User 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
PHF 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
PHF Volume:	5	0	15	5	0	135	270	605	0	0	775	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	5	0	15	5	0	135	270	605	0	0	775	10
Critical Gap Module:												
Critical Gp:	7.5	xxxx	6.9	7.5	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1533	xxxx	303	1623	xxxx	393	785	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	81	xxxx	700	69	xxxx	609	829	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	44	xxxx	700	47	xxxx	609	829	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	96.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	F	*	*	*	*	*	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	700	xxxx	428	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	10.3	xxxxx	17.5	xxxxx	11.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	B	*	C	*	B	*	*	*	*	*
ApproachDel:		31.7			17.5			xxxxxx			xxxxxx	
ApproachLOS:		D			C			*			*	

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #41 Virginia at Marion

Average Delay (sec/veh): 1.6 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			1 0 1 1 0			1 0 1 1 0		
Volume Module:												
Base Vol:	30	5	90	20	5	10	0	790	60	30	800	5
Growth 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
Initial Bse:	30	5	90	20	5	10	0	790	60	30	800	5
User 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
PHF 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
PHF Volume:	30	5	90	20	5	10	0	790	60	30	800	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	30	5	90	20	5	10	0	790	60	30	800	5
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1283	1685	425	1260	1713	403	xxxx	xxxx	xxxxx	850	xxxx	xxxxx
Potent Cap.:	123	94	580	129	91	603	xxxx	xxxx	xxxxx	784	xxxx	xxxxx
Move Cap.:	113	90	580	102	88	603	xxxx	xxxx	xxxxx	784	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.8	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	262	xxxxx	xxxx	129	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	30.6	xxxxx	xxxxx	42.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	D	*	*	E	*	*	*	*	*	*	*
ApproachDel:		30.6			42.8			xxxxxx			xxxxxx	
ApproachLOS:		D			E			*			*	

```
------------------------------------------------------------------------------
------------------------------------------------------------------------------
                  Level Of Service Computation Report
         2000 HCM Unsignalized Method (Base Volume Alternative)
******************************************************************************
Intersection #42 Virginia at Maple
******************************************************************************
Average Delay (sec/veh):     2.9        Worst Case Level Of Service:
******************************************************************************
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:       0  0  0  0  0    1  0  0  0  1    0  0  1  0  0    0  0  1  0  1
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0    0    0   150    0   10     0  285    0     0  375  125
Growth 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
Initial Bse:    0    0    0   150    0   10     0  285    0     0  375  125
User 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
PHF 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
PHF Volume:     0    0    0   150    0   10     0  285    0     0  375  125
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Final Vol.:     0    0    0   150    0   10     0  285    0     0  375  125
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx  6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx  3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   660 xxxx  375  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   430 xxxx  674  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   430 xxxx  674  xxxx xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx  17.8 xxxx 10.4 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *    *     C    *    B     *    *    *     *    *    *
Movement:    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *    *     *    *    *     *    *    *     *    *    *
ApproachDel:     xxxxxx            17.4            xxxxxx           xxxxxx
ApproachLOS:        *                C                *                *
```



```
------------------------------------------------------------------------------
------------------------------------------------------------------------------
                  Level Of Service Computation Report
         2000 HCM Unsignalized Method (Base Volume Alternative)
******************************************************************************
Intersection #43 Maple at East Airport Way
******************************************************************************
Average Delay (sec/veh):     2.1        Worst Case Level Of Service:
******************************************************************************
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:       0  0  0  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0    0    0    10    0   10     5  110    0     0  110   30
Growth 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
Initial Bse:    0    0    0    10    0   10     5  110    0     0  110   30
User 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
PHF 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
PHF Volume:     0    0    0    10    0   10     5  110    0     0  110   30
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Final Vol.:     0    0    0    10    0   10     5  110    0     0  110   30
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx  6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx  3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   245 xxxx  125   140 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   746 xxxx  928  1456 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   744 xxxx  928  1456 xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *    *     *    *    *     A    *    *     *    *    *
Movement:    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  826 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx  9.5 xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *    *     *    A    *     A    *    *     *    *    *
ApproachDel:     xxxxxx             9.5            xxxxxx           xxxxxx
ApproachLOS:        *                A                *                *
```

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                 Level Of Service Computation Report
       2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #44 Virginia at Arthur
********************************************************************************
Average Delay (sec/veh):      0.5         Worst Case Level Of Service:
********************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  0  0  0   0  0  1! 0  0   0  0  1  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0    0     0    10    0    15     0   95     0     0  200    15
Growth 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
Initial Bse:    0    0     0    10    0    15     0   95     0     0  200    15
User 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
PHF 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
PHF Volume:     0    0     0    10    0    15     0   95     0     0  200    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     0    0     0    10    0    15     0   95     0     0  200    15
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   303 xxxx   208  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   693 xxxx   838  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   693 xxxx   838  xxxx xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  773 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx  9.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    A     *     *    *     *     *    *     *
ApproachDel:     xxxxxx             9.8            xxxxxx           xxxxxx
ApproachLOS:        *                A                *                *
```

Traffix 7.5.0715 (c) 2002 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR


```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                 Level Of Service Computation Report
       2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #45 Virginia at Channel St.
********************************************************************************
Average Delay (sec/veh):      2.0         Worst Case Level Of Service:
********************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  1! 0  0   0  0  1! 0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0    0     0    15    0    10    20  110     0     0  170     5
Growth 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
Initial Bse:    0    0     0    15    0    10    20  110     0     0  170     5
User 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
PHF 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
PHF Volume:     0    0     0    15    0    10    20  110     0     0  170     5
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     0    0     0    15    0    10    20  110     0     0  170     5
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   323 xxxx   173   175 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   675 xxxx   876  1401 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   668 xxxx   876  1401 xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx    0 xxxxx  xxxx  738 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx 10.0 xxxxx   7.6 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     A    *     *     *    *     *
ApproachDel:     xxxxxx            10.0            xxxxxx           xxxxxx
ApproachLOS:        *                B                *                *
```

Traffix 7.5.0715 (c) 2002 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #46 Lakeshore at Crocker

Average Delay (sec/veh): 5.0 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 0 1! 0 0			0 1 0 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	0	10	5	25	5	55	50	70	0	0	30	5
Growth 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
Initial Bse:	0	10	5	25	5	55	50	70	0	0	30	5
User 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
PHF 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
PHF Volume:	0	10	5	25	5	55	50	70	0	0	30	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	10	5	25	5	55	50	70	0	0	30	5
Critical Gap Module:												
Critical Gp:	xxxxx	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	205	70	210	203	33	35	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	695	998	745	692	1038	1576	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	672	998	715	669	1038	1576	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	754	xxxx	891	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	9.9	xxxxx	9.5	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	A	*	A	*	A	*	*	*	*	*
ApproachDel:		9.9			9.5			xxxxxx			xxxxxx	
ApproachLOS:		A			A			*			*	

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #47 Virginia at Oak

Average Delay (sec/veh): 2.0 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	5	15	50	15	30	10	5	180	20	70	250	20
Growth 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
Initial Bse:	5	15	50	15	30	10	5	180	20	70	250	20
User 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
PHF 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
PHF Volume:	5	15	50	15	30	10	5	180	20	70	250	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	5	15	50	15	30	10	5	180	20	70	250	20
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	620	610	190	633	610	260	270	xxxx	xxxxx	200	xxxx	xxxxx
Potent Cap.:	400	409	852	396	412	784	1288	xxxx	xxxxx	1378	xxxx	xxxxx
Move Cap.:	357	387	852	346	389	784	1288	xxxx	xxxxx	1378	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	7.8	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	628	xxxxx	xxxx	413	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	11.5	xxxxx	xxxxx	15.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	C	*	*	*	*	*	*	*
ApproachDel:		11.5			15.0			xxxxxx			xxxxxx	
ApproachLOS:		B			C			*			*	

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                  Level Of Service Computation Report
           2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #48 Newmark at Oak
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.489
Loss Time (sec):     12 (Y+R =  4 sec) Average Delay (sec/veh):      10.2
Optimal Cycle:       40              Level Of Service:                  B
********************************************************************************
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Split Phase      Split Phase       Protected        Permitted
Rights:           Include          Include          Include          Include
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:         0  0  0  0  0    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      0     0     0   50     0    70   75  1015     0    0  1035    75
Growth 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
Initial Bse:   0     0     0   50     0    70   75  1015     0    0  1035    75
User 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
PHF 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
PHF Volume:    0     0     0   50     0    70   75  1015     0    0  1035    75
Reduct Vol:    0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol:   0     0     0   50     0    70   75  1015     0    0  1035    75
PCE 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
MLF 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
Final Vol.:    0     0     0   50     0    70   75  1015     0    0  1035    75
------------|---------------||---------------||---------------||---------------
Saturation Flow Module:
Sat/Lane:   1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900  1900
Adjustment: 1.00  1.00  1.00 0.89  1.00  0.89 0.93  0.93  1.00 1.00  0.92  0.92
Lanes:      0.00  0.00  0.00 0.42  0.00  0.58 1.00  2.00  0.00 0.00  1.86  0.14
Final Sat.:    0     0     0  707     0   990 1769  3538     0    0  3266   237
------------|---------------||---------------||---------------||---------------
Capacity Analysis Module:
Vol/Sat:    0.00  0.00  0.00 0.07  0.00  0.07 0.04  0.29  0.00 0.00  0.32  0.32
Crit Moves:                  ****             ****                    ****
Green/Cycle: 0.00 0.00  0.00 0.14  0.00  0.14 0.09  0.74  0.00 0.00  0.65  0.65
Volume/Cap: 0.00  0.00  0.00 0.49  0.00  0.49 0.49  0.39  0.00 0.00  0.49  0.49
Uniform Del: 0.0   0.0   0.0 39.4   0.0  39.4 43.5   4.9   0.0  0.0   9.0   9.0
IncremntDel: 0.0   0.0   0.0  1.5   0.0   1.5  2.4   0.1   0.0  0.0   0.2   0.2
Delay Adj:  0.00  0.00  0.00 1.00  0.00  1.00 1.00  1.00  0.00 0.00  1.00  1.00
Delay/Veh:   0.0   0.0   0.0 40.9   0.0  40.9 46.0   5.0   0.0  0.0   9.2   9.2
User DelAdj: 1.00 1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
AdjDel/Veh:  0.0   0.0   0.0 40.9   0.0  40.9 46.0   5.0   0.0  0.0   9.2   9.2
DesignQueue:   0     0     0    2     0     3    4    16     0    0    22     2
********************************************************************************
```



```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                  Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #49 Newmark at Morrison
********************************************************************************
Average Delay (sec/veh):     1.1        Worst Case Level Of Service:
********************************************************************************
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:         0  0  1! 0  0    0  0  1! 0  0    1  0  1  1  0    1  0  1  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:     15     0   115    0     0     0    0   715    20  150   825     0
Growth 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
Initial Bse:  15     0   115    0     0     0    0   715    20  150   825     0
User 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
PHF 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
PHF Volume:   15     0   115    0     0     0    0   715    20  150   825     0
Reduct Vol:    0     0     0    0     0     0    0     0     0    0     0     0
Final Vol.:   15     0   115    0     0     0    0   715    20  150   825     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx  2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: 1438 xxxx   368  xxxx xxxx xxxxx  xxxx xxxx xxxxx  735 xxxx xxxxx
Potent Cap.:  124 xxxx   630  xxxx xxxx xxxxx  xxxx xxxx xxxxx  866 xxxx xxxxx
Move Cap.:    108 xxxx   630  xxxx xxxx xxxxx  xxxx xxxx xxxxx  866 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 10.0 xxxx xxxxx
LOS by Move:   *     *     *    *     *     *    *     *     *    B     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  404 xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx 18.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:    *     C     *    *     *     *    *     *     *    *     *     *
ApproachDel:       18.1            xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         C                *                *                *
```

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #50 Empire Blvd. at Pacific

Average Delay (sec/veh): 2.4 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 0 0 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	515	25	5	560	0	0	0	0	20	0	10
Growth 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
Initial Bse:	0	515	25	5	560	0	0	0	0	20	0	10
User 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
PHF 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
PHF Volume:	0	515	25	5	560	0	0	0	0	20	0	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	515	25	5	560	0	0	0	0	20	0	10
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	540	xxxx	xxxxx	xxxx	xxxx	xxxxx	1098	xxxx	528
Potent Cap.:	xxxx	xxxx	xxxxx	1023	xxxx	xxxxx	xxxx	xxxx	xxxxx	234	xxxx	547
Move Cap.:	xxxx	xxxx	xxxxx	1023	xxxx	xxxxx	xxxx	xxxx	xxxxx	233	xxxx	547
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	288	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	19.0	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			19.0		
ApproachLOS:	*			*			*			C		

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #51 Virginia at Hwy 101 North

Cycle (sec): 100 Critical Vol./Cap. (X): 0.401
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 14.1
Optimal Cycle: 27 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1 1 1 0			0 0 0 0 0			1 0 1 0 0			0 0 1 1 0		
Volume Module:												
Base Vol:	335	790	5	0	0	0	175	30	0	0	50	10
Growth 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
Initial Bse:	335	790	5	0	0	0	175	30	0	0	50	10
User 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
PHF 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
PHF Volume:	335	790	5	0	0	0	175	30	0	0	50	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	335	790	5	0	0	0	175	30	0	0	50	10
PCE 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
MLF 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
Final Vol.:	335	790	5	0	0	0	175	30	0	0	50	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.86	0.86	0.86	1.00	1.00	1.00	0.67	0.94	1.00	1.00	0.88	0.88
Lanes:	0.89	2.10	0.01	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.67	0.33
Final Sat.:	1447	3413	22	0	0	0	1277	1777	0	0	2792	558
Capacity Analysis Module:												
Vol/Sat:	0.23	0.23	0.23	0.00	0.00	0.00	0.14	0.02	0.00	0.00	0.02	0.02
Crit Moves:	****						****					
Green/Cycle:	0.58	0.58	0.58	0.00	0.00	0.00	0.34	0.34	0.00	0.00	0.34	0.34
Volume/Cap:	0.40	0.40	0.40	0.00	0.00	0.00	0.40	0.05	0.00	0.00	0.05	0.05
Uniform Del:	11.6	11.6	11.6	0.0	0.0	0.0	25.1	22.0	0.0	0.0	22.0	22.0
IncremntDel:	0.1	0.1	0.1	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Delay/Veh:	11.7	11.7	11.7	0.0	0.0	0.0	25.7	22.0	0.0	0.0	22.1	22.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.7	11.7	11.7	0.0	0.0	0.0	25.7	22.0	0.0	0.0	22.1	22.1
DesignQueue:	8	20	0	0	0	0	7	1	0	0	2	0

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #52 Virginia at Hwy 101 South

Cycle (sec): 100 Critical Vol./Cap. (X): 0.482
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 18.4
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	1	0 1	1 1	0	0 0	1 1	0	0 1	1 0	0
Volume Module:												
Base Vol:	0	0	5	10	640	350	0	150	330	50	250	0
Growth 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
Initial Bse:	0	0	5	10	640	350	0	150	330	50	250	0
User 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
PHF 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
PHF Volume:	0	0	5	10	640	350	0	150	330	50	250	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	5	10	640	350	0	150	330	50	250	0
PCE 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
MLF 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
Final Vol.:	0	0	5	10	640	350	0	150	330	50	250	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.87	0.81	0.81	0.81	1.00	0.82	0.82	0.76	0.76	1.00
Lanes:	0.00	0.00	1.00	0.03	1.97	1.00	0.00	1.00	1.00	0.33	1.67	0.00
Final Sat.:	0	0	1644	47	3018	1533	0	1558	1558	479	2393	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.21	0.21	0.23	0.00	0.10	0.21	0.10	0.10	0.00
Crit Moves:			****			****			****			
Green/Cycle:	0.00	0.00	0.01	0.47	0.47	0.47	0.00	0.44	0.44	0.44	0.44	0.00
Volume/Cap:	0.00	0.00	0.48	0.45	0.45	0.48	0.00	0.22	0.48	0.24	0.24	0.00
Uniform Del:	0.0	0.0	49.5	17.6	17.6	17.9	0.0	17.4	19.9	17.5	17.5	0.0
IncremntDel:	0.0	0.0	31.3	0.1	0.1	0.2	0.0	0.1	0.4	0.1	0.1	0.0
Delay Adj:	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	0.0	0.0	80.8	17.7	17.7	18.1	0.0	17.4	20.3	17.6	17.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	80.8	17.7	17.7	18.1	0.0	17.4	20.3	17.6	17.6	0.0
DesignQueue:	0	0	0	0	20	11	0	5	11	2	8	0

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #53 California at Hwy 101 North

Average Delay (sec/veh): 0.2 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	1 1	0	0 0	0 0	0	0 1	0 0	0	0 0	0 1	0
Volume Module:												
Base Vol:	70	805	0	0	0	0	10	5	0	0	5	10
Growth 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
Initial Bse:	70	805	0	0	0	0	10	5	0	0	5	10
User 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
PHF 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
PHF Volume:	70	805	0	0	0	0	10	5	0	0	5	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	70	805	0	0	0	0	10	5	0	0	5	10
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	6.6	xxxxx	xxxxx	6.6	6.3
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.6	4.1	xxxxx	xxxxx	4.0	3.3
Capacity Module:												
Cnflict Vol:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	411	945	xxxxx	xxxx	945	268
Potent Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	534	252	xxxxx	xxxx	259	763
Move Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	519	252	xxxxx	xxxx	259	763
Level Of Service Module:												
Stopped Del:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	384	xxxx	xxxxx	xxxx	xxxx	463
Shrd StpDel:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	14.8	xxxx	xxxxx	xxxxx	xxxx	13.0
Shared LOS:	A	*	*	*	*	*	B	*	*	*	*	B
ApproachDel:	xxxxxx			xxxxxx			14.8			13.0		
ApproachLOS:	*			*			B			B		

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #54 Florida at Sherman

Cycle (sec): 100 Critical Vol./Cap. (X): 0.542
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 20.3
Optimal Cycle: 34 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Permitted			Permitted			Permitted			Permitted	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1 0 1 0			0 1 0 1 0			0 0 1! 0 0			0 1 0 0 0		
Volume Module:												
Base Vol:	5	780	0	0	760	5	310	5	15	70	10	0
Growth 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
Initial Bse:	5	780	0	0	760	5	310	5	15	70	10	0
User 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
PHF 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
PHF Volume:	5	780	0	0	760	5	310	5	15	70	10	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	780	0	0	760	5	310	5	15	70	10	0
PCE 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
MLF 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
Final Vol.:	5	780	0	0	760	5	310	5	15	70	10	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.95	0.95	0.90	0.90	0.66	0.66	0.66	0.63	0.63	1.00
Lanes:	0.01	1.99	0.00	0.00	1.99	0.01	0.94	0.01	0.05	0.87	0.13	0.00
Final Sat.:	21	3285	0	0	3411	22	1186	19	57	1040	149	0
Capacity Analysis Module:												
Vol/Sat:	0.24	0.24	0.00	0.00	0.22	0.22	0.26	0.26	0.26	0.07	0.07	0.00
Crit Moves:		****						****				
Green/Cycle:	0.44	0.44	0.00	0.00	0.44	0.44	0.48	0.48	0.48	0.48	0.48	0.00
Volume/Cap:	0.54	0.54	0.00	0.00	0.51	0.51	0.54	0.54	0.54	0.14	0.14	0.00
Uniform Del:	20.7	20.7	0.0	0.0	20.3	20.3	18.2	18.2	18.2	14.4	14.4	0.0
IncremntDel:	0.4	0.4	0.0	0.0	0.3	0.3	1.0	1.0	1.0	0.1	0.1	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	21.1	21.1	0.0	0.0	20.6	20.6	19.2	19.2	19.2	14.5	14.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.1	21.1	0.0	0.0	20.6	20.6	19.2	19.2	19.2	14.5	14.5	0.0
DesignQueue:	0	26	0	0	25	0	9	0	0	2	0	0

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #55 Broadway at 16th

Cycle (sec): 100 Critical Vol./Cap. (X): 0.408
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 13.9
Optimal Cycle: 36 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Permitted			Permitted	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 1 1 0			1 0 1 1 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	10	805	30	5	665	25	30	0	10	135	15	10
Growth 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
Initial Bse:	10	805	30	5	665	25	30	0	10	135	15	10
User 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
PHF 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
PHF Volume:	10	805	30	5	665	25	30	0	10	135	15	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	805	30	5	665	25	30	0	10	135	15	10
PCE 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
MLF 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
Final Vol.:	10	805	30	5	665	25	30	0	10	135	15	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.93	0.93	0.93	0.75	1.00	0.75	0.71	0.71	0.71
Lanes:	1.00	1.93	0.07	1.00	1.93	0.07	0.75	0.00	0.25	0.85	0.09	0.06
Final Sat.:	1769	3394	126	1769	3393	128	1066	0	355	1134	126	84
Capacity Analysis Module:												
Vol/Sat:	0.01	0.24	0.24	0.00	0.20	0.20	0.03	0.00	0.03	0.12	0.12	0.12
Crit Moves:		****		****							****	
Green/Cycle:	0.02	0.58	0.58	0.01	0.57	0.57	0.29	0.00	0.29	0.29	0.29	0.29
Volume/Cap:	0.34	0.41	0.41	0.41	0.34	0.34	0.10	0.00	0.10	0.41	0.41	0.41
Uniform Del:	48.6	11.5	11.5	49.4	11.4	11.4	25.8	0.0	25.8	28.5	28.5	28.5
IncremntDel:	6.9	0.1	0.1	20.7	0.1	0.1	0.1	0.0	0.1	0.7	0.7	0.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	55.6	11.6	11.6	70.1	11.5	11.5	25.9	0.0	25.9	29.2	29.2	29.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.6	11.6	11.6	70.1	11.5	11.5	25.9	0.0	25.9	29.2	29.2	29.2
DesignQueue:	1	20	1	0	17	1	1	0	0	5	1	0

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #56 Broadway at Newmark

Cycle (sec):	100	Critical Vol./Cap. (X):	0.955
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	52.5
Optimal Cycle:	143	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0 1	0	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	130	330	30	70	240	355	430	420	130	35	315	130
Growth 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
Initial Bse:	130	330	30	70	240	355	430	420	130	35	315	130
User 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
PHF 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
PHF Volume:	130	330	30	70	240	355	430	420	130	35	315	130
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	130	330	30	70	240	355	430	420	130	35	315	130
PCE 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
MLF 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
Final Vol.:	130	330	30	70	240	355	430	420	130	35	315	130
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.94	0.98	0.98	0.92	0.88	0.88	0.93	0.90	0.90	0.93	0.89	0.89
Lanes:	1.00	0.92	0.08	1.00	0.40	0.60	1.00	1.53	0.47	1.00	1.42	0.58
Final Sat.:	1787	1704	155	1753	677	1002	1769	2607	807	1769	2394	988
Capacity Analysis Module:												
Vol/Sat:	0.07	0.19	0.19	0.04	0.35	0.35	0.24	0.16	0.16	0.02	0.13	0.13
Crit Moves:	****				****		****				****	
Green/Cycle:	0.08	0.37	0.37	0.08	0.37	0.37	0.25	0.35	0.35	0.04	0.14	0.14
Volume/Cap:	0.95	0.52	0.52	0.52	0.95	0.95	0.95	0.46	0.46	0.46	0.95	0.95
Uniform Del:	46.0	24.5	24.5	44.4	30.6	30.6	36.7	25.2	25.2	46.7	42.8	42.8
IncremntDel:	63.0	0.7	0.7	3.7	25.2	25.2	31.0	0.3	0.3	4.4	30.3	30.3
Delay 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
Delay/Veh:	109.1	25.3	25.3	48.1	55.8	55.8	67.7	25.5	25.5	51.1	73.1	73.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	109.1	25.3	25.3	48.1	55.8	55.8	67.7	25.5	25.5	51.1	73.1	73.1
DesignQueue:	7	12	1	4	9	14	19	16	5	2	16	6

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #57 Newmark at Laclair

Average Delay (sec/veh): 0.8 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1!	0 0	0 0	1!	0 0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	15	0	80	0	0	0	0	685	15	35	735	0
Growth 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
Initial Bse:	15	0	80	0	0	0	0	685	15	35	735	0
User 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
PHF 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
PHF Volume:	15	0	80	0	0	0	0	685	15	35	735	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	15	0	80	0	0	0	0	685	15	35	735	0
Critical Gap Module:												
Critical Gp:	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1498	xxxx	693	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	700	xxxx	xxxxx
Potent Cap.:	136	xxxx	445	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	897	xxxx	xxxxx
Move Cap.:	132	xxxx	445	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	897	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	324	xxxxx	xxxx	0	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	20.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	*	*	*	*	*	*	*	*
ApproachDel:		20.7			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		C			*			*			*	

```
---------------------------------------------------------------------------------
---------------------------------------------------------------------------------
                     Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
*********************************************************************************
Intersection #58 Newmark at Ocean Blvd.
*********************************************************************************
Cycle (sec):        100             Critical Vol./Cap. (X):         0.524
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):      14.3
Optimal Cycle:       33             Level Of Service:                  B
*********************************************************************************
Approach:      North Bound     South Bound      East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Split Phase     Split Phase       Permitted       Permitted
Rights:          Include         Include          Include         Include
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Lanes:        2  0  0  0  1   0  0  0  0  1   1  0  1  0  2   0  0  1  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:     510    0   35    0    0    0    0  615  325    0  680    0
Growth 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
Initial Bse:  510    0   35    0    0    0    0  615  325    0  680    0
User 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
PHF 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
PHF Volume:   510    0   35    0    0    0    0  615  325    0  680    0
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  510    0   35    0    0    0    0  615  325    0  680    0
PCE 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
MLF 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
Final Vol.:   510    0   35    0    0    0    0  615  325    0  680    0
------------|---------------||---------------||---------------||---------------
Saturation Flow Module:
Sat/Lane:    1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.90 1.00 0.83 1.00 1.00 1.00 1.00 0.97 0.73 1.00 0.93 0.95
Lanes:       2.00 0.00 1.00 0.00 0.00 1.00 1.00 1.00 2.00 0.00 2.00 0.00
Final Sat.:  3432    0 1583    0    0 1900 1900 1845 2760    0 3538    0
------------|---------------||---------------||---------------||---------------
Capacity Analysis Module:
Vol/Sat:     0.15 0.00 0.02 0.00 0.00 0.00 0.00 0.33 0.12 0.00 0.19 0.00
Crit Moves:  ****                                 ****
Green/Cycle: 0.28 0.00 0.28 0.00 0.00 0.00 0.00 0.64 0.64 0.00 0.64 0.00
Volume/Cap:  0.52 0.00 0.08 0.00 0.00 0.00 0.00 0.52 0.19 0.00 0.30 0.00
Uniform Del: 30.1  0.0 26.2  0.0  0.0  0.0  0.0  9.9  7.5  0.0  8.2  0.0
IncremntDel:  0.5  0.0  0.1  0.0  0.0  0.0  0.0  0.4  0.1  0.0  0.1  0.0
Delay Adj:   1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.00 1.00 0.00 1.00 0.00
Delay/Veh:   30.7  0.0 26.3  0.0  0.0  0.0  0.0 10.4  7.5  0.0  8.3  0.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  30.7  0.0 26.3  0.0  0.0  0.0  0.0 10.4  7.5  0.0  8.3  0.0
DesignQueue:   21    0    1    0    0    0    0   14    7    0   14    0
*********************************************************************************
```



```
---------------------------------------------------------------------------------
---------------------------------------------------------------------------------
                     Level Of Service Computation Report
             2000 HCM Unsignalized Method (Base Volume Alternative)
*********************************************************************************
Intersection #59 Thompson at Koosbay
*********************************************************************************
Average Delay (sec/veh):       5.0        Worst Case Level Of Service:
*********************************************************************************
Approach:      North Bound     South Bound      East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled    Uncontrolled      Stop Sign       Stop Sign
Rights:          Include         Include          Include         Include
Lanes:        1  0  1  0  0   0  0  0  1  0   0  0  1! 0  0   0  0  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:     150  250    0    0  280   25   85    0  175    0    0    0
Growth 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
Initial Bse:  150  250    0    0  280   25   85    0  175    0    0    0
User 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
PHF 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
PHF Volume:   150  250    0    0  280   25   85    0  175    0    0    0
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Final Vol.:   150  250    0    0  280   25   85    0  175    0    0    0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx  6.4 xxxx  6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx  3.5 xxxx  3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:  305 xxxx xxxxx  xxxx xxxx xxxxx  843 xxxx  293  xxxx xxxx xxxxx
Potent Cap.: 1262 xxxx xxxxx  xxxx xxxx xxxxx  336 xxxx  749  xxxx xxxx xxxxx
Move Cap.:   1262 xxxx xxxxx  xxxx xxxx xxxxx  305 xxxx  749  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:  8.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *    *    *    *    *    *    *    *    *    *    *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx xxxx  508 xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 19.3 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *    *    *    *    *    *    C    *    *    *    *
ApproachDel:     xxxxxx          xxxxxx           19.3           xxxxxx
ApproachLOS:       *               *               C               *
```

```
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #60 Woodland at Thompson
*******************************************************************************
Average Delay (sec/veh):       2.9       Worst Case Level Of Service:
*******************************************************************************
Approach:      North Bound       South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled      Uncontrolled       Stop Sign         Stop Sign
Rights:           Include           Include          Include           Include
Lanes:        0  0  0  1  0    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:        0  290    20   115  425     0     0    0     0    30    0   210
Growth 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
Initial Bse:     0  290    20   115  425     0     0    0     0    30    0   210
User 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
PHF 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
PHF Volume:      0  290    20   115  425     0     0    0     0    30    0   210
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:      0  290    20   115  425     0     0    0     0    30    0   210
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx    4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx    2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx    310 xxxx xxxxx  xxxx xxxx xxxxx   955 xxxx   300
Potent Cap.: xxxx xxxx xxxxx   1250 xxxx xxxxx  xxxx xxxx xxxxx   287 xxxx   740
Move Cap.:   xxxx xxxx xxxxx   1250 xxxx xxxxx  xxxx xxxx xxxxx   266 xxxx   740
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx    8.2 xxxx xxxxx xxxxx xxxx xxxxx  20.2 xxxx  11.8
LOS by Move:    *    *     *     A    *     *     *    *     *     C    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx            xxxxxx             12.8
ApproachLOS:        *                *                 *                  B
```



```
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM Operations Method (Base Volume Alternative)
*******************************************************************************
Intersection #61 Ocean Blvd. at Woodland
*******************************************************************************
Cycle (sec):         100              Critical Vol./Cap. (X):         0.465
Loss Time (sec):      12 (Y+R =  4 sec) Average Delay (sec/veh):       19.8
Optimal Cycle:        39              Level Of Service:                   B
*******************************************************************************
Approach:      North Bound       South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Split Phase       Split Phase        Protected         Protected
Rights:           Include           Include          Include           Include
Min. Green:      0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  0  0  0    1  0  0  0  1    1  0  2  0  0    0  0  1  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:        0    0     0   285    0   110    70  545     0     0  510   195
Growth 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
Initial Bse:     0    0     0   285    0   110    70  545     0     0  510   195
User 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
PHF 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
PHF Volume:      0    0     0   285    0   110    70  545     0     0  510   195
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:     0    0     0   285    0   110    70  545     0     0  510   195
PCE 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
MLF 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
Final Vol.:      0    0     0   285    0   110    70  545     0     0  510   195
------------|---------------||---------------||---------------||---------------
Saturation Flow Module:
Sat/Lane:     1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:   1.00 1.00  1.00  0.93 1.00  0.83  0.92 0.92  1.00  1.00 0.89  0.89
Lanes:        0.00 0.00  0.00  1.00 0.00  1.00  1.00 2.00  0.00  0.00 1.45  0.55
Final Sat.:      0    0     0  1769    0  1583  1753 3505     0     0 2452   937
------------|---------------||---------------||---------------||---------------
Capacity Analysis Module:
Vol/Sat:      0.00 0.00  0.00  0.16 0.00  0.07  0.04 0.16  0.00  0.00 0.21  0.21
Crit Moves:                    ****             ****                  ****
Green/Cycle:  0.00 0.00  0.00  0.35 0.00  0.35  0.09 0.53  0.00  0.00 0.45  0.45
Volume/Cap:   0.00 0.00  0.00  0.46 0.00  0.20  0.46 0.29  0.00  0.00 0.46  0.46
Uniform Del:   0.0  0.0   0.0  25.4  0.0  22.9  43.5 12.9   0.0   0.0 19.3  19.3
IncremntDel:   0.0  0.0   0.0   0.6  0.0   0.2   2.3  0.1   0.0   0.0  0.2   0.2
Delay Adj:    0.00 0.00  0.00  1.00 0.00  1.00  1.00 1.00  0.00  0.00 1.00  1.00
Delay/Veh:     0.0  0.0   0.0  26.0  0.0  23.1  45.8 13.0   0.0   0.0 19.5  19.5
User DelAdj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:    0.0  0.0   0.0  26.0  0.0  23.1  45.8 13.0   0.0   0.0 19.5  19.5
DesignQueue:     0    0     0    11    0     4     4   15     0     0   16     6
*******************************************************************************
```

```
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #62 Ocean Blvd. at Radar
********************************************************************************
Average Delay (sec/veh):       3.0          Worst Case Level Of Service:
********************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:       0  0  1! 0  0   0  0  0  0  0   0  0  1  1  0   0  1  1  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      10    0    70     0    0     0     0  390    50    75  560     0
Growth 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
Initial Bse:   10    0    70     0    0     0     0  390    50    75  560     0
User 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
PHF 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
PHF Volume:    10    0    70     0    0     0     0  390    50    75  560     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:    10    0    70     0    0     0     0  390    50    75  560     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:  845 xxxx   220  xxxx xxxx xxxxx  xxxx xxxx xxxxx   440 xxxx xxxxx
Potent Cap.:  302 xxxx   784  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1116 xxxx xxxxx
Move Cap.:    286 xxxx   784  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1116 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx  644 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx 11.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx
Shared LOS:     *    B     *     *    *     *     *    *     *     A    *     *
ApproachDel:        11.4            xxxxxx           xxxxxx           xxxxxx
ApproachLOS:          B                *                *                *
```



```
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #63 Hwy 101 at Clark
********************************************************************************
Average Delay (sec/veh):       0.3          Worst Case Level Of Service:
********************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:       1  0  2  0  0   0  0  1  1  0   0  0  1! 0  0   0  0  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      30 1065     0     0 1035     5    10    0    15     0    0     0
Growth 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
Initial Bse:   30 1065     0     0 1035     5    10    0    15     0    0     0
User 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
PHF 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
PHF Volume:    30 1065     0     0 1035     5    10    0    15     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:    30 1065     0     0 1035     5    10    0    15     0    0     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  4.2 xxxx xxxxx xxxxx xxxx xxxxx   6.8 xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: 1040 xxxx xxxxx  xxxx xxxx xxxxx  1630 xxxx   520  xxxx xxxx xxxxx
Potent Cap.:  658 xxxx xxxxx  xxxx xxxx xxxxx    94 xxxx   506  xxxx xxxx xxxxx
Move Cap.:    658 xxxx xxxxx  xxxx xxxx xxxxx    91 xxxx   506  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del: 10.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    B    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  179 xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 28.3 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    D     *     *    *     *
ApproachDel:       xxxxxx           xxxxxx             28.3           xxxxxx
ApproachLOS:          *                *                D                *
```

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #64 Hwy 101 at Casino entrance

Cycle (sec):	100	Critical Vol./Cap. (X):	0.489
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	14.5
Optimal Cycle:	40	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	1 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	5	960	110	50	860	0	10	20	10	110	10	50
Growth 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
Initial Bse:	5	960	110	50	860	0	10	20	10	110	10	50
User 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
PHF 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
PHF Volume:	5	960	110	50	860	0	10	20	10	110	10	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	960	110	50	860	0	10	20	10	110	10	50
PCE 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
MLF 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
Final Vol.:	5	960	110	50	860	0	10	20	10	110	10	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.91	0.91	0.82	0.91	0.91	0.95	0.90	0.90	0.90	0.72	0.72	0.72
Lanes:	1.00	2.00	1.00	1.00	2.00	0.00	0.25	0.50	0.25	0.65	0.06	0.29
Final Sat.:	1736	3473	1554	1736	3473	0	428	856	428	880	80	400
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.07	0.03	0.25	0.00	0.02	0.02	0.02	0.13	0.13	0.13
Crit Moves:		****		****							****	
Green/Cycle:	0.01	0.57	0.57	0.06	0.62	0.00	0.26	0.26	0.26	0.26	0.26	0.26
Volume/Cap:	0.40	0.49	0.13	0.49	0.40	0.00	0.09	0.09	0.09	0.49	0.49	0.49
Uniform Del:	49.4	13.1	10.2	45.6	9.7	0.0	28.4	28.4	28.4	31.7	31.7	31.7
IncremntDel:	19.8	0.2	0.1	3.6	0.1	0.0	0.1	0.1	0.1	1.1	1.1	1.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	69.3	13.2	10.2	49.2	9.9	0.0	28.5	28.5	28.5	32.7	32.7	32.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	69.3	13.2	10.2	49.2	9.9	0.0	28.5	28.5	28.5	32.7	32.7	32.7
DesignQueue:	0	25	3	3	19	0	0	1	0	5	0	2

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #65 Libby at Wilshire

Average Delay (sec/veh):	3.4	Worst Case Level Of Service:	

