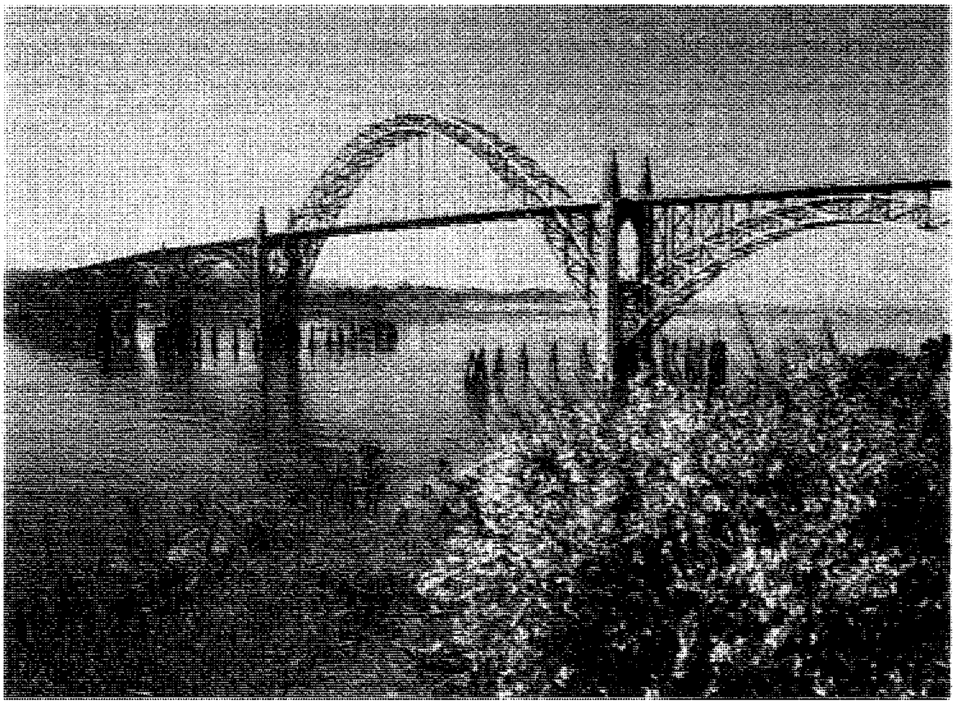
City of Newport
Transportation System Plan Documents

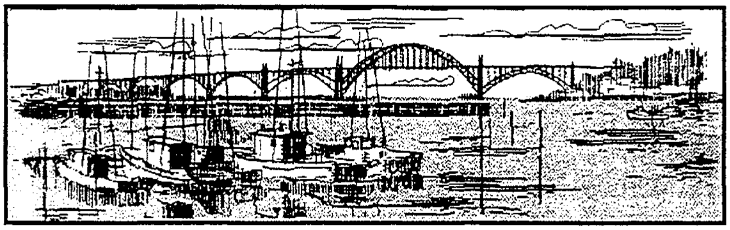
June 1997



Prepared for
the City of Newport
and the Oregon Department of Transportation

Prepared by
Parsons Brinckerhoff Quade & Douglas, Inc.

In association with
Jeanne Lawson Associates
Paula Calvin & Associates

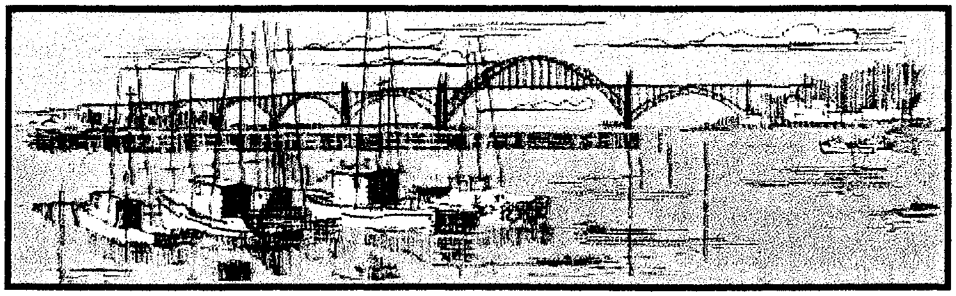


City of Newport

MASTER TABLE OF CONTENTS

CITY OF NEWPORT

TRANSPORTATION SYSTEM PLAN



Prepared by:

Parsons Brinckerhoff Quade & Douglas, Inc.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

NEWPORT TRANSPORTATION SYSTEM PLAN

This document describes the individual elements that make up the Transportation System Plan (TSP) for the City of Newport. The TSP presents recommended project improvements and policies towards establishing a coordinated multi-modal transportation network for the City of Newport.

This TSP section comprises five major components:

- Transportation System Plans for each Mode
    - ⇒ Street Plan
    - ⇒ Pedestrian Plan
    - ⇒ Bicycle Plan
    - ⇒ Transit Plan
    - ⇒ Air/Rail/Water/Pipeline Plans

- Project Implementation Plan
- Funding Analysis
- Implementing Ordinance Recommendations
- TPR Compliance

An Access Management Plan is provided as a separate document. The background inventory, evaluation and public involvement process that support the information documented in this TSP is also provided as a separate document.

Transportation System Plans for Each Mode

The Transportation System Plan places a strong emphasis on the preservation and improved operation of the Highway 20 and Highway 101 corridors. The City of Newport views Highway 101 and Highway 20 as the most important arterials in their multi- modal transportation network and likewise recognize the importance of these facilities as statewide facilities per the Oregon Highway Plan. In implementation of the City's Comprehensive Plan and the associated Transportation System Plan, the City will strive to maintain the function of these facilities to meet their statewide as well as regional needs.

The Transportation System Plan comprises all the improvements in the Middle Alternative, as developed during this TSP process[1]. The Middle alternative has been identified as the "Preferred Alternative," which includes transportation improvements that support the identified goals and objectives and the adopted Comprehensive Plan. The preferred alternative recommends $77 million in capital improvements over the next 20 years ($31 million in surface transportation improvements). The following describes the recommended projects and policies for each mode contained in the preferred alternative.

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[1] See Section 6 of the background document for detail on the system alternatives.

Street System Plan

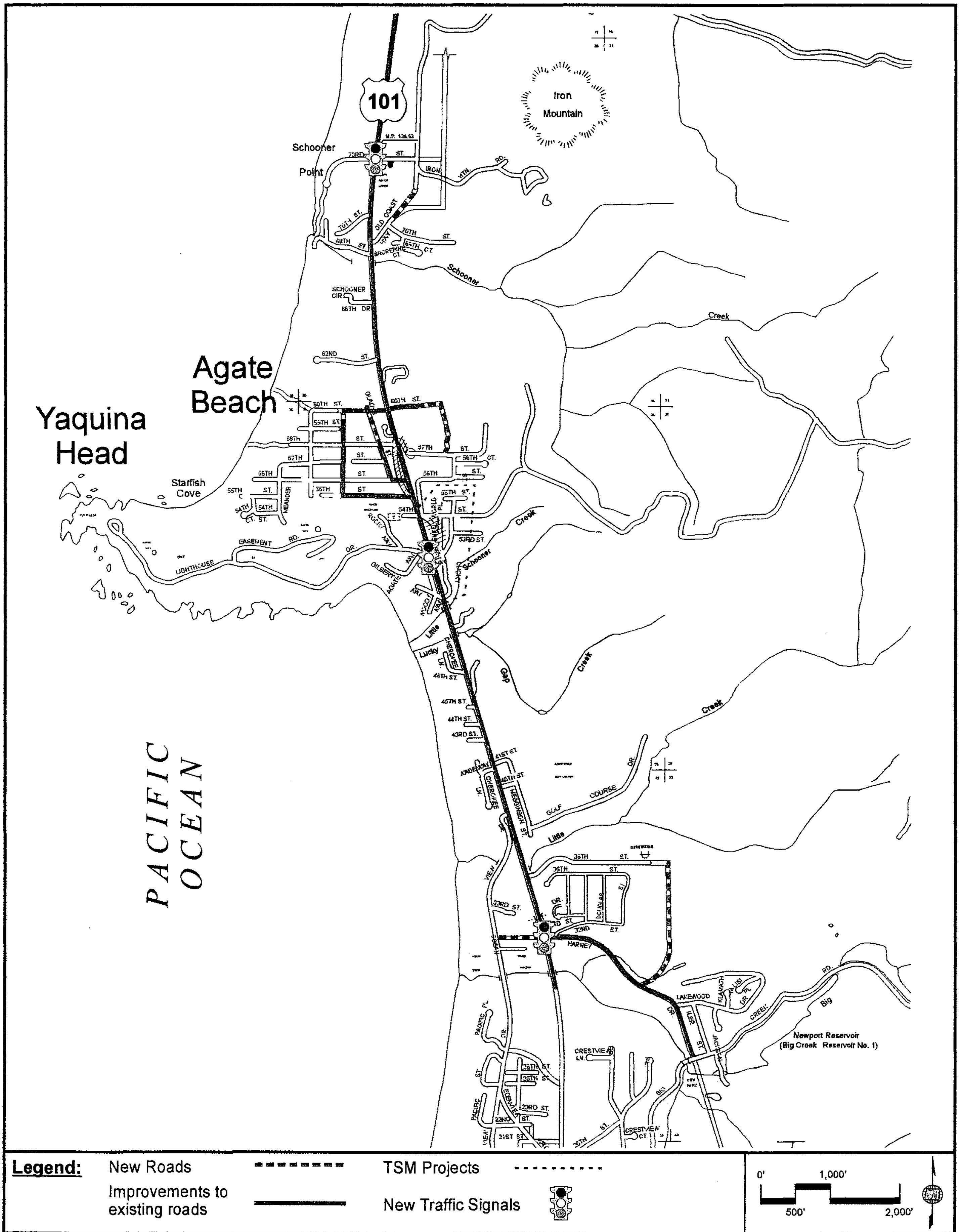
The street plan identifies those improvements to the existing roadway system that will be required to safely and efficiently serve the vehicular traffic of the City of Newport over the next 20 years. The basic assumption of the plan is to maximize the efficiency of the existing roadway system, through signalization, reconstruction, limited widening, extensions, and realignments. Figures 1 through 3 display the recommended street system plan for the City of Newport for the next 20 years.

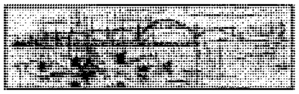
Roadway Improvements

The roadway improvements included in the Street Plan include limited new roadway construction, focusing primarily on a north-south arterial to be constructed in stages. The majority of the improvements primarily include reconstructing or making minor improvements to existing roads in order to increase traffic flow. The recommended roadway improvements are listed in Table 1 and Table 2 and discussed in more detail following each table.

Table 1: New Roadway Improvement Projects

New Roadway Projects or Extensions	**Func. Class**	**Side-walks**	**Bicycle Lanes**	**Priority (years)**	**Estimated Cost**
North-South Arterial - Phase IA (between US 20 and 7th Street)	Arterial	Yes	Yes	1-5	$300,000
North-South Arterial - Phase IIA (between Harney Dr. and 36th St.)	Arterial	Yes	Yes	1-5	$409,000
North-South Arterial - Phase IB (between 7th St. and NE 32nd St.)	Arterial	No	No	6-10	$2,064,000
Extend NW Nye St. to Ocean View Drive	Collector	Yes	Yes	1-5	$134,000
Connect SE 1st Street (between Douglas and Fogarty)	Local	Yes	Yes (one side)	1-5	$139,000
Extend NE Avery Street (between NE 71st St. and NE 73rd St.)	Collector	Yes	No	11-15	$185,000
Extend SW Abbey Street to SW Elizabeth St.	Collector	Yes	No	11-15	$84,000
Extend NE 5th Street (between 7th Drive and Newport Heights Rd.)	Collector	No	No	11-15	$268,000
SW Abalone St. (Extension to 32nd Street)	Arterial	Yes	Yes (one side)	6-10	$182,000
Extend Biggs St. to NW 60th St. and Extend NW 60th St. to U.S. 101	Collector	Yes	No	11-15	$38,000
Extend NW Harney Drive (between U.S. 101 and Ocean View Dr.)	Collector	Yes	Yes	6-10	$232,000
TOTAL COST (New Roadways)					**$4,035,000**

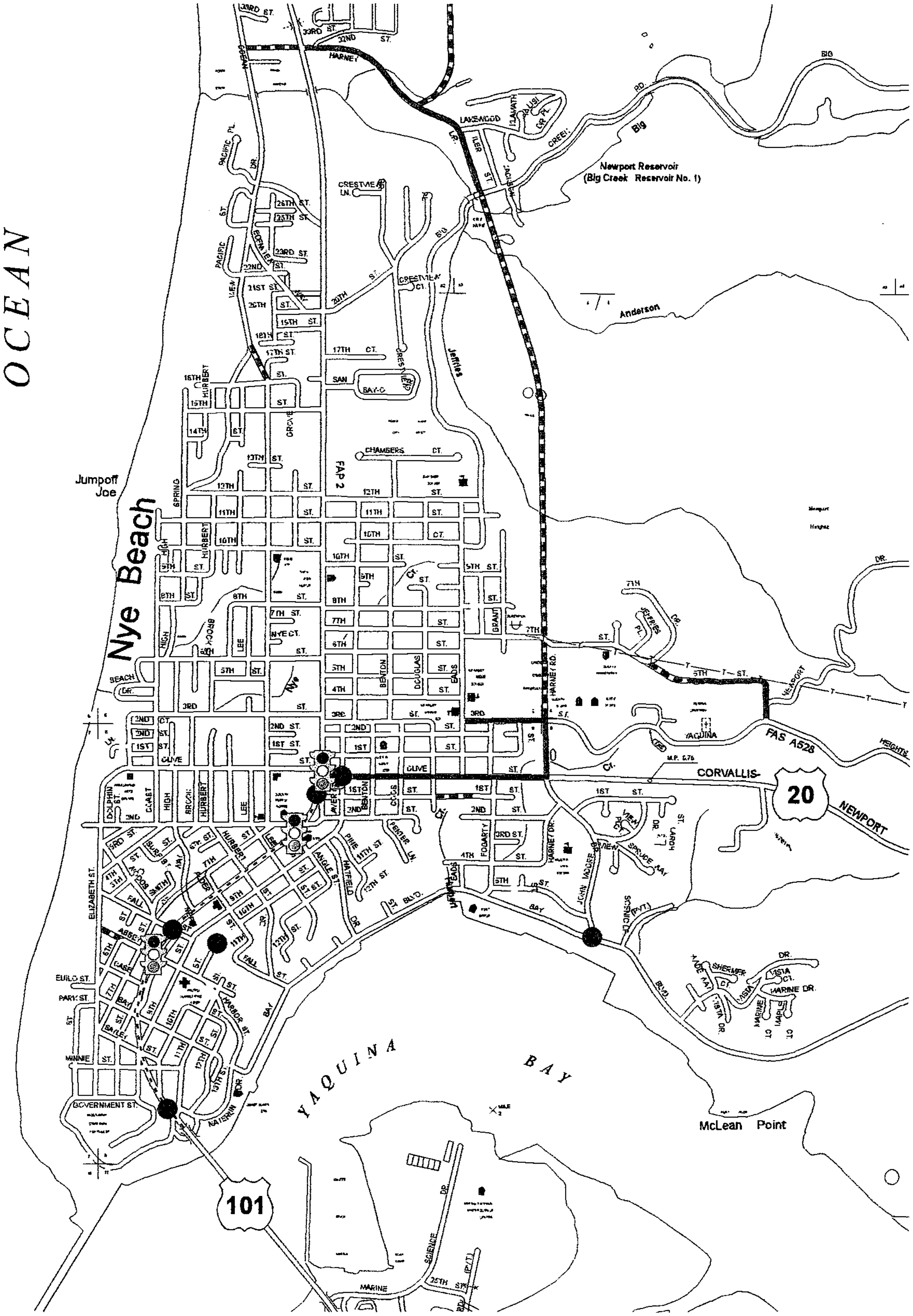




City of Newport Transportation System Plan

Roadway Improvements (North Newport)

Fig. 1



Legend:

New Roads ▬ ▬ ▬ ▬

Improvements to existing roads ▬▬▬

TSM Projects ● ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪