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0 0	0	0 0	1! 0	0	0 1	0 0	0	0 0	0 1	0
Volume Module:												
Base Vol:	0	0	0	45	0	25	25	90	0	0	60	60
Growth 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
Initial Bse:	0	0	0	45	0	25	25	90	0	0	60	60
User 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
PHF 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
PHF Volume:	0	0	0	45	0	25	25	90	0	0	60	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	45	0	25	25	90	0	0	60	60
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	230	xxxx	90	120	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	758	xxxx	968	1480	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	748	xxxx	968	1480	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	814	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	9.8	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	A	*	A	*	*	*	*	*
ApproachDel:		xxxxxx			9.8			xxxxxx			xxxxxx	
ApproachLOS:		*			A			*			*	

```
----------------------------------------------------------------------------
----------------------------------------------------------------------------
                  Level Of Service Computation Report
         2000 HCM Operations Method (Base Volume Alternative)
****************************************************************************
Intersection #66 Hwy 101 at E Bay Dr.
****************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.624
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):        3.1
Optimal Cycle:       40              Level Of Service:                  A
****************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Permitted        Permitted       Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:     0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        0  0  1  0  1   0  1  0  0  0   0  0  0  0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0   995   210    15   660     0     0     0     0    30     0    10
Growth 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
Initial Bse:    0   995   210    15   660     0     0     0     0    30     0    10
User 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
PHF 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
PHF Volume:     0   995   210    15   660     0     0     0     0    30     0    10
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    0   995   210    15   660     0     0     0     0    30     0    10
PCE 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
MLF 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
Final Vol.:     0   995   210    15   660     0     0     0     0    30     0    10
------------|---------------||---------------||---------------||---------------
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  1.00  0.95  0.81  0.91  0.91  1.00  1.00  1.00  1.00  0.89  1.00  0.89
Lanes:       0.00  1.00  1.00  0.02  0.98  0.00  0.00  0.00  0.00  0.75  0.00  0.25
Final Sat.:     0  1809  1537    38  1682     0     0     0     0  1263     0   421
------------|---------------||---------------||---------------||---------------
Capacity Analysis Module:
Vol/Sat:     0.00  0.55  0.14  0.39  0.39  0.00  0.00  0.00  0.00  0.02  0.00  0.02
Crit Moves:        ****                                                      ****
Green/Cycle: 0.00  0.88  0.88  0.88  0.88  0.00  0.00  0.00  0.00  0.04  0.00  0.04
Volume/Cap:  0.00  0.62  0.15  0.44  0.44  0.00  0.00  0.00  0.00  0.62  0.00  0.62
Uniform Del:  0.0   1.5   0.8   1.1   1.1   0.0   0.0   0.0   0.0  47.4   0.0  47.4
IncremntDel:  0.0   0.8   0.1   0.2   0.2   0.0   0.0   0.0   0.0  17.6   0.0  17.6
Delay Adj:   0.00  1.00  1.00  1.00  1.00  0.00  0.00  0.00  0.00  1.00  0.00  1.00
Delay/Veh:    0.0   2.3   0.9   1.4   1.4   0.0   0.0   0.0   0.0  65.0   0.0  65.0
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   0.0   2.3   0.9   1.4   1.4   0.0   0.0   0.0   0.0  65.0   0.0  65.0
DesignQueue:    0     8     1     0     5     0     0     0     0     2     0     1
****************************************************************************
```



```
----------------------------------------------------------------------------
----------------------------------------------------------------------------
                  Level Of Service Computation Report
         2000 HCM Unsignalized Method (Base Volume Alternative)
****************************************************************************
Intersection #67 Hwy 101 at North Bay
****************************************************************************
Average Delay (sec/veh):      2.8        Worst Case Level Of Service:
****************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  0  1  0   0  1  0  0  0   0  0  0  0  0   1  0  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0   700   130     5   710     0     0     0     0    35     0     0
Growth 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
Initial Bse:    0   700   130     5   710     0     0     0     0    35     0     0
User 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
PHF 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
PHF Volume:     0   700   130     5   710     0     0     0     0    35     0     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Final Vol.:     0   700   130     5   710     0     0     0     0    35     0     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx    4.2 xxxx xxxxx xxxxx xxxx xxxxx    6.4 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx    2.3 xxxx xxxxx xxxxx xxxx xxxxx    3.5 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx    830 xxxx xxxxx  xxxx xxxx xxxxx   1485 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    785 xxxx xxxxx  xxxx xxxx xxxxx    139 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    785 xxxx xxxxx  xxxx xxxx xxxxx    138 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx    9.6 xxxx xxxxx xxxxx xxxx xxxxx   39.7 xxxx xxxxx
LOS by Move:    *     *     *     A     *     *     *     *     *     E     *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx    9.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     A     *     *     *     *     *     *     *     *
ApproachDel:       xxxxxx           xxxxxx           xxxxxx             39.7
ApproachLOS:          *                *                *                 E
```

```
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
                    Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #68 Hwy 101 at Trans Pacific
*******************************************************************************
Average Delay (sec/veh):       1.4        Worst Case Level Of Service:
*******************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        1  0  1  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       30  640    0      0  575    0     10    0   90      0    0    0
Growth 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
Initial Bse:    30  640    0      0  575    0     10    0   90      0    0    0
User 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
PHF 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
PHF Volume:     30  640    0      0  575    0     10    0   90      0    0    0
Reduct Vol:      0    0    0      0    0    0      0    0    0      0    0    0
Final Vol.:     30  640    0      0  575    0     10    0   90      0    0    0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.5 xxxx   6.3 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.6 xxxx   3.4 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:  575 xxxx xxxxx  xxxx xxxx xxxxx  1275 xxxx   575  xxxx xxxx xxxxx
Potent Cap.:  988 xxxx xxxxx  xxxx xxxx xxxxx   176 xxxx   501  xxxx xxxx xxxxx
Move Cap.:    988 xxxx xxxxx  xxxx xxxx xxxxx   172 xxxx   501  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:  8.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:      LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  421 xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 16.2 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    *     *
ApproachDel:      xxxxxx           xxxxxx            16.2           xxxxxx
ApproachLOS:        *                *                 C               *
```



```
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
                    Level Of Service Computation Report
           2000 HCM Operations Method (Base Volume Alternative)
*******************************************************************************
Intersection #70 1st at Hall NB
*******************************************************************************
Cycle (sec):          100              Critical Vol./Cap. (X):        0.356
Loss Time (sec):        8 (Y+R =  4 sec) Average Delay (sec/veh):       3.7
Optimal Cycle:         26              Level Of Service:                  A
*******************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Split Phase      Split Phase       Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        0  1  1  1  0    0  0  0  0  0    0  1  0  0  0    0  0  0  0  1
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       70 1390    5      0    0    0     40    5    0      0    0   10
Growth 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
Initial Bse:    70 1390    5      0    0    0     40    5    0      0    0   10
User 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
PHF 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
PHF Volume:     70 1390    5      0    0    0     40    5    0      0    0   10
Reduct Vol:      0    0    0      0    0    0      0    0    0      0    0    0
Reduced Vol:    70 1390    5      0    0    0     40    5    0      0    0   10
PCE 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
MLF 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
Final Vol.:     70 1390    5      0    0    0     40    5    0      0    0   10
------------|---------------||---------------||---------------||---------------
Saturation Flow Module:
Sat/Lane:     1900 1900 1900   1900 1900 1900   1900 1900 1900   1900 1900 1900
Adjustment:   0.88 0.88 0.88   1.00 1.00 1.00   0.69 0.69 1.00   1.00 1.00 0.81
Lanes:        0.14 2.85 0.01   0.00 0.00 0.00   0.89 0.11 0.00   0.00 0.00 1.00
Final Sat.:    238 4734   17      0    0    0   1165  146    0      0    0 1537
------------|---------------||---------------||---------------||---------------
Capacity Analysis Module:
Vol/Sat:      0.29 0.29 0.29   0.00 0.00 0.00   0.03 0.03 0.00   0.00 0.00 0.01
Crit Moves:             ****                         ****
Green/Cycle:  0.82 0.82 0.82   0.00 0.00 0.00   0.10 0.10 0.00   0.00 0.00 0.10
Volume/Cap:   0.36 0.36 0.36   0.00 0.00 0.00   0.36 0.36 0.00   0.00 0.00 0.07
Uniform Del:   2.2  2.2  2.2    0.0  0.0  0.0   42.3 42.3  0.0    0.0  0.0 41.1
IncremntDel:   0.1  0.1  0.1    0.0  0.0  0.0    1.7  1.7  0.0    0.0  0.0  0.2
Delay Adj:    1.00 1.00 1.00   0.00 0.00 0.00   1.00 1.00 0.00   0.00 0.00 1.00
Delay/Veh:     2.3  2.3  2.3    0.0  0.0  0.0   44.0 44.0  0.0    0.0  0.0 41.3
User DelAdj:  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
AdjDel/Veh:    2.3  2.3  2.3    0.0  0.0  0.0   44.0 44.0  0.0    0.0  0.0 41.3
DesignQueue:     1   15    0      0    0    0      2    0    0      0    0    1
*******************************************************************************
```

```
------------------------------------------------------------------------------
------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
******************************************************************************
Intersection #71 Broadway at 17th
******************************************************************************
Average Delay (sec/veh):      0.6       Worst Case Level Of Service:
******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        1  0  1  1  0   1  0  1  1  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      30  805   10    10  770   30    10    0   25    10    5    5
Growth 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
Initial Bse:   30  805   10    10  770   30    10    0   25    10    5    5
User 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
PHF 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
PHF Volume:    30  805   10    10  770   30    10    0   25    10    5    5
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Final Vol.:    30  805   10    10  770   30    10    0   25    10    5    5
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx   4.1 xxxx xxxxx   7.5 xxxx   6.9   7.5  6.5   6.9
FollowUpTim:  2.2 xxxx xxxxx   2.2 xxxx xxxxx   3.5 xxxx   3.3   3.5  4.0   3.3
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:  800 xxxx xxxxx   815 xxxx xxxxx  1270 xxxx   400  1275 1690   408
Potent Cap.:  819 xxxx xxxxx   808 xxxx xxxxx   127 xxxx   605   126   94   599
Move Cap.:    819 xxxx xxxxx   808 xxxx xxxxx   116 xxxx   605   116   90   599
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:  9.6 xxxx xxxxx   9.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     A    *     *     *    *     *     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  275 xxxxx  xxxx  133 xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 20.0 xxxxx xxxxx 36.7 xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    E     *
ApproachDel:      xxxxxx           xxxxxx            20.0             36.7
ApproachLOS:         *                *                C                E
```



```
------------------------------------------------------------------------------
------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
******************************************************************************
Intersection #72 Virginia at Pony Villiage entance B
******************************************************************************
Average Delay (sec/veh):      1.7       Worst Case Level Of Service:
******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign      Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  1! 0  0   0  0  0  0  0   0  0  1  1  0   1  0  2  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      35    0  100     0    0    0     0  725   70    95  850    0
Growth 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
Initial Bse:   35    0  100     0    0    0     0  725   70    95  850    0
User 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
PHF 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
PHF Volume:    35    0  100     0    0    0     0  725   70    95  850    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Final Vol.:    35    0  100     0    0    0     0  725   70    95  850    0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: 1375 xxxx   398  xxxx xxxx xxxxx  xxxx xxxx xxxxx   795 xxxx xxxxx
Potent Cap.:  136 xxxx   602  xxxx xxxx xxxxx  xxxx xxxx xxxxx   822 xxxx xxxxx
Move Cap.:    124 xxxx   602  xxxx xxxx xxxxx  xxxx xxxx xxxxx   822 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  302 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx 26.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    D     *     *    *     *     *    *     *     *    *     *
ApproachDel:       26.3            xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         D                *                *                *
```

```
------------------------------------------------------------------------------
------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
******************************************************************************
Intersection #73 Coos River Hwy at Olive Barber Rd
******************************************************************************
Average Delay (sec/veh):       2.5        Worst Case Level Of Service:
******************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include         Include          Include
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    1  0  0  0  1
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:        0  590   145    10  290     0     0    0     0    90    0    10
Growth 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
Initial Bse:     0  590   145    10  290     0     0    0     0    90    0    10
User 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
PHF 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
PHF Volume:      0  590   145    10  290     0     0    0     0    90    0    10
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:      0  590   145    10  290     0     0    0     0    90    0    10
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.5 xxxx   6.3
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.6 xxxx   3.4
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   735 xxxx xxxxx  xxxx xxxx xxxxx   973 xxxx   663
Potent Cap.: xxxx xxxx xxxxx   866 xxxx xxxxx  xxxx xxxx xxxxx   275 xxxx   455
Move Cap.:   xxxx xxxx xxxxx   866 xxxx xxxxx  xxxx xxxx xxxxx   273 xxxx   455
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx   9.2 xxxx xxxxx xxxxx xxxx xxxxx  24.6 xxxx  13.1
LOS by Move:    *    *     *     A    *     *     *    *     *     C    *     B
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx   9.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     A    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx           xxxxxx            23.4
ApproachLOS:        *                *                *                C
```



```
------------------------------------------------------------------------------
------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
******************************************************************************
Intersection #74 Ocean Blve at Laclair
******************************************************************************
Average Delay (sec/veh):       2.4        Worst Case Level Of Service:
******************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign      Uncontrolled     Uncontrolled
Rights:          Include          Include         Include          Include
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  1  1  0  0    0  0  1  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:        0    0     0    25    0    50    30  420     0     0  555    75
Growth 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
Initial Bse:     0    0     0    25    0    50    30  420     0     0  555    75
User 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
PHF 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
PHF Volume:      0    0     0    25    0    50    30  420     0     0  555    75
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:      0    0     0    25    0    50    30  420     0     0  555    75
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8 xxxx   6.9   4.2 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   863 xxxx   315   630 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   294 xxxx   681   942 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   287 xxxx   681   942 xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.9 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  467 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx 14.2 xxxxx   8.9 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     A    *     *     *    *     *
ApproachDel:     xxxxxx            14.2           xxxxxx           xxxxxx
ApproachLOS:        *                B                *                *
```

```
-----------------------------------------------------------------------------------
-----------------------------------------------------------------------------------
                      Level Of Service Computation Report
              2000 HCM Unsignalized Method (Base Volume Alternative)
***********************************************************************************
Intersection #75 Central at 7th
***********************************************************************************
Cycle (sec):            1               Critical Vol./Cap. (X):         0.602
Loss Time (sec):        0 (Y+R =  4 sec) Average Delay (sec/veh):        7.3
Optimal Cycle:          0               Level Of Service:                  B
***********************************************************************************
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------
Control:        Yield Sign       Yield Sign       Stop Sign        Stop Sign
Rights:           Include          Channel          Channel          Include
Lanes:        0  0  0  0  0    0  1  0  0  2    0  0  0  0  2    0  1  0  0  0
------------|----------------||----------------||----------------||----------------
Volume Module:
Base Vol:       0    0     0     5   95   480     0    0   620    10   60     0
Growth 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
Initial Bse:    0    0     0     5   95   480     0    0   620    10   60     0
User 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
PHF 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
PHF Volume:     0    0     0     5   95   480     0    0   620    10   60     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     0    0     0     5   95   480     0    0   620    10   60     0
------------|----------------||----------------||----------------||----------------
Saturation Flow Module:
Sat/Lane:       0    0     0     0    0     0     0    0     0     0    0     0
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.05 0.95  2.00  0.00 0.00  2.00  0.14 0.86  0.00
Final Sat.:     0    0     0    22  419   882     0    0  1030   120  723     0
------------|----------------||----------------||----------------||----------------
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.23 0.23  0.54  0.00 0.00  0.60  0.08 0.08  0.00
Crit Moves:             ****              ****              ****  ****
Green/Cycle: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Volume/Cap:  0.00 0.00  0.00  0.23 0.23  0.54  0.00 0.00  0.60  0.08 0.08  0.00
Delay/Veh:    0.0  0.0   0.0   2.4  2.4   7.9   0.0  0.0   9.8   1.4  1.4   0.0
Delay 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
AdjDel/Veh:   0.0  0.0   0.0   2.4  2.4   7.9   0.0  0.0   9.8   1.4  1.4   0.0
DesignQueue:    0    0     0     0    0     0     0    0     0     0    0     0
***********************************************************************************
```



```
-----------------------------------------------------------------------------------
-----------------------------------------------------------------------------------
                      Level Of Service Computation Report
              2000 HCM Unsignalized Method (Base Volume Alternative)
***********************************************************************************
Intersection #76 Coos River Hwy at Edwards
***********************************************************************************
Average Delay (sec/veh):      2.6          Worst Case Level Of Service:
***********************************************************************************
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------
Control:        Stop Sign        Stop Sign        Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  1    0  0  0  0  0    0  0  1  0  1    0  1  0  0  0
------------|----------------||----------------||----------------||----------------
Volume Module:
Base Vol:       0    0     5     0    0     0     0  755    25    45  365     0
Growth 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
Initial Bse:    0    0     5     0    0     0     0  755    25    45  365     0
User 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
PHF 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
PHF Volume:     0    0     5     0    0     0     0  755    25    45  365     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     0    0     5     0    0     0     0  755    25    45  365     0
------------|----------------||----------------||----------------||----------------
Critical Gap Module:
Critical Gp:xxxxx xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|----------------||----------------||----------------||----------------
Capacity Module:
Cnflict Vol: xxxx xxxx   755  xxxx xxxx xxxxx  xxxx xxxx xxxxx   780 xxxx xxxxx
Potent Cap.: xxxx xxxx   412  xxxx xxxx xxxxx  xxxx xxxx xxxxx   824 xxxx xxxxx
Move Cap.:   xxxx xxxx   412  xxxx xxxx xxxxx  xxxx xxxx xxxxx   824 xxxx xxxxx
------------|----------------||----------------||----------------||----------------
Level Of Service Module:
Stopped Del:xxxxx xxxx  13.8 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.6 xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.6 xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     A    *     *
ApproachDel:       13.8            xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         B                *                *                *
```

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #77 Coos River Hwy at Mullen

Average Delay (sec/veh): 1.0 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			1 0 0 0 0			1 0 1 0 0			0 0 1 0 0		
Volume Module:												
Base Vol:	0	5	45	10	0	0	5	715	0	0	370	0
Growth 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
Initial Bse:	0	5	45	10	0	0	5	715	0	0	370	0
User 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
PHF 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
PHF Volume:	0	5	45	10	0	0	5	715	0	0	370	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	5	45	10	0	0	5	715	0	0	370	0
Critical Gap Module:												
Critical Gp:	xxxxx	6.6	6.3	7.3	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	4.1	3.4	3.7	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	1095	715	1120	xxxx	xxxxx	370	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	209	422	167	xxxx	xxxxx	1189	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	208	422	146	xxxx	xxxxx	1189	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	31.4	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	D	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	383	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	15.8	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	C	*	*	*	*	*	*	*	*	*
ApproachDel:		15.8			31.4			xxxxxx			xxxxxx	
ApproachLOS:		C			D			*			*	

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #78 Hwy 101 at Edwards

Average Delay (sec/veh): 0.5 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1 1 0			0 1 1 0 0		
Volume Module:												
Base Vol:	10	0	10	20	0	5	0	1090	10	0	785	0
Growth 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
Initial Bse:	10	0	10	20	0	5	0	1090	10	0	785	0
User 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
PHF 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
PHF Volume:	10	0	10	20	0	5	0	1090	10	0	785	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	0	10	20	0	5	0	1090	10	0	785	0
Critical Gap Module:												
Critical Gp:	7.5	xxxx	6.9	7.7	xxxx	7.1	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	3.6	xxxx	3.4	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1488	xxxx	550	1330	xxxx	393	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	88	xxxx	484	103	xxxx	579	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	87	xxxx	484	101	xxxx	579	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	147	xxxxx	xxxx	121	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	33.2	xxxxx	xxxxx	42.3	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Shared LOS:	*	D	*	*	E	*	*	*	*	A	*	*
ApproachDel:		33.2			42.3			xxxxxx			xxxxxx	
ApproachLOS:		D			E			*			*	

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
             2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #79 11th at Elrod
********************************************************************************
Average Delay (sec/veh):      6.7          Worst Case Level Of Service:
********************************************************************************
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  1    0  0  0  0  0    0  0  1  0  0    0  1  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0    0  100      0    0    0      0   10    0     90   30    0
Growth 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
Initial Bse:    0    0  100      0    0    0      0   10    0     90   30    0
User 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
PHF 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
PHF Volume:     0    0  100      0    0    0      0   10    0     90   30    0
Reduct Vol:     0    0    0      0    0    0      0    0    0      0    0    0
Final Vol.:     0    0  100      0    0    0      0   10    0     90   30    0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx  6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx  3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx   10  xxxx xxxx xxxxx  xxxx xxxx xxxxx    10 xxxx xxxxx
Potent Cap.: xxxx xxxx 1071  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1616 xxxx xxxxx
Move Cap.:   xxxx xxxx 1071  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1616 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx  8.7 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *    A      *    *    *      *    *    *      A    *    *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx
Shared LOS:     *    *    *      *    *    *      *    *    *      A    *    *
ApproachDel:       8.7            xxxxxx           xxxxxx           xxxxxx
ApproachLOS:        A                *                *                *
```



```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #80 US 101/Coos River Hwy (Bunker Hill)
********************************************************************************
Cycle (sec):          100              Critical Vol./Cap. (X):        0.616
Loss Time (sec):       12 (Y+R =  4 sec) Average Delay (sec/veh):      30.7
Optimal Cycle:         50              Level Of Service:                  C
********************************************************************************
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0      0    0    0      0    0    0      0    0    0
Lanes:        1  0  0  0  0    0  0  0  0  2    2  0  0  0  0    0  0  2  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0    0    0      0    0  370    715    0    0      0  750    0
Growth 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
Initial Bse:    0    0    0      0    0  370    715    0    0      0  750    0
User 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
PHF 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
PHF Volume:     0    0    0      0    0  370    715    0    0      0  750    0
Reduct Vol:     0    0    0      0    0    0      0    0    0      0    0    0
Reduced Vol:    0    0    0      0    0  370    715    0    0      0  750    0
PCE 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
MLF 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
Final Vol.:     0    0    0      0    0  370    715    0    0      0  750    0
------------|---------------||---------------||---------------||---------------
Saturation Flow Module:
Sat/Lane:    1900 1900 1900   1900 1900 1900   1900 1900 1900   1900 1900 1900
Adjustment:  1.00 1.00 1.00   1.00 1.00 0.75   0.92 1.00 1.00   1.00 0.95 1.00
Lanes:       1.00 0.00 0.00   0.00 0.00 2.00   2.00 0.00 0.00   0.00 2.00 0.00
Final Sat.:  1900    0    0      0    0 2842   3502    0    0      0 3610    0
------------|---------------||---------------||---------------||---------------
Capacity Analysis Module:
Vol/Sat:     0.00 0.00 0.00   0.00 0.00 0.13   0.20 0.00 0.00   0.00 0.21 0.00
Crit Moves:                               ****   ****                  ****
Green/Cycle: 0.00 0.00 0.00   0.00 0.00 0.21   0.33 0.00 0.00   0.00 0.34 0.00
Volume/Cap:  0.00 0.00 0.00   0.00 0.00 0.62   0.62 0.00 0.00   0.00 0.62 0.00
Uniform Del:  0.0  0.0  0.0    0.0  0.0 35.8   28.1  0.0  0.0    0.0 27.7  0.0
IncremntDel:  0.0  0.0  0.0    0.0  0.0  1.9    1.0  0.0  0.0    0.0  1.0  0.0
Delay Adj:   0.00 0.00 0.00   0.00 0.00 1.00   1.00 0.00 0.00   0.00 1.00 0.00
Delay/Veh:    0.0  0.0  0.0    0.0  0.0 37.7   29.1  0.0  0.0    0.0 28.7  0.0
User DelAdj: 1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
AdjDel/Veh:   0.0  0.0  0.0    0.0  0.0 37.7   29.1  0.0  0.0    0.0 28.7  0.0
DesignQueue:    0    0    0      0    0   17     28    0    0      0   29    0
********************************************************************************
```

Coos Bay/North Bend TSP
Existing Conditions
AM Peak Hour

Scenario Report

Scenario:	AM existing
Command:	AM existing
Volume:	AM existing
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Paths
Routes:	Default Routes
Configuration:	Default Configuration

Traffix 7.5.0715 (c) 2002 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR

Coos Bay/North Bend TSP
Existing Conditions
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/C	Future LOS	Future Del/ Veh	Future V/C	Change in
# 1 6th at D St.	F	76.3	0.000	F	76.3	0.000	+ 0.000 V/C
# 8 Hwy 101 at 1st	B	0.8	0.000	B	0.8	0.000	+ 0.000 V/C
# 13 10th at Central	C	21.4	0.457	C	21.4	0.457	+ 0.000 D/V
# 16 Commercial at Broadway	B	14.4	0.337	B	14.4	0.337	+ 0.000 D/V
# 25 Bayshore at Commercial	A	0.0	0.000	A	0.0	0.000	+ 0.000 V/C
# 28 Bayshore at Fir	A	0.0	0.000	A	0.0	0.000	+ 0.000 V/C
# 29 Broadway at Fir	B	0.1	0.000	B	0.1	0.000	+ 0.000 V/C
# 36 Virginia at Harrison	A	9.9	0.277	A	9.9	0.277	+ 0.000 D/V
# 40 Virginia at Meade	C	3.5	0.000	C	3.5	0.000	+ 0.000 V/C
# 43 Maple at East Airport Way	B	0.1	0.000	B	0.1	0.000	+ 0.000 V/C
# 51 Virginia at Hwy 101 North	B	10.9	0.235	B	10.9	0.235	+ 0.000 D/V
# 52 Virginia at Hwy 101 South	B	16.9	0.364	B	16.9	0.364	+ 0.000 D/V
# 56 Broadway at Newmark	C	34.3	0.644	C	34.3	0.644	+ 0.000 D/V
# 58 Newmark at Ocean Blvd.	B	13.1	0.220	B	13.1	0.220	+ 0.000 D/V
# 61 Ocean Blvd. at Woodland	B	18.3	0.382	B	18.3	0.382	+ 0.000 D/V
# 66 Hwy 101 at E Bay Dr.	B	13.2	0.562	B	13.2	0.562	+ 0.000 D/V

Traffix 7.5.0715 (c) 2002 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR

```
------------------------------------------------------------------------------
                        Coos Bay/North Bend TSP
                          Existing Conditions
                             AM Peak Hour
------------------------------------------------------------------------------
                  Level Of Service Computation Report
        2000 HCM Unsignalized Method (Base Volume Alternative)
******************************************************************************
Intersection #1 6th at D St.
******************************************************************************
Average Delay (sec/veh):     76.3         Worst Case Level Of Service:
******************************************************************************
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:      Uncontrolled     Uncontrolled      Stop Sign        Yield Sign
Rights:          Include          Include          Include          Include
Lanes:        0  1  0  0  1    0  0  1  0  0    0  0  0  1  0    0  1  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      215     0    90     0    10     0     0    10   220   350    40     0
Growth 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
Initial Bse:   215     0    90     0    10     0     0    10   220   350    40     0
User 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
PHF 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
PHF Volume:    215     0    90     0    10     0     0    10   220   350    40     0
Reduct Vol:      0     0     0     0     0     0     0     0     0     0     0     0
Final Vol.:    215     0    90     0    10     0     0    10   220   350    40     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:   4.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx   6.6   6.3   7.2   6.6 xxxxx
FollowUpTim:   2.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx   4.1   3.4   3.6   4.1 xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:    10 xxxx xxxxx  xxxx xxxx xxxxx  xxxx   530    10   555   440 xxxxx
Potent Cap.:  1529 xxxx xxxxx  xxxx xxxx xxxxx  xxxx   439  1040   436   505 xxxxx
Move Cap.:    1529 xxxx xxxxx  xxxx xxxx xxxxx  xxxx   369  1040   296   424 xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:   7.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:     A    *     *     *    *     *     *    *     *     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   964   305 xxxx xxxxx
Shrd StpDel:   7.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   9.9 182.7 xxxx xxxxx
Shared LOS:      A    *     *     *    *     *     *    *     A     F    *     *
ApproachDel:       xxxxxx           xxxxxx              9.9            182.7
ApproachLOS:          *                *                 A                F
```



```
------------------------------------------------------------------------------
                        Coos Bay/North Bend TSP
                          Existing Conditions
                             AM Peak Hour
------------------------------------------------------------------------------
                  Level Of Service Computation Report
        2000 HCM Unsignalized Method (Base Volume Alternative)
******************************************************************************
Intersection #8 Hwy 101 at 1st
******************************************************************************
Average Delay (sec/veh):      0.8         Worst Case Level Of Service:
******************************************************************************
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      170  1540     0     0   670     5     0     0    75     0     0     0
Growth 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
Initial Bse:   170  1540     0     0   670     5     0     0    75     0     0     0
User 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
PHF 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
PHF Volume:    170  1540     0     0   670     5     0     0    75     0     0     0
Reduct Vol:      0     0     0     0     0     0     0     0     0     0     0     0
Final Vol.:    170  1540     0     0   670     5     0     0    75     0     0     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:   4.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   7.3 xxxxx xxxx xxxxx
FollowUpTim:   2.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.5 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:   675 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   338  xxxx xxxx xxxxx
Potent Cap.:   873 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   614  xxxx xxxx xxxxx
Move Cap.:     873 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   614  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:  10.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  11.7 xxxxx xxxx xxxxx
LOS by Move:     B    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:       xxxxxx           xxxxxx             11.7            xxxxxx
ApproachLOS:          *                *                 B                *
```

Coos Bay/North Bend TSP
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #13 10th at Central

Cycle (sec): 100 — Critical Vol./Cap. (X): 0.457
Loss Time (sec): 12 (Y+R = 4 sec) — Average Delay (sec/veh): 21.4
Optimal Cycle: 38 — Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0 1	0	1 0	0 1	0	0 1	0 0	1	0 1	0 1	0
Volume Module:												
Base Vol:	225	90	10	100	35	20	5	425	80	5	305	10
Growth 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
Initial Bse:	225	90	10	100	35	20	5	425	80	5	305	10
User 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
PHF 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
PHF Volume:	225	90	10	100	35	20	5	425	80	5	305	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	225	90	10	100	35	20	5	425	80	5	305	10
PCE 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
MLF 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
Final Vol.:	225	90	10	100	35	20	5	425	80	5	305	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.96	0.96	0.92	0.92	0.92	0.93	0.93	0.79	0.82	0.82	0.82
Lanes:	1.00	0.90	0.10	1.00	0.64	0.36	0.01	0.99	1.00	0.03	1.91	0.06
Final Sat.:	1753	1636	182	1753	1109	634	21	1752	1510	49	2982	98
Capacity Analysis Module:												
Vol/Sat:	0.13	0.06	0.06	0.06	0.03	0.03	0.24	0.24	0.05	0.10	0.10	0.10
Crit Moves:	****				****			****				
Green/Cycle:	0.28	0.17	0.17	0.18	0.07	0.07	0.53	0.53	0.53	0.53	0.53	0.53
Volume/Cap:	0.46	0.32	0.32	0.32	0.46	0.46	0.46	0.46	0.10	0.19	0.19	0.19
Delay/Veh:	30.4	36.9	36.9	36.4	47.5	47.5	14.9	14.9	11.7	12.3	12.3	12.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.4	36.9	36.9	36.4	47.5	47.5	14.9	14.9	11.7	12.3	12.3	12.3
DesignQueue:	9	4	0	5	2	1	0	12	2	0	8	0

Coos Bay/North Bend TSP
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #16 Commercial at Broadway

Cycle (sec): 100 — Critical Vol./Cap. (X): 0.337
Loss Time (sec): 8 (Y+R = 4 sec) — Average Delay (sec/veh): 14.4
Optimal Cycle: 25 — Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0 0	2 0	1	0 0	0 0	0	0 1	1 0	0
Volume Module:												
Base Vol:	0	0	0	0	685	120	0	0	0	10	325	0
Growth 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
Initial Bse:	0	0	0	0	685	120	0	0	0	10	325	0
User 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
PHF 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
PHF Volume:	0	0	0	0	685	120	0	0	0	10	325	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	685	120	0	0	0	10	325	0
PCE 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
MLF 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
Final Vol.:	0	0	0	0	685	120	0	0	0	10	325	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.86	0.77	1.00	1.00	1.00	0.89	0.89	1.00
Lanes:	0.00	0.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	0.06	1.94	0.00
Final Sat.:	0	0	0	0	3253	1455	0	0	0	101	3275	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.21	0.08	0.00	0.00	0.00	0.10	0.10	0.00
Crit Moves:					****						****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.63	0.63	0.00	0.00	0.00	0.29	0.29	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.34	0.13	0.00	0.00	0.00	0.34	0.34	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	9.0	7.7	0.0	0.0	0.0	27.8	27.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	9.0	7.7	0.0	0.0	0.0	27.8	27.8	0.0
DesignQueue:	0	0	0	0	15	3	0	0	0	0	13	0

```
                         Coos Bay/North Bend TSP
                           Existing Conditions
                              AM Peak Hour
---------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
***************************************************************************
Intersection #25 Bayshore at Commercial
***************************************************************************
Average Delay (sec/veh):      0.0          Worst Case Level Of Service:
***************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  1  1  0  0   0  0  0  0  0   0  0  0  0  0   0  0  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:     305 1035    0     0    0    0     0    0    0     0    0    0
Growth 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
Initial Bse:  305 1035    0     0    0    0     0    0    0     0    0    0
User 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
PHF 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
PHF Volume:   305 1035    0     0    0    0     0    0    0     0    0    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Final Vol.:   305 1035    0     0    0    0     0    0    0     0    0    0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  4.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  2.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:    0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:    0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:      0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *    *     *    *    *     *    *    *     *    *    *
Movement:      LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *    *     *    *    *     *    *    *     *    *    *
ApproachDel:      xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *                *                *                *
```



```
                         Coos Bay/North Bend TSP
                           Existing Conditions
                              AM Peak Hour
---------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
***************************************************************************
Intersection #28 Bayshore at Fir
***************************************************************************
Average Delay (sec/veh):      0.0          Worst Case Level Of Service:
***************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  1  0  1  0   0  0  0  0  0   0  0  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      10 1030    0     0    0    0     0    0    0     0    0    0
Growth 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
Initial Bse:   10 1030    0     0    0    0     0    0    0     0    0    0
User 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
PHF 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
PHF Volume:    10 1030    0     0    0    0     0    0    0     0    0    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Final Vol.:    10 1030    0     0    0    0     0    0    0     0    0    0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  4.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  2.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:    0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:    0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:      0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *    *     *    *    *     *    *    *     *    *    *
Movement:      LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx     0
Shrd StpDel:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *    *     *    *    *     *    *    *     *    *    *
ApproachDel:      xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *                *                *                *
```

Coos Bay/North Bend TSP
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #29 Broadway at Fir

Average Delay (sec/veh): 0.1 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1 1 0			0 0 0 0 1			1 0 0 0 0		
Volume Module:												
Base Vol:	0	0	0	0	835	0	0	0	0	10	0	0
Growth 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
Initial Bse:	0	0	0	0	835	0	0	0	0	10	0	0
User 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
PHF 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
PHF Volume:	0	0	0	0	835	0	0	0	0	10	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	0	835	0	0	0	0	10	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.5	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.6	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	418	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	579	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	579	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.3	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:		xxxxxx			xxxxxx			xxxxxx			11.3	
ApproachLOS:		*			*			*			B	

Coos Bay/North Bend TSP
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #36 Virginia at Harrison

Cycle (sec): 100 Critical Vol./Cap. (X): 0.277
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 9.9
Optimal Cycle: 30 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1 0 0 1			0 1 0 0 0			1 0 1 1 0			1 0 1 1 0		
Volume Module:												
Base Vol:	30	0	65	5	5	0	5	570	25	40	640	5
Growth 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
Initial Bse:	30	0	65	5	5	0	5	570	25	40	640	5
User 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
PHF 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
PHF Volume:	30	0	65	5	5	0	5	570	25	40	640	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	0	65	5	5	0	5	570	25	40	640	5
PCE 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
MLF 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
Final Vol.:	30	0	65	5	5	0	5	570	25	40	640	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.74	1.00	0.83	0.91	0.91	1.00	0.88	0.87	0.87	0.90	0.90	0.90
Lanes:	1.00	0.00	1.00	0.50	0.50	0.00	1.00	1.92	0.08	1.00	1.98	0.02
Final Sat.:	1410	0	1568	865	865	0	1671	3183	140	1718	3407	27
Capacity Analysis Module:												
Vol/Sat:	0.02	0.00	0.04	0.01	0.01	0.00	0.00	0.18	0.18	0.02	0.19	0.19
Crit Moves:			****					****		****		
Green/Cycle:	0.15	0.00	0.15	0.15	0.15	0.00	0.01	0.65	0.65	0.08	0.72	0.72
Volume/Cap:	0.14	0.00	0.28	0.04	0.04	0.00	0.26	0.28	0.28	0.28	0.26	0.26
Delay/Veh:	37.3	0.0	38.4	36.4	36.4	0.0	56.2	7.7	7.7	44.0	4.9	4.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.3	0.0	38.4	36.4	36.4	0.0	56.2	7.7	7.7	44.0	4.9	4.9
DesignQueue:	1	0	3	0	0	0	0	12	1	2	10	0

```
                          Coos Bay/North Bend TSP
                            Existing Conditions
                               AM Peak Hour
-------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #40 Virginia at Meade
*******************************************************************************
Average Delay (sec/veh):      3.5        Worst Case Level Of Service:
*******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        1  0  0  1  0   0  0  1! 0  0   0  1  1  0  0   0  0  1  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      15     0    15    10     0   120   170   405     0     0   570    10
Growth 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
Initial Bse:   15     0    15    10     0   120   170   405     0     0   570    10
User 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
PHF 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
PHF Volume:    15     0    15    10     0   120   170   405     0     0   570    10
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Final Vol.:    15     0    15    10     0   120   170   405     0     0   570    10
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  7.6  xxxx   7.0   7.5  xxxx   6.9   4.2  xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  xxxx   3.3   3.5  xxxx   3.3   2.3  xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: 1030  xxxx   203  1118  xxxx   290   580  xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  186  xxxx   801   163  xxxx   710   956  xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    131  xxxx   801   136  xxxx   710   956  xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del: 35.9 xxxx xxxxx xxxxx xxxx xxxxx   9.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    E     *     *     *     *     *     A     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx   801  xxxx   536 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx   9.6 xxxxx  13.9 xxxxx   9.6 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     A     *     B     *     A     *     *     *     *     *
ApproachDel:       22.7              13.9             xxxxxx            xxxxxx
ApproachLOS:         C                 B                 *                 *
```



```
                          Coos Bay/North Bend TSP
                            Existing Conditions
                               AM Peak Hour
-------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #43 Maple at East Airport Way
*******************************************************************************
Average Delay (sec/veh):      0.1        Worst Case Level Of Service:
*******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  0   1  0  0  0  0   0  0  1  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0     0     0     5     0     0     0   110     0     0   110    30
Growth 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
Initial Bse:    0     0     0     5     0     0     0   110     0     0   110    30
User 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
PHF 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
PHF Volume:     0     0     0     5     0     0     0   110     0     0   110    30
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Final Vol.:     0     0     0     5     0     0     0   110     0     0   110    30
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   235 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   721 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   721 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx  10.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     B     *     *     *     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     *     *     *     *     *     *
ApproachDel:     xxxxxx             10.0            xxxxxx            xxxxxx
ApproachLOS:        *                 B                 *                 *
```

Coos Bay/North Bend TSP
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #51 Virginia at Hwy 101 North

Cycle (sec):	100	Critical Vol./Cap. (X):	0.235
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	10.9
Optimal Cycle:	22	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	1	1 0	0 0	0	0 0	1 0	1	0 0	0 0	1	1 0
Volume Module:												
Base Vol:	230	405	40	0	0	0	80	50	0	0	10	5
Growth 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
Initial Bse:	230	405	40	0	0	0	80	50	0	0	10	5
User 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
PHF 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
PHF Volume:	230	405	40	0	0	0	80	50	0	0	10	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	230	405	40	0	0	0	80	50	0	0	10	5
PCE 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
MLF 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
Final Vol.:	230	405	40	0	0	0	80	50	0	0	10	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.79	0.79	0.79	1.00	1.00	1.00	0.67	0.89	1.00	1.00	0.75	0.75
Lanes:	1.00	1.82	0.18	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.33	0.67
Final Sat.:	1503	2735	270	0	0	0	1271	1682	0	0	1905	952
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.15	0.00	0.00	0.00	0.06	0.03	0.00	0.00	0.01	0.01
Crit Moves:	****						****					
Green/Cycle:	0.65	0.65	0.65	0.00	0.00	0.00	0.27	0.27	0.00	0.00	0.27	0.27
Volume/Cap:	0.23	0.23	0.23	0.00	0.00	0.00	0.23	0.11	0.00	0.00	0.02	0.02
Delay/Veh:	7.2	7.1	7.1	0.0	0.0	0.0	28.9	27.7	0.0	0.0	26.9	26.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.2	7.1	7.1	0.0	0.0	0.0	28.9	27.7	0.0	0.0	26.9	26.9
DesignQueue:	5	8	1	0	0	0	3	2	0	0	0	0

Traffix 7.5.0715 (c) 2002 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR

Coos Bay/North Bend TSP
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #52 Virginia at Hwy 101 South

Cycle (sec):	100	Critical Vol./Cap. (X):	0.364
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	16.9
Optimal Cycle:	26	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	0 1	1	1 0	0 0	1	1 0	0 1	1	0 0
Volume Module:												
Base Vol:	0	0	0	20	535	245	0	110	230	5	245	0
Growth 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
Initial Bse:	0	0	0	20	535	245	0	110	230	5	245	0
User 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
PHF 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
PHF Volume:	0	0	0	20	535	245	0	110	230	5	245	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	20	535	245	0	110	230	5	245	0
PCE 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
MLF 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
Final Vol.:	0	0	0	20	535	245	0	110	230	5	245	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.77	0.77	0.77	1.00	0.80	0.80	0.86	0.86	1.00
Lanes:	0.00	0.00	0.00	0.07	2.01	0.92	0.00	1.00	1.00	0.04	1.96	0.00
Final Sat.:	0	0	0	109	2923	1339	0	1517	1517	65	3196	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.18	0.18	0.18	0.00	0.07	0.15	0.08	0.08	0.00
Crit Moves:				****					****			
Green/Cycle:	0.00	0.00	0.00	0.50	0.50	0.50	0.00	0.42	0.42	0.42	0.42	0.00
Volume/Cap:	0.00	0.00	0.00	0.36	0.36	0.36	0.00	0.17	0.36	0.18	0.18	0.00
Delay/Veh:	0.0	0.0	0.0	15.2	15.2	15.2	0.0	18.4	20.3	18.5	18.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	15.2	15.2	15.2	0.0	18.4	20.3	18.5	18.5	0.0
DesignQueue:	0	0	0	1	15	7	0	4	8	0	8	0

Traffix 7.5.0715 (c) 2002 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR

Coos Bay/North Bend TSP
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #56 Broadway at Newmark

Cycle (sec): 100 Critical Vol./Cap. (X): 0.644
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 34.3
Optimal Cycle: 62 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0 1	0	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	85	120	15	70	240	170	240	230	150	50	230	125
Growth 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
Initial Bse:	85	120	15	70	240	170	240	230	150	50	230	125
User 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
PHF 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
PHF Volume:	85	120	15	70	240	170	240	230	150	50	230	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	85	120	15	70	240	170	240	230	150	50	230	125
PCE 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
MLF 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
Final Vol.:	85	120	15	70	240	170	240	230	150	50	230	125
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.94	0.94	0.90	0.88	0.88	0.90	0.85	0.85	0.91	0.87	0.87
Lanes:	1.00	0.89	0.11	1.00	0.59	0.41	1.00	1.21	0.79	1.00	1.30	0.70
Final Sat.:	1718	1580	198	1702	984	697	1718	1957	1277	1736	2131	1158
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.08	0.04	0.24	0.24	0.14	0.12	0.12	0.03	0.11	0.11
Crit Moves:	****				****		****				****	
Green/Cycle:	0.08	0.30	0.30	0.16	0.38	0.38	0.22	0.31	0.31	0.08	0.17	0.17
Volume/Cap:	0.64	0.26	0.26	0.26	0.64	0.64	0.64	0.38	0.38	0.38	0.64	0.64
Delay/Veh:	55.3	27.1	27.1	37.3	27.8	27.8	39.5	27.3	27.3	45.8	41.5	41.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.3	27.1	27.1	37.3	27.8	27.8	39.5	27.3	27.3	45.8	41.5	41.5
DesignQueue:	4	5	1	3	9	6	11	9	6	3	11	6

Coos Bay/North Bend TSP
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #58 Newmark at Ocean Blvd.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.220
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 13.1
Optimal Cycle: 22 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	0 0	1	0 0	0 0	0	0 1	1 0	2	0 0	1 1	0
Volume Module:												
Base Vol:	220	0	55	0	0	0	0	470	335	0	270	0
Growth 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
Initial Bse:	220	0	55	0	0	0	0	470	335	0	270	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	220	0	55	0	0	0	0	470	0	0	270	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	220	0	55	0	0	0	0	470	0	0	270	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	220	0	55	0	0	0	0	470	0	0	270	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.86	1.00	0.79	1.00	1.00	1.00	0.95	0.91	0.88	1.00	0.90	0.95
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	2.00	0.00
Final Sat.:	3274	0	1510	0	0	0	0	3473	3344	0	3404	0
Capacity Analysis Module:												
Vol/Sat:	0.07	0.00	0.04	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.08	0.00
Crit Moves:	****							****				
Green/Cycle:	0.31	0.00	0.31	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61	0.00
Volume/Cap:	0.22	0.00	0.12	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.13	0.00
Delay/Veh:	26.0	0.0	25.2	0.0	0.0	0.0	0.0	8.6	0.0	0.0	8.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.0	0.0	25.2	0.0	0.0	0.0	0.0	8.6	0.0	0.0	8.1	0.0
DesignQueue:	9	0	2	0	0	0	0	10	0	0	6	0

Coos Bay/North Bend TSP
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #61 Ocean Blvd. at Woodland

Cycle (sec): 100 Critical Vol./Cap. (X): 0.382
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 18.3
Optimal Cycle: 34 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			1 0 0 0 1			1 0 2 0 0			0 0 1 1 0		
Volume Module:												
Base Vol:	0	0	0	190	0	80	65	335	0	0	440	165
Growth 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
Initial Bse:	0	0	0	190	0	80	65	335	0	0	440	165
User 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
PHF 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
PHF Volume:	0	0	0	190	0	80	65	335	0	0	440	165
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	190	0	80	65	335	0	0	440	165
PCE 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
MLF 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
Final Vol.:	0	0	0	190	0	80	65	335	0	0	440	165
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.91	1.00	0.82	0.86	0.86	1.00	1.00	0.85	0.85
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	0.00	1.45	0.55
Final Sat.:	0	0	0	1736	0	1554	1641	3281	0	0	2354	883
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.00	0.05	0.04	0.10	0.00	0.00	0.19	0.19
Crit Moves:				****			****				****	
Green/Cycle:	0.00	0.00	0.00	0.29	0.00	0.29	0.10	0.59	0.00	0.00	0.49	0.49
Volume/Cap:	0.00	0.00	0.00	0.38	0.00	0.18	0.38	0.17	0.00	0.00	0.38	0.38
Delay/Veh:	0.0	0.0	0.0	29.1	0.0	27.0	43.2	9.2	0.0	0.0	16.2	16.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	29.1	0.0	27.0	43.2	9.2	0.0	0.0	16.2	16.2
DesignQueue:	0	0	0	8	0	3	3	8	0	0	13	5

Coos Bay/North Bend TSP
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #66 Hwy 101 at E Bay Dr.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.562
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 13.2
Optimal Cycle: 36 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 1 0 1			0 1 0 0 0			0 0 0 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	350	30	10	640	0	0	0	0	210	0	25
Growth 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
Initial Bse:	0	350	30	10	640	0	0	0	0	210	0	25
User 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
PHF 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
PHF Volume:	0	350	30	10	640	0	0	0	0	210	0	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	350	30	10	640	0	0	0	0	210	0	25
PCE 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
MLF 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
Final Vol.:	0	350	30	10	640	0	0	0	0	210	0	25
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.86	0.73	0.90	0.90	1.00	1.00	1.00	1.00	0.90	1.00	0.90
Lanes:	0.00	1.00	1.00	0.02	0.98	0.00	0.00	0.00	0.00	0.89	0.00	0.11
Final Sat.:	0	1638	1392	26	1689	0	0	0	0	1525	0	182
Capacity Analysis Module:												
Vol/Sat:	0.00	0.21	0.02	0.38	0.38	0.00	0.00	0.00	0.00	0.14	0.00	0.14
Crit Moves:					****					****		
Green/Cycle:	0.00	0.67	0.67	0.67	0.67	0.00	0.00	0.00	0.00	0.25	0.00	0.25
Volume/Cap:	0.00	0.32	0.03	0.56	0.56	0.00	0.00	0.00	0.00	0.56	0.00	0.56
Delay/Veh:	0.0	6.9	5.4	9.1	9.1	0.0	0.0	0.0	0.0	34.8	0.0	34.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	6.9	5.4	9.1	9.1	0.0	0.0	0.0	0.0	34.8	0.0	34.8
DesignQueue:	0	7	1	0	13	0	0	0	0	9	0	1

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Scenario Report

Scenario:	PM future
Command:	PM existing
Volume:	PM existing
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Paths
Routes:	Default Routes
Configuration:	Default Configuration

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/C	Future LOS	Future Del/ Veh	Future V/C	Change in
# 1 6th at D St.	C	4.1	0.000	C	4.1	0.000	+ 0.000 V/C
# 3 7th at Ingersoll	A	9.3	0.405	A	9.3	0.405	+ 0.000 V/C
# 7 Hwy 101 at Flanagan	B	12.0	0.695	B	12.0	0.695	+ 0.000 D/V
# 8 Hwy 101 at 1st	D	1.2	0.000	D	1.2	0.000	+ 0.000 V/C
# 9 Hwy 101 at S Front St.	F	0.6	0.000	F	0.6	0.000	+ 0.000 V/C
# 10 Broadway at Lockhart	A	7.6	0.128	A	7.6	0.128	+ 0.000 V/C
# 11 Lockhart at 2nd	B	4.2	0.000	B	4.2	0.000	+ 0.000 V/C
# 12 Lockhart at 7th	C	7.7	0.000	C	7.7	0.000	+ 0.000 V/C
# 13 10th at Central	C	22.0	0.712	C	22.0	0.712	+ 0.000 D/V
# 14 4th at Elrod	B	11.5	0.418	B	11.5	0.418	+ 0.000 V/C
# 15 2nd at Ingersoll	B	5.1	0.000	B	5.1	0.000	+ 0.000 V/C
# 16 Commercial at Broadway	B	14.1	0.596	B	14.1	0.596	+ 0.000 D/V
# 18 Broadway at Market	B	10.1	0.548	B	10.1	0.548	+ 0.000 D/V
# 19 Bayshore at Market	D	0.6	0.000	D	0.6	0.000	+ 0.000 V/C
# 20 Broadway at Hall SB	A	6.5	0.523	A	6.5	0.523	+ 0.000 D/V
# 21 Broadway at Johnson	B	17.4	0.628	B	17.4	0.628	+ 0.000 D/V
# 22 Johnson at Bayshore	C	20.2	0.711	C	20.2	0.711	+ 0.000 D/V
# 23 Bayshore at Alder	C	0.4	0.000	C	0.4	0.000	+ 0.000 V/C
# 24 Broadway at Alder	D	0.6	0.000	D	0.6	0.000	+ 0.000 V/C
# 25 Bayshore at Commercial	A	0.0	0.000	A	0.0	0.000	+ 0.000 V/C
# 26 Bayshore at Cedar	C	0.1	0.000	C	0.1	0.000	+ 0.000 V/C
# 27 Bayshore at Birch	B	0.2	0.000	B	0.2	0.000	+ 0.000 V/C
# 28 Bayshore at Fir	B	0.0	0.000	B	0.0	0.000	+ 0.000 V/C

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Intersection	Base LOS	Base Del/ Veh	Base V/C	Future LOS	Future Del/ Veh	Future V/C	Change in
# 29 Broadway at Fir	C	0.3	0.000	C	0.3	0.000	+ 0.000 V/C
# 30 Hwy 101 at Koosbay	B	12.8	0.599	B	12.8	0.599	+ 0.000 D/V
# 31 Ocean Blvd. at Butler	A	4.3	0.414	A	4.3	0.414	+ 0.000 D/V
# 32 Hwy 101 at Newmark	C	32.4	0.821	C	32.4	0.821	+ 0.000 D/V
# 33 Newmark at Sherman	C	28.2	0.628	C	28.2	0.628	+ 0.000 D/V
# 34 Newmark at Brussels	A	8.1	0.434	A	8.1	0.434	+ 0.000 D/V
# 35 Pony Creek at Crowell	B	3.5	0.000	B	3.5	0.000	+ 0.000 V/C
# 36 Virginia at Harrison	B	11.4	0.455	B	11.4	0.455	+ 0.000 D/V
# 37 Virginia at Safeway entrance	F	3.1	0.000	F	3.1	0.000	+ 0.000 V/C
# 38 Virginia at Pony Villiage entr	F	1.8	0.000	F	1.8	0.000	+ 0.000 V/C
# 39 Sherman at Hwy 101 South	E	1.6	0.000	E	1.6	0.000	+ 0.000 V/C
# 40 Virginia at Meade	F	4.8	0.000	F	4.8	0.000	+ 0.000 V/C
# 41 Virginia at Marion	F	2.2	0.000	F	2.2	0.000	+ 0.000 V/C
# 42 Virginia at Maple	C	4.1	0.000	C	4.1	0.000	+ 0.000 V/C
# 43 Maple at East Airport Way	A	2.0	0.000	A	2.0	0.000	+ 0.000 V/C
# 44 Virginia at Arthur	B	1.8	0.000	B	1.8	0.000	+ 0.000 V/C
# 45 Virginia at Channel St.	B	2.1	0.000	B	2.1	0.000	+ 0.000 V/C
# 46 Lakeshore at Crocker	B	5.1	0.000	B	5.1	0.000	+ 0.000 V/C
# 47 Virginia at Oak	C	2.4	0.000	C	2.4	0.000	+ 0.000 V/C
# 48 Newmark at Oak	B	12.6	0.584	B	12.6	0.584	+ 0.000 D/V
# 49 Newmark at Morrison	D	1.3	0.000	D	1.3	0.000	+ 0.000 V/C
# 50 Empire Blvd. at Pacific	C	2.6	0.000	C	2.6	0.000	+ 0.000 V/C
# 51 Virginia at Hwy 101 North	B	16.4	0.471	B	16.4	0.471	+ 0.000 D/V
# 52 Virginia at Hwy 101 South	B	19.1	0.556	B	19.1	0.556	+ 0.000 D/V
# 53 California at Hwy 101 North	C	0.2	0.000	C	0.2	0.000	+ 0.000 V/C

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Intersection	Base LOS	Base Del/ Veh	Base V/C	Future LOS	Future Del/ Veh	Future V/C	Change in
# 54 Florida at Sherman	B	20.0	0.571	B	20.0	0.571	+ 0.000 D/V
# 55 Broadway at 16th	B	14.7	0.464	B	14.7	0.464	+ 0.000 D/V
# 56 Broadway at Newmark	D	41.8	0.844	D	41.8	0.844	+ 0.000 D/V
# 57 Newmark at Laclair	D	1.5	0.000	D	1.5	0.000	+ 0.000 V/C
# 58 Newmark at Ocean Blvd.	B	15.4	0.614	B	15.4	0.614	+ 0.000 D/V
# 59 Thompson at Koosbay	C	5.6	0.000	C	5.6	0.000	+ 0.000 V/C
# 60 Woodland at Thompson	C	3.2	0.000	C	3.2	0.000	+ 0.000 V/C
# 61 Ocean Blvd. at Woodland	C	21.5	0.589	C	21.5	0.589	+ 0.000 D/V
# 62 Ocean Blvd. at Radar	B	3.1	0.000	B	3.1	0.000	+ 0.000 V/C
# 63 Hwy 101 at Clark	D	0.3	0.000	D	0.3	0.000	+ 0.000 V/C
# 64 Hwy 101 at Casino entrance	B	14.0	0.523	B	14.0	0.523	+ 0.000 D/V
# 65 Libby at Wilshire	B	3.2	0.000	B	3.2	0.000	+ 0.000 V/C
# 66 Hwy 101 at E Bay Dr.	A	3.5	0.677	A	3.5	0.677	+ 0.000 D/V
# 67 Hwy 101 at North Bay	F	3.0	0.000	F	3.0	0.000	+ 0.000 V/C
# 68 Hwy 101 at Trans Pacific	C	1.4	0.000	C	1.4	0.000	+ 0.000 V/C
# 70 1st at Hall NB	A	4.9	0.415	A	4.9	0.415	+ 0.000 D/V
# 71 Broadway at 17th	F	0.8	0.000	F	0.8	0.000	+ 0.000 V/C
# 72 Virginia at Pony Villiage enta	D	1.9	0.000	D	1.9	0.000	+ 0.000 V/C
# 73 Coos River Hwy at Olive Barber	D	3.1	0.000	D	3.1	0.000	+ 0.000 V/C
# 74 Ocean Blve at Laclair	C	3.3	0.000	C	3.3	0.000	+ 0.000 V/C
# 75 Central at 7th	C	12.4	0.754	C	12.4	0.754	+ 0.000 V/C
# 76 Coos River Hwy at Edwards	B	2.8	0.000	B	2.8	0.000	+ 0.000 V/C
# 77 Coos River Hwy at Mullen	E	1.1	0.000	E	1.1	0.000	+ 0.000 V/C
# 78 Hwy 101 at Edwards	E	0.6	0.000	E	0.6	0.000	+ 0.000 V/C

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 79 11th at Elrod	A	6.8	0.000	A	6.8	0.000	+ 0.000 V/C
# 80 US 101/Coos River Hwy (Bunker	C	32.7	0.696	C	32.7	0.696	+ 0.000 D/V
# 81 Virginia/McPherson	A	8.2	0.355	A	8.2	0.355	+ 0.000 D/V
# 82 Virginia/Broadway	C	27.7	0.973	C	27.7	0.973	+ 0.000 D/V

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 6th at D St.

Average Delay (sec/veh): 4.1 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0 0 1			0 0 1! 0 0			0 0 0 1 0			0 1 0 0 0		
Volume Module:												
Base Vol:	203	0	379	0	0	0	0	10	134	154	30	0
Growth 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
Initial Bse:	203	0	379	0	0	0	0	10	134	154	30	0
User 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
PHF 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
PHF Volume:	203	0	379	0	0	0	0	10	134	154	30	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	203	0	379	0	0	0	0	10	134	154	30	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	6.6	6.3	7.2	6.6	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	4.1	3.4	3.5	4.0	xxxxx
Capacity Module:												
Cnflict Vol:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	785	0	478	406	xxxxx
Potent Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	319	0	493	530	xxxxx
Move Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	319	0	481	530	xxxxx
Level Of Service Module:												
Stopped Del:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	4591	488	xxxx	xxxxx
Shrd StpDel:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	5.8	16.8	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	A	C	*	*
ApproachDel:	xxxxxx			xxxxxx			5.8			16.8		
ApproachLOS:	*			*			A			C		

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #3 7th at Ingersoll

Cycle (sec):	100	Critical Vol./Cap. (X):	0.405
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	9.3
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 0	0 0	1!	0 0	0 1	0	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	10	109	0	11	284	50	30	10	0	21	15	4
Growth 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
Initial Bse:	10	109	0	11	284	50	30	10	0	21	15	4
User 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
PHF 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
PHF Volume:	10	109	0	11	284	50	30	10	0	21	15	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	109	0	11	284	50	30	10	0	21	15	4
PCE 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
MLF 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
Final Vol.:	10	109	0	11	284	50	30	10	0	21	15	4
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.08	0.92	0.00	0.03	0.83	0.14	0.75	0.25	0.00	0.52	0.38	0.10
Final Sat.:	65	713	0	27	702	124	489	163	0	348	248	66
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	xxxx	0.40	0.40	0.40	0.06	0.06	xxxx	0.06	0.06	0.06
Crit Moves:		****		****				****				****
Delay/Veh:	8.3	8.3	0.0	9.9	9.9	9.9	8.4	8.4	0.0	8.3	8.3	8.3
Delay 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
AdjDel/Veh:	8.3	8.3	0.0	9.9	9.9	9.9	8.4	8.4	0.0	8.3	8.3	8.3
LOS by Move:	A	A	*	A	A	A	A	A	*	A	A	A
ApproachDel:		8.3			9.9			8.4			8.3	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.3			9.9			8.4			8.3	
LOS by Appr:		A			A			A			A	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #7 Hwy 101 at Flanagan

Cycle (sec):	120	Critical Vol./Cap. (X):	0.695
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	12.0
Optimal Cycle:	61	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	71	10	33	35	10	40	30	1734	82	28	1353	5
Growth 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
Initial Bse:	71	10	33	35	10	40	30	1734	82	28	1353	5
User 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
PHF 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
PHF Volume:	71	10	33	35	10	40	30	1734	82	28	1353	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	10	33	35	10	40	30	1734	82	28	1353	5
PCE 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
MLF 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
Final Vol.:	71	10	33	35	10	40	30	1734	82	28	1353	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.69	0.69	0.69	0.78	0.78	0.78	0.92	0.92	0.92	0.90	0.90	0.90
Lanes:	0.62	0.09	0.29	0.41	0.12	0.47	1.00	1.91	0.09	1.00	1.99	0.01
Final Sat.:	814	115	378	608	174	694	1753	3324	157	1718	3421	13
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.06	0.06	0.06	0.02	0.52	0.52	0.02	0.40	0.40
Crit Moves:		****						****		****		
Green/Cycle:	0.13	0.13	0.13	0.13	0.13	0.13	0.03	0.75	0.75	0.02	0.74	0.74
Volume/Cap:	0.69	0.69	0.69	0.46	0.46	0.46	0.53	0.69	0.69	0.69	0.53	0.53
Delay/Veh:	62.4	62.4	62.4	50.5	50.5	50.5	66.7	8.6	8.6	99.6	6.8	6.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.4	62.4	62.4	50.5	50.5	50.5	66.7	8.6	8.6	99.6	6.8	6.8
DesignQueue:	4	1	2	2	1	2	2	33	2	2	26	0

```
                         Coos Bay/North Bend TSP
                              PM Peak Hour
                         Future 2020 Conditions
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #8 Hwy 101 at 1st
********************************************************************************
Average Delay (sec/veh):      1.2          Worst Case Level Of Service:
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        1  0  2  0  0   0  0  1  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      85 1293     0     0 1877    30     0     0   130     0     0     0
Growth 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
Initial Bse:   85 1293     0     0 1877    30     0     0   130     0     0     0
User 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
PHF 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
PHF Volume:    85 1293     0     0 1877    30     0     0   130     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
Final Vol.:    85 1293     0     0 1877   ‘30     0     0   130     0     0     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  4.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   7.0 xxxxx xxxx xxxxx
FollowUpTim:  2.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: 1907 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   954  xxxx xxxx xxxxx
Potent Cap.:  292 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   254  xxxx xxxx xxxxx
Move Cap.:    292 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   254  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del: 22.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  33.2 xxxxx xxxx xxxxx
LOS by Move:    C    *     *     *    *     *     *    *     D     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      xxxxxx           xxxxxx            33.2           xxxxxx
ApproachLOS:         *                *                D               *
```



```
                         Coos Bay/North Bend TSP
                              PM Peak Hour
                         Future 2020 Conditions
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #9 Hwy 101 at S Front St.
********************************************************************************
Average Delay (sec/veh):      0.6          Worst Case Level Of Service:
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:         Stop Sign        Stop Sign      Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  1! 0  0   0  0  0  0  0   0  0  1  1  0   1  0  2  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       5    0    32     0    0     0     0 2047     5    16 1339     0
Growth 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
Initial Bse:    5    0    32     0    0     0     0 2047     5    16 1339     0
User 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
PHF 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
PHF Volume:     5    0    32     0    0     0     0 2047     5    16 1339     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     5    0    32     0    0     0     0 2047     5    16 1339     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  6.8 xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.2 xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: 2751 xxxx  1026  xxxx xxxx xxxxx  xxxx xxxx xxxxx  2052 xxxx xxxxx
Potent Cap.:   16 xxxx   232  xxxx xxxx xxxxx  xxxx xxxx xxxxx   263 xxxx xxxxx
Move Cap.:     15 xxxx   232  xxxx xxxx xxxxx  xxxx xxxx xxxxx   263 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  19.6 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     C    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx   79 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx 85.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F     *     *    *     *     *    *     *     *    *     *
ApproachDel:       85.7            xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         F                *                *                *
```

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #10 Broadway at Lockhart

Cycle (sec):	100	Critical Vol./Cap. (X):	0.128
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	7.6
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Stop Sign			Stop Sign			Stop Sign			Stop Sign	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:		1 0 0 0 0			0 0 1! 0 0			0 1 0 0 0			0 0 0 1 0	
Volume Module:												
Base Vol:	15	0	0	5	10	100	49	27	0	0	51	5
Growth 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
Initial Bse:	15	0	0	5	10	100	49	27	0	0	51	5
User 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
PHF 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
PHF Volume:	15	0	0	5	10	100	49	27	0	0	51	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	0	0	5	10	100	49	27	0	0	51	5
PCE 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
MLF 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
Final Vol.:	15	0	0	5	10	100	49	27	0	0	51	5
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	0.00	0.04	0.09	0.87	0.64	0.36	0.00	0.00	0.91	0.09
Final Sat.:	734	0	0	39	78	781	506	279	0	0	750	74
Capacity Analysis Module:												
Vol/Sat:	0.02	xxxx	xxxx	0.13	0.13	0.13	0.10	0.10	xxxx	xxxx	0.07	0.07
Crit Moves:	****					****		****				****
Delay/Veh:	7.8	0.0	0.0	7.5	7.5	7.5	7.9	7.9	0.0	0.0	7.5	7.5
Delay 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
AdjDel/Veh:	7.8	0.0	0.0	7.5	7.5	7.5	7.9	7.9	0.0	0.0	7.5	7.5
LOS by Move:	A	*	*	A	A	A	A	A	*	*	A	A
ApproachDel:		7.8			7.5			7.9			7.5	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.8			7.5			7.9			7.5	
LOS by Appr:		A			A			A			A	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #11 Lockhart at 2nd

Average Delay (sec/veh): 4.2 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Stop Sign			Stop Sign			Uncontrolled			Uncontrolled	
Rights:		Include			Include			Include			Include	
Lanes:		0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0	
Volume Module:												
Base Vol:	20	5	5	5	5	85	70	18	20	5	33	10
Growth 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
Initial Bse:	20	5	5	5	5	85	70	18	20	5	33	10
User 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
PHF 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
PHF Volume:	20	5	5	5	5	85	70	18	20	5	33	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	20	5	5	5	5	85	70	18	20	5	33	10
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.2	6.6	6.3	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.6	4.1	3.4	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	261	221	28	221	226	38	43	xxxx	xxxxx	38	xxxx	xxxxx
Potent Cap.:	696	681	1053	726	666	1023	1559	xxxx	xxxxx	1553	xxxx	xxxxx
Move Cap.:	610	647	1053	691	633	1023	1559	xxxx	xxxxx	1553	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	7.3	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	663	xxxxx	xxxx	967	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	10.7	xxxxx	xxxxx	9.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	A	*	*	*	*	*	*	*
ApproachDel:		10.7			9.1			xxxxxx			xxxxxx	
ApproachLOS:		B			A			*			*	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #12 Lockhart at 7th

Average Delay (sec/veh): 7.7 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 1 0 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	0	0	0	5	0	492	105	224	0	0	321	15
Growth 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
Initial Bse:	0	0	0	5	0	492	105	224	0	0	321	15
User 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
PHF 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
PHF Volume:	0	0	0	5	0	492	105	224	0	0	321	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	5	0	492	105	224	0	0	321	15
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	763	xxxx	329	336	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	374	xxxx	715	1223	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	348	xxxx	715	1223	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	0	xxxxx	xxxx	708	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	21.2	xxxxx	8.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	C	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			21.2			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #13 10th at Central

Cycle (sec): 100 Critical Vol./Cap. (X): 0.712
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 22.0
Optimal Cycle: 61 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 0 1 0			1 0 0 1 0			0 1 0 0 1			0 1 0 1 0		
Volume Module:												
Base Vol:	224	115	1	147	104	30	10	780	197	4	651	14
Growth 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
Initial Bse:	224	115	1	147	104	30	10	780	197	4	651	14
User 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
PHF 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
PHF Volume:	224	115	1	147	104	30	10	780	197	4	651	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	224	115	1	147	104	30	10	780	197	4	651	14
PCE 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
MLF 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
Final Vol.:	224	115	1	147	104	30	10	780	197	4	651	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.94	0.99	0.99	0.93	0.95	0.95	0.97	0.97	0.83	0.88	0.88	0.88
Lanes:	1.00	0.99	0.01	1.00	0.78	0.22	0.01	0.99	1.00	0.01	1.95	0.04
Final Sat.:	1787	1863	16	1769	1396	403	23	1827	1583	20	3268	70
Capacity Analysis Module:												
Vol/Sat:	0.13	0.06	0.06	0.08	0.07	0.07	0.43	0.43	0.12	0.20	0.20	0.20
Crit Moves:	****				****			****				
Green/Cycle:	0.18	0.12	0.12	0.16	0.10	0.10	0.60	0.60	0.60	0.60	0.60	0.60
Volume/Cap:	0.71	0.52	0.52	0.52	0.71	0.71	0.71	0.71	0.21	0.33	0.33	0.33
Delay/Veh:	46.3	43.4	43.4	40.0	55.4	55.4	16.2	16.2	9.3	10.1	10.1	10.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.3	43.4	43.4	40.0	55.4	55.4	16.2	16.2	9.3	10.1	10.1	10.1
DesignQueue:	11	6	0	7	5	2	0	19	5	0	15	0

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #14 4th at Elrod

Cycle (sec):	100	Critical Vol./Cap. (X):	0.418
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	11.5
Optimal Cycle:	0	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Stop Sign			Stop Sign			Stop Sign			Stop Sign	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 0 1 0			1 0 0 1 0			0 0 0 1 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	60	124	50	230	236	26	0	78	30	53	58	81
Growth 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
Initial Bse:	60	124	50	230	236	26	0	78	30	53	58	81
User 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
PHF 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
PHF Volume:	60	124	50	230	236	26	0	78	30	53	58	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	60	124	50	230	236	26	0	78	30	53	58	81
PCE 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
MLF 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
Final Vol.:	60	124	50	230	236	26	0	78	30	53	58	81
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.71	0.29	1.00	0.90	0.10	0.00	0.72	0.28	0.28	0.30	0.42
Final Sat.:	530	422	170	570	564	62	0	403	155	165	180	252
Capacity Analysis Module:												
Vol/Sat:	0.11	0.29	0.29	0.40	0.42	0.42	xxxx	0.19	0.19	0.32	0.32	0.32
Crit Moves:			****		****			****			****	
Delay/Veh:	10.0	10.8	10.8	12.8	12.1	12.1	0.0	10.2	10.2	11.1	11.1	11.1
Delay 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
AdjDel/Veh:	10.0	10.8	10.8	12.8	12.1	12.1	0.0	10.2	10.2	11.1	11.1	11.1
LOS by Move:	A	B	B	B	B	B	*	B	B	B	B	B
ApproachDel:		10.6			12.4			10.2			11.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		10.6			12.4			10.2			11.1	
LOS by Appr:		B			B			B			B	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #15 2nd at Ingersoll

Average Delay (sec/veh): 5.1 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Stop Sign			Stop Sign			Uncontrolled			Uncontrolled	
Rights:		Include			Include			Include			Include	
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 0 1 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	10	74	10	10	34	10	0	26	11	10	52	20
Growth 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
Initial Bse:	10	74	10	10	34	10	0	26	11	10	52	20
User 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
PHF 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
PHF Volume:	10	74	10	10	34	10	0	26	11	10	52	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	74	10	10	34	10	0	26	11	10	52	20
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	136	124	32	156	119	62	xxxx	xxxx	xxxxx	37	xxxx	xxxxx
Potent Cap.:	836	767	1043	816	775	1009	xxxx	xxxx	xxxxx	1574	xxxx	xxxxx
Move Cap.:	796	762	1043	744	770	1009	xxxx	xxxx	xxxxx	1574	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	788	xxxxx	xxxx	800	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	10.2	xxxxx	xxxxx	9.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	A	*	*	*	*	*	*	*
ApproachDel:		10.2			9.8			xxxxxx			xxxxxx	
ApproachLOS:		B			A			*			*	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #16 Commercial at Broadway

Cycle (sec):	100	Critical Vol./Cap. (X):	0.596
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	14.1
Optimal Cycle:	38	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			0 0 2 0 1			0 0 0 0 0			0 1 1 0 0		
Volume Module:												
Base Vol:	0	0	0	0	1461	114	0	0	0	30	420	0
Growth 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
Initial Bse:	0	0	0	0	1461	114	0	0	0	30	420	0
User 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
PHF 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
PHF Volume:	0	0	0	0	1461	114	0	0	0	30	420	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	1461	114	0	0	0	30	420	0
PCE 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
MLF 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
Final Vol.:	0	0	0	0	1461	114	0	0	0	30	420	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	0.91	0.82	1.00	1.00	1.00	0.93	0.93	1.00
Lanes:	0.00	0.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	0.13	1.87	0.00
Final Sat.:	0	0	0	0	3473	1554	0	0	0	236	3302	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.42	0.07	0.00	0.00	0.00	0.13	0.13	0.00
Crit Moves:					****					****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.71	0.71	0.00	0.00	0.00	0.21	0.21	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.60	0.10	0.00	0.00	0.00	0.60	0.60	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	7.8	4.7	0.0	0.0	0.0	36.7	36.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	7.8	4.7	0.0	0.0	0.0	36.7	36.7	0.0
DesignQueue:	0	0	0	0	27	2	0	0	0	1	19	0

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #18 Broadway at Market

Cycle (sec):	100	Critical Vol./Cap. (X):	0.548
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	10.1
Optimal Cycle:	35	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			0 1 0 1 0			0 0 0 1 0			0 1 0 0 0		
Volume Module:												
Base Vol:	0	0	0	25	1371	20	0	75	90	30	25	0
Growth 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
Initial Bse:	0	0	0	25	1371	20	0	75	90	30	25	0
User 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
PHF 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
PHF Volume:	0	0	0	25	1371	20	0	75	90	30	25	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	25	1371	20	0	75	90	30	25	0
PCE 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
MLF 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
Final Vol.:	0	0	0	25	1371	20	0	75	90	30	25	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.92	0.92	0.86	0.86	1.00
Lanes:	0.00	0.00	0.00	0.03	1.94	0.03	0.00	0.45	0.55	0.55	0.45	0.00
Final Sat.:	0	0	0	61	3349	49	0	792	950	896	746	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.41	0.41	0.41	0.00	0.09	0.09	0.03	0.03	0.00
Crit Moves:				****				****				
Green/Cycle:	0.00	0.00	0.00	0.75	0.75	0.75	0.00	0.17	0.17	0.17	0.17	0.00
Volume/Cap:	0.00	0.00	0.00	0.55	0.55	0.55	0.00	0.55	0.55	0.19	0.19	0.00
Delay/Veh:	0.0	0.0	0.0	5.7	5.7	5.7	0.0	39.9	39.9	35.7	35.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	5.7	5.7	5.7	0.0	39.9	39.9	35.7	35.7	0.0
DesignQueue:	0	0	0	0	21	0	0	4	4	1	1	0

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #19 Bayshore at Market

Average Delay (sec/veh): 0.6 Worst Case Level Of Service:

Approach:	North Bound	South Bound	East Bound	West Bound
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Lanes:	0 1 0 1 0	0 0 0 0 0	1 0 0 0 0	0 0 1 0 0

Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	30	1301	10	0	0	0	90	0	0	0	15	0
Growth 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
Initial Bse:	30	1301	10	0	0	0	90	0	0	0	15	0
User 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
PHF 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
PHF Volume:	30	1301	10	0	0	0	90	0	0	0	15	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	30	1301	10	0	0	0	90	0	0	0	15	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.1	xxxx	xxxxx	xxxxx	6.5	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	xxxxx	xxxxx	4.0	xxxxx
Capacity Module:												
Cnflict Vol:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	718	xxxx	xxxxx	xxxx	1366	xxxxx
Potent Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	343	xxxx	xxxxx	xxxx	149	xxxxx
Move Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	316	xxxx	xxxxx	xxxx	149	xxxxx
Level Of Service Module:												
Stopped Del:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	20.8	xxxx	xxxxx	xxxxx	31.9	xxxxx
LOS by Move:	A	*	*	*	*	*	C	*	*	*	D	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:		xxxxxx			xxxxxx			20.8			31.9	
ApproachLOS:		*			*			C			D	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #20 Broadway at Hall SB

Cycle (sec): 100 Critical Vol./Cap. (X): 0.523
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 6.5
Optimal Cycle: 33 Level Of Service: A

Approach:	North Bound	South Bound	East Bound	West Bound
Control:	Split Phase	Split Phase	Permitted	Permitted
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	0 0 0 0 0	0 1 1 1 0	0 0 0 1 0	0 1 0 0 0

Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	30	2090	20	0	30	65	50	40	0
Growth 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
Initial Bse:	0	0	0	30	2090	20	0	30	65	50	40	0
User 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
PHF 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
PHF Volume:	0	0	0	30	2090	20	0	30	65	50	40	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	30	2090	20	0	30	65	50	40	0
PCE 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
MLF 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
Final Vol.:	0	0	0	30	2090	20	0	30	65	50	40	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.88	0.88	0.88	1.00	0.90	0.90	0.87	0.87	1.00
Lanes:	0.00	0.00	0.00	0.04	2.93	0.03	0.00	0.32	0.68	0.56	0.44	0.00
Final Sat.:	0	0	0	70	4909	47	0	539	1169	921	737	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.43	0.43	0.43	0.00	0.06	0.06	0.05	0.05	0.00
Crit Moves:					****			****				
Green/Cycle:	0.00	0.00	0.00	0.81	0.81	0.81	0.00	0.11	0.11	0.11	0.11	0.00
Volume/Cap:	0.00	0.00	0.00	0.52	0.52	0.52	0.00	0.52	0.52	0.51	0.51	0.00
Delay/Veh:	0.0	0.0	0.0	3.1	3.1	3.1	0.0	45.0	45.0	44.7	44.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	3.1	3.1	3.1	0.0	45.0	45.0	44.7	44.7	0.0
DesignQueue:	0	0	0	0	24	0	0	2	3	3	2	0

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #21 Broadway at Johnson

Cycle (sec):	100	Critical Vol./Cap. (X):	0.628
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	17.4
Optimal Cycle:	41	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Split Phase			Split Phase			Permitted			Permitted	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			1 0 2 1 0			0 0 1 1 0			1 0 1 0 0		
Volume Module:												
Base Vol:	0	0	0	285	1640	102	0	137	130	245	110	0
Growth 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
Initial Bse:	0	0	0	285	1640	102	0	137	130	245	110	0
User 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
PHF 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
PHF Volume:	0	0	0	285	1640	102	0	137	130	245	110	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	285	1640	102	0	137	130	245	110	0
PCE 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
MLF 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
Final Vol.:	0	0	0	285	1640	102	0	137	130	245	110	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.96	0.88	0.88	1.00	0.86	0.86	0.56	0.99	1.00
Lanes:	0.00	0.00	0.00	1.00	2.82	0.18	0.00	1.03	0.97	1.00	1.00	0.00
Final Sat.:	0	0	0	1828	4699	292	0	1667	1582	1072	1881	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.16	0.35	0.35	0.00	0.08	0.08	0.23	0.06	0.00
Crit Moves:						****				****		
Green/Cycle:	0.00	0.00	0.00	0.56	0.56	0.56	0.00	0.36	0.36	0.36	0.36	0.00
Volume/Cap:	0.00	0.00	0.00	0.28	0.63	0.63	0.00	0.23	0.23	0.63	0.16	0.00
Delay/Veh:	0.0	0.0	0.0	11.8	15.6	15.6	0.0	22.1	22.1	29.5	21.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	11.8	15.6	15.6	0.0	22.1	22.1	29.5	21.6	0.0
DesignQueue:	0	0	0	7	44	3	0	5	5	9	4	0

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #22 Johnson at Bayshore

Cycle (sec):	100	Critical Vol./Cap. (X):	0.711
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	20.2
Optimal Cycle:	50	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Split Phase			Split Phase			Permitted			Permitted	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1 1 0 1			0 0 0 0 0			0 1 1 0 0			0 0 1 0 1		
Volume Module:												
Base Vol:	25	1341	80	0	0	0	122	295	0	0	270	135
Growth 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
Initial Bse:	25	1341	80	0	0	0	122	295	0	0	270	135
User 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
PHF 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
PHF Volume:	25	1341	80	0	0	0	122	295	0	0	270	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	25	1341	80	0	0	0	122	295	0	0	270	135
PCE 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
MLF 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
Final Vol.:	25	1341	80	0	0	0	122	295	0	0	270	135
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	0.77	0.81	1.00	1.00	1.00	0.59	0.59	1.00	1.00	0.99	0.84
Lanes:	0.04	1.96	1.00	0.00	0.00	0.00	0.59	1.41	0.00	0.00	1.00	1.00
Final Sat.:	53	2868	1537	0	0	0	654	1582	0	0	1881	1599
Capacity Analysis Module:												
Vol/Sat:	0.47	0.47	0.05	0.00	0.00	0.00	0.19	0.19	0.00	0.00	0.14	0.08
Crit Moves:	****							****				
Green/Cycle:	0.66	0.66	0.66	0.00	0.00	0.00	0.26	0.26	0.00	0.00	0.26	0.26
Volume/Cap:	0.71	0.71	0.08	0.00	0.00	0.00	0.71	0.71	0.00	0.00	0.55	0.32
Delay/Veh:	12.3	12.3	6.2	0.0	0.0	0.0	37.5	37.5	0.0	0.0	33.1	30.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.3	12.3	6.2	0.0	0.0	0.0	37.5	37.5	0.0	0.0	33.1	30.2
DesignQueue:	1	28	2	0	0	0	5	12	0	0	11	6

```
--------------------------------------------------------------------------------
                         Coos Bay/North Bend TSP
                              PM Peak Hour
                         Future 2020 Conditions
--------------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #23 Bayshore at Alder
********************************************************************************
Average Delay (sec/veh):       0.4          Worst Case Level Of Service:
********************************************************************************
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  1  0  1  0   0  0  0  0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      30 1311    50     0    0     0    15    5     0     0   20    25
Growth 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
Initial Bse:   30 1311    50     0    0     0    15    5     0     0   20    25
User 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
PHF 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
PHF Volume:    30 1311    50     0    0     0    15    5     0     0   20    25
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:    30 1311    50     0    0     0    15    5     0     0   20    25
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   7.1  6.5 xxxxx xxxxx  6.5   6.2
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.5  4.0 xxxxx xxxxx  4.0   3.3
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:    0 xxxx xxxxx  xxxx xxxx xxxxx   726 1421 xxxxx  xxxx 1396   681
Potent Cap.:    0 xxxx xxxxx  xxxx xxxx xxxxx   340  136 xxxxx  xxxx  140   447
Move Cap.:      0 xxxx xxxxx  xxxx xxxx xxxxx   286  136 xxxxx  xxxx  140   447
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   224 xxxx xxxxx  xxxx xxxx   226
Shrd StpDel:  0.0 xxxx xxxxx xxxxx xxxx xxxxx  22.6 xxxx xxxxx xxxxx xxxx  24.8
Shared LOS:     A    *     *     *    *     *     C    *     *     *    *     C
ApproachDel:      xxxxxx           xxxxxx            22.6             24.8
ApproachLOS:         *                *                C                C
```



```
--------------------------------------------------------------------------------
                         Coos Bay/North Bend TSP
                              PM Peak Hour
                         Future 2020 Conditions
--------------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #24 Broadway at Alder
********************************************************************************
Average Delay (sec/veh):       0.6          Worst Case Level Of Service:
********************************************************************************
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  0   0  1  0  1  0   0  0  0  1  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0    0     0    30 1406     5     0   10    10    70   10     0
Growth 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
Initial Bse:    0    0     0    30 1406     5     0   10    10    70   10     0
User 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
PHF 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
PHF Volume:     0    0     0    30 1406     5     0   10    10    70   10     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     0    0     0    30 1406     5     0   10    10    70   10     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.1 xxxx xxxxx xxxxx  6.5   6.2   7.1  6.5 xxxxx
FollowUpTim:xxxxx xxxx xxxxx   2.2 xxxx xxxxx xxxxx  4.0   3.3   3.5  4.0 xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx 1469   706   768 1471 xxxxx
Potent Cap.: xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx  129   440   317  126 xxxxx
Move Cap.:   xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx  129   440   292  126 xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   199   251 xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx  25.1  25.9 xxxx xxxxx
Shared LOS:     *    *     *     A    *     *     *    *     D     D    *     *
ApproachDel:      xxxxxx           xxxxxx            25.1             25.9
ApproachLOS:         *                *                D                D
```

```
                              Coos Bay/North Bend TSP
                                   PM Peak Hour
                              Future 2020 Conditions
-------------------------------------------------------------------------------
                        Level Of Service Computation Report
               2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #25 Bayshore at Commercial
*******************************************************************************
Average Delay (sec/veh):       0.0          Worst Case Level Of Service:
*******************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  1  1  0  0   0  0  0  0  0   0  0  0  0  0   0  0  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:     400 1276     0     0    0     0     0    0     0     0    0     0
Growth 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
Initial Bse:  400 1276     0     0    0     0     0    0     0     0    0     0
User 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
PHF 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
PHF Volume:   400 1276     0     0    0     0     0    0     0     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:   400 1276     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:    0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:    0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:      0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *                *                *                *
```



```
                              Coos Bay/North Bend TSP
                                   PM Peak Hour
                              Future 2020 Conditions
-------------------------------------------------------------------------------
                        Level Of Service Computation Report
               2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #26 Bayshore at Cedar
*******************************************************************************
Average Delay (sec/veh):       0.1          Worst Case Level Of Service:
*******************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  1  0  1  0   0  0  0  0  0   1  0  0  0  0   0  0  0  0  1
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0 1391     5     0    0     0    10    0     0     0    0    10
Growth 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
Initial Bse:    0 1391     5     0    0     0    10    0     0     0    0    10
User 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
PHF 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
PHF Volume:     0 1391     5     0    0     0    10    0     0     0    0    10
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     0 1391     5     0    0     0    10    0     0     0    0    10
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx xxxxx xxxxx xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx xxxxx xxxx   3.3
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx   696 xxxx xxxxx  xxxx xxxx   698
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx   359 xxxx xxxxx  xxxx xxxx   444
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   351 xxxx xxxxx  xxxx xxxx   444
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  15.6 xxxx xxxxx xxxxx xxxx  13.3
LOS by Move:    *    *     *     *    *     *     C    *     *     *    *     B
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      xxxxxx           xxxxxx            15.6             13.3
ApproachLOS:         *                *                C                B
```

```
                        Coos Bay/North Bend TSP
                             PM Peak Hour
                        Future 2020 Conditions
-------------------------------------------------------------------------------
                  Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #27 Bayshore at Birch
*******************************************************************************
Average Delay (sec/veh):      0.2          Worst Case Level Of Service:
*******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  1  0  1  0    0  0  0  0  0    0  1  0  0  0    0  0  0  0  1
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:        5 1301    10     0    0     0     0    0     0     0    0    50
Growth 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
Initial Bse:     5 1301    10     0    0     0     0    0     0     0    0    50
User 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
PHF 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
PHF Volume:      5 1301    10     0    0     0     0    0     0     0    0    50
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:      5 1301    10     0    0     0     0    0     0     0    0    50
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:   4.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.2
FollowUpTim:   2.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:     0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   656
Potent Cap.:     0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   464
Move Cap.:       0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   464
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.7
LOS by Move:     A    *     *     *    *     *     *    *     *     *    *     B
Movement:       LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  xxxx xxxx xxxxx  xxxx xxxx xxxxx     0 xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      xxxxxx           xxxxxx           xxxxxx            13.7
ApproachLOS:        *                *                *                B
```



```
                        Coos Bay/North Bend TSP
                             PM Peak Hour
                        Future 2020 Conditions
-------------------------------------------------------------------------------
                  Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #28 Bayshore at Fir
*******************************************************************************
Average Delay (sec/veh):      0.0          Worst Case Level Of Service:
*******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  1  0  1  0    0  0  0  0  0    0  0  0  0  0    0  0  0  0  1
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:        0 1481     5     0    0     0     0    0     0     0    0     5
Growth 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
Initial Bse:     0 1481     5     0    0     0     0    0     0     0    0     5
User 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
PHF 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
PHF Volume:      0 1481     5     0    0     0     0    0     0     0    0     5
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:      0 1481     5     0    0     0     0    0     0     0    0     5
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.2
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   743
Potent Cap.:  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   418
Move Cap.:    xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   418
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.7
LOS by Move:     *    *     *     *    *     *     *    *     *     *    *     B
Movement:       LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:   0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      A    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      xxxxxx           xxxxxx           xxxxxx            13.7
ApproachLOS:        *                *                *                B
```

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #29 Broadway at Fir

Average Delay (sec/veh): 0.3 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1 1 0			0 0 0 0 1			1 0 0 0 0		
Volume Module:												
Base Vol:	0	0	0	0	1516	0	0	0	0	50	0	0
Growth 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
Initial Bse:	0	0	0	0	1516	0	0	0	0	50	0	0
User 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
PHF 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
PHF Volume:	0	0	0	0	1516	0	0	0	0	50	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	0	1516	0	0	0	0	50	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	758	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	373	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	373	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	16.1	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	C	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			16.1		
ApproachLOS:	*			*			*			C		

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #30 Hwy 101 at Koosbay

Cycle (sec): 100 Critical Vol./Cap. (X): 0.599
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 12.8
Optimal Cycle: 48 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2 0 0			0 0 1 1 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	93	1125	0	0	1270	18	23	0	141	0	0	0
Growth 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
Initial Bse:	93	1125	0	0	1270	18	23	0	141	0	0	0
User 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
PHF 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
PHF Volume:	93	1125	0	0	1270	18	23	0	141	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	93	1125	0	0	1270	18	23	0	141	0	0	0
PCE 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
MLF 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
Final Vol.:	93	1125	0	0	1270	18	23	0	141	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.90	1.00	1.00	0.91	0.91	0.85	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.97	0.03	0.14	0.00	0.86	0.00	0.00	0.00
Final Sat.:	1718	3437	0	0	3417	48	227	0	1392	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.33	0.00	0.00	0.37	0.37	0.10	0.00	0.10	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.09	0.71	0.00	0.00	0.62	0.62	0.17	0.00	0.17	0.00	0.00	0.00
Volume/Cap:	0.60	0.46	0.00	0.00	0.60	0.60	0.60	0.00	0.60	0.00	0.00	0.00
Delay/Veh:	50.0	6.4	0.0	0.0	11.9	11.9	42.0	0.0	42.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.0	6.4	0.0	0.0	11.9	11.9	42.0	0.0	42.0	0.0	0.0	0.0
DesignQueue:	5	20	0	0	29	0	1	0	7	0	0	0

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #31 Ocean Blvd. at Butler

Cycle (sec):	100	Critical Vol./Cap. (X):	0.414
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	4.3
Optimal Cycle:	28	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	1 0	0	0 1	0 1	0	1 0	0 1	0	1 0
Volume Module:												
Base Vol:	0	0	0	5	0	71	64	891	20	50	836	20
Growth 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
Initial Bse:	0	0	0	5	0	71	64	891	20	50	836	20
User 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
PHF 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
PHF Volume:	0	0	0	5	0	71	64	891	20	50	836	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	5	0	71	64	891	20	50	836	20
PCE 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
MLF 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
Final Vol.:	0	0	0	5	0	71	64	891	20	50	836	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.94	1.00	0.84	0.76	0.76	0.76	0.78	0.78	0.78
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	0.13	1.83	0.04	0.11	1.85	0.04
Final Sat.:	0	0	0	1787	0	1599	190	2650	59	163	2718	65
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.04	0.34	0.34	0.34	0.31	0.31	0.31
Crit Moves:						****		****				
Green/Cycle:	0.00	0.00	0.00	0.11	0.00	0.11	0.81	0.81	0.81	0.81	0.81	0.81
Volume/Cap:	0.00	0.00	0.00	0.03	0.00	0.41	0.41	0.41	0.41	0.38	0.38	0.38
Delay/Veh:	0.0	0.0	0.0	40.0	0.0	43.3	2.8	2.8	2.8	2.6	2.6	2.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	40.0	0.0	43.3	2.8	2.8	2.8	2.6	2.6	2.6
DesignQueue:	0	0	0	0	0	4	1	10	0	1	9	0

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #32 Hwy 101 at Newmark

Cycle (sec):	120	Critical Vol./Cap. (X):	0.821
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	32.4
Optimal Cycle:	87	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	2	0 1	1 0	0	1 0	0 0	1	0 0
Volume Module:												
Base Vol:	393	1030	5	0	1031	86	154	0	336	5	5	5
Growth 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
Initial Bse:	393	1030	5	0	1031	86	154	0	336	5	5	5
User 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
PHF 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
PHF Volume:	393	1030	5	0	1031	86	154	0	336	5	5	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	393	1030	5	0	1031	86	154	0	336	5	5	5
PCE 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
MLF 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
Final Vol.:	393	1030	5	0	1031	86	154	0	336	5	5	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.91	0.91	0.91	1.00	0.90	0.81	0.74	1.00	0.83	0.80	0.80	0.80
Lanes:	1.00	1.99	0.01	1.00	2.00	1.00	1.00	0.00	1.00	0.34	0.33	0.33
Final Sat.:	1736	3453	17	1900	3437	1537	1408	0	1583	510	510	510
Capacity Analysis Module:												
Vol/Sat:	0.23	0.30	0.30	0.00	0.30	0.06	0.11	0.00	0.21	0.01	0.01	0.01
Crit Moves:	****				****				****			
Green/Cycle:	0.28	0.64	0.64	0.00	0.37	0.37	0.26	0.00	0.26	0.26	0.26	0.26
Volume/Cap:	0.82	0.47	0.47	0.00	0.82	0.15	0.42	0.00	0.82	0.04	0.04	0.04
Delay/Veh:	51.5	11.2	11.2	0.0	38.9	25.7	37.8	0.0	54.3	33.3	33.3	33.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.5	11.2	11.2	0.0	38.9	25.7	37.8	0.0	54.3	33.3	33.3	33.3
DesignQueue:	20	27	0	0	47	4	8	0	17	0	0	0

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #33 Newmark at Sherman

Cycle (sec): 100 Critical Vol./Cap. (X): 0.628
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 28.2
Optimal Cycle: 60 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0 1	0	1 0	0 1	0	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	228	140	30	13	113	69	73	491	193	11	474	9
Growth 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
Initial Bse:	228	140	30	13	113	69	73	491	193	11	474	9
User 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
PHF 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
PHF Volume:	228	140	30	13	113	69	73	491	193	11	474	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	228	140	30	13	113	69	73	491	193	11	474	9
PCE 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
MLF 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
Final Vol.:	228	140	30	13	113	69	73	491	193	11	474	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.94	0.96	0.96	0.95	0.94	0.94	0.94	0.99	0.84	0.94	0.99	0.99
Lanes:	1.00	0.82	0.18	1.00	0.62	0.38	1.00	1.00	1.00	1.00	0.98	0.02
Final Sat.:	1787	1509	323	1805	1112	679	1787	1881	1599	1787	1840	35
Capacity Analysis Module:												
Vol/Sat:	0.13	0.09	0.09	0.01	0.10	0.10	0.04	0.26	0.12	0.01	0.26	0.26
Crit Moves:	****				****		****				****	
Green/Cycle:	0.20	0.34	0.34	0.03	0.16	0.16	0.07	0.46	0.46	0.01	0.41	0.41
Volume/Cap:	0.63	0.27	0.27	0.27	0.63	0.63	0.63	0.56	0.26	0.56	0.63	0.63
Delay/Veh:	39.9	24.4	24.4	50.9	43.5	43.5	56.0	20.3	16.5	81.7	25.1	25.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.9	24.4	24.4	50.9	43.5	43.5	56.0	20.3	16.5	81.7	25.1	25.1
DesignQueue:	10	5	1	1	5	3	4	16	6	1	17	0

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #34 Newmark at Brussels

Cycle (sec): 100 Critical Vol./Cap. (X): 0.434
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 8.1
Optimal Cycle: 29 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 1	0	0 1	0 1	0	1 0	0 1	0	1 0
Volume Module:												
Base Vol:	5	0	10	106	0	50	130	695	5	5	510	154
Growth 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
Initial Bse:	5	0	10	106	0	50	130	695	5	5	510	154
User 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
PHF 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
PHF Volume:	5	0	10	106	0	50	130	695	5	5	510	154
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	0	10	106	0	50	130	695	5	5	510	154
PCE 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
MLF 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
Final Vol.:	5	0	10	106	0	50	130	695	5	5	510	154
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.85	1.00	0.85	0.70	1.00	0.84	0.68	0.68	0.68	0.86	0.86	0.86
Lanes:	0.33	0.00	0.67	1.00	0.00	1.00	0.31	1.68	0.01	0.01	1.53	0.46
Final Sat.:	537	0	1074	1322	0	1599	407	2176	16	25	2506	757
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.08	0.00	0.03	0.32	0.32	0.32	0.20	0.20	0.20
Crit Moves:				****				****				
Green/Cycle:	0.18	0.00	0.18	0.18	0.00	0.18	0.74	0.74	0.74	0.74	0.74	0.74
Volume/Cap:	0.05	0.00	0.05	0.43	0.00	0.17	0.43	0.43	0.43	0.28	0.28	0.28
Delay/Veh:	33.6	0.0	33.6	37.4	0.0	34.6	5.3	5.3	5.3	4.5	4.5	4.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.6	0.0	33.6	37.4	0.0	34.6	5.3	5.3	5.3	4.5	4.5	4.5
DesignQueue:	0	0	0	5	0	2	2	11	0	0	8	2

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #35 Pony Creek at Crowell

Average Delay (sec/veh): 3.5 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0 0 0			0 0 0 1 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	50	285	0	0	191	51	63	0	55	0	0	0
Growth 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
Initial Bse:	50	285	0	0	191	51	63	0	55	0	0	0
User 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
PHF 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
PHF Volume:	50	285	0	0	191	51	63	0	55	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	50	285	0	0	191	51	63	0	55	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	242	xxxx	xxxxx	xxxx	xxxx	xxxxx	602	xxxx	217	xxxx	xxxx	xxxxx
Potent Cap.:	1324	xxxx	xxxxx	xxxx	xxxx	xxxxx	461	xxxx	821	xxxx	xxxx	xxxxx
Move Cap.:	1324	xxxx	xxxxx	xxxx	xxxx	xxxxx	448	xxxx	821	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	568	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.0	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:		xxxxxx			xxxxxx			13.0			xxxxxx	
ApproachLOS:		*			*			B			*	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #36 Virginia at Harrison

Cycle (sec): 100 Critical Vol./Cap. (X): 0.455
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 11.4
Optimal Cycle: 38 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1 0 0 1			0 0 1! 0 0			1 0 1 1 0			1 0 1 1 0		
Volume Module:												
Base Vol:	85	5	103	15	10	10	25	1032	56	36	976	5
Growth 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
Initial Bse:	85	5	103	15	10	10	25	1032	56	36	976	5
User 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
PHF 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
PHF Volume:	85	5	103	15	10	10	25	1032	56	36	976	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	85	5	103	15	10	10	25	1032	56	36	976	5
PCE 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
MLF 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
Final Vol.:	85	5	103	15	10	10	25	1032	56	36	976	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.68	0.68	0.83	0.84	0.84	0.84	0.93	0.92	0.92	0.91	0.91	0.91
Lanes:	0.94	0.06	1.00	0.43	0.28	0.29	1.00	1.90	0.10	1.00	1.99	0.01
Final Sat.:	1225	72	1568	687	458	458	1769	3329	181	1736	3452	18
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.02	0.02	0.02	0.01	0.31	0.31	0.02	0.28	0.28
Crit Moves:		****						****		****		
Green/Cycle:	0.15	0.15	0.15	0.15	0.15	0.15	0.03	0.68	0.68	0.05	0.69	0.69
Volume/Cap:	0.45	0.45	0.43	0.14	0.14	0.14	0.41	0.45	0.45	0.45	0.41	0.41
Delay/Veh:	40.2	40.2	39.7	37.0	37.0	37.0	51.7	7.5	7.5	50.6	6.7	6.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.2	40.2	39.7	37.0	37.0	37.0	51.7	7.5	7.5	50.6	6.7	6.7
DesignQueue:	4	0	5	1	0	0	1	20	1	2	18	0

```
                       Coos Bay/North Bend TSP
                            PM Peak Hour
                       Future 2020 Conditions
-----------------------------------------------------------------------------
                  Level Of Service Computation Report
         2000 HCM Unsignalized Method (Base Volume Alternative)
*****************************************************************************
Intersection #37 Virginia at Safeway entrance
*****************************************************************************
Average Delay (sec/veh):      3.1         Worst Case Level Of Service:
*****************************************************************************
Approach:        North Bound      South Bound      East Bound       West Bound
Movement:       L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:          0  0  0  0  1   0  0  1  0  0   0  1  0  1  0   1  0  2  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:        0    0   105     0    5    0     5  943   55   115  921    0
Growth 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
Initial Bse:     0    0   105     0    5    0     5  943   55   115  921    0
User 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
PHF 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
PHF Volume:      0    0   105     0    5    0     5  943   55   115  921    0
Reduct Vol:      0    0     0     0    0    0     0    0    0     0    0    0
Final Vol.:      0    0   105     0    5    0     5  943   55   115  921    0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx    6.9 xxxxx  6.5 xxxxx   4.1 xxxx xxxxx   4.2 xxxx xxxxx
FollowUpTim:xxxxx xxxx    3.3 xxxxx  4.0 xxxxx   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx    499  xxxx 2159 xxxxx   921 xxxx xxxxx   998 xxxx xxxxx
Potent Cap.: xxxx xxxx    520  xxxx   48 xxxxx   737 xxxx xxxxx   683 xxxx xxxxx
Move Cap.:   xxxx xxxx    520  xxxx   40 xxxxx   737 xxxx xxxxx   683 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx   13.7 xxxxx  108 xxxxx   9.9 xxxx xxxxx  11.3 xxxx xxxxx
LOS by Move:    *    *      B     *    F     *     A    *     *     B    *     *
Movement:      LT - LTR - RT    LT - LTR - RT   LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.9 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *      *     *    *     *     A    *     *     *    *     *
ApproachDel:        13.7            108.1            xxxxxx           xxxxxx
ApproachLOS:          B                F                *                *
```



```
                       Coos Bay/North Bend TSP
                            PM Peak Hour
                       Future 2020 Conditions
-----------------------------------------------------------------------------
                  Level Of Service Computation Report
         2000 HCM Unsignalized Method (Base Volume Alternative)
*****************************************************************************
Intersection #38 Virginia at Pony Villiage entrance A
*****************************************************************************
Average Delay (sec/veh):      1.8         Worst Case Level Of Service:
*****************************************************************************
Approach:        North Bound      South Bound      East Bound       West Bound
Movement:       L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:          0  0  1! 0  0   0  0  0  0  0   0  0  1  1  0   1  0  2  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       55    0    20     0    0    0     0  915   90    50  924    0
Growth 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
Initial Bse:    55    0    20     0    0    0     0  915   90    50  924    0
User 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
PHF 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
PHF Volume:     55    0    20     0    0    0     0  915   90    50  924    0
Reduct Vol:      0    0     0     0    0    0     0    0    0     0    0    0
Final Vol.:     55    0    20     0    0    0     0  915   90    50  924    0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  6.8 xxxx    6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5 xxxx    3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: 1522 xxxx    503  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1005 xxxx xxxxx
Potent Cap.:  110 xxxx    517  xxxx xxxx xxxxx  xxxx xxxx xxxxx   697 xxxx xxxxx
Move Cap.:    104 xxxx    517  xxxx xxxx xxxxx  xxxx xxxx xxxxx   697 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  10.6 xxxx xxxxx
LOS by Move:    *    *      *     *    *     *     *    *     *     B    *     *
Movement:      LT - LTR - RT    LT - LTR - RT   LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  132 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx 63.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    F      *     *    *     *     *    *     *     *    *     *
ApproachDel:        63.0             xxxxxx           xxxxxx           xxxxxx
ApproachLOS:          F                *                *                *
```

```
---------------------------------------------------------------------------
                        Coos Bay/North Bend TSP
                             PM Peak Hour
                        Future 2020 Conditions
---------------------------------------------------------------------------
                  Level Of Service Computation Report
         2000 HCM Unsignalized Method (Base Volume Alternative)
***************************************************************************
Intersection #39 Sherman at Hwy 101 South
***************************************************************************
Average Delay (sec/veh):      1.6        Worst Case Level Of Service:
***************************************************************************
Approach:       North Bound     South Bound      East Bound      West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled    Uncontrolled      Stop Sign       Stop Sign
Rights:           Include         Include         Include         Include
Lanes:         0  0  0  0  0   1  0  1  1  0   0  1  0  0  1   1  0  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:        0    0     0    20  968   230    25   70     0     5    0     0
Growth 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
Initial Bse:     0    0     0    20  968   230    25   70     0     5    0     0
User 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
PHF 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
PHF Volume:      0    0     0    20  968   230    25   70     0     5    0     0
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:      0    0     0    20  968   230    25   70     0     5    0     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx    4.1 xxxx xxxxx    7.1  6.5 xxxxx    7.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx    2.2 xxxx xxxxx    3.5  4.0 xxxxx    3.5 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx      0 xxxx xxxxx   1123 1123 xxxxx    559 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx      0 xxxx xxxxx    185  207 xxxxx    443 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx      0 xxxx xxxxx    185  207 xxxxx    327 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx    0.0 xxxx xxxxx xxxxx xxxx xxxxx   16.2 xxxx xxxxx
LOS by Move:    *    *     *      A    *     *     *    *     *      C    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx    201 xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   38.0 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *      E    *     *     *    *     *
ApproachDel:      xxxxxx           xxxxxx            38.0             16.2
ApproachLOS:        *                *                 E                C
```



```
---------------------------------------------------------------------------
                        Coos Bay/North Bend TSP
                             PM Peak Hour
                        Future 2020 Conditions
---------------------------------------------------------------------------
                  Level Of Service Computation Report
         2000 HCM Unsignalized Method (Base Volume Alternative)
***************************************************************************
Intersection #40 Virginia at Meade
***************************************************************************
Average Delay (sec/veh):      4.8        Worst Case Level Of Service:
***************************************************************************
Approach:       North Bound     South Bound      East Bound      West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign       Stop Sign       Uncontrolled    Uncontrolled
Rights:           Include         Include         Include         Include
Lanes:         1  0  0  1  0   0  0  1! 0  0   0  1  1  0  0   0  0  1  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:        5    0    15     5    0   154   297  720     0     0  872    10
Growth 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
Initial Bse:     5    0    15     5    0   154   297  720     0     0  872    10
User 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
PHF 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
PHF Volume:      5    0    15     5    0   154   297  720     0     0  872    10
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:      5    0    15     5    0   154   297  720     0     0  872    10
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  7.5 xxxx    6.9   7.5 xxxx    6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5 xxxx    3.3   3.5 xxxx    3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: 1750 xxxx    360  1831 xxxx    441    882 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   56 xxxx    642    48 xxxx    567    762 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     26 xxxx    642    30 xxxx    567    762 xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:175.5 xxxx xxxxx xxxxx xxxx xxxxx   12.7 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    F    *     *     *    *     *      B    *     *     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx    642  xxxx  361 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx   10.7 xxxxx 22.6 xxxxx   12.7 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     B     *    C     *      B    *     *     *    *     *
ApproachDel:       51.9             22.6            xxxxxx           xxxxxx
ApproachLOS:        F                 C                *                *
```

```
                        Coos Bay/North Bend TSP
                             PM Peak Hour
                        Future 2020 Conditions
-------------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #41 Virginia at Marion
*******************************************************************************
Average Delay (sec/veh):       2.2         Worst Case Level Of Service:
*******************************************************************************
Approach:      North Bound     South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign      Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  1! 0  0   0  0  1! 0  0   1  0  1  1  0   1  0  1  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      30    5    90   20    5    10    0  914    60   30  930     5
Growth 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
Initial Bse:   30    5    90   20    5    10    0  914    60   30  930     5
User 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
PHF 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
PHF Volume:    30    5    90   20    5    10    0  914    60   30  930     5
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Final Vol.:    30    5    90   20    5    10    0  914    60   30  930     5
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  7.5  6.5   6.9  7.5  6.5   6.9 xxxxx xxxx xxxxx  4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3  3.5  4.0   3.3 xxxxx xxxx xxxxx  2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: 1472 1939   487 1452 1967   468  xxxx xxxx xxxxx  974 xxxx xxxxx
Potent Cap.:   89   65   529   93   64   547  xxxx xxxx xxxxx  704 xxxx xxxxx
Move Cap.:     80   63   529   70   61   547  xxxx xxxx xxxxx  704 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 10.3 xxxx xxxxx
LOS by Move:    *    *     *    *    *     *    *    *     *    B    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx  199 xxxxx  xxxx   91 xxxxx  xxxx xxxx xxxxx xxxx xxxx xxxxx
Shrd StpDel:xxxxx 49.3 xxxxx xxxxx 67.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    E     *    *    F     *    *    *     *    *    *     *
ApproachDel:       49.3             67.5            xxxxxx           xxxxxx
ApproachLOS:         E                F                *                *
```



```
                        Coos Bay/North Bend TSP
                             PM Peak Hour
                        Future 2020 Conditions
-------------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #42 Virginia at Maple
*******************************************************************************
Average Delay (sec/veh):       4.1         Worst Case Level Of Service:
*******************************************************************************
Approach:      North Bound     South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign      Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  0  0  0   1  0  0  0  1   0  0  1  0  0   0  0  1  0  1
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0    0     0  192    0    10    0  308     0    0  419   149
Growth 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
Initial Bse:    0    0     0  192    0    10    0  308     0    0  419   149
User 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
PHF 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
PHF Volume:     0    0     0  192    0    10    0  308     0    0  419   149
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Final Vol.:     0    0     0  192    0    10    0  308     0    0  419   149
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx  6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx  3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  727 xxxx   419  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  392 xxxx   636  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  392 xxxx   636  xxxx xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx 22.6 xxxx  10.7 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *    C    *     B    *    *     *    *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *    *    *     *    *    *     *    *    *     *
ApproachDel:     xxxxxx             22.1            xxxxxx           xxxxxx
ApproachLOS:        *                C                *                *
```

```
                          Coos Bay/North Bend TSP
                               PM Peak Hour
                          Future 2020 Conditions
-----------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
*****************************************************************************
Intersection #43 Maple at East Airport Way
*****************************************************************************
Average Delay (sec/veh):       2.0          Worst Case Level Of Service:
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  0  0  0   0  0  1! 0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0    0     0    10    0    10     5  122     0     0  144    30
Growth 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
Initial Bse:    0    0     0    10    0    10     5  122     0     0  144    30
User 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
PHF 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
PHF Volume:     0    0     0    10    0    10     5  122     0     0  144    30
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     0    0     0    10    0    10     5  122     0     0  144    30
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   291 xxxx   159   174 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   702 xxxx   889  1415 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   700 xxxx   889  1415 xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  783 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx  9.7 xxxxx   7.6 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    A     *     A    *     *     *    *     *
ApproachDel:     xxxxxx             9.7             xxxxxx           xxxxxx
ApproachLOS:        *                A                *                *
```



```
                          Coos Bay/North Bend TSP
                               PM Peak Hour
                          Future 2020 Conditions
-----------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
*****************************************************************************
Intersection #44 Virginia at Arthur
*****************************************************************************
Average Delay (sec/veh):       1.8          Worst Case Level Of Service:
*****************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  0  0  0   0  0  1! 0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0    0     0    10    0    30     8  112     0     0  232    15
Growth 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
Initial Bse:    0    0     0    10    0    30     8  112     0     0  232    15
User 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
PHF 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
PHF Volume:     0    0     0    10    0    30     8  112     0     0  232    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     0    0     0    10    0    30     8  112     0     0  232    15
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   368 xxxx   240   247 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   636 xxxx   804  1325 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   634 xxxx   804  1325 xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  754 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx 10.0 xxxxx   7.7 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     A    *     *     *    *     *
ApproachDel:     xxxxxx            10.0             xxxxxx           xxxxxx
ApproachLOS:        *                B                *                *
```

```
                     Coos Bay/North Bend TSP
                          PM Peak Hour
                     Future 2020 Conditions
--------------------------------------------------------------------------------
              Level Of Service Computation Report
       2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #45 Virginia at Channel St.
********************************************************************************
Average Delay (sec/veh):     2.1        Worst Case Level Of Service:
********************************************************************************
Approach:     North Bound     South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Stop Sign       Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include         Include          Include          Include
Lanes:       0  0  1! 0  0   0  0  1! 0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0    0    0   21    0   12   24  129    0    0  199   23
Growth 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
Initial Bse:    0    0    0   21    0   12   24  129    0    0  199   23
User 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
PHF 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
PHF Volume:     0    0    0   21    0   12   24  129    0    0  199   23
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Final Vol.:     0    0    0   21    0   12   24  129    0    0  199   23
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx  6.4 xxxx  6.2  4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx  3.5 xxxx  3.3  2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  388 xxxx  211  222 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  620 xxxx  835 1347 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  611 xxxx  835 1347 xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  7.7 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:   *    *    *    *    *    *    A    *    *    *    *    *
Movement:    LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx    0 xxxxx  xxxx  677 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx 10.6 xxxxx  7.7 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:    *    *    *    *    B    *    A    *    *    *    *    *
ApproachDel:     xxxxxx           10.6           xxxxxx           xxxxxx
ApproachLOS:        *               B               *                *
```



```
                     Coos Bay/North Bend TSP
                          PM Peak Hour
                     Future 2020 Conditions
--------------------------------------------------------------------------------
              Level Of Service Computation Report
       2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #46 Lakeshore at Crocker
********************************************************************************
Average Delay (sec/veh):     5.1        Worst Case Level Of Service:
********************************************************************************
Approach:     North Bound     South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Stop Sign       Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include         Include          Include          Include
Lanes:       0  0  0  1  0   0  0  1! 0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0   10    5   29    5   74   68   76    0    0   37   17
Growth 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
Initial Bse:    0   10    5   29    5   74   68   76    0    0   37   17
User 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
PHF 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
PHF Volume:     0   10    5   29    5   74   68   76    0    0   37   17
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Final Vol.:     0   10    5   29    5   74   68   76    0    0   37   17
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx  6.5  6.2  7.1  6.5  6.2  4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx  4.0  3.3  3.5  4.0  3.3  2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx  266   76  265  258   46   54 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx  643  991  686  645 1021 1551 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx  614  991  650  616 1021 1551 xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  7.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:   *    *    *    *    *    *    A    *    *    *    *    *
Movement:    LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx  703  xxxx  863 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx 10.2 xxxxx  9.8 xxxxx  7.4 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:    *    *    B    *    A    *    A    *    *    *    *    *
ApproachDel:       10.2             9.8          xxxxxx           xxxxxx
ApproachLOS:        B               A               *                *
```

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #47 Virginia at Oak

Average Delay (sec/veh): 2.4 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1!	0 0	0 0	1!	0 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	11	26	54	15	45	10	5	197	22	74	294	20
Growth 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
Initial Bse:	11	26	54	15	45	10	5	197	22	74	294	20
User 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
PHF 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
PHF Volume:	11	26	54	15	45	10	5	197	22	74	294	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	11	26	54	15	45	10	5	197	22	74	294	20
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	698	680	208	710	681	304	314	xxxx	xxxxx	219	xxxx	xxxxx
Potent Cap.:	355	373	832	351	375	740	1241	xxxx	xxxxx	1356	xxxx	xxxxx
Move Cap.:	302	351	832	296	353	740	1241	xxxx	xxxxx	1356	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx	7.8	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	519	xxxxx	xxxx	365	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	13.4	xxxxx	xxxxx	17.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	C	*	*	*	*	*	*	*
ApproachDel:		13.4			17.2			xxxxxx			xxxxxx	
ApproachLOS:		B			C			*			*	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #48 Newmark at Oak

Cycle (sec): 100 Critical Vol./Cap. (X): 0.584
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 12.6
Optimal Cycle: 47 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	0 0	1!	0 0	1 0	2	0 0	0 0	1	1 0
Volume Module:												
Base Vol:	0	0	0	56	0	92	126	1206	0	0	1162	82
Growth 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
Initial Bse:	0	0	0	56	0	92	126	1206	0	0	1162	82
User 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
PHF 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
PHF Volume:	0	0	0	56	0	92	126	1206	0	0	1162	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	56	0	92	126	1206	0	0	1162	82
PCE 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
MLF 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
Final Vol.:	0	0	0	56	0	92	126	1206	0	0	1162	82
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.89	1.00	0.89	0.93	0.93	1.00	1.00	0.92	0.92
Lanes:	0.00	0.00	0.00	0.38	0.00	0.62	1.00	2.00	0.00	0.00	1.87	0.13
Final Sat.:	0	0	0	640	0	1051	1769	3538	0	0	3272	231
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.09	0.00	0.09	0.07	0.34	0.00	0.00	0.36	0.36
Crit Moves:						****	****				****	
Green/Cycle:	0.00	0.00	0.00	0.15	0.00	0.15	0.12	0.73	0.00	0.00	0.61	0.61
Volume/Cap:	0.00	0.00	0.00	0.58	0.00	0.58	0.58	0.47	0.00	0.00	0.58	0.58
Delay/Veh:	0.0	0.0	0.0	43.1	0.0	43.1	45.6	5.7	0.0	0.0	12.3	12.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	43.1	0.0	43.1	45.6	5.7	0.0	0.0	12.3	12.3
DesignQueue:	0	0	0	3	0	4	6	20	0	0	28	2

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #49 Newmark at Morrison

Average Delay (sec/veh): 1.3 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1!	0 0	0 0	1!	0 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	15	0	123	0	0	0	0	870	21	169	979	0
Growth 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
Initial Bse:	15	0	123	0	0	0	0	870	21	169	979	0
User 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
PHF 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
PHF Volume:	15	0	123	0	0	0	0	870	21	169	979	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	15	0	123	0	0	0	0	870	21	169	979	0
Critical Gap Module:												
Critical Gp:	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1708	xxxx	446	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	891	xxxx	xxxxx
Potent Cap.:	82	xxxx	560	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	757	xxxx	xxxxx
Move Cap.:	68	xxxx	560	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	757	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.1	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	313	xxxxx	xxxx	0	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	25.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	D	*	*	*	*	*	*	*	*	*	*
ApproachDel:		25.2			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		D			*			*			*	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #50 Empire Blvd. at Pacific

Average Delay (sec/veh): 2.6 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0	1 0	0 1	0	0 0	0 0	0	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	0	603	28	5	703	0	0	0	0	21	0	10
Growth 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
Initial Bse:	0	603	28	5	703	0	0	0	0	21	0	10
User 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
PHF 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
PHF Volume:	0	603	28	5	703	0	0	0	0	21	0	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	603	28	5	703	0	0	0	0	21	0	10
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	631	xxxx	xxxxx	xxxx	xxxx	xxxxx	1330	xxxx	617
Potent Cap.:	xxxx	xxxx	xxxxx	947	xxxx	xxxxx	xxxx	xxxx	xxxxx	169	xxxx	486
Move Cap.:	xxxx	xxxx	xxxxx	947	xxxx	xxxxx	xxxx	xxxx	xxxxx	168	xxxx	486
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	8.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	213	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	8.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	24.7	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	C	*
ApproachDel:		xxxxxx			xxxxxx			xxxxxx			24.7	
ApproachLOS:		*			*			*			C	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #51 Virginia at Hwy 101 North

Cycle (sec): 100 Critical Vol./Cap. (X): 0.471
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 16.4
Optimal Cycle: 30 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1 1 1 0			0 0 0 0 0			1 0 1 0 0			0 0 1 1 0		
Volume Module:												
Base Vol:	376	838	5	0	0	0	234	30	0	0	50	10
Growth 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
Initial Bse:	376	838	5	0	0	0	234	30	0	0	50	10
User 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
PHF 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
PHF Volume:	376	838	5	0	0	0	234	30	0	0	50	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	376	838	5	0	0	0	234	30	0	0	50	10
PCE 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
MLF 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
Final Vol.:	376	838	5	0	0	0	234	30	0	0	50	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.86	0.86	0.86	1.00	1.00	1.00	0.67	0.94	1.00	1.00	0.88	0.88
Lanes:	0.93	2.06	0.01	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.67	0.33
Final Sat.:	1506	3356	20	0	0	0	1277	1777	0	0	2792	558
Capacity Analysis Module:												
Vol/Sat:	0.25	0.25	0.25	0.00	0.00	0.00	0.18	0.02	0.00	0.00	0.02	0.02
Crit Moves:		****					****					
Green/Cycle:	0.53	0.53	0.53	0.00	0.00	0.00	0.39	0.39	0.00	0.00	0.39	0.39
Volume/Cap:	0.47	0.47	0.47	0.00	0.00	0.00	0.47	0.04	0.00	0.00	0.05	0.05
Delay/Veh:	14.8	14.8	14.8	0.0	0.0	0.0	23.5	19.0	0.0	0.0	19.0	19.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	14.8	14.8	14.8	0.0	0.0	0.0	23.5	19.0	0.0	0.0	19.0	19.0
DesignQueue:	10	23	0	0	0	0	8	1	0	0	2	0

Traffix 7.5.0715 (c) 2002 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #52 Virginia at Hwy 101 South

Cycle (sec): 100 Critical Vol./Cap. (X): 0.556
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 19.1
Optimal Cycle: 35 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 1			0 1 1 1 0			0 0 1 1 0			0 1 1 0 0		
Volume Module:												
Base Vol:	0	0	5	10	679	405	0	208	382	50	287	0
Growth 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
Initial Bse:	0	0	5	10	679	405	0	208	382	50	287	0
User 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
PHF 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
PHF Volume:	0	0	5	10	679	405	0	208	382	50	287	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	5	10	679	405	0	208	382	50	287	0
PCE 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
MLF 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
Final Vol.:	0	0	5	10	679	405	0	208	382	50	287	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.87	0.80	0.80	0.80	1.00	0.83	0.83	0.75	0.75	1.00
Lanes:	0.00	0.00	1.00	0.03	1.97	1.00	0.00	1.00	1.00	0.30	1.70	0.00
Final Sat.:	0	0	1644	44	3011	1528	0	1568	1568	421	2419	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.23	0.23	0.27	0.00	0.13	0.24	0.12	0.12	0.00
Crit Moves:			****			****			****			
Green/Cycle:	0.00	0.00	0.01	0.48	0.48	0.48	0.00	0.44	0.44	0.44	0.44	0.00
Volume/Cap:	0.00	0.00	0.56	0.47	0.47	0.56	0.00	0.30	0.56	0.27	0.27	0.00
Delay/Veh:	0.0	0.0	109.5	17.8	17.8	19.0	0.0	18.3	21.5	18.0	18.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	109.5	17.8	17.8	19.0	0.0	18.3	21.5	18.0	18.0	0.0
DesignQueue:	0	0	0	0	21	12	0	7	13	2	9	0

Traffix 7.5.0715 (c) 2002 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #53 California at Hwy 101 North

Average Delay (sec/veh): 0.2 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 1 1 0			0 0 0 0 0			0 1 0 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	70	913	0	0	0	0	10	5	0	0	5	10
Growth 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
Initial Bse:	70	913	0	0	0	0	10	5	0	0	5	10
User 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
PHF 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
PHF Volume:	70	913	0	0	0	0	10	5	0	0	5	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	70	913	0	0	0	0	10	5	0	0	5	10
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	6.6	xxxxx	xxxxx	6.6	6.3
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.6	4.1	xxxxx	xxxxx	4.0	3.3
Capacity Module:												
Cnflict Vol:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	447	1053	xxxxx	xxxx	1053	304
Potent Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	505	217	xxxxx	xxxx	223	728
Move Cap.:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	490	217	xxxxx	xxxx	223	728
Level Of Service Module:												
Stopped Del:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	345	xxxx	xxxxx	xxxx	xxxx	415
Shrd StpDel:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	15.9	xxxx	xxxxx	xxxxx	xxxx	14.0
Shared LOS:	A	*	*	*	*	*	C	*	*	*	*	B
ApproachDel:	xxxxxx			xxxxxx			15.9			14.0		
ApproachLOS:	*			*			C			B		

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #54 Florida at Sherman

Cycle (sec): 100 Critical Vol./Cap. (X): 0.571
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 20.0
Optimal Cycle: 36 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1 0 1 0			0 1 0 1 0			0 0 1! 0 0			0 1 0 0 0		
Volume Module:												
Base Vol:	5	867	0	0	843	7	311	5	15	70	10	0
Growth 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
Initial Bse:	5	867	0	0	843	7	311	5	15	70	10	0
User 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
PHF 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
PHF Volume:	5	867	0	0	843	7	311	5	15	70	10	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	867	0	0	843	7	311	5	15	70	10	0
PCE 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
MLF 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
Final Vol.:	5	867	0	0	843	7	311	5	15	70	10	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.95	0.95	0.90	0.90	0.67	0.67	0.67	0.64	0.64	1.00
Lanes:	0.01	1.99	0.00	0.00	1.98	0.02	0.94	0.01	0.05	0.87	0.13	0.00
Final Sat.:	19	3287	0	0	3405	28	1189	19	57	1058	151	0
Capacity Analysis Module:												
Vol/Sat:	0.26	0.26	0.00	0.00	0.25	0.25	0.26	0.26	0.26	0.07	0.07	0.00
Crit Moves:		****						****				
Green/Cycle:	0.46	0.46	0.00	0.00	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.00
Volume/Cap:	0.57	0.57	0.00	0.00	0.54	0.54	0.57	0.57	0.57	0.14	0.14	0.00
Delay/Veh:	20.2	20.2	0.0	0.0	19.6	19.6	21.3	21.3	21.3	15.8	15.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.2	20.2	0.0	0.0	19.6	19.6	21.3	21.3	21.3	15.8	15.8	0.0
DesignQueue:	0	28	0	0	27	0	10	0	0	2	0	0

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #55 Broadway at 16th

Cycle (sec): 100 Critical Vol./Cap. (X): 0.464
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 14.7
Optimal Cycle: 39 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Permitted			Permitted	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	10	903	34	6	774	25	30	0	10	159	15	12
Growth 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
Initial Bse:	10	903	34	6	774	25	30	0	10	159	15	12
User 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
PHF 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
PHF Volume:	10	903	34	6	774	25	30	0	10	159	15	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	903	34	6	774	25	30	0	10	159	15	12
PCE 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
MLF 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
Final Vol.:	10	903	34	6	774	25	30	0	10	159	15	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.93	0.93	0.93	0.74	1.00	0.74	0.70	0.70	0.70
Lanes:	1.00	1.93	0.07	1.00	1.94	0.06	0.75	0.00	0.25	0.86	0.08	0.06
Final Sat.:	1769	3392	128	1769	3410	110	1055	0	352	1144	108	86
Capacity Analysis Module:												
Vol/Sat:	0.01	0.27	0.27	0.00	0.23	0.23	0.03	0.00	0.03	0.14	0.14	0.14
Crit Moves:		****		****							****	
Green/Cycle:	0.01	0.57	0.57	0.01	0.57	0.57	0.30	0.00	0.30	0.30	0.30	0.30
Volume/Cap:	0.40	0.46	0.46	0.46	0.40	0.40	0.10	0.00	0.10	0.46	0.46	0.46
Delay/Veh:	59.1	12.6	12.6	73.6	12.3	12.3	25.4	0.0	25.4	29.4	29.4	29.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.1	12.6	12.6	73.6	12.3	12.3	25.4	0.0	25.4	29.4	29.4	29.4
DesignQueue:	1	23	1	0	20	1	1	0	0	6	1	0

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #56 Broadway at Newmark

Cycle (sec): 100 Critical Vol./Cap. (X): 0.844
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 41.8
Optimal Cycle: 98 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0 1	0	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	142	382	38	78	283	35	502	474	176	38	356	164
Growth 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
Initial Bse:	142	382	38	78	283	35	502	474	176	38	356	164
User 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
PHF 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
PHF Volume:	142	382	38	78	283	35	502	474	176	38	356	164
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	142	382	38	78	283	35	502	474	176	38	356	164
PCE 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
MLF 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
Final Vol.:	142	382	38	78	283	35	502	474	176	38	356	164
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.94	0.98	0.98	0.92	0.96	0.96	0.93	0.89	0.89	0.93	0.89	0.89
Lanes:	1.00	0.91	0.09	1.00	0.89	0.11	1.00	1.46	0.54	1.00	1.37	0.63
Final Sat.:	1787	1689	168	1753	1616	200	1769	2474	919	1769	2308	1063
Capacity Analysis Module:												
Vol/Sat:	0.08	0.23	0.23	0.04	0.18	0.18	0.28	0.19	0.19	0.02	0.15	0.15
Crit Moves:		****		****			****				****	
Green/Cycle:	0.10	0.27	0.27	0.05	0.22	0.22	0.34	0.47	0.47	0.05	0.18	0.18
Volume/Cap:	0.79	0.84	0.84	0.84	0.79	0.79	0.84	0.41	0.41	0.41	0.84	0.84
Delay/Veh:	65.1	47.1	47.1	94.1	47.2	47.2	41.4	17.8	17.8	48.8	49.8	49.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.1	47.1	47.1	94.1	47.2	47.2	41.4	17.8	17.8	48.8	49.8	49.8
DesignQueue:	7	16	2	4	13	2	20	15	5	2	17	8

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #57 Newmark at Laclair

Average Delay (sec/veh): 1.5 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1!	0 0	0 0	1!	0 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	17	0	124	0	0	0	0	812	17	58	871	0
Growth 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
Initial Bse:	17	0	124	0	0	0	0	812	17	58	871	0
User 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
PHF 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
PHF Volume:	17	0	124	0	0	0	0	812	17	58	871	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	17	0	124	0	0	0	0	812	17	58	871	0
Critical Gap Module:												
Critical Gp:	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1808	xxxx	821	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	829	xxxx	xxxxx
Potent Cap.:	87	xxxx	376	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	803	xxxx	xxxxx
Move Cap.:	83	xxxx	376	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	803	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.8	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	263	xxxxx	xxxx	0	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	33.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	D	*	*	*	*	*	*	*	*	*	*
ApproachDel:		33.4			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		D			*			*			*	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #58 Newmark at Ocean Blvd.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.614
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 15.4
Optimal Cycle: 40 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	0	0 1	0 0	0	0 1	1 0	1	0 2	0 0	1	1 0
Volume Module:												
Base Vol:	611	0	43	0	0	0	0	714	412	0	792	0
Growth 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
Initial Bse:	611	0	43	0	0	0	0	714	412	0	792	0
User 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
PHF 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
PHF Volume:	611	0	43	0	0	0	0	714	412	0	792	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	611	0	43	0	0	0	0	714	412	0	792	0
PCE 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
MLF 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
Final Vol.:	611	0	43	0	0	0	0	714	412	0	792	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	1.00	0.83	1.00	1.00	1.00	1.00	0.97	0.73	1.00	0.93	0.95
Lanes:	2.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	2.00	0.00	2.00	0.00
Final Sat.:	3432	0	1583	0	0	1900	1900	1845	2760	0	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.18	0.00	0.03	0.00	0.00	0.00	0.00	0.39	0.15	0.00	0.22	0.00
Crit Moves:	****							****				
Green/Cycle:	0.29	0.00	0.29	0.00	0.00	0.00	0.00	0.63	0.63	0.00	0.63	0.00
Volume/Cap:	0.61	0.00	0.09	0.00	0.00	0.00	0.00	0.61	0.24	0.00	0.36	0.00
Delay/Veh:	31.8	0.0	26.0	0.0	0.0	0.0	0.0	12.1	8.1	0.0	8.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.8	0.0	26.0	0.0	0.0	0.0	0.0	12.1	8.1	0.0	8.9	0.0
DesignQueue:	25	0	2	0	0	0	0	16	9	0	17	0

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #59 Thompson at Koosbay

Average Delay (sec/veh): 5.6 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 1 0 0			0 0 0 1 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	161	264	0	0	280	25	89	0	190	0	0	0
Growth 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
Initial Bse:	161	264	0	0	280	25	89	0	190	0	0	0
User 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
PHF 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
PHF Volume:	161	264	0	0	280	25	89	0	190	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	161	264	0	0	280	25	89	0	190	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	305	xxxx	xxxxx	xxxx	xxxx	xxxxx	879	xxxx	293	xxxx	xxxx	xxxxx
Potent Cap.:	1262	xxxx	xxxxx	xxxx	xxxx	xxxxx	320	xxxx	749	xxxx	xxxx	xxxxx
Move Cap.:	1262	xxxx	xxxxx	xxxx	xxxx	xxxxx	288	xxxx	749	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	496	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	21.2	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			21.2			xxxxxx		
ApproachLOS:	*			*			C			*		

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #60 Woodland at Thompson

Average Delay (sec/veh): 3.2 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			1 0 1 0 0			0 0 0 0 0			1 0 0 0 1		
Volume Module:												
Base Vol:	0	362	30	136	506	0	0	0	0	39	0	237
Growth 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
Initial Bse:	0	362	30	136	506	0	0	0	0	39	0	237
User 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
PHF 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
PHF Volume:	0	362	30	136	506	0	0	0	0	39	0	237
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	362	30	136	506	0	0	0	0	39	0	237
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	392	xxxx	xxxxx	xxxx	xxxx	xxxxx	1155	xxxx	377
Potent Cap.:	xxxx	xxxx	xxxxx	1167	xxxx	xxxxx	xxxx	xxxx	xxxxx	218	xxxx	670
Move Cap.:	xxxx	xxxx	xxxxx	1167	xxxx	xxxxx	xxxx	xxxx	xxxxx	198	xxxx	670
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	27.6	xxxx	13.3
LOS by Move:	*	*	*	A	*	*	*	*	*	D	*	B
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			15.3		
ApproachLOS:	*			*			*			C		

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #61 Ocean Blvd. at Woodland

Cycle (sec):	100	Critical Vol./Cap. (X):	0.589
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	21.5
Optimal Cycle:	47	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			1 0 0 0 1			1 0 2 0 0			0 0 1 1 0		
Volume Module:												
Base Vol:	0	0	0	350	0	135	104	696	0	0	641	244
Growth 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
Initial Bse:	0	0	0	350	0	135	104	696	0	0	641	244
User 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
PHF 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
PHF Volume:	0	0	0	350	0	135	104	696	0	0	641	244
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	350	0	135	104	696	0	0	641	244
PCE 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
MLF 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
Final Vol.:	0	0	0	350	0	135	104	696	0	0	641	244
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.93	1.00	0.83	0.92	0.92	1.00	1.00	0.89	0.89
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	0.00	1.45	0.55
Final Sat.:	0	0	0	1769	0	1583	1753	3505	0	0	2457	935
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.20	0.00	0.09	0.06	0.20	0.00	0.00	0.26	0.26
Crit Moves:				****			****				****	
Green/Cycle:	0.00	0.00	0.00	0.34	0.00	0.34	0.10	0.54	0.00	0.00	0.44	0.44
Volume/Cap:	0.00	0.00	0.00	0.59	0.00	0.25	0.59	0.37	0.00	0.00	0.59	0.59
Delay/Veh:	0.0	0.0	0.0	29.0	0.0	24.3	48.1	13.1	0.0	0.0	21.6	21.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	29.0	0.0	24.3	48.1	13.1	0.0	0.0	21.6	21.6
DesignQueue:	0	0	0	14	0	5	5	19	0	0	21	8

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #62 Ocean Blvd. at Radar

Average Delay (sec/veh): 3.1   Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 0 1 1 0			0 1 1 0 0		
Volume Module:												
Base Vol:	10	0	76	0	0	0	0	528	51	95	685	0
Growth 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
Initial Bse:	10	0	76	0	0	0	0	528	51	95	685	0
User 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
PHF 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
PHF Volume:	10	0	76	0	0	0	0	528	51	95	685	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	0	76	0	0	0	0	528	51	95	685	0
Critical Gap Module:												
Critical Gp:	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1086	xxxx	290	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	579	xxxx	xxxxx
Potent Cap.:	211	xxxx	707	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	991	xxxx	xxxxx
Move Cap.:	195	xxxx	707	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	991	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.0	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	541	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	12.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.0	xxxx	xxxxx
Shared LOS:	*	B	*	*	*	*	*	*	*	A	*	*
ApproachDel:		12.9			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		B			*			*			*	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #63 Hwy 101 at Clark

Average Delay (sec/veh): 0.3 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2 0 0			0 0 1 1 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	30	1169	0	0	1118	5	10	0	15	0	0	0
Growth 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
Initial Bse:	30	1169	0	0	1118	5	10	0	15	0	0	0
User 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
PHF 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
PHF Volume:	30	1169	0	0	1118	5	10	0	15	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	30	1169	0	0	1118	5	10	0	15	0	0	0
Critical Gap Module:												
Critical Gp:	4.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1123	xxxx	xxxxx	xxxx	xxxx	xxxxx	1765	xxxx	562	xxxx	xxxx	xxxxx
Potent Cap.:	612	xxxx	xxxxx	xxxx	xxxx	xxxxx	77	xxxx	476	xxxx	xxxx	xxxxx
Move Cap.:	612	xxxx	xxxxx	xxxx	xxxx	xxxxx	74	xxxx	476	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	11.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	B	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	150	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	33.8	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	D	*	*	*	*
ApproachDel:		xxxxxx			xxxxxx			33.8			xxxxxx	
ApproachLOS:		*			*			D			*	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #64 Hwy 101 at Casino entrance

Cycle (sec): 100 Critical Vol./Cap. (X): 0.523
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 14.0
Optimal Cycle: 42 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2 0 1			1 0 1 1 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	5	1064	110	50	943	0	10	20	10	110	10	50
Growth 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
Initial Bse:	5	1064	110	50	943	0	10	20	10	110	10	50
User 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
PHF 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
PHF Volume:	5	1064	110	50	943	0	10	20	10	110	10	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	1064	110	50	943	0	10	20	10	110	10	50
PCE 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
MLF 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
Final Vol.:	5	1064	110	50	943	0	10	20	10	110	10	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.91	0.91	0.82	0.91	0.91	0.95	0.90	0.90	0.90	0.71	0.71	0.71
Lanes:	1.00	2.00	1.00	1.00	2.00	0.00	0.25	0.50	0.25	0.65	0.06	0.29
Final Sat.:	1736	3473	1554	1736	3473	0	428	855	428	878	80	399
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.07	0.03	0.27	0.00	0.02	0.02	0.02	0.13	0.13	0.13
Crit Moves:		****		****							****	
Green/Cycle:	0.01	0.59	0.59	0.06	0.63	0.00	0.24	0.24	0.24	0.24	0.24	0.24
Volume/Cap:	0.43	0.52	0.12	0.52	0.43	0.00	0.10	0.10	0.10	0.52	0.52	0.52
Delay/Veh:	72.8	12.6	9.3	51.2	9.3	0.0	29.7	29.7	29.7	34.6	34.6	34.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	72.8	12.6	9.3	51.2	9.3	0.0	29.7	29.7	29.7	34.6	34.6	34.6
DesignQueue:	0	26	3	3	21	0	0	1	0	5	0	2

```
                    Coos Bay/North Bend TSP
                         PM Peak Hour
                    Future 2020 Conditions
------------------------------------------------------------------------------
                 Level Of Service Computation Report
         2000 HCM Unsignalized Method (Base Volume Alternative)
******************************************************************************
Intersection #65 Libby at Wilshire
******************************************************************************
Average Delay (sec/veh):      3.2        Worst Case Level Of Service:
******************************************************************************
Approach:      North Bound     South Bound      East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign       Stop Sign      Uncontrolled    Uncontrolled
Rights:          Include         Include          Include         Include
Lanes:        0  0  0  0  0   0  0  1! 0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0    0    0    45    0   25    25  106    0     0   76   63
Growth 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
Initial Bse:    0    0    0    45    0   25    25  106    0     0   76   63
User 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
PHF 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
PHF Volume:     0    0    0    45    0   25    25  106    0     0   76   63
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Final Vol.:     0    0    0    45    0   25    25  106    0     0   76   63
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx  6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx  3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   263 xxxx  108   139 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   726 xxxx  946  1457 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   716 xxxx  946  1457 xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *    *     *    *    *     A    *    *     *    *    *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  784 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx 10.0 xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *    *     *    B    *     A    *    *     *    *    *
ApproachDel:      xxxxxx           10.0            xxxxxx          xxxxxx
ApproachLOS:         *               B               *               *
```



```
                    Coos Bay/North Bend TSP
                         PM Peak Hour
                    Future 2020 Conditions
------------------------------------------------------------------------------
                 Level Of Service Computation Report
       2000 HCM Operations Method (Base Volume Alternative)
******************************************************************************
Intersection #66 Hwy 101 at E Bay Dr.
******************************************************************************
Cycle (sec):         100              Critical Vol./Cap. (X):        0.677
Loss Time (sec):       8 (Y+R =  4 sec) Average Delay (sec/veh):        3.5
Optimal Cycle:        46              Level Of Service:                 A
******************************************************************************
Approach:      North Bound     South Bound      East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Permitted       Permitted      Split Phase     Split Phase
Rights:          Include         Include          Include         Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        0  0  1  0  1   0  1  0  0  0   0  0  0  0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0 1083  210    15  748    0     0    0    0    30    0   10
Growth 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
Initial Bse:    0 1083  210    15  748    0     0    0    0    30    0   10
User 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
PHF 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
PHF Volume:     0 1083  210    15  748    0     0    0    0    30    0   10
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0 1083  210    15  748    0     0    0    0    30    0   10
PCE 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
MLF 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
Final Vol.:     0 1083  210    15  748    0     0    0    0    30    0   10
------------|---------------||---------------||---------------||---------------
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 0.95 0.81  0.90 0.90 1.00  1.00 1.00 1.00  0.89 1.00 0.89
Lanes:       0.00 1.00 1.00  0.02 0.98 0.00  0.00 0.00 0.00  0.75 0.00 0.25
Final Sat.:     0 1809 1537    34 1682    0     0    0    0  1263    0  421
------------|---------------||---------------||---------------||---------------
Capacity Analysis Module:
Vol/Sat:     0.00 0.60 0.14  0.44 0.44 0.00  0.00 0.00 0.00  0.02 0.00 0.02
Crit Moves:       ****                                                   ****
Green/Cycle: 0.00 0.88 0.88  0.88 0.88 0.00  0.00 0.00 0.00  0.04 0.00 0.04
Volume/Cap:  0.00 0.68 0.15  0.50 0.50 0.00  0.00 0.00 0.00  0.68 0.00 0.68
Delay/Veh:    0.0  2.8  0.8   1.5  1.5  0.0   0.0  0.0  0.0  74.7  0.0 74.7
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0  2.8  0.8   1.5  1.5  0.0   0.0  0.0  0.0  74.7  0.0 74.7
DesignQueue:    0    8    1     0    5    0     0    0    0     2    0    1
******************************************************************************
```

```
--------------------------------------------------------------------------------
                           Coos Bay/North Bend TSP
                                PM Peak Hour
                           Future 2020 Conditions
--------------------------------------------------------------------------------

                      Level Of Service Computation Report
              2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #67 Hwy 101 at North Bay
********************************************************************************
Average Delay (sec/veh):       3.0       Worst Case Level Of Service:
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    1  0  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0  788   130     5  798     0     0    0     0    35    0     0
Growth 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
Initial Bse:    0  788   130     5  798     0     0    0     0    35    0     0
User 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
PHF 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
PHF Volume:     0  788   130     5  798     0     0    0     0    35    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     0  788   130     5  798     0     0    0     0    35    0     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   4.2 xxxx xxxxx xxxxx xxxx xxxxx   6.4 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   2.3 xxxx xxxxx xxxxx xxxx xxxxx   3.5 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   918 xxxx xxxxx  xxxx xxxx xxxxx  1661 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   727 xxxx xxxxx  xxxx xxxx xxxxx   108 xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   727 xxxx xxxxx  xxxx xxxx xxxxx   108 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx  10.0 xxxx xxxxx xxxxx xxxx xxxxx  53.8 xxxx xxxxx
LOS by Move:    *    *     *     A    *     *     *    *     *     F    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx  10.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     A    *     *     *    *     *     *    *     *
ApproachDel:      xxxxxx           xxxxxx           xxxxxx            53.8
ApproachLOS:         *                *                *                F
```



```
--------------------------------------------------------------------------------
                           Coos Bay/North Bend TSP
                                PM Peak Hour
                           Future 2020 Conditions
--------------------------------------------------------------------------------

                      Level Of Service Computation Report
              2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #68 Hwy 101 at Trans Pacific
********************************************************************************
Average Delay (sec/veh):       1.4       Worst Case Level Of Service:
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        1  0  1  0  0    0  0  1  0  1    0  0  1! 0  0    0  0  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      30  728     0     0  663     0    10    0    90     0    0     0
Growth 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
Initial Bse:   30  728     0     0  663     0    10    0    90     0    0     0
User 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
PHF 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
PHF Volume:    30  728     0     0  663     0    10    0    90     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:    30  728     0     0  663     0    10    0    90     0    0     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx   6.5 xxxx   6.3 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx   3.6 xxxx   3.4 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:  663 xxxx xxxxx  xxxx xxxx xxxxx  1451 xxxx   663  xxxx xxxx xxxxx
Potent Cap.:  916 xxxx xxxxx  xxxx xxxx xxxxx   137 xxxx   446  xxxx xxxx xxxxx
Move Cap.:    916 xxxx xxxxx  xxxx xxxx xxxxx   134 xxxx   446  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:  9.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    A    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx  362 xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 18.7 xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    C     *     *    *     *
ApproachDel:      xxxxxx           xxxxxx            18.7           xxxxxx
ApproachLOS:         *                *                C                *
```

```
                         Coos Bay/North Bend TSP
                              PM Peak Hour
                         Future 2020 Conditions
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #70 1st at Hall NB
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):         0.415
Loss Time (sec):      8 (Y+R =  4 sec) Average Delay (sec/veh):        4.9
Optimal Cycle:       28              Level Of Service:                  A
********************************************************************************
Approach:       North Bound     South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Split Phase     Split Phase       Permitted        Permitted
Rights:          Include         Include          Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:          0  1  1  1  0   0  0  0  0  0   0  1  0  0  0   0  0  0  0  1
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      71  1573     5     0     0     0    62     5     0     0     0    10
Growth 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
Initial Bse:   71  1573     5     0     0     0    62     5     0     0     0    10
User 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
PHF 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
PHF Volume:    71  1573     5     0     0     0    62     5     0     0     0    10
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   71  1573     5     0     0     0    62     5     0     0     0    10
PCE 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
MLF 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
Final Vol.:    71  1573     5     0     0     0    62     5     0     0     0    10
------------|---------------||---------------||---------------||---------------
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.88  0.88  0.88  1.00  1.00  1.00  0.68  0.68  1.00  1.00  1.00  0.81
Lanes:       0.13  2.86  0.01  0.00  0.00  0.00  0.93  0.07  0.00  0.00  0.00  1.00
Final Sat.:   215  4760    15     0     0     0  1200    97     0     0     0  1537
------------|---------------||---------------||---------------||---------------
Capacity Analysis Module:
Vol/Sat:     0.33  0.33  0.33  0.00  0.00  0.00  0.05  0.05  0.00  0.00  0.00  0.01
Crit Moves:              ****                          ****
Green/Cycle: 0.80  0.80  0.80  0.00  0.00  0.00  0.12  0.12  0.00  0.00  0.00  0.12
Volume/Cap:  0.42  0.42  0.42  0.00  0.00  0.00  0.42  0.42  0.00  0.00  0.00  0.05
Delay/Veh:    3.2   3.2   3.2   0.0   0.0   0.0  42.2  42.2   0.0   0.0   0.0  38.7
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   3.2   3.2   3.2   0.0   0.0   0.0  42.2  42.2   0.0   0.0   0.0  38.7
DesignQueue:    1    19     0     0     0     0     3     0     0     0     0     0
********************************************************************************
```



```
                         Coos Bay/North Bend TSP
                              PM Peak Hour
                         Future 2020 Conditions
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #71 Broadway at 17th
********************************************************************************
Average Delay (sec/veh):     0.8        Worst Case Level Of Service:
********************************************************************************
Approach:       North Bound     South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:       Uncontrolled    Uncontrolled      Stop Sign        Stop Sign
Rights:          Include         Include          Include          Include
Lanes:         1  0  1  1  0   1  0  1  1  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      64   908    10    10   898    35    10     0    32    10     5     5
Growth 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
Initial Bse:   64   908    10    10   898    35    10     0    32    10     5     5
User 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
PHF 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
PHF Volume:    64   908    10    10   898    35    10     0    32    10     5     5
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Final Vol.:    64   908    10    10   898    35    10     0    32    10     5     5
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  4.1  xxxx xxxxx   4.1  xxxx xxxxx   7.5  xxxx   6.9   7.5   6.5   6.9
FollowUpTim:  2.2  xxxx xxxxx   2.2  xxxx xxxxx   3.5  xxxx   3.3   3.5   4.0   3.3
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol:  933  xxxx xxxxx   918  xxxx xxxxx  1520  xxxx   467  1510  1994   459
Potent Cap.:  729  xxxx xxxxx   739  xxxx xxxxx    83  xxxx   548    84    61   554
Move Cap.:    729  xxxx xxxxx   739  xxxx xxxxx    71  xxxx   548    73    55   554
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del: 10.4  xxxx xxxxx   9.9  xxxx xxxxx xxxxx  xxxx xxxxx xxxxx  xxxx xxxxx
LOS by Move:    B     *     *     A     *     *     *     *     *     *     *     *
Movement:      LT  -  LTR -  RT   LT  -  LTR -  RT   LT  -  LTR -  RT   LT  -  LTR -  RT
Shared Cap.: xxxx  xxxx xxxxx  xxxx  xxxx xxxxx  xxxx   210 xxxxx  xxxx    85 xxxxx
Shrd StpDel:xxxxx  xxxx xxxxx xxxxx  xxxx xxxxx xxxxx  26.3 xxxxx xxxxx  60.2 xxxxx
Shared LOS:     *     *     *     *     *     *     *     D     *     *     F     *
ApproachDel:      xxxxxx          xxxxxx            26.3             60.2
ApproachLOS:        *               *                 D                F
```

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #72 Virginia at Pony Villiage entance B

Average Delay (sec/veh): 1.9 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1!	0 0	0 0	0	0 0	0 0	1	1 0	1 0	2	0 0
Volume Module:												
Base Vol:	35	0	100	0	0	0	0	825	70	95	939	0
Growth 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
Initial Bse:	35	0	100	0	0	0	0	825	70	95	939	0
User 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
PHF 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
PHF Volume:	35	0	100	0	0	0	0	825	70	95	939	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	35	0	100	0	0	0	0	825	70	95	939	0
Critical Gap Module:												
Critical Gp:	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1520	xxxx	447	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	895	xxxx	xxxxx
Potent Cap.:	109	xxxx	559	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	754	xxxx	xxxxx
Move Cap.:	99	xxxx	559	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	754	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	253	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	34.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	D	*	*	*	*	*	*	*	*	*	*
ApproachDel:		34.3			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		D			*			*			*	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #73 Coos River Hwy at Olive Barber Rd

Average Delay (sec/veh): 3.1 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0	1 0	0 1	0	0 0	0 0	0	0 0	1 0	0	0 1
Volume Module:												
Base Vol:	0	631	192	14	359	0	0	0	0	101	0	11
Growth 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
Initial Bse:	0	631	192	14	359	0	0	0	0	101	0	11
User 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
PHF 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
PHF Volume:	0	631	192	14	359	0	0	0	0	101	0	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	631	192	14	359	0	0	0	0	101	0	11
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.5	xxxx	6.3
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.6	xxxx	3.4
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	823	xxxx	xxxxx	xxxx	xxxx	xxxxx	1114	xxxx	727
Potent Cap.:	xxxx	xxxx	xxxxx	802	xxxx	xxxxx	xxxx	xxxx	xxxxx	226	xxxx	417
Move Cap.:	xxxx	xxxx	xxxxx	802	xxxx	xxxxx	xxxx	xxxx	xxxxx	223	xxxx	417
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	9.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	33.8	xxxx	13.9
LOS by Move:	*	*	*	A	*	*	*	*	*	D	*	B
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	9.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:		xxxxxx			xxxxxx			xxxxxx			31.8	
ApproachLOS:		*			*			*			D	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #74 Ocean Blve at Laclair

Average Delay (sec/veh): 3.3 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0	0 0	0 0	1!	0 0	0 1	1	0 0	0 0	1	1 0
Volume Module:												
Base Vol:	0	0	0	57	0	84	48	524	0	0	687	93
Growth 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
Initial Bse:	0	0	0	57	0	84	48	524	0	0	687	93
User 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
PHF 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
PHF Volume:	0	0	0	57	0	84	48	524	0	0	687	93
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	57	0	84	48	524	0	0	687	93
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	4.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1091	xxxx	390	780	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	209	xxxx	609	827	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	200	xxxx	609	827	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	333	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	23.5	xxxxx	9.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	C	*	A	*	*	*	*	*
ApproachDel:		xxxxxx			23.5			xxxxxx			xxxxxx	
ApproachLOS:		*			C			*			*	

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #75 Central at 7th

Cycle (sec): 1 Critical Vol./Cap. (X): 0.754
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 12.4
Optimal Cycle: 0 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Yield Sign			Yield Sign			Stop Sign			Stop Sign		
Rights:	Include			Channel			Channel			Include		
Lanes:	0 0	0	0 0	0 1	0	0 2	0 0	0	0 2	0 1	0	0 0
Volume Module:												
Base Vol:	0	0	0	5	95	618	0	0	787	10	60	0
Growth 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
Initial Bse:	0	0	0	5	95	618	0	0	787	10	60	0
User 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
PHF 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
PHF Volume:	0	0	0	5	95	618	0	0	787	10	60	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	5	95	618	0	0	787	10	60	0
Saturation Flow Module:												
Sat/Lane:	0	0	0	0	0	0	0	0	0	0	0	0
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.05	0.95	2.00	0.00	0.00	2.00	0.14	0.86	0.00
Final Sat.:	0	0	0	22	421	886	0	0	1044	121	729	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.23	0.23	0.70	0.00	0.00	0.75	0.08	0.08	0.00
Crit Moves:			****			****			****	****		
Green/Cycle:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume/Cap:	0.00	0.00	0.00	0.23	0.23	0.70	0.00	0.00	0.75	0.08	0.08	0.00
Delay/Veh:	0.0	0.0	0.0	2.4	2.4	14.2	0.0	0.0	17.5	1.4	1.4	0.0
Delay 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
AdjDel/Veh:	0.0	0.0	0.0	2.4	2.4	14.2	0.0	0.0	17.5	1.4	1.4	0.0
DesignQueue:	0	0	0	0	0	0	0	0	0	0	0	0

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #76 Coos River Hwy at Edwards

Average Delay (sec/veh): 2.8 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 1			0 0 0 0 0			0 0 1 0 1			0 1 0 0 0		
Volume Module:												
Base Vol:	0	0	5	0	0	0	0	841	25	52	430	0
Growth 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
Initial Bse:	0	0	5	0	0	0	0	841	25	52	430	0
User 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
PHF 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
PHF Volume:	0	0	5	0	0	0	0	841	25	52	430	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	5	0	0	0	0	841	25	52	430	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	841	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	866	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	368	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	765	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	368	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	765	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	14.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.1	xxxx	xxxxx
LOS by Move:	*	*	B	*	*	*	*	*	*	B	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.1	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	B	*	*
ApproachDel:	14.9			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	B			*			*			*		

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #77 Coos River Hwy at Mullen

Average Delay (sec/veh): 1.1 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			1 0 0 0 0			1 0 1 0 0			0 0 1 0 0		
Volume Module:												
Base Vol:	0	5	49	10	0	0	5	797	0	0	435	0
Growth 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
Initial Bse:	0	5	49	10	0	0	5	797	0	0	435	0
User 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
PHF 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
PHF Volume:	0	5	49	10	0	0	5	797	0	0	435	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	5	49	10	0	0	5	797	0	0	435	0
Critical Gap Module:												
Critical Gp:	xxxxx	6.6	6.3	7.3	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	4.1	3.4	3.7	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	1242	797	1269	xxxx	xxxxx	435	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	171	379	131	xxxx	xxxxx	1125	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	170	379	111	xxxx	xxxxx	1125	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	40.5	xxxx	xxxxx	8.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	E	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	340	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	17.6	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	C	*	*	*	*	*	*	*	*	*
ApproachDel:	17.6			40.5			xxxxxx			xxxxxx		
ApproachLOS:	C			E			*			*		

```
                        Coos Bay/North Bend TSP
                             PM Peak Hour
                        Future 2020 Conditions
-------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #78 Hwy 101 at Edwards
*******************************************************************************
Average Delay (sec/veh):      0.6        Worst Case Level Of Service:
*******************************************************************************
Approach:      North Bound     South Bound      East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign       Stop Sign      Uncontrolled    Uncontrolled
Rights:           Include         Include         Include         Include
Lanes:        0  0  1! 0  0   0  0  1! 0  0   0  0  1  1  0   0  1  1  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:      10    0    10   20    0    12     0 1181   10     0  905     0
Growth 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
Initial Bse:   10    0    10   20    0    12     0 1181   10     0  905     0
User 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
PHF 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
PHF Volume:    10    0    10   20    0    12     0 1181   10     0  905     0
Reduct Vol:     0    0     0    0    0     0     0    0     0     0    0     0
Final Vol.:    10    0    10   20    0    12     0 1181   10     0  905     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:  7.5 xxxx   6.9  7.7 xxxx   7.1 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5 xxxx   3.3  3.6 xxxx   3.4 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: 1639 xxxx   596 1496 xxxx   453  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:   68 xxxx   452   77 xxxx   528  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:     66 xxxx   452   75 xxxx   528  xxxx xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *    *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx  115 xxxxx xxxx  111 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx 42.6 xxxxx xxxxx 49.9 xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shared LOS:     *    E     *    *    E     *     *    *     *     A    *     *
ApproachDel:      42.6            49.9           xxxxxx          xxxxxx
ApproachLOS:        E               E               *               *
```



```
                        Coos Bay/North Bend TSP
                             PM Peak Hour
                        Future 2020 Conditions
-------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #79 11th at Elrod
*******************************************************************************
Average Delay (sec/veh):      6.8        Worst Case Level Of Service:
*******************************************************************************
Approach:      North Bound     South Bound      East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Stop Sign       Stop Sign      Uncontrolled    Uncontrolled
Rights:           Include         Include         Include         Include
Lanes:        0  0  0  0  1   0  0  0  0  0   0  0  1  0  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------
Volume Module:
Base Vol:       0    0   104    0    0     0     0   10     0   107   30     0
Growth 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
Initial Bse:    0    0   104    0    0     0     0   10     0   107   30     0
User 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
PHF 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
PHF Volume:     0    0   104    0    0     0     0   10     0   107   30     0
Reduct Vol:     0    0     0    0    0     0     0    0     0     0    0     0
Final Vol.:     0    0   104    0    0     0     0   10     0   107   30     0
------------|---------------||---------------||---------------||---------------
Critical Gap Module:
Critical Gp:xxxxx xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Capacity Module:
Cnflict Vol: xxxx xxxx    10  xxxx xxxx xxxxx  xxxx xxxx xxxxx    10 xxxx xxxxx
Potent Cap.: xxxx xxxx  1071  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1616 xxxx xxxxx
Move Cap.:   xxxx xxxx  1071  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1616 xxxx xxxxx
------------|---------------||---------------||---------------||---------------
Level Of Service Module:
Stopped Del:xxxxx xxxx   8.7 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     A    *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx
Shared LOS:     *    *     *    *    *     *     *    *     *     A    *     *
ApproachDel:       8.7           xxxxxx          xxxxxx          xxxxxx
ApproachLOS:        A               *               *               *
```

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #80 US 101/Coos River Hwy (Bunker Hill)

Cycle (sec):	100	Critical Vol./Cap. (X):	0.696
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	32.7
Optimal Cycle:	59	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:		1 0 0 0 0			0 0 0 0 2			2 0 0 0 0			0 0 2 0 0	
Volume Module:												
Base Vol:	0	0	0	0	0	435	797	0	0	0	837	0
Growth 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
Initial Bse:	0	0	0	0	0	435	797	0	0	0	837	0
User 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
PHF 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
PHF Volume:	0	0	0	0	0	435	797	0	0	0	837	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	435	797	0	0	0	837	0
PCE 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
MLF 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
Final Vol.:	0	0	0	0	0	435	797	0	0	0	837	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	0.75	0.92	1.00	1.00	1.00	0.95	1.00
Lanes:	1.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	0.00	2.00	0.00
Final Sat.:	1900	0	0	0	0	2842	3502	0	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.15	0.23	0.00	0.00	0.00	0.23	0.00
Crit Moves:						****	****				****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.22	0.33	0.00	0.00	0.00	0.33	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.70	0.70	0.00	0.00	0.00	0.70	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	39.4	31.2	0.0	0.0	0.0	30.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	39.4	31.2	0.0	0.0	0.0	30.8	0.0
DesignQueue:	0	0	0	0	0	19	32	0	0	0	33	0

Coos Bay/North Bend TSP
PM Peak Hour
Future 2020 Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #81 Virginia/McPherson

Cycle (sec):	60	Critical Vol./Cap. (X):	0.355
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	8.2
Optimal Cycle:	25	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Permitted			Permitted			Permitted			Permitted	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:		0 0 1! 0 0			0 0 1! 0 0			0 1 0 1 0			0 1 0 1 0	
Volume Module: >> Count Date: 16 Aug 2000 <<												
Base Vol:	69	25	10	23	12	121	18	687	10	52	549	26
Growth 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
Initial Bse:	69	25	10	23	12	121	18	687	10	52	549	26
User 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
PHF 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
PHF Volume:	69	25	10	23	12	121	18	687	10	52	549	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	25	10	23	12	121	18	687	10	52	549	26
PCE 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
MLF 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
Final Vol.:	69	25	10	23	12	121	18	687	10	52	549	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.75	0.75	0.75	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81
Lanes:	0.66	0.24	0.10	0.15	0.08	0.77	0.05	1.92	0.03	0.17	1.75	0.08
Final Sat.:	951	344	138	239	125	1257	85	3251	47	257	2708	128
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.10	0.10	0.10	0.21	0.21	0.21	0.20	0.20	0.20
Crit Moves:					****			****				
Green/Cycle:	0.27	0.27	0.27	0.27	0.27	0.27	0.60	0.60	0.60	0.60	0.60	0.60
Volume/Cap:	0.27	0.27	0.27	0.35	0.35	0.35	0.35	0.35	0.35	0.34	0.34	0.34
Delay/Veh:	17.6	17.6	17.6	18.1	18.1	18.1	6.3	6.3	6.3	6.3	6.3	6.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.6	17.6	17.6	18.1	18.1	18.1	6.3	6.3	6.3	6.3	6.3	6.3
DesignQueue:	2	1	0	1	0	3	0	10	0	1	8	0

```
--------------------------------------------------------------------------------
                       Coos Bay/North Bend TSP
                            PM Peak Hour
                       Future 2020 Conditions
--------------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #82 Virginia/Broadway
********************************************************************************
Cycle (sec):          60              Critical Vol./Cap. (X):         0.973
Loss Time (sec):       8 (Y+R =  4 sec) Average Delay (sec/veh):       27.7
Optimal Cycle:       109              Level Of Service:                  C
********************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Include          Include
Min. Green:    0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        0  1  0  1  0   0  0  1! 0  0   0  1  0  1  0   0  1  0  1  0
------------|---------------||---------------||---------------||---------------
Volume Module: >> Count Date: 16 Mar 1994 << 4:30-5:30 PM
Base Vol:    172   26  567    38   14    8     9  342  134   479  427    6
Growth 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
Initial Bse: 172   26  567    38   14    8     9  342  134   479  427    6
User 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
PHF 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
PHF Volume:  172   26  567    38   14    8     9  342  134   479  427    6
Reduct Vol:    0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol: 172   26  567    38   14    8     9  342  134   479  427    6
PCE 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
MLF 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
Final Vol.:  172   26  567    38   14    8     9  342  134   479  427    6
------------|---------------||---------------||---------------||---------------
Saturation Flow Module:
Sat/Lane:   1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment: 0.72 0.72 0.72  0.64 0.64 0.64  0.85 0.85 0.85  0.59 0.59 0.59
Lanes:      0.87 0.13 1.00  0.64 0.23 0.13  0.04 1.41 0.55  1.00 0.99 0.01
Final Sat.: 1195  181 1375   765  282  161    60 2290  897  1113 1097   15
------------|---------------||---------------||---------------||---------------
Capacity Analysis Module:
Vol/Sat:    0.14 0.14 0.41  0.05 0.05 0.05  0.15 0.15 0.15  0.43 0.39 0.39
Crit Moves:           ****                                    ****
Green/Cycle: 0.42 0.42 0.42  0.42 0.42 0.42  0.44 0.44 0.44  0.44 0.44 0.44
Volume/Cap: 0.34 0.34 0.97  0.12 0.12 0.12  0.34 0.34 0.34  0.97 0.88 0.88
Delay/Veh:  11.7 11.7 42.3  10.6 10.6 10.6  11.1 11.1 11.1  39.2 24.0 24.0
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh: 11.7 11.7 42.3  10.6 10.6 10.6  11.1 11.1 11.1  39.2 24.0 24.0
DesignQueue:   3    1   12     1    0    0     0    7    3    10    8    0
********************************************************************************
```

Coos Bay/North Bend TSP
PM Peak Hour
Future 2023 Conditions (Mitigated)

Scenario Report

Scenario:	PM future
Command:	PM existing
Volume:	PM existing
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Paths
Routes:	Default Routes
Configuration:	Default Configuration

Traffix 7.6.0115 (c) 2003 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR

Coos Bay/North Bend TSP
PM Peak Hour
Future 2023 Conditions (Mitigated)

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 7 Hwy 101 at Flanagan	B	10.9	0.693	B	10.9	0.693	+ 0.000 D/V
# 13 10th at Central	C	22.3	0.727	C	22.3	0.727	+ 0.000 D/V
# 22 Johnson at Bayshore	B	19.8	0.691	B	19.8	0.691	+ 0.000 D/V
# 66 Hwy 101 at E Bay Dr.	A	3.7	0.691	A	3.7	0.691	+ 0.000 D/V
# 75 Central at 7th	C	0.0	0.770	C	0.0	0.770	+ 0.000 D/V
# 80 US 101/Coos River Hwy (Bunker	C	33.2	0.711	C	33.2	0.711	+ 0.000 D/V

Traffix 7.6.0115 (c) 2003 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR

Coos Bay/North Bend TSP
PM Peak Hour
Future 2023 Conditions (Mitigated)

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Hwy 101 at Flanagan

Cycle (sec): 100   Critical Vol./Cap. (X): 0.693
Loss Time (sec): 12 (Y+R = 4 sec)   Average Delay (sec/veh): 10.9
Optimal Cycle: 58   Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Permitted			Permitted			Protected			Protected	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:		0 0 1! 0 0			0 0 1! 0 0			1 0 1 1 0			1 0 1 1 0	
Volume Module:												
Base Vol:	71	10	33	35	10	40	30	1734	82	28	1353	5
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	72	10	34	36	10	41	31	1770	84	29	1381	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	72	10	34	36	10	41	31	1770	84	29	1381	5
User 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
PHF 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
PHF Volume:	72	10	34	36	10	41	31	1770	84	29	1381	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	10	34	36	10	41	31	1770	84	29	1381	5
PCE 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
MLF 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
Final Vol.:	72	10	34	36	10	41	31	1770	84	29	1381	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.71	0.71	0.71	0.78	0.78	0.78	0.92	0.96	0.96	0.90	0.95	0.95
Lanes:	0.62	0.09	0.29	0.41	0.12	0.47	1.00	1.91	0.09	1.00	1.99	0.01
Final Sat.:	836	118	388	609	174	696	1753	3499	165	1718	3601	13
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.06	0.06	0.06	0.02	0.51	0.51	0.02	0.38	0.38
Crit Moves:		****						****		****		
Green/Cycle:	0.13	0.13	0.13	0.13	0.13	0.13	0.03	0.73	0.73	0.02	0.72	0.72
Volume/Cap:	0.69	0.69	0.69	0.47	0.47	0.47	0.53	0.69	0.69	0.69	0.53	0.53
Delay/Veh:	53.6	53.6	53.6	42.5	42.5	42.5	56.8	8.1	8.1	88.6	6.5	6.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.6	53.6	53.6	42.5	42.5	42.5	56.8	8.1	8.1	88.6	6.5	6.5
AustraQueue:	2	1	1	1	0	1	1	27	2	1	17	0

Traffix 7.6.0115 (c) 2003 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR

Coos Bay/North Bend TSP
PM Peak Hour
Future 2023 Conditions (Mitigated)

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #13 10th at Central

Cycle (sec): 100   Critical Vol./Cap. (X): 0.727
Loss Time (sec): 12 (Y+R = 4 sec)   Average Delay (sec/veh): 22.3
Optimal Cycle: 63   Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Permitted			Permitted	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:		1 0 0 1 0			1 0 0 1 0			0 1 0 0 1			0 1 0 1 0	
Volume Module:												
Base Vol:	224	115	1	147	104	30	10	780	197	4	651	14
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	229	117	1	150	106	31	10	796	201	4	665	14
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	229	117	1	150	106	31	10	796	201	4	665	14
User 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
PHF 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
PHF Volume:	229	117	1	150	106	31	10	796	201	4	665	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	229	117	1	150	106	31	10	796	201	4	665	14
PCE 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
MLF 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
Final Vol.:	229	117	1	150	106	31	10	796	201	4	665	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.94	0.99	0.99	0.93	0.95	0.95	0.97	0.97	0.83	0.93	0.93	0.93
Lanes:	1.00	0.99	0.01	1.00	0.78	0.22	0.01	0.99	1.00	0.01	1.95	0.04
Final Sat.:	1787	1863	16	1769	1396	403	23	1827	1583	21	3440	74
Capacity Analysis Module:												
Vol/Sat:	0.13	0.06	0.06	0.08	0.08	0.08	0.44	0.44	0.13	0.19	0.19	0.19
Crit Moves:	****				****			****				
Green/Cycle:	0.18	0.12	0.12	0.16	0.10	0.10	0.60	0.60	0.60	0.60	0.60	0.60
Volume/Cap:	0.73	0.53	0.53	0.53	0.73	0.73	0.73	0.73	0.21	0.32	0.32	0.32
Delay/Veh:	47.2	43.7	43.7	40.3	56.7	56.7	16.7	16.7	9.3	10.0	10.0	10.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.2	43.7	43.7	40.3	56.7	56.7	16.7	16.7	9.3	10.0	10.0	10.0
AustraQueue:	7	3	0	4	3	1	1	16	3	0	9	0

Traffix 7.6.0115 (c) 2003 Dowling Assoc. Licensed to DKS ASSOC., PORTLAND, OR

Coos Bay/North Bend TSP
PM Peak Hour
Future 2023 Conditions (Mitigated)

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #22 Johnson at Bayshore

Cycle (sec):	100	Critical Vol./Cap. (X):	0.691
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	19.8
Optimal Cycle:	47	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	1	0 1	0 0	0	0 0	0 1	1	0 0	0 0	1	0 1
Volume Module:												
Base Vol:	25	1341	80	0	0	0	122	295	0	0	270	135
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	26	1369	82	0	0	0	125	301	0	0	276	138
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	1369	82	0	0	0	125	301	0	0	276	138
User 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
PHF 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
PHF Volume:	26	1369	82	0	0	0	125	301	0	0	276	138
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	1369	82	0	0	0	125	301	0	0	276	138
PCE 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
MLF 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
Final Vol.:	26	1369	82	0	0	0	125	301	0	0	276	138
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.81	0.81	1.00	1.00	1.00	0.61	0.61	1.00	1.00	0.99	0.84
Lanes:	0.04	1.96	1.00	0.00	0.00	0.00	0.59	1.41	0.00	0.00	1.00	1.00
Final Sat.:	56	3019	1537	0	0	0	683	1652	0	0	1881	1599
Capacity Analysis Module:												
Vol/Sat:	0.45	0.45	0.05	0.00	0.00	0.00	0.18	0.18	0.00	0.00	0.15	0.09
Crit Moves:	****							****				
Green/Cycle:	0.66	0.66	0.66	0.00	0.00	0.00	0.26	0.26	0.00	0.00	0.26	0.26
Volume/Cap:	0.69	0.69	0.08	0.00	0.00	0.00	0.69	0.69	0.00	0.00	0.56	0.33
Delay/Veh:	11.9	11.9	6.3	0.0	0.0	0.0	36.5	36.5	0.0	0.0	33.1	30.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.9	11.9	6.3	0.0	0.0	0.0	36.5	36.5	0.0	0.0	33.1	30.1
AustraQueue:	1	24	1	0	0	0	4	8	0	0	7	3

Coos Bay/North Bend TSP
PM Peak Hour
Future 2023 Conditions (Mitigated)

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #66 Hwy 101 at E Bay Dr.

Cycle (sec):	100	Critical Vol./Cap. (X):	0.691
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	3.7
Optimal Cycle:	47	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1	0 1	0 1	0	0 0	0 0	0	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	0	1083	210	15	748	0	0	0	0	30	0	10
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	0	1106	214	15	764	0	0	0	0	31	0	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1106	214	15	764	0	0	0	0	31	0	10
User 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
PHF 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
PHF Volume:	0	1106	214	15	764	0	0	0	0	31	0	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1106	214	15	764	0	0	0	0	31	0	10
PCE 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
MLF 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
Final Vol.:	0	1106	214	15	764	0	0	0	0	31	0	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.81	0.90	0.90	1.00	1.00	1.00	1.00	0.89	1.00	0.89
Lanes:	0.00	1.00	1.00	0.02	0.98	0.00	0.00	0.00	0.00	0.75	0.00	0.25
Final Sat.:	0	1809	1537	34	1680	0	0	0	0	1263	0	421
Capacity Analysis Module:												
Vol/Sat:	0.00	0.61	0.14	0.45	0.45	0.00	0.00	0.00	0.00	0.02	0.00	0.02
Crit Moves:		****										****
Green/Cycle:	0.00	0.88	0.88	0.88	0.88	0.00	0.00	0.00	0.00	0.04	0.00	0.04
Volume/Cap:	0.00	0.69	0.16	0.51	0.51	0.00	0.00	0.00	0.00	0.69	0.00	0.69
Delay/Veh:	0.0	3.0	0.8	1.5	1.5	0.0	0.0	0.0	0.0	77.2	0.0	77.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	3.0	0.8	1.5	1.5	0.0	0.0	0.0	0.0	77.2	0.0	77.2
AustraQueue:	0	10	1	0	5	0	0	0	0	1	0	1

Coos Bay/North Bend TSP
PM Peak Hour
Future 2023 Conditions (Mitigated)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #75 Central at 7th

Cycle (sec):	1	Critical Vol./Cap. (X):	0.770
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	13.1
Optimal Cycle:	0	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Yield Sign			Yield Sign			Stop Sign			Stop Sign		
Rights:	Include			Channel			Channel			Include		
Lanes:	0 0	0	0 0	0 1	0	0 2	0 0	0	0 2	0 1	0	0 0
Volume Module:												
Base Vol:	0	0	0	5	95	618	0	0	787	10	60	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	0	0	0	5	97	631	0	0	804	10	61	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	5	97	631	0	0	804	10	61	0
User 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
PHF 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
PHF Volume:	0	0	0	5	97	631	0	0	804	10	61	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	5	97	631	0	0	804	10	61	0
Saturation Flow Module:												
Sat/Lane:	0	0	0	0	0	0	0	0	0	0	0	0
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.05	0.95	2.00	0.00	0.00	2.00	0.14	0.86	0.00
Final Sat.:	0	0	0	22	421	886	0	0	1044	121	729	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.23	0.23	0.71	0.00	0.00	0.77	0.08	0.08	0.00
Crit Moves:			****			****			****	****		
Green/Cycle:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume/Cap:	0.00	0.00	0.00	0.23	0.23	0.71	0.00	0.00	0.77	0.08	0.08	0.00
Delay/Veh:	0.0	0.0	0.0	2.4	2.4	15.0	0.0	0.0	18.6	1.4	1.4	0.0
Delay 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
AdjDel/Veh:	0.0	0.0	0.0	2.4	2.4	15.0	0.0	0.0	18.6	1.4	1.4	0.0
AustraQueue:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx

Coos Bay/North Bend TSP
PM Peak Hour
Future 2023 Conditions (Mitigated)

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #80 US 101/Coos River Hwy (Bunker Hill)

Cycle (sec):	100	Critical Vol./Cap. (X):	0.711
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	33.2
Optimal Cycle:	61	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0	0 0	0 0	0	0 2	2 0	0	0 0	0 0	2	0 0
Volume Module:												
Base Vol:	0	0	0	0	0	435	797	0	0	0	837	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	0	0	0	0	0	444	814	0	0	0	855	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	444	814	0	0	0	855	0
User 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
PHF 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
PHF Volume:	0	0	0	0	0	444	814	0	0	0	855	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	444	814	0	0	0	855	0
PCE 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
MLF 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
Final Vol.:	0	0	0	0	0	444	814	0	0	0	855	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	0.75	0.92	1.00	1.00	1.00	0.95	1.00
Lanes:	1.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	0.00	2.00	0.00
Final Sat.:	1900	0	0	0	0	2842	3502	0	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.16	0.23	0.00	0.00	0.00	0.24	0.00
Crit Moves:						****	****				****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.22	0.33	0.00	0.00	0.00	0.33	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.71	0.71	0.00	0.00	0.00	0.71	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	39.9	31.6	0.0	0.0	0.0	31.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	39.9	31.6	0.0	0.0	0.0	31.1	0.0
AustraQueue:	0	0	0	0	0	12	20	0	0	0	21	0

Coos Bay Pavement Overlay Schedule

Post-it® Fax Note 7671	Date 9/17	# of pages ▶ 6
To J. Sosnovske	From L. BARRON	
Co./Dept. DKS	Co. CB	
Phone #	Phone # 269-8929	
Fax # 503-243-1934	Fax #	

Capitol Street Improvements

Overlay Projects

Revised

March 2001

City of Coos Bay

CAPITAL STREET IMPROVEMENTS

The City of Coos Bay has approximately 60 miles of paved streets in town and at 1996 dollars it would cost approximately $6,842,880 to overlay every street. Though this is not feasible, the City since 1954 has had serial levies up to the 1990/1991 fiscal year (except for a couple of years between levies) to overlay streets. The levies brought in any where from $100,000 to $150,000 per year for the overlays. Approximately $100,000 will overlay one mile of street at thirty-six feet wide. Fortunately the City had the insight to recognize that asphalt streets do not last forever and provided a means to maintain those streets. Unfortunately the citizens felt that enough taxes had been levied against them and voted that last levy down.

Life expectancy of streets is usually twenty years, of course several factors must be taken into account including traffic volume, type of original construction, location of the street in relation to fill or natural ground, and weight of traffic using the street. If streets can be overlaid within that twenty years then the cost is significantly reduced. The cost to overlay a street is 1/4 the cost as compared to complete rehabilitation. If the City had to do this to all of paved streets it would cost somewhere around 27 million dollars.

During rehabilitation the street is totally dug up and the asphalt and gravel subbase is removed. Once a street begins to "alligator" water is able to penetrate the asphalt and causes the subbase to begin to break up. The subbase gets water into it and becomes very soft and unsupportive for traffic, this causes a pumping action as the base oozes up through the asphalt leaving brown marks as it dries. Not all alligatoring or broken pavement needs to be ripped up and repair to the base necessary, if caught in time an overlay with minimum subbase repairs can be made or even a crack seal will eliminate the problem to hold the street until an overlay can be completed. Since the last serial levy the City has been doing more crack sealing to get maximum time from the streets. Crack sealing is done by using a petroleum base tar like substance in a liquid form to apply from a machine made for that purpose.

Pavement life is measured in accumulated traffic loads. If two streets are equal in condition, the one with the higher traffic count should be overlaid first. The end of its life is coming sooner and it will benefit more people. In the past the City has attempted to group streets geographically each year to minimize travel time (mobilization) for the contractor, thus maximizing the benefit derived from fixed funds.

By continuing the patching and crack sealing programs, the City is preserving some integrity of the streets, but patching is not the same as an overlay.

The graphs attached are illustrating pavement data and the relation of not having serial levies or at least money budgeted to help continue the overlay program. Next is a list of streets that need to be overlaid within the next two years, streets that need to be overlaid in the two to five years and streets that fall into the five to ten-year cycle.

The overlays listed here are based on a two-inch lift at a cost of $45.00 per ton. Street overlays in the past several years have come in around $35.00 to $37.00 per ton. Ten years ago the price was $31.00 or $32.00 dollars per ton. The $45 was used to insure that the overlay costs will not be to low and the unknown cost of petroleum products in the future. The more asphalt tonnage the better price the City receives.

0 to 2 years

Street	From/To	Tons	Cost
Marple St.	Schetter to Taylor	895	$ 40,275
Taylor	Marple to Wasson	247	$ 11,115
LaClair	Newmark to Ocean Blvd.	751	$ 33,795
S. 10th St.	Ingersoll to Lockhart	435	$ 19,575
S. Broadway	Lockhart to Slough	277	$ 12,465
Johnson Ave.	7th to 10th St.	325	$ 14,625
S. 11th St.	Ingersoll to Ferguson	627	$ 28,215
Ingersoll Ave.	4th to 7th	304	$ 13,680
Pennsylvania Ave.	Southwest Blvd. to 17th	437	$ 19,665
Wasson St.	Newmark to Michigan	370	$ 16,650
Anderson Ave.	11th to City limits	350	$ 15,750
Radar Rd.	Compass Circle to Fulton	701	$ 31,545
Yew	Koos Bay Blvd. to east	80	$ 3,600
S. 7th St.	Kruse to Lockhart	290	$ 13,050
Kruse Ave.	5th to 7th	184	$ 8,280
E St.	6th to 14th	674	$ 30,330
N. 3rd St.	Market to Highland	86	$ 3,870
N 10th St.	Central to 8th Terrace	461	$ 20,745
9th Ave.	D to H	587	$ 26,415
10th Ave.	E to F	144	$ 6,400
Applewood Dr.	16th to east	238	$ 10,710
I St	14th to 17th	216	$ 9,720
D St.	Coos River Highway to Harborview	144	$ 6,400
Jackson	1st to Merchant	50	$ 2,250
Brule	Ocean Blvd. to Lindberg	216	$ 9,720
Michigan	Morrison to Madison	249	$ 11,205
Newmark	Ocean to west college entrance	1,100	$ 49,500
	TOTAL		**$469,680**

Downtown URA Streets
Empire URA Streets
Jurisdictional Exchange Streets

2 to 5 years

Street	From/To	Tons	Cost
Norman	Ocean to Newmark	708	$ 31,860
S. 5th St.	Lockhart to Ingersoll	698	$ 31,410
Lincoln	100' east of Oakway to West Hills	221	$ 9,945
Alder	Bayshore to Front	75	$ 3,375
Park	4th ct. to Telegraph	228	$ 10,260
E. Telegraph	Park to Date	533	$ 23,985
Date	7th Rd. to east end	382	$ 17,190
N. 12th St.	Central to 12th Terrace (upper level)	158	$ 7,110
4th St.	Commercial to Anderson	358	$ 16,110
Prefontaine	Fulton to Kentucky	331	$ 14,895
N. 15th St.	Nutwood to Myrtle	75	$ 3,375
N. 14th St.	Juniper to W. Park Rd.	274	$ 12,330
W. Park Rd.	N 14th to Cedar	466	$ 20,970
N 12th St.	Commercial to 12th Terr. (lower level)	79	$ 3,555
S. 4th St.	Lockhart to Johnson	698	$ 31,410
S. 4th St.	Elrod to Golden	433	$ 19,485
S. 8th St.	Central to Curtis	295	$ 13,275
S. 9th St.	Central to Curtis	336	$ 15,120
Donnelly Ave.	4th to 7th	244	$ 10,980
Ferguson Ave.	7th to 11th	321	$ 14,445
Market Ave.	2nd to 4th	243	$ 10,935
N. 5th St.	Commercial to Market	115	$ 5,175
11th Ave.	E to F	144	$ 6,480
8th Ave.	E to D	144	$ 6,480
10th Ave.	E to D	144	$ 6,480
Bayview Dr.	16th to east	173	$ 7,785
17th Ave.	Evergreen to J St.	408	$ 18,360
Canyon Dr.	9th to east	198	$ 8,910
Coos River Highway	I St. to D St.	888	$ 39,960
2nd Ave.	B St. to E St.	699	$ 31,455
E St.	2nd to 6th	315	$ 14,175
D St.	4th to 6th	293	$ 13,185
1st. Ave.	A to D	440	$ 19,800
Merchant	D to Jackson	86	$ 3,870
Ocean Blvd.	Central to Newmark	11,581	$521,145
Central Ave.	Ocean to west	144	$ 6,480
Wallace Ave.	Ocean to Newmark	338	$ 15,120
Fulton Ave.	Radar to Blanco	523	$ 23,535
Kentucky Ave.	Prefontaine to 100' west of Tricia Pl.	367	$ 13,515
Morrison St.	Newmark to Michigan	271	$ 12,195
N. CammannSt.	Newmark to Taylor	1,358	$ 61,110
	TOTAL		**$1,157,235**

5 to 10 years

Street	From/To	Tons	Cost
Woodland Dr.	Myrtle to City limits	1,435	$ 64,575
N. 15th	Myrtle to Kingwood	230	$ 10,350
Kingwood	17th to west	205	$ 9,225
Redwood	8th to 11th	143	$ 6,435
Juniper	N. 14th to N. 15th	180	$ 8,100
S. 4th	Golden to Johnson	1,012	$ 45,540
N. 9th	Date to south end	340	$ 15,300
S. 5th	Anderson to Donnelly	287	$ 12,915
12th ave.	E to F	144	$ 6,480
Cedar Dr.	16th to east	204	$ 9,180
Cedar Ave.	10th st. to west	127	$ 5,715
N. 7th	Koosbay Blvd. to Kingwood	208	$ 9,360
S. 7th	Ingersoll to Johnson	276	$ 12,420
N. 6th	Koosbay Blvd. to Ivy	287	$ 12,915
Pine Dr.	Koosbay Blvd. to 13th	84	$ 3,780
N. 13th	Pine Dr. north & south	210	$ 9,450
Yew Ave.	Koosbay Blvd. to 14th	206	$ 9,270
Curtis Ave.	Broadway to 4th	295	$ 13,275
Bennett Ave.	4th to 7th	265	$ 11,925
S. 2nd	Curtis to Elrod	228	$ 10,260
N. 8th	Hemlock to Koosbay Blvd.	222	$ 9,990
Ocean Ct.	Butler to 19th	357	$ 16,065
Coos River Highway	6th to east City limits	1,380	$ 62,100
7th ave.	E to F	144	$ 6,480
Merrill	Ocean Blvd. to Lindberg	341	$ 15,345
Lindberg	Brule to Merrill	240	$ 10,800
Dunn	Lindberg to Ocean	295	$ 13,275
Schoneman	Newmark to Flanagan	667	$ 30,015
S. Cammann	Montgomery to south end	979	$ 44,055
S. Marple	Newmark to Pacific	1,103	$ 49,635
Crocker	St. John to south end	1,121	$ 50,445
Ferguson	11th to 12th	78	$ 3,510
12th st.	Ferguson to 12th ct.	136	$ 6,120
S. 2nd	Kruse to Lockhart	322	$ 14,490
Morrison	Michigan to Pacific	758	$ 34,110
Maryland	Madison to Schoneman	408	$ 18,360
South 19th	California to Idaho	312	$ 14,040
	TOTAL		**$685,305**

The following list of streets are to be monitored on a yearly basis to determine structural integrity and wear. They could be upgraded to any of the above categories if deemed necessary.

Street	From/To	Tons	Cost
Southwest Blvd.	Washington to City Limits	1,621	$ 72,960
N. 8th	Redwood to Nutwood	511	$ 22,995
Pacific	Morrison to Schoneman	214	$ 9,630
Flanagan	Schoneman to Morrison	206	$ 9,270
Montgomery	west & east 1 blk. of Morrison	293	$ 13,185
Michigan	Schoneman to Woolridge	218	$ 9,810
N. 14th	Myrtle to Teakwood	737	$ 33,165
N. 11th	Central to Highland	236	$ 10,620
Minnesota	Southwest Blvd. to 14th	444	$ 19,980
H st.	6th to 9th	246	$ 11,070
5th ave.	D to E	138	$ 6,210
N. 19th	Thompson to south	313	$ 14,085
S. Wall	Pacific to Fulton	499	$ 22,455
Fulton	Empire Blvd. to Cammann	480	$ 21,600
Wisconsin	Empire Blvd. to Cameron Rd.	192	$ 8,640
Schoneman	Newmark to Harris	528	$ 23,760
Oregon	Southwest Blvd to 15th St.	493	$ 22,185
	TOTAL		**$331,605**

Tech Memo #1 Final

DKS Associates

1400 S. W. Fifth Avenue, Suite 500
Portland, OR 97201-5502
Phone: (503) 243-3500
Fax: (503) 243-1934

Technical Memorandum #1

Date: October 23, 2003

To: Coos Bay / North Bend TSP – TAC/CAC Members, Aaron Geisler – City of North Bend, Laura Barron, Shanda Shribbs – City of Coos Bay, Ingrid J. Weisenbach – ODOT/TGM

From: Carl D. Springer, P.E. – DKS Associates; Tom Armstrong – Winterbrook Planning

RE: **Background Documents Review and Preliminary Goals & Policies**

This is the first in a series of memorandums that presents technical findings and recommendations for the Coos Bay / North Bend Transportation System Plan project. The purpose of these memorandums is to provide Technical Advisory Committee (TAC) and Citizen Advisory Committee (CAC) members with a progress report on current planning activities. Feedback from the TAC and CAC members on these technical memorandums will be incorporated into subsequent analysis and the actual TSP report chapters.

Background Plan and Document Review

We have reviewed a series of past plans, studies and city ordinances that were distributed to us at the kick-off meeting held at the City of Coos Bay offices on August 5, 2002. This background review is useful throughout the Transportation System Plan (TSP) project, but initially it gives the project team a basis for identifying preliminary goals & policies for the TSP.

The list of documents is attached separately along with an indication of the TSP stage where it will be most useful, and which of the regional agencies is most affected by it. The local studies with the greatest relevance to the Coos Bay / North Bend TSP process include:

- The *Bay Area Transportation Study* (1995),
- The *Downtown Coos Bay Circulation and Parking Study* (1997), and
- The *Coos County TSP* (1999).

Other reports addressing specific area master plans or feasibility studies will be considered through the process, as appropriate, but the land development and travel forecasts done in conjunction with the TSP generally will supercede these studies. Traffic Impact Studies will be incorporated into the existing conditions description (Task 3). City ordinances for Coos Bay and North Bend will be reviewed to explicitly identity areas requiring amendments to comply with Oregon Transportation Planning Rule requirements. A topical review is presented in a separate memo for Coos County, Coos Bay and North Bend. The specific text and nature of the code amendments will be developed at a later stage (Task 6) of the TSP, but at this point it is useful to flag the general topics for inclusion and discussion during the overall process.

Preliminary Goals and Policies

The goals and guiding principals presented in the *BATS Final Report* were reviewed and then re-organized into a conventional format for goals, policies and action items consistent with many Oregon jurisdictions. This new format better lends itself to adoption into local development code ordinances, and provides a basic framework for plan development.

Many of the items in the original BATS list, most notably under Street and Highways, resembled a check list of specific operational issues and possible improvement solutions. To the extent possible, these items were incorporated into the revised format. However, many of these suggestions will be tested as a part of the system analysis (Task 4) and recommended transportation system improvements (Task 6). If they are demonstrated to resolve identified existing or future deficiencies, they will be incorporated into the plan as a recommended system improvement rather than as a specific goal or policy item.

Additional goals and policies are suggested starting on the next page that extend beyond those listed in the BATS study. The added policy elements are based on adopted TSPs in other Oregon cities that responded to State TPR requirements. The purpose of this initial listing is to provide a basis for comments from TAC and CAC member, and to ensure that the local goals are adequately addressed. In many cases, placeholders [indicated by brackets] are shown. The specific of these policy or action items will be determined during this study process.

As for definition of the basic terms:

- The **goals** are brief guiding statements that describe a desired result.
- The **policies** describe the actions needed to move the community toward the goal.
- Below many of the policies, details of the implementing **actions** are listed that clarify the intent of the policy. Generally, the action statements refer specifically to facilities or services or planned projects *(most of these action items will be added at a later stage of the project)*.

The transportation goals and policies are implemented by these actions, by the improvement projects included in the forthcoming system master plans and action plans for each transportation mode, and by the respective city Development Code. The primary function of these goals and policies are to guide the City of Coos Bay and the City of North Bend twenty-year vision of transportation system needs.

It is anticipated that an additional document or modification to existing documents will be required to include construction standards for improvements identified in the TSP. Typically, these types of standards are found in the City Development Code and Engineering Design Manual and Standard Drawings. Street standards will be prepared as a part of this TSP process for both cities.

Goal #1: Transportation facilities designed and constructed in a manner to enhance Coos Bay / North Bend's livability and meet federal, state, regional, and local requirements.

Policies:

a) Maintain the livability of Coos Bay / North Bend through proper location and design of transportation facilities.

Action:
Design streets and highways to respect the characteristics of the surrounding land uses, natural features, and other community amenities.

Recognizing that the magnitude and scale of capital facilities also affect aesthetics and environmental quality, the City will require design plans and impact analyses as specified in the Development Code.

Potential Urban Growth Boundary areas (e.g., Bunker Hill area) will be integrated into the city system plan to provide adequate service.

b) Consider noise attenuation in the design, redesign, and reconstruction of arterial streets immediately adjacent to residential development.

c) Protect neighborhoods from excessive through traffic and travel speeds while providing reasonable access to and from residential areas. Build streets to minimize speeding.

Action:
Develop and maintain street design standards and criteria for neighborhood traffic management for use in new development and existing neighborhoods

d) New commercial and industrial development shall identify traffic plans for residential streets where increased cut-through traffic may occur due to the proposed development.

e) Designate major tourist routes for provisions of enhanced streetscape and directional markings.

Action:
Develop and maintain tourist route standards on major travel routes.

Goal #2: A balanced transportation system.

Policies:

a) Implement Coos Bay / North Bend's public street standards **[to be prepared during the study]** that recognize the multi-purpose nature of the street right-of-way for utility, pedestrian, bicycle, transit, truck, and auto use, and recognize these streets as important to community identity as well as providing a needed service. .

b) Develop and provide a safe, complete, attractive, efficient, and accessible system of pedestrian ways and bicycle ways, including bike lanes, shared roadways, multi-use paths, and sidewalks according to the pedestrian and bicycle system maps and the Development Code and Engineering Design Manual and Standard Drawings requirements **[relevant parts to be developed during study].**

c) Provide connectivity to each area of Coos Bay / North Bend for convenient multi-modal access. Ensure pedestrian, bicycle, transit, and vehicle access to waterfront, schools, parks, employment and recreational areas by identifying and developing improvements that address connectivity needs.

d) Develop neighborhood and local connections to provide adequate circulation into and out of neighborhoods.

e) The permanent closure of an existing road in a developed neighborhood is not recommended and will be considered by the City only under the following circumstances: as a measure of last resort, when the quality of life in the neighborhood is being severely threatened by excessive traffic volumes or the presence of a traffic safety hazard; or as part of a plan reviewed through the City's land use and/or site development process(es), including capital improvement projects. Planned roads that have not been built in neighborhoods should be retained as indicated in the Local Street System Plan maps **[to be developed in this study].**

f) Design arterial and collector streets to accommodate pads for public transit and to provide convenient access to transit stops.

Action:
Work with Coos County Area Transit (CCAT) to improve transit service, pedestrian facilities leading to transit stop waiting areas, and to make the waiting areas themselves safe, comfortable, and attractive.

Goal #3: A safe transportation system.

Policies:

a) Improve traffic safety through a comprehensive program of engineering, education, and enforcement.

b) Design streets to serve anticipated function and intended uses as determined by the Comprehensive Plan.

Action:
Maintain a functional classification system that meets the City's needs and respects the needs of other agencies including but not limited to Coos County, and ODOT.

c) Where on-street pedestrian and bicycle facilities cannot reasonably be provided on highways and arterials, identify parallel routes that comply with state and city planning and design standards.

d) Enhance safety by prioritizing and mitigating high collision locations within the City.
Action:
Work with ODOT and Coos County to periodically review traffic collision information in an effort to systematically identify, prioritize, and remedy safety problems.

e) Designate safe routes from residential areas to schools.
Action:
The City should work with area schools and the community in developing safe transit, pedestrian, and bicycle routes to schools. Communicate selected safe school route program to community. Improvement projects near schools shall consider school access and safety during project development.

f) Provide satisfactory levels of maintenance to the transportation system in order to preserve user safety, facility aesthetics, and the integrity of the system as a whole.
Action:
Periodically review pavement maintenance system data to update roadway paving budgets, and prioritize facilities with highest need for services.

g) Maintain access management standards for streets consistent with City, County, and State requirements to reduce conflicts between vehicles and trucks, and between vehicles and bicycles and pedestrians.
Action:
*Preserve the functional integrity of the motor vehicle system by limiting access per City standards **[to be developed as a part of this process]**.*

h) Ensure that adequate access for emergency services vehicles is provided throughout the City.
Action:
Develop Neighborhood Traffic Management standards based on functional classification to preserve primary response routes.

i) Meet federal and State safety compliance standards for operation, construction, and maintenance of the rail system.

j) Provide safe routing of hazardous materials consistent with federal guidelines, and provide for public involvement in the process.
Action:
Work with federal agencies, the Public Utility Commission, the Oregon Department of Environmental Quality, public safety providers, and ODOT to assure consistent routes, laws, and regulations for the transport of hazardous materials.

Goal #4: An efficient transportation system that reduces the number and length of trips, limits congestion, and improves air quality.

Policies:

a) Support and implement trip reduction strategies developed regionally, including employment, tourist, and recreational trip reduction programs.

Actions:
Continue to implement the following action plan to work toward achieving these targets:

- *Encourage development that effectively mixes land uses to reduce vehicle trip generation.*
- *Develop consistent conditions for land use approval that require future employment related land use developments to agree to reduce peak hour trip making through transportation demand management strategies.*
- *Implement the bicycle, transit, pedestrian, and motor vehicle master improvement plans [to be developed in this study] to implement a convenient multimodal transportation system.*

b) Maintain levels of service consistent with the Oregon Transportation Plan. Reduce traffic congestion and enhance traffic flow through such measures as intersection improvements, intelligent transportation systems, signal synchronization, and other similar measures.

Action:
Adopt level of service standards that are consistent with State and County standards.

c) Maintain levels of service or minimum performance thresholds identified by responsible service providers for non-roadway facilities including rail, air, and marine activities.

Action:
Work with Port of Coos Bay, North Bend Municipal Airport, and Central Oregon Railroad to establish appropriate performance thresholds for their respective facilities.

d) Plan land uses to increase opportunities for multi-purpose trips (trip chaining).

e) Require land use approval of proposals for new or improved transportation facilities. The approval process shall identify and consider the project's identified impacts.

f) Support mixed-use development where zoning allows.

g) Work with Coos County Area Transit to encourage the development of transit improvements, improve access and frequency of service, and increase ridership potential and service area.

Goal #5: Transportation facilities that serve and are accessible to all members of the community.

Policies:

a) Construct transportation facilities to meet the requirements of the Americans with Disabilities Act.

b) Support Coos County Area Transit and other transit service provider's efforts that respond to the transit and transportation needs of the elderly and disabled.

Goal #6: Transportation facilities that provide efficient movement of goods and services.

Policies:

a) Designated arterial streets and highway access are essential for efficient movement of goods. Design these facilities and adjacent land uses to reflect the needs of goods movement.

b) Consider existing railroad and air transportation facilities to be City resources and reflect the needs of these facilities in land use decisions.

c) Develop a balanced freight system that takes advantage of the efficiencies of each transportation mode.

Goal #7: Implement the transportation plan by working cooperatively with federal, State, regional, and local governments, the private sector, and residents. Create a stable, flexible financial system.

Policies:

a) Coordinate transportation projects, policy issues, and development actions with all affected governmental units in the area. Key agencies for coordination include (Coos Bay / North Bend), Port of Coos Bay, Coos County, ODOT, and Coos County Area Transit

b) Participate in implementing regional transportation, growth management, and air quality improvement policies. Work with agencies to assure adequate funding of transportation facilities to support these policies.

c) **[Implement]** Monitor and update the Transportation Element of the Comprehensive Plan so that issues and opportunities are addressed in a timely manner. Maintain a current capital improvement program that establishes the City's construction and improvement priorities, and allocates the appropriate level of funding.

d) Develop and use the **[selected funding mechanism]** as elements of an overall funding program to pay for adding capacity to the collector and arterial street system, and making safety improvements related to development impacts.

e) Establish rights-of-way at the time of site development and, where appropriate, officially secure them by dedication of property.

f) Working in partnership with ODOT, and other jurisdictions and agencies, develop a long-range financial strategy to make needed improvements to the transportation system and support operational and maintenance requirements.

Action:

The financial strategy should consider the appropriate elements **[such as share of motor vehicle fees, impact fees, property tax levies, and development contributions to balance needs, costs, and revenue].** *View the process of improving the transportation system as that of a partnership between the public (through fees and taxes) and private sectors (through exactions and conditions of development approval), each of which has appropriate roles in the financing of these improvements to meet present and projected needs.*

g) Provide adequate funding for maintenance of the capital investment in transportation facilities.

Action:

Develop a long-term financing program that provides a stable source of funds to ensure cost-effective maintenance of transportation facilities and efficient effective use of public funds.

Bibliography

No.	Type	Agency / Company	Title	Date	Potential TSP Issues: Policy	Existing	Forecasts	Alternatives	Implementation	Affected Agency: Coos Bay	Coos County	North Bend	NB Airport	ODOT	Port of Coos Bay	Curry County
1	Legislation	North Bend	1995 Comprehensive Land Use Plan: Plan Provisions and Policies	Nov-89	■				■			○				
2	Report	Benkendorf Associates	Airport Business Park Master Plan	Jan-99		□	□					○			○	
3	Memo	CH2M Hill	BATS - Airport Existing Conditions/ Deficiencies /Future Strategies	Jul-94		■	□	□	■	○	○	○	○	○	○	
4	Memo	Kittelson & Associates	BATS - Alternatives Analysis	Mar-95			□	■		○	○	○	○	○		
5	Memo	Kittelson & Associates	BATS - Existing Conditions / TM#1	Nov-94		■				○	○	○	○	○		
6	Memo	ETS Pacific	BATS - Existing Rail System	Aug-94		■				○	○	○	○	○		
7	Memo	CH2M Hill	BATS - Financial Analysis	Apr-95	■	■	□	□	■	○	○	○	○	○		
8	Memo	Kittelson & Associates	BATS - Future Conditions	Jan-95			□			○	○	○	○	○		
9	Memo	CH2M Hill	BATS - Population and Land Use Projections	Jan-95			□			○	○	○	○	○		
10	Memo	CH2M Hill	BATS - Port Existing Conditions/ Deficiencies /Future Strategies	Jun-94		■	□	□	■	○	○	○	○	○		
11	Memo	Kittelson & Associates	BATS - Travel Forecast Methods	Nov-94			□			○	○	○	○	○		
12	Report	David Evans and Assoc.	Bay Area Comprehensive Economic Analysis	Apr-98		□	□			○	○	○	○		○	
13	Report	CH2M Hill / Kittelson	Bay Area Transportation Study: Final Report	Dec-95	■	■	□	■	□	○	○	○	○	○	○	
14	Report	Gary L. Dyer	Bikeway Master Plan	Jun-91	■	■	■		■	○	○	○		○		
15	Report	Benkendorf Associates	Charleston Marina Five Point Program	Apr-92		□	□								○	
16	Report	Hobson & Associates	Charleston Shipyard Analysis / Port of Coos Bay	May-92		□	□								○	
17	Report	Kittelson & Associates	City of Coos Bay Downtown Parking and Circulation Study	Sep-97	■	■	□	■	■	○				○		
18	Report	Coos Bay	Comprehensive Plan 2000, Volume I: Plan Policy	Mar-81	□				■	○						
19	Report	Coos Bay	Comprehensive Plan 2000, Volume II: Transportation	Mar-81	□	■	□	□	■	○						
20	Report	JRH Transportation Engr.	Coos County Transportation System Plan	Sep-99	■	■	■	■	■	○	○	○	○	○	○	
21	Legislation	Coos County	Coos County TSP: Implementing Ordinances and Design Standards	Sep-99	■				■	○	○	○		○		
22	Report	David Evans and Assoc.	Coquille Indian Tribe / Coos Bay - Empire Property, North Parcels / TIS	Mar-00		■	□			○	○					
23	Report	David Evans and Assoc.	Coquille Indian Tribe / Transportation Plan	Apr-00		■	□			○	○	○		○		
24	Flyer	Coos County Area Transit	Dial-A-Ride Service Schedule	Jun-02		■	□		□	○	○	○	○	○		
25	Report	Benkendorf Associates	Eastside Development Strategy	Jul-96		■	□		□					○	○	
26	Memo	David Evans and Assoc.	Economic Opportunities Analysis / Demographic Inventory and Forecasts	Feb-98		□	□			○	○	○				
27	Report	The Portico Group	Feasibility Study for Coos Head Eco-Tourism Facilities	Jul-98		□	□				○				○	
28	Report	Carl H. Buttke, Inc.	Major Street Traffic Safety Program	Mar-81		□						○				
29	Report	CTS Engineers, Inc.	Newmark Avenue Improvement Plan	May-01		■	□			○						
30	Report	Benkendorf Associates	North Bay Marine Industrial Park Master Plan	Jul-99		□	□				○				○	
31	Report	McSwain & Woods	North Bend Downtown Waterfront Master Plan	Jan-98	■	■			□	○		○		○		
32	Legislation	North Bend	Ordinance No. 1084: Street Work Regulations	Mar-76	■				■			○				
33	Legislation	North Bend	Ordinance No. 1085: Public Improvement Methods	Feb-78	■				■			○				
34	Legislation	North Bend	Ordinance No. 1175: Land Subdivisions	Apr-95	■				■			○				
35	Legislation	North Bend	Ordinance No. 1192: Zoning Regulations	Jan-99	■				■			○				
36	Legislation	North Bend	Ordinance No. 1277: Planning Commission Duites	Feb-97	□				□			○				
37	Legislation	Coos Bay	Ordinance No. 93: Land Development	Jun-87	■					○						
A	Report	ODOT	Oregon Highway Plan	Mar-99	■			■	■	○	○	○	○	○	○	○
38	Report	W & H Pacific	Pacific Coast Scenic Byway	Dec-97	□	■	□	□	□	○	○	○		○		
39	Report	Satre Associates	Parks and Recreation Master Plan	Jul-99	□	■	■	■	□			○				
40	Report	ODOT	Proposed Oregon Coast Highway Corridor Master Plan	Jan-95	■	□	□		■	○	○	○		○		
41	Memo	David Evans and Assoc.	Regional Site Availability / Industrial and Commercial Available Land Use Inventory	Feb-98		□				○	○	○				
42	Report	Weslin Consulting Services	Transit Feasibility Study	Jul-99	□	■	■	□		○	○	○		○		○

No.	Type	Agency / Company	Title	Date	Potential TSP Issues: Policy	Existing	Forecasts	Alternatives	Implementation	Affected Agency: Coos Bay	Coos County	North Bend	NB Airport	ODOT	Port of Coos Bay	Curry County
B	Legislation	Land Conservation and Development Commission	Transportation Planning Rule (OAR 660-012-000 through -060)	Feb-00	■	■	■	■	■	○	○	○	○	○	○	○
43	Report	Oregon Downtown Development Association	The Coos Bay Resource Team Report	Oct-02	□			■	□	○						
44	Charette	Alpha Engineering, Inc.	Empire Waterfront Development Strategy	Apr-02	□			■	□	○						

Notes:
Numbered volumes in project reference box.
Lettered volumes in Library

Notes:
■ Significant Influence
□ Moderate Influence
Little or No Influence

Traffic Count Memo

DKS *Associates*

1400 SW 5th Avenue, Suite 500
Portland, OR 97201
Phone: (503) 243-3500
Fax: (503) 243-1934

MEMORANDUM

TO: Laura Barron, City of Coos Bay
Dave Foster, City of North Bend
Ingrid J. Weisenbach, ODOT

FROM: Carl D. Springer, P.E.
Julie Sosnovske, P.E.

DATE: July 1, 2003

SUBJECT: Existing and Future Traffic Volumes P02221

This memorandum summarizes work performed by DKS Associates regarding existing traffic volumes and the development of future traffic volumes for the cities of Coos Bay and North Bend. This memorandum explains the process of developing future traffic volumes for use in determining future transportation needs.

EXISTING TRAFFIC COUNTS

Existing traffic counts were conducted at approximately 74 intersections in Coos Bay and North Bend in August, 2002. A tabulation of the intersections counted and their associated traffic counts is included as an attachment to this memorandum. Due to the Highway Capacity Manual[1] methodology used to calculate intersection level of service, traffic counts were adjusted at each intersection by multiplying the traffic counts for the peak 15 minute period by four to achieve a peak hour traffic volume. This peak hour traffic volume was used to calculate intersection level of service. This calculation and resulting peak hour intersection volume is included in the intersection tabulation attached to this memorandum.

ODOT requires that analysis be conducted on the 30th highest hour traffic volume. Based on data from the nearest ODOT permanent count recorder station (4.77 miles south of Coos Bay on US 101), the 30th highest hour would occur during the evening peak hour in either July or August. Since our counts were conducted during the evening peak period in August, no adjustment was deemed necessary to account for seasonal variation.

FUTURE DEMAND AND LAND USE

The Coos Bay and North Bend Transportation System Plan addresses existing system needs and additional facilities that are required to serve future growth. ODOT's TPAU (Transportation Planning and Analysis Unit) has developed a transportation forecast model which was used to determine future traffic volumes in Coos Bay and North Bend. This forecast model translates assumed land uses into person travel, selects modes, and assigns motor vehicles to the roadway network. These traffic volume projections form the basis for identifying potential roadway deficiencies and for evaluating alternative circulation improvements. This section describes the forecasting process including key assumptions and

[1] Highway Capacity Manual, Transportation Research Board, National Research Council, Washington D.C., 2000.

the land use scenario developed from the existing Comprehensive Plan designations and allowed densities.

Projected Land Uses

Land use is a key factor in developing a functional transportation system. The amount of land that is planned to be developed, the type of land uses, and how the land uses are mixed together have a direct relationship to expected demands on the transportation system. Understanding the amount and type of land use is critical to taking actions to maintain or enhance transportation system operation.

Projected land uses were developed for areas within the urban growth boundary and reflect the Comprehensive Plan and land use assumptions for the year 2020. Complete land use data sets were developed for the following conditions.

- Existing 2000 Conditions (base year model)
- Year 2020 Conditions

Land uses were inventoried throughout Coos Bay and North Bend by ODOT and reviewed by the respective cities. This land use database includes the number of dwelling units, the number of retail employees, and the number of other employees. Table 1 summarizes the land uses for base year 2000 conditions and the future year 2020 scenario within the Coos Bay and North Bend TSP study area. A detailed summary of the uses for each Transportation Analysis Zone (TAZ) within the Coos Bay and North Bend study area is provided in the Appendix.

Table 1
Coos Bay and North Bend Land Use Summary

Land Use	*2000*	*2020*	*Increase*	*20 Year Percent Increase*
Households	13,493	15,359	1,866	+14%
Employment	13,798	17,513	3,715	+27%
Population	32,348	36,409	4,061	+13%

At the existing level of land development, the transportation system generally operates without significant deficiencies in the study area (see Existing Conditions chapter). As land uses are changed in proportion to each other (i.e. there is a significant increase in retail employment relative to household growth), there will be a shift in the overall operation of the transportation system. Retail land uses generate higher amounts of trips per acre of land than households do and other land uses. The location and design of retail land uses in a community can greatly affect transportation system operation. Additionally, if a community is homogeneous in land use character (i.e. all employment or residential), the transportation system must support significant trips coming to or from the community rather than within the community. Typically, a mix of residential, commercial, and employment type land uses in the same community better enable some residents to work and shop locally, reducing the need for residents to travel long distances.

Table 1 indicates that moderate growth is expected in Coos Bay and North Bend in the coming decades. The transportation system in Coos Bay and North Bend should be monitored to make sure that land uses in the plan are balanced with transportation system capacity. This TSP balances needs with the forecasted 2020 land uses.

For transportation forecasting, the land use data is stratified into geographical areas called transportation analysis zones (TAZs), which represent the sources of vehicle trip generation. There are 98 TAZs within the Coos Bay and North Bend TSP study area. The model zone boundaries are shown in Figure 1.

Transportation Model

A determination of future traffic system needs in Coos Bay and North Bend requires the ability to accurately forecast travel demand resulting from estimates of future population and employment for the City. The objective of the transportation planning process is to provide the information necessary for making decisions on when and where improvements should be made to the transportation system to meet travel demand as developed in an urban area travel demand model as part of the TSP process. ODOT uses EMME/2, a computer based program for transportation planning, to process the large amounts of data for local areas in Oregon.

Traffic forecasting can be divided into several distinct but integrated components that represent the logical sequence of travel behavior (Figure 2). These components and their general order in the traffic forecasting process are as follows:

- Trip Generation
- Trip Distribution
- Mode Choice
- Traffic Assignment

The initial roadway network used in the traffic model was the existing streets and roadways. Future 2020 land use scenarios were tested and roadway improvements were added to mitigate the impacts of motor vehicle traffic growth, using funded and planned improvements as a starting basis. In the case of Coos Bay and North Bend, the only funded or planned improvement is the widening of Newmark Avenue to three lanes between LaClair and Wallace. Forecasts of PM peak period traffic flows were produced for every major roadway segment within Coos Bay and North Bend. Traffic volumes were projected on all arterials and most collector streets. Some local streets were included in the model, but many are represented by centroid connectors in the model process. Centroid connectors represent groups of land use which load onto the street network in relatively the same location.

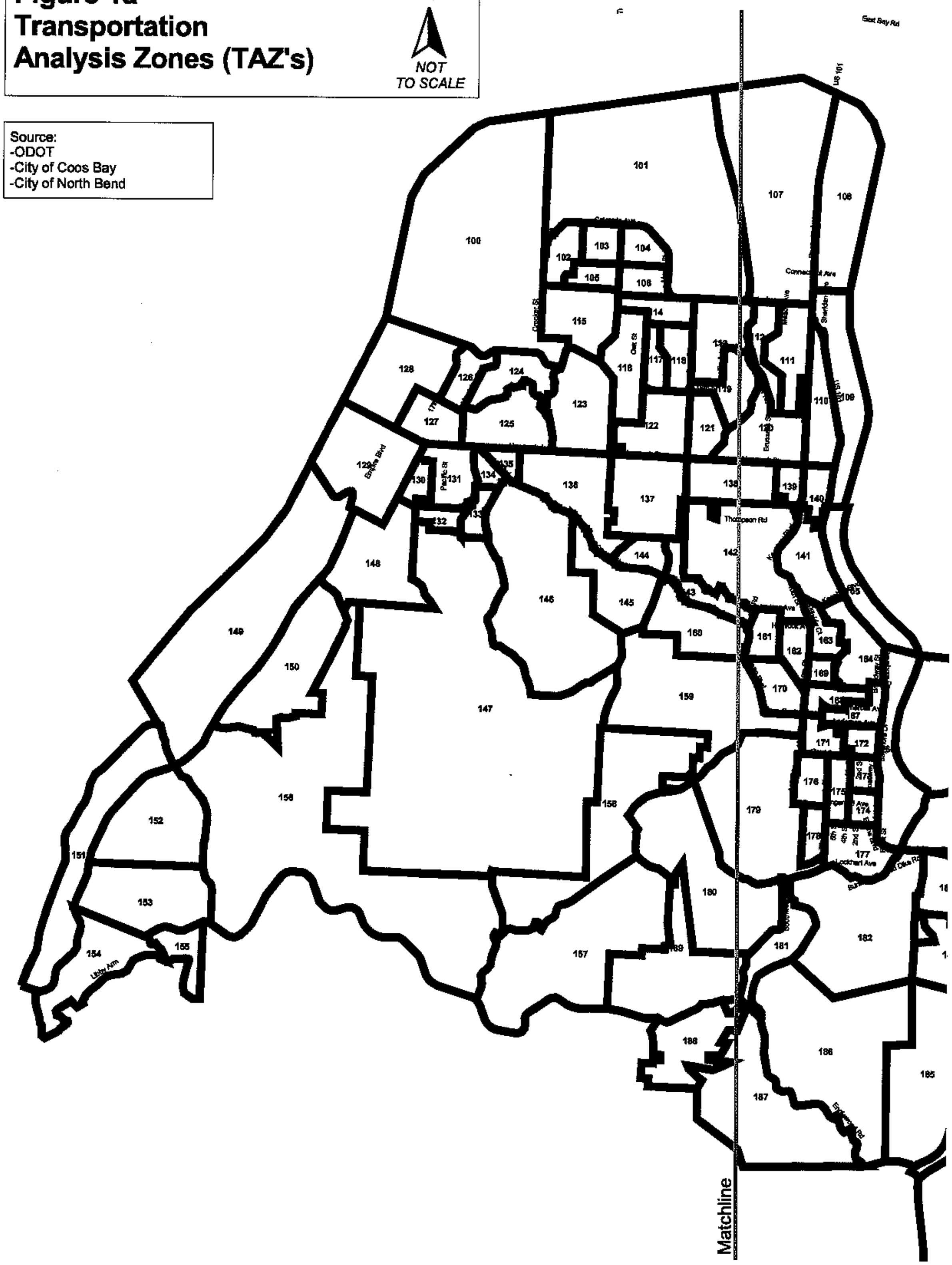
DKS *Associates*

Cities of Coos Bay/North Bend
Transportation System Plan

Figure 1a
Transportation
Analysis Zones (TAZ's)

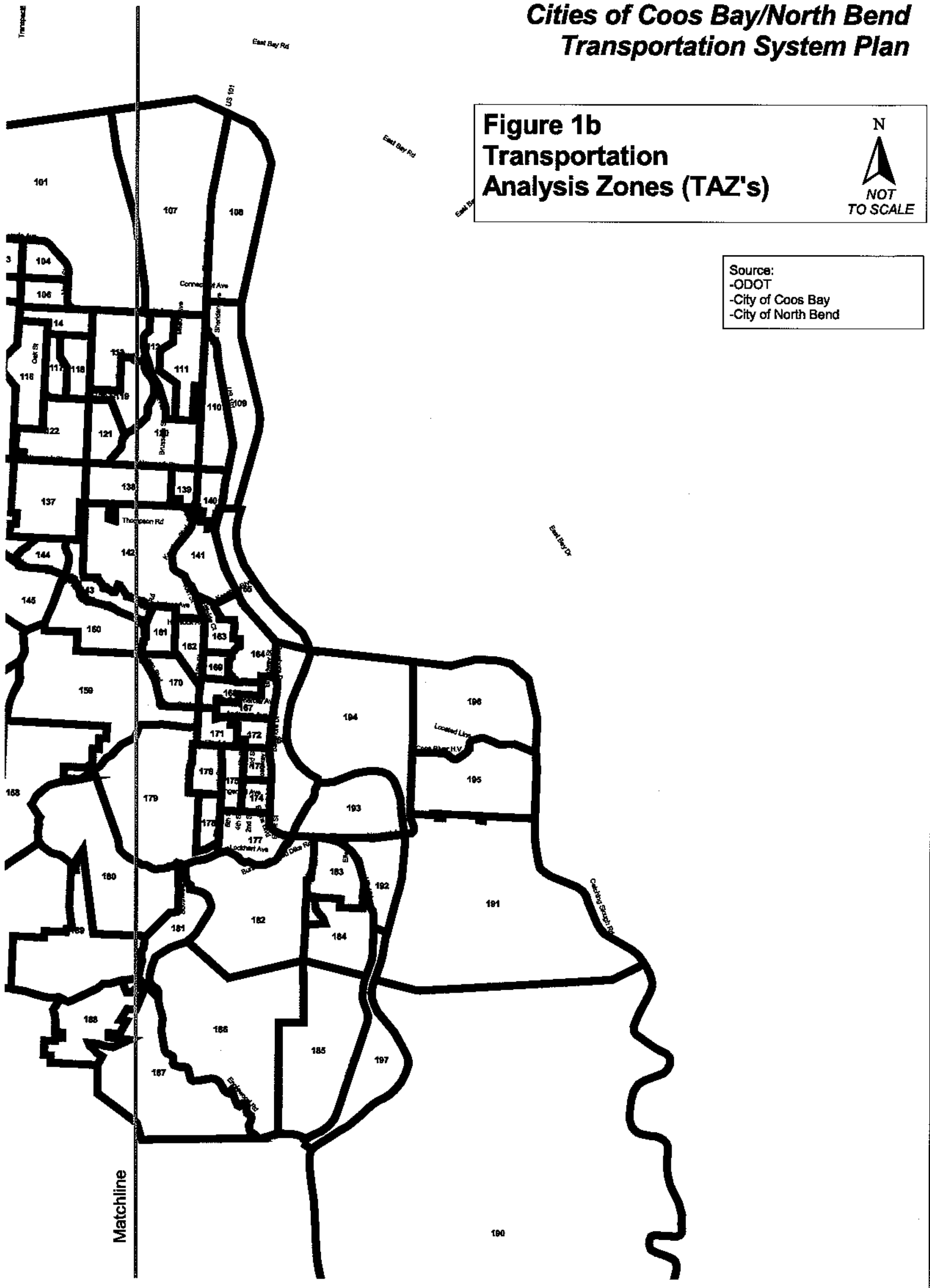
N
NOT TO SCALE

Source:
-ODOT
-City of Coos Bay
-City of North Bend



DKS *Associates*

Cities of Coos Bay/North Bend Transportation System Plan



DKS Associates

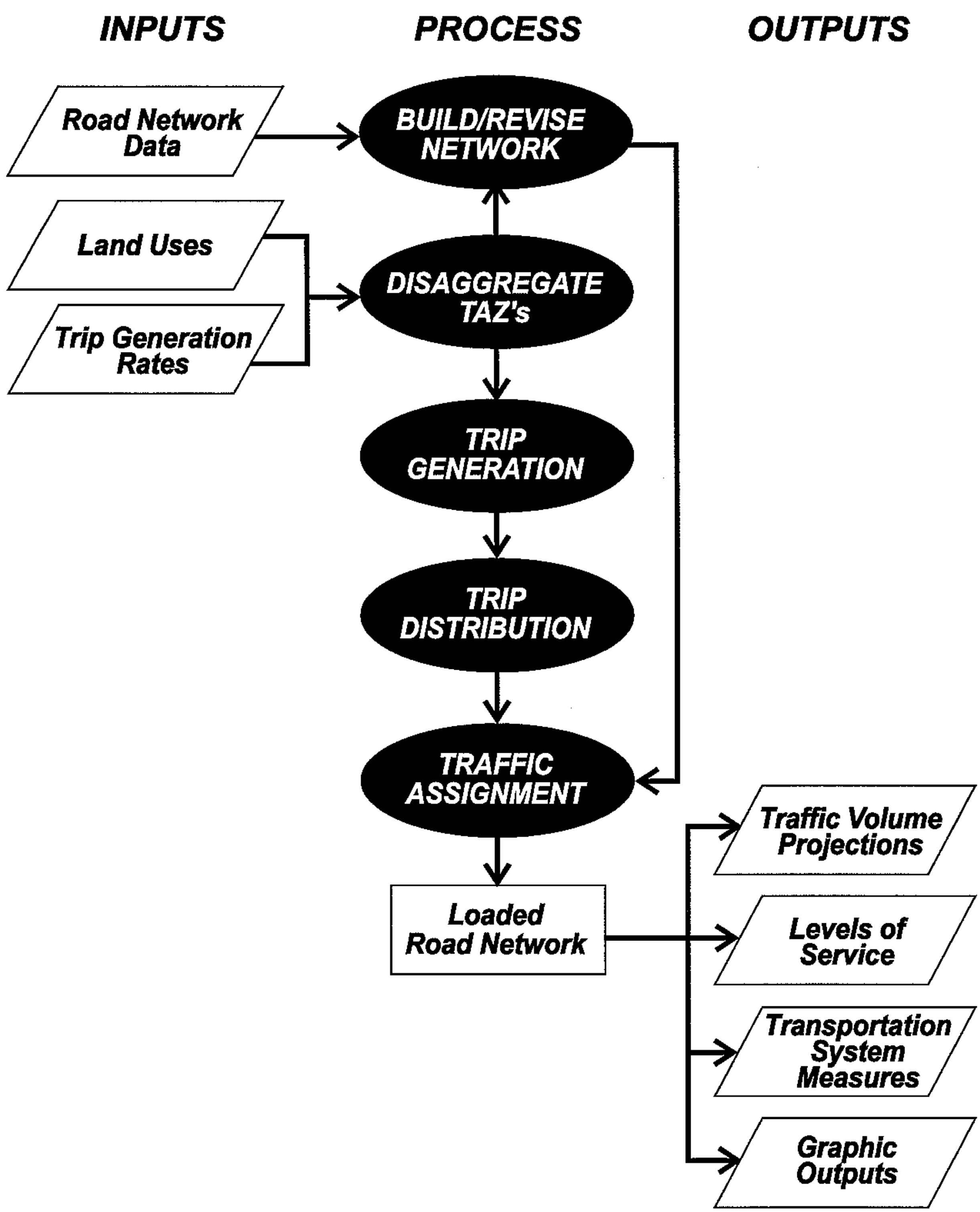


Figure 2
TRAFFIC FORECASTING MODEL PROCESS

Trip Generation

The trip generation process translates land use quantities (number of dwelling units, retail, and other employment) into vehicle trip ends (number of vehicles entering or leaving a TAZ) using trip generation rates established during the model verification process. The trip generation process is elaborate, entailing detailed trip characteristics for various types of housing, retail employment, non-retail employment, and special activities. Typically, most traffic impact studies rely on the Institute of Transportation Engineers (ITE) research for analysis[2]. The model process is tailored to variations in travel characteristics and activities in the region.

Table 2 illustrates the estimated growth in vehicle trips generated within the Coos Bay and North Bend area (the area shown in Figure 1) during the PM peak period (1-hr peak) between 2000 and 2020. It indicates that vehicle trips in Coos Bay and North Bend would grow by approximately 17 percent between 2000 and 2020 if the land develops according to the City's 2020 land use assumptions. Assuming a 20-year horizon to the 2020 scenario, this represents annualized growth rate of about 0.8 percent per year. Through traffic (traffic with neither an origin or destination in Coos Bay or North Bend is anticipated to grow by about 14 percent during the same time period.

Table 2
Existing and Future Projected Vehicle Trip Generation
PM Peak Hour Period Vehicle Trips

	2000 Trips	*2020 Trips*	*Percent Increase*
Coos Bay and North Bend TSP study area	9,980	11,682	+17

Trip Distribution

This step estimates how many trips travel from one zone in the model to any other zone. Distribution is based on the number of trip ends generated in each zone pair, and on factors that relate the likelihood of travel between any two zones to the travel time between zones. In projecting long-range future traffic volumes, it is important to consider potential changes in regional travel patterns. Although the locations and amounts of traffic generation in Coos Bay and North Bend are essentially a function of future land use in the city, the distribution of trips is influenced by regional growth, particularly in neighboring areas such as Bandon and Reedsport as well as unincorporated areas to the north, south, and east of Coos Bay and North Bend. External trips (trips that have either an origin and not a destination in Coos Bay and North Bend or have a destination but not an origin in Coos Bay and North Bend) and through trips (trips that pass through Coos Bay and North Bend and have neither an origin nor a destination there) were projected using trip distribution patterns based upon census data and traffic counts performed at gateways into the Coos Bay/North Bend area.

Mode Choice

This is the step where it is determined how many trips will be by various modes (single-occupant vehicle, transit, carpool, pedestrian, bicycle, etc.). The 2000 mode splits are incorporated into the base model and adjustments to that mode split may be made for the future scenario, depending on any expected changes in transit or carpool use. These considerations are built into the forecasts used for 2020.

---

[2] *Trip Generation Manual*, 6th Edition, Institute of Transportation Engineers, 1997.

Traffic Assignment

In this process, trips from one zone to another are assigned to specific travel routes in the network, and resulting trip volumes are accumulated on links of the network until all trips are assigned.

Network travel times are updated to reflect the congestion effects of the traffic assigned through an equilibrium process. Congested travel times are estimated using what are called "volume-delay functions" in EMME/2. There are different forms of volume/delay functions, all of which attempt to simulate the impact of congestion on travel times (greater delay) as traffic volume increases. The volume-delay functions take into account the specific characteristics of each roadway link, such as capacity, speed and facility type. This allows the model to reflect conditions somewhat similar to driver behavior.

Model Verification

The base 2000 modeled traffic volumes were compared against actual traffic volume counts across screenlines, on key arterials, and at key intersections. Most arterial traffic volumes meet screenline tolerances for forecast adequacy. Based on this performance, the model was used for future forecasting and assessment of circulation change.

Model Application to Coos Bay and North Bend

Intersection turn movements were extracted from the model at key intersections for both the base year 2000 and forecast year 2020 scenarios. These intersection turn movements were not used directly, but a portion of the increment of the year 2020 turn movements over the 2000 turn movements was applied (added) to existing (actual 2002) turn movement counts in Coos Bay and North Bend. The portion added reflected 18/20ths (0.90) of the increment since the base year counts were from 2002 and the model base year is 2000 as well as a 20 percent (1.2) adjustment to account for seasonal variation between the model (March/April time frame[3]) and August when our counts were conducted. A post processing technique is utilized to refine model travel forecasts to the volume forecasts utilized for 2020 intersection analysis. The turn movement volumes used for future year intersection analysis can be found in the technical appendix for the TSP. Future 2020 intersection volumes can be found in the appendix of this memorandum.

[3] Because of the standards used in ODOT's TPAU, the Coos Bay/North Bend travel demand forecast model was developed specifically to reflect and evening peak hour in March or April

TAZ	HHBASE	POPBASE	HHFUTR	POPFUTR	EMPBASE	EMPFUTR
100	303	802	437	1157	15	15
101	99	223	100	225	287	436
102	0	0	46	0	0	0
103	191	476	191	476	5	5
104	84	211	124	311	363	521
105	144	394	174	476	12	12
106	127	305	133	319	12	55
107	333	704	421	890	468	581
108	145	354	145	354	207	208
109	0	0	0	0	317	321
110	219	545	274	682	554	554
111	216	455	264	556	178	179
112	441	1139	476	1229	54	60
113	208	465	211	472	686	794
114	110	323	120	352	57	57
115	75	204	149	405	9	9
116	214	571	249	664	22	22
117	19	53	21	59	29	29
118	88	219	91	226	65	97
119	51	119	61	142	161	162
120	248	589	259	615	7	11
121	35	105	56	168	127	139
122	322	798	426	1056	90	90
123	69	161	69	161	458	558
124	71	213	110	330	0	0
125	125	391	125	391	100	264
126	100	255	100	255	2	2
127	184	495	184	495	144	226
128	75	186	85	211	7	69
129	321	805	321	805	79	150
130	9	22	9	22	111	130
131	294	770	294	770	107	175
132	131	373	131	373	0	0
133	89	216	89	216	36	36
134	18	46	18	46	33	60
135	72	96	72	96	160	175
136	374	741	374	741	429	727
137	298	593	428	852	292	374
138	276	684	282	699	193	251
139	52	137	70	184	19	17
140	154	334	160	347	283	283
141	114	239	114	239	96	300
142	367	939	367	939	1623	1871
143	162	378	164	383	33	33
144	65	210	90	291	14	25
145	93	147	93	147	193	490
146	205	334	382	622	85	150
147	80	178	180	401	2	25
148	218	582	300	801	12	80
149	36	74	39	80	17	17
150	371	891	391	939	3	3

TAZ	HHBASE	POPBASE	HHFUTR	POPFUTR	EMPBASE	EMPFUTR
151	67	136	72	146	32	32
152	224	563	239	601	13	13
153	297	772	312	811	146	146
154	172	398	177	410	56	56
155	20	49	20	49	0	0
156	73	204	85	238	41	44
157	16	47	16	47	0	0
158	1	2	1	2	0	0
159	111	250	141	318	29	29
160	113	297	129	339	30	50
161	74	163	74	163	1	1
162	37	98	37	98	40	50
163	109	271	109	271	19	30
164	145	293	145	293	328	400
165	0	0	15	0	0	100
166	8	18	30	68	825	950
167	155	233	155	233	900	1000
168	97	211	97	211	189	249
169	56	126	56	126	0	0
170	131	328	131	328	1	1
171	251	471	251	471	245	300
172	15	34	15	34	512	612
173	18	38	18	38	235	300
174	38	67	38	67	249	349
175	172	396	172	396	146	175
176	81	203	81	203	121	150
177	87	161	87	161	374	474
178	127	305	127	305	22	22
179	188	457	235	571	61	61
180	305	810	340	903	36	50
181	45	101	45	101	11	11
182	171	445	191	497	54	54
183	174	425	174	425	58	62
184	89	206	109	0	0	0
185	102	223	117	256	130	135
186	122	303	147	365	2	2
187	35	85	55	134	2	2
188	123	281	138	315	7	7
189	145	365	160	403	13	13
190	297	744	347	869	44	44
191	130	335	180	464	32	32
192	46	100	46	100	15	9
193	101	246	101	246	281	281
194	158	430	196	533	116	203
195	388	904	395	920	40	70
196	54	139	54	139	86	96
197	30	71	30	71	0	0
Totals	13493	32348	15359	36409	13798	17513

Emme/2 Plots

AUTO VOLUMES

emme/2

LINKS:
all

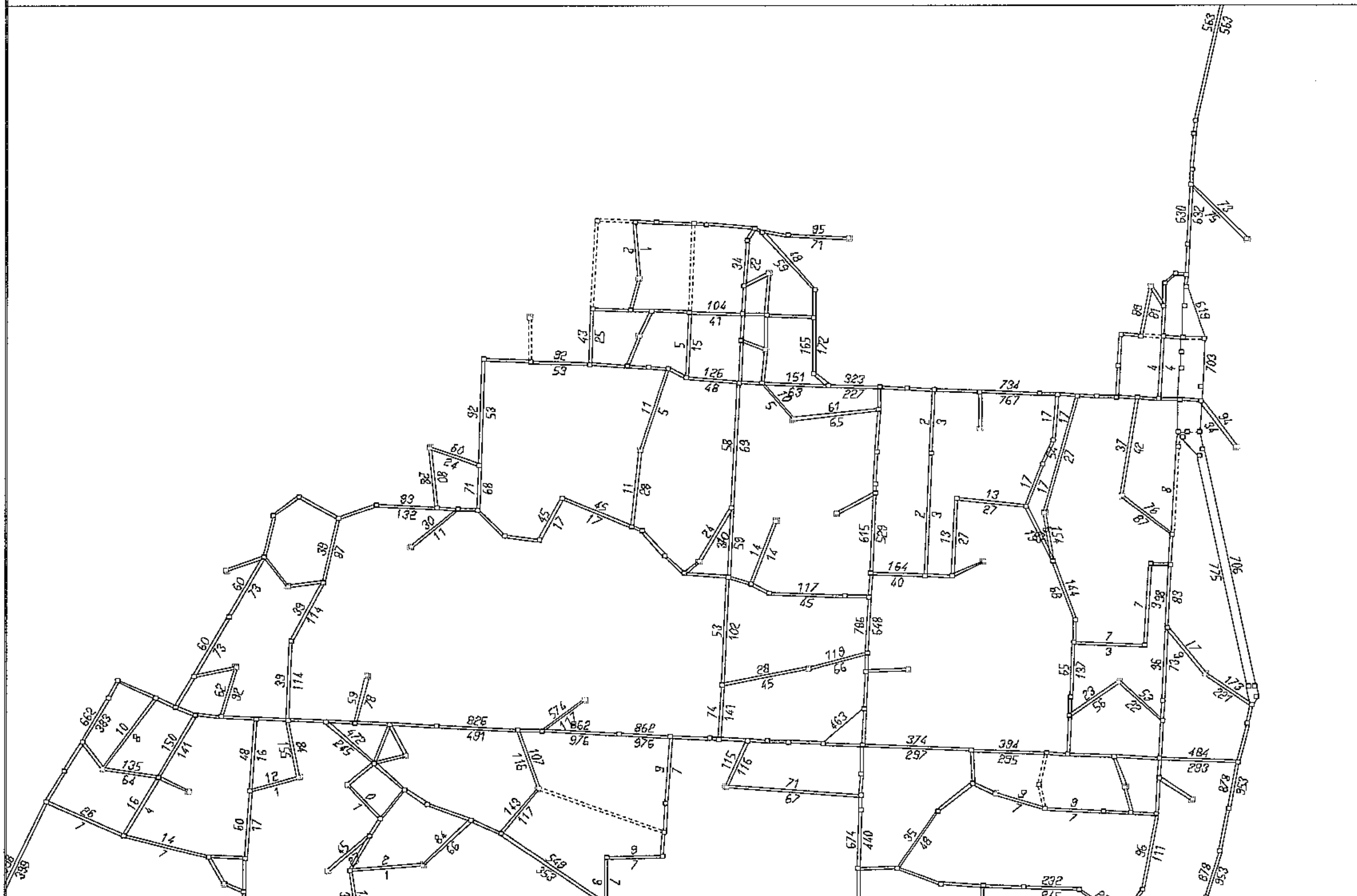
THRESHOLD:
LOWER: .01
UPPER: -.01

WINDOW:
59.992/114.698
62.832/116.828

EMME/2 PROJECT: Coos Bay (2000)
SCENARIO 28 : Copy of 27 w/new nodes

03-10-23 15:37
MODULE: 6.12
DKS2000....jxs

AUTO VOLUMES



LINKS:
all
THRESHOLD:
LOWER: .01
UPPER: -.01

WINDOW:
58.198/117.155
61.676/119.763

EMME/2 PROJECT: Coos Bay (2000)
SCENARIO 28 : Copy of 27 w/new nodes

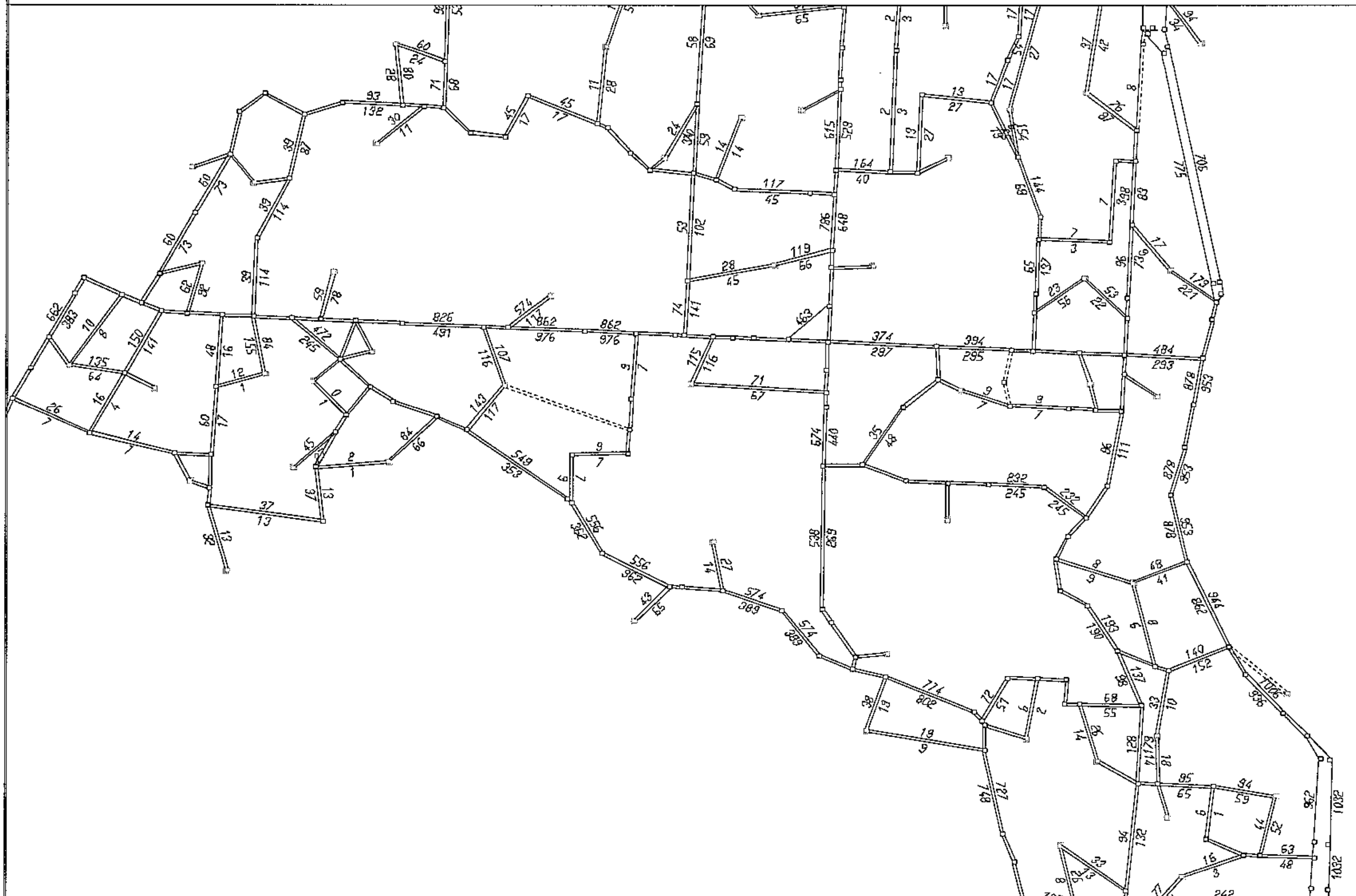
03-10-23 15:42
MODULE: 6.12
DKS2000....jxs

AUTO VOLUMES

emme/2

LINKS:
all

THRESHOLD:
LOWER: .01
UPPER: -.01



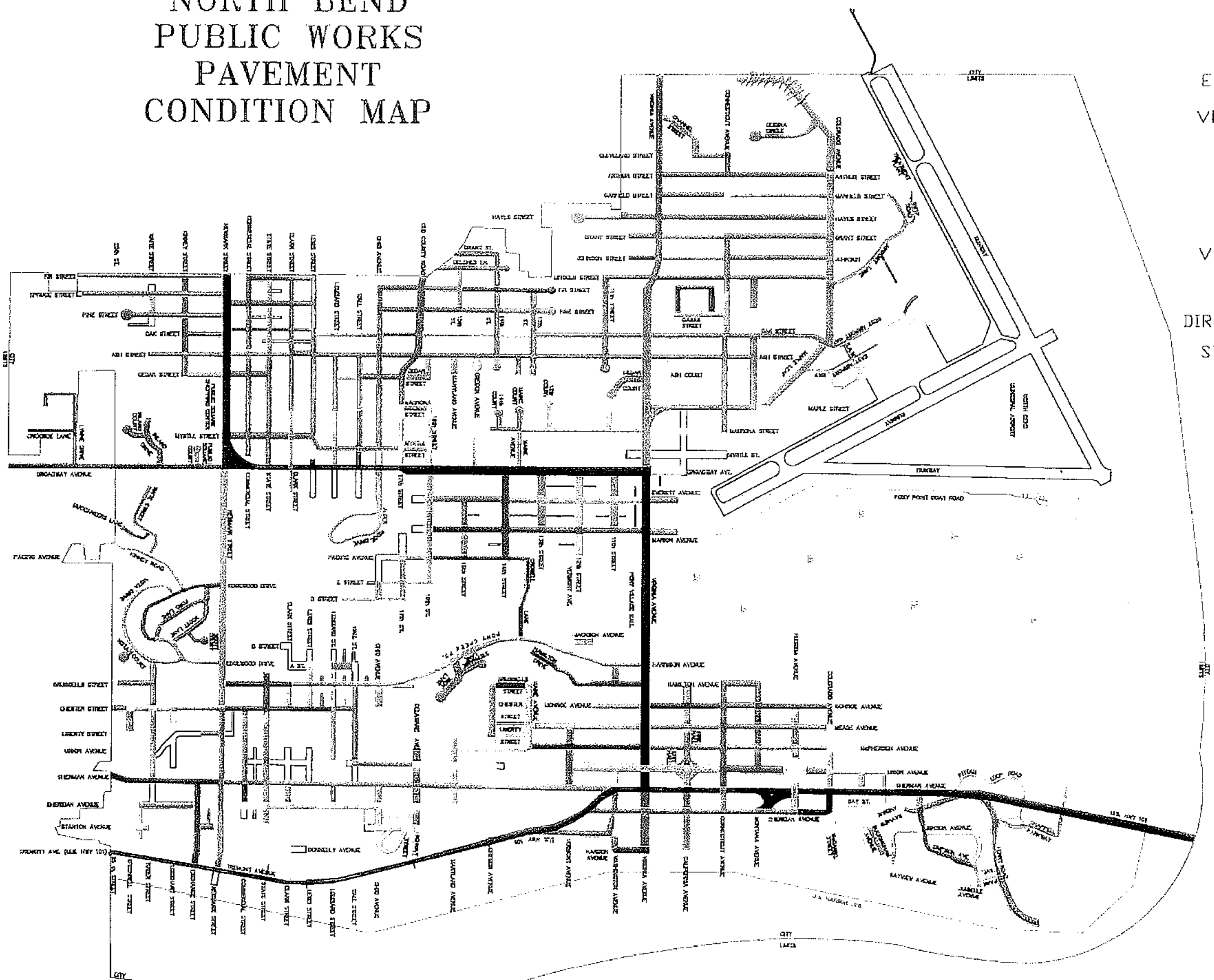
WINDOW:
58.287/115.986
61.765/118.594

EMME/2 PROJECT: Coos Bay (2000)
SCENARIO 28 : Copy of 27 w/new nodes

03-10-23 15:43
MODULE: 6.12
DKS2000....jxs

North Bend Pavement Condition Map

NORTH BEND PUBLIC WORKS PAVEMENT CONDITION MAP



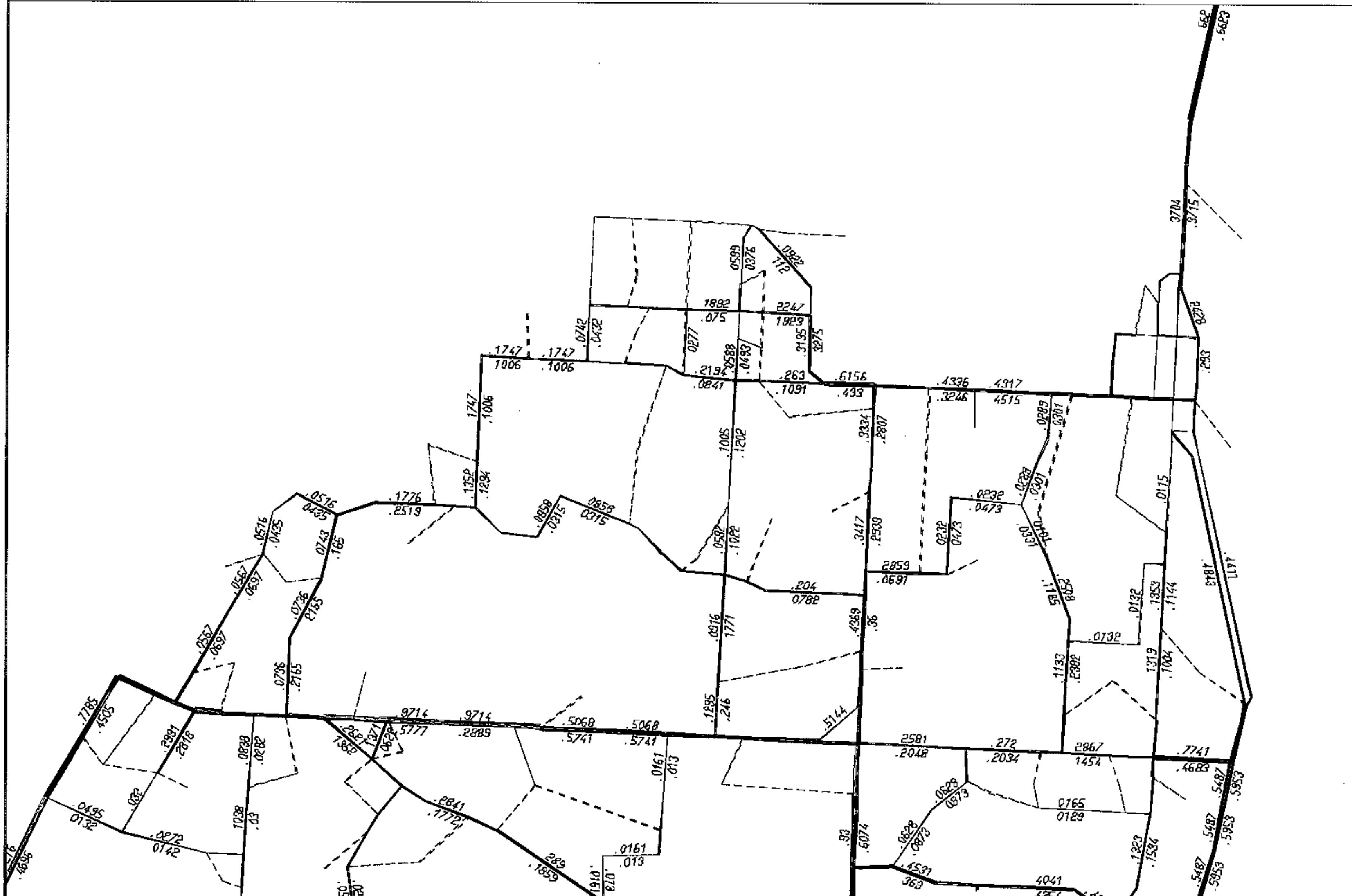
LEGEND

EXCELLENT	100-86
VERY GOOD	85-71
GOOD	70-56
FAIR	55-41
POOR	40-26
VERY POOR	25-11
FAILED	10-0
DIRT/GRAVEL	
STATE HWY	
PRIVATE	

9-2002

BASE NETWORK

ATTRIBUTE @VC: VOLCAP



emme/2

LINKS:
all
COL-IND:@plt
THRESHOLD:
LOWER: .01
UPPER: -.01

VOLUME/CAPACITY
RATIO
< 0.8
0.8-0.9
0.9-1.0
> 1.0
XXX=VOLUME(VPH)
SCALE: .5
2
4
6
8
10

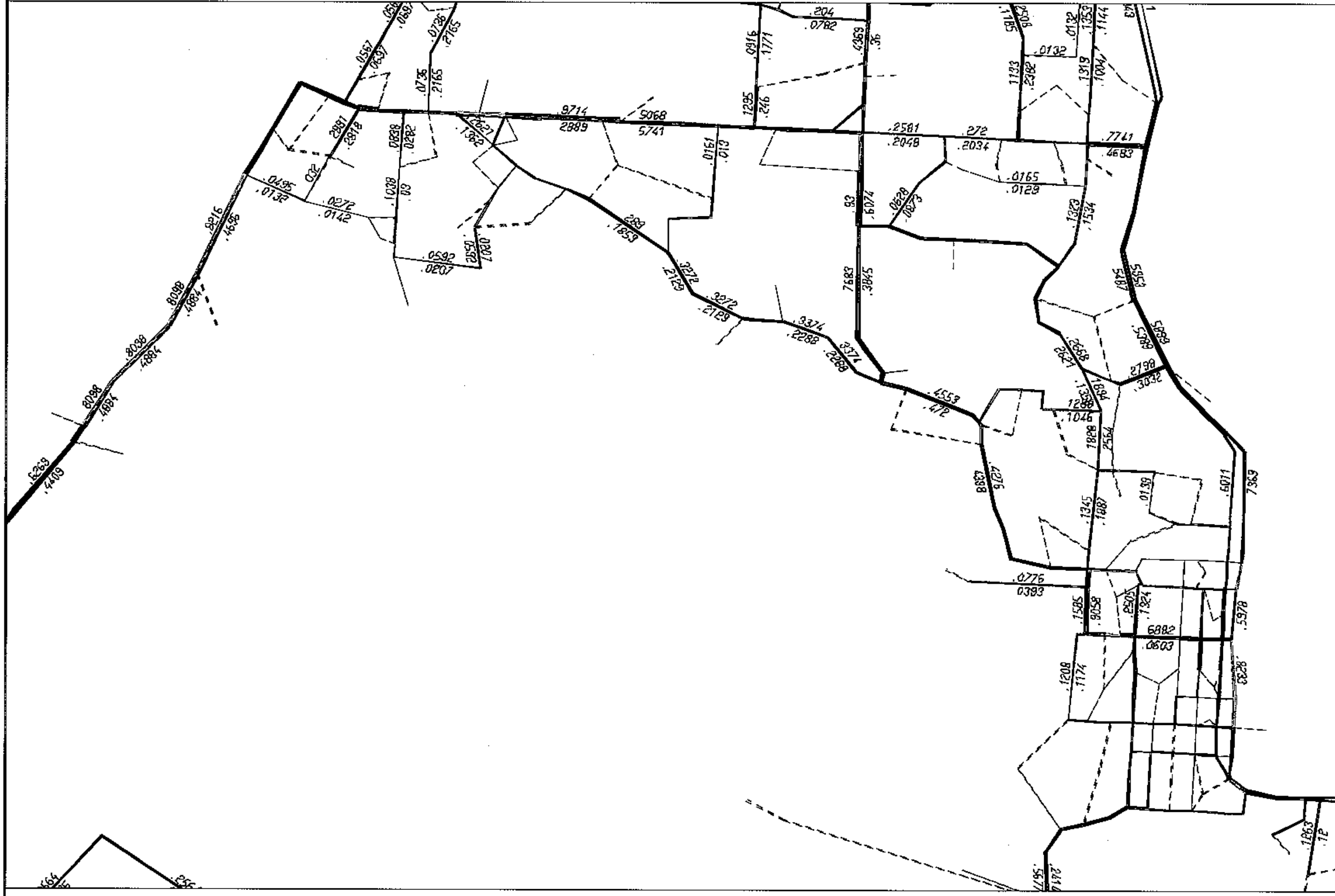
WINDOW:
58.198/117.155
61.676/119.763

EMME/2 PROJECT: Coos Bay (2000)
SCENARIO 28: Copy of 27 w/new nodes
ATTRIBUTE @vc: volcap

03-10-23 15:42
MODULE: 2.13
DKS2000....jxs

BASE NETWORK

ATTRIBUTE @VC: VOLCAP



emme/2

LINKS:
all
COL-IND:@plt
THRESHOLD:
LOWER: .01
UPPER: -.01

VOLUME/CAPACITY
RATIO

< 0.8
0.8-0.9
0.9-1.0
> 1.0
XXX=VOLUME(VPH)
SCALE: .5

2
4
6
8
10

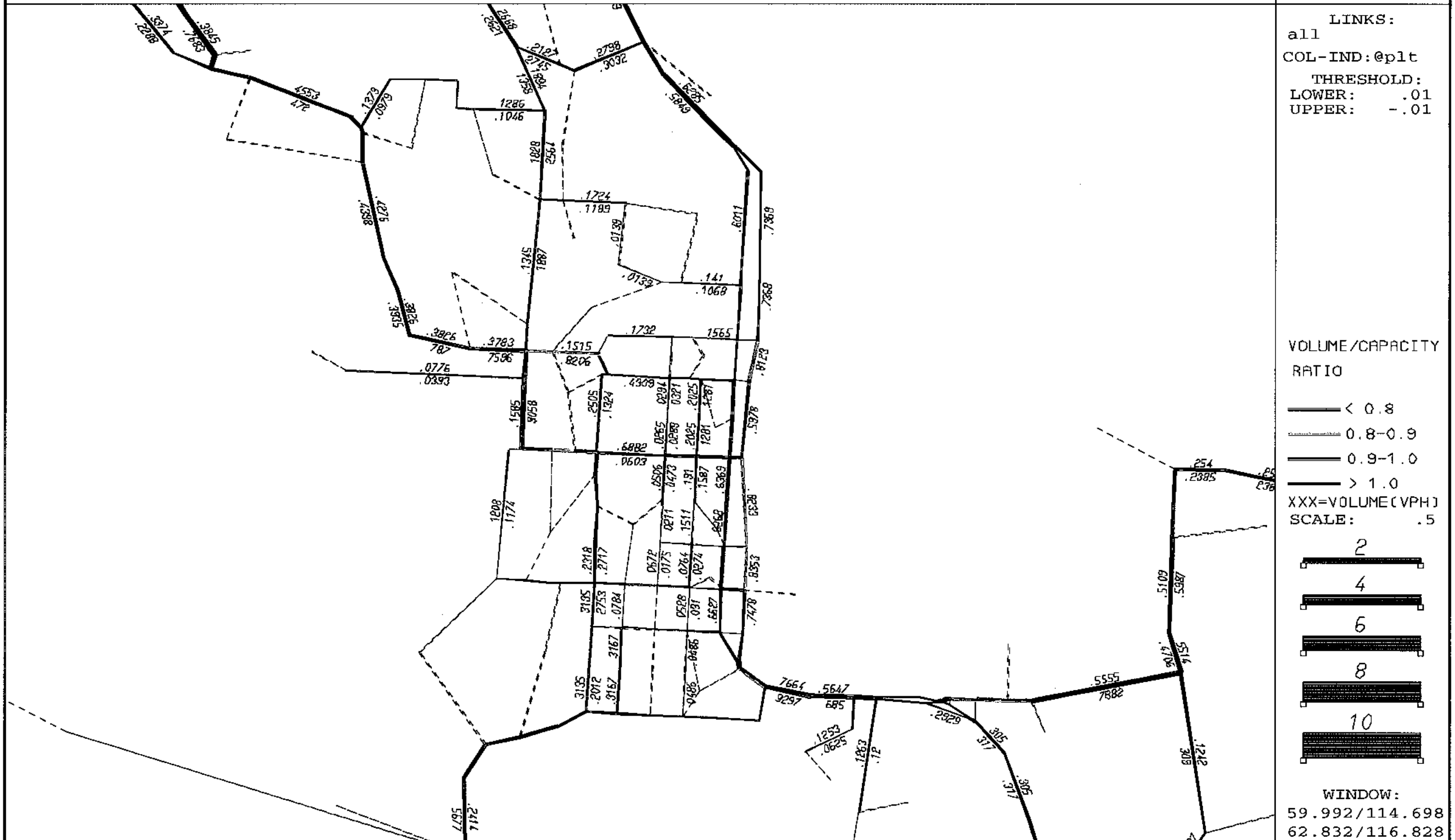
WINDOW:
57.496/ 114.72
62.019/118.112

EMME/2 PROJECT: Coos Bay (2000)
SCENARIO 28: Copy of 27 w/new nodes
ATTRIBUTE @vc: volcap

03-10-23 15:41
MODULE: 2.13
DKS2000....jxs

BASE NETWORK

ATTRIBUTE @VC: VOLCAP



emme/2

LINKS:
all
COL-IND:@plt
THRESHOLD:
LOWER: .01
UPPER: -.01

WINDOW:
59.992/114.698
62.832/116.828

EMME/2 PROJECT: Coos Bay (2000)
SCENARIO 28: Copy of 27 w/new nodes
ATTRIBUTE @vc: volcap

03-10-23 15:40
MODULE: 2.13
DKS2000....jxs

Glossary

GLOSSARY

Definitions of Technical Terms and Acronyms

Access Management: Refers to measures regulating access to streets, roads and highways from public roads and private driveways. Measures may include but are not limited to restrictions on the type and amount of access to roadways, and use of physical controls such as signals and channelization including raised medians, to reduce impacts of approach road traffic on the main facility.

Accessway: Refers to a walkway that provides pedestrian and or bicycle passage either between streets or from a street to a building or other destination such as a school, park, or transit stop.

Average Daily Traffic (ADT): This is the measurement of the average number of vehicles passing a certain point each day on a highway, road or street.

Alignment: Location and geometric arrangement/layout of a roadway (curvature etc.)

Alternative Modes: Transportation alternatives other than single-occupant automobiles such as rail, transit, bicycles and walking.

Arterial (Street): A street designated in the functional class system as providing the highest amount of connectivity and mostly uninterrupted traffic flow through an urban area.

Bicycle Facility: Any facility provided for the benefit of bicycle travel, including bikeways and parking facilities.

Bicycle Network: A system of connected bikeways that provide access to and from local and regional destinations.

Bike Lane: A portion of the roadway that has been designated by striping and pavement markings for the preferential or exclusive usr of bicyclists.

Capacity: The maximum number of vehicles or individuals that can traverse a given segment of a transportation facility with prevailing roadway and traffic conditions.

Central Business District (CBD): This is the traditional downtown area, and is usually characterized by slow traffic speeds, on street parking and a compact grid system.

Collector (Street): A street designated in the functional class system that provides connectivity between local and neighborhood streets with the arterial streets serving the urban area. Usually shorter in distance than arterails, designed with lower traffic speeds and has more traffic control devises than higher classified roadways.

Congestion Mitigation/Air Quality (CMAQ): A program within the federal ISTEA and TEA-21 regulations that address congestion and transportation-related air pollution.

Coos County Area Transit (CCAT): The public transit provider for the Coos Country area.

Crosswalk: Portion of a roadway designated for pedestrian crossing and can be either marked or unmarked. Unmarked crosswalks are the national extension of the shoulder, curb line or sidewalk.

Demand Management: Refers to actions which are designed to change travel behavior in order to improve performance of transportation facilities and to reduce need for additional road capacity. Methods may include subsidizing transit for the journey to work trip, charging for parking, starting a van or car pool system, or instituting flexible work hours.

Grade Separation: The vertical separation of conflicting travelways.

Grade: A measure of the steepness of a roadway, bikeway or walkway, usually expressed in a percentage form of the ratio between vertical rise to horizontal distance. (eg. a 5% grade means that the facility rises 5 feet in height over a 100 feet in length.)

Impervious Surfaces: Hard surfaces that do not allow water to soak into the ground, increasing the amount of stormwater running into the drainage system.

Intermodal Connectors: Short lengths of roads that connect intermodal facilities to the state highway system.

Intermodal Facilities: Facilities that allow transfers of a number of different modes for passenger and/or freight. Examples include airports, bus stations, ports and rail stations.

Level of Service (LOS): A qualitative measure describing the perception of operation conditions within a traffic steam by motorists and or passengers. An LOS rating of "A" to "F" describes the traffic flow on streets and at intersections, ranging from LOS A, representing virtually free flow conditions and no impedance to LOS F representing forced flow conditions and congestion.

Local (Street): A street designated in the functional class system that's primary purpose is to provide access to land use as opposed to enhancing mobility. These streets typically have low volumes and are very short in relation to collectors and arterials.

Local Street Standards: Include but are not limited to standards for right-of-way, pavement width, travel lanes, parking lanes, curb turning radius, and accessways.

Metropolitan Planning Organization (MPO): An organization in each federally recognized urbanized area (population over 50,000) designated by the Governor which has the responsibility for planning, programming and coordinating the distribution of federal transportation resources.

Multi-Modal: Involving several modes of transportation including bus, rail, bicycle, motor vehicle etc.

Multi-Use Path: A path separated from motor vehicle traffic by open space or barrier used by bicyclists, pedestrians, joggers, skaters and other non-motorized travelers.

National Highway System (NHS): The National Highway System is interconnected urban and rural principal arterial and highways that serve major population centers, ports, airports and other major travel destinations, meet national defense requirements and serve interstate and interregional travel.

ODOT : Oregon Department of Transportation.

Peak Period or Peak Hour: The period of the day with the highest number of travelers. This is normally between 4-6 PM on weekdays.

Pedestrian: A person on foot, in a wheelchair or walking a bicycle.

Pedestrian Connection: A continuous, unobstructed, reasonability direct route between two points that is intended and suitable for pedestrian use. These connections could include sidewalks, walkways, accessways, stairways and pedestrian bridges.

Pedestrian District: A comprehensive plan designation or implementing land use regulation, such as an overlay zone, that establishes requirements to provide a safe and convenient pedestrian environment an area planned for a mix of uses likely to support a relatively high level of pedestrian activity.

Pedestrian Facility: A facility provided for the benefit of pedestrian travel, including walkways, crosswalks, signs, signals and benches.

Pedestrian Scale: Site and building design elements that are oriented to the pedestrian and are dimensionally less than those sites designed to accommodate automobile traffic.

Realignment: Rebuilding of existing roadway where the geometry changes, but the connection between original roadway and the intersecting road is maintained.

Right-Of-Way (ROW): Publicly-owned land or property upon which public facilities and infrastructure is placed.

Regional Transportation Plan (RTP): Federally mandated transportation planning document completed by MPO's identifying current conditions, deficiencies, and alternatives for a 20 year time horizon.

Shared Roadway: A type of bikeway where bicyclists and motor vehicles share a travel lane.

Sight Distance: The distance a person can see along an unobstructed line of site.

Single Occupancy Vehicle (SOV): A non-commercial vehicle with only one occupant.

Special Transportation Area (STA): Designation that may be applied to a highway segment when a downtown, business district or community center straddles the state highway within an urban growth boundary or an unincorporated community. Emphasis is placed on local auto, pedestrian, bicycle and transit movements as opposed to trough traffic. Through traffic is de-emphasized by on street parking, landscaping and pedestrian facilities.

Traffic Control Devices: Signs, signals or other fixtures placed on or adjacent to a travelway that regulates, warns or guides traffic. Can be either permanent or temporary.

Transit-Oriented Development (TOD): A mix of residential, retail and office uses and a supporting network of roads, bicycle and pedestrian ways focused around a major transit stop designed to support a high level of transit use.

Transportation Analysis Zone (TAZ): A geographic sub-area used to assess travel demands using a travel demand forecasting model. Often defined by the transportation network and US Census blocks.

Transportation Disadvantaged: Individuals who have difficulty obtaining transportation because of their age, income, physical or mental disability.

Transportation Planning Rule (TPR): Directs cities, counties and MPO's to prepare TSP's consistent with the state TSP, providing for an integrated, multi-modal plan that address local, regional and statewide transportation, mobility and livability goals.

Transportation System Plan (TSP): A comprehensive plan that is developed to provide a coordinated, seamless integration of continuity between modes at the local level as well as integration with the regional transportation system.

Urban Area: The area immediately surrounding an incorporated city or rural community that is urban in character, regardless of size.

Urban Growth Boundary (UGB): The area surrounding an incorporated city in which the city may legally expand its city limits.

Vehicle Miles of Travel (VMT): Automobile vehicle miles of travel excluding buses, heavy trucks and trips that involve commercial movement of goods. VMT is estimated through the transportation demand model of the local MPO and only includes trips with both an origin and destination within the MPO boundary.

Volume to Capacity Ratio (V/C ratio): A measure of roadway congestion, calculated by dividing the number of vehicles passing through a section of highway during the peak hour by the capacity of the section.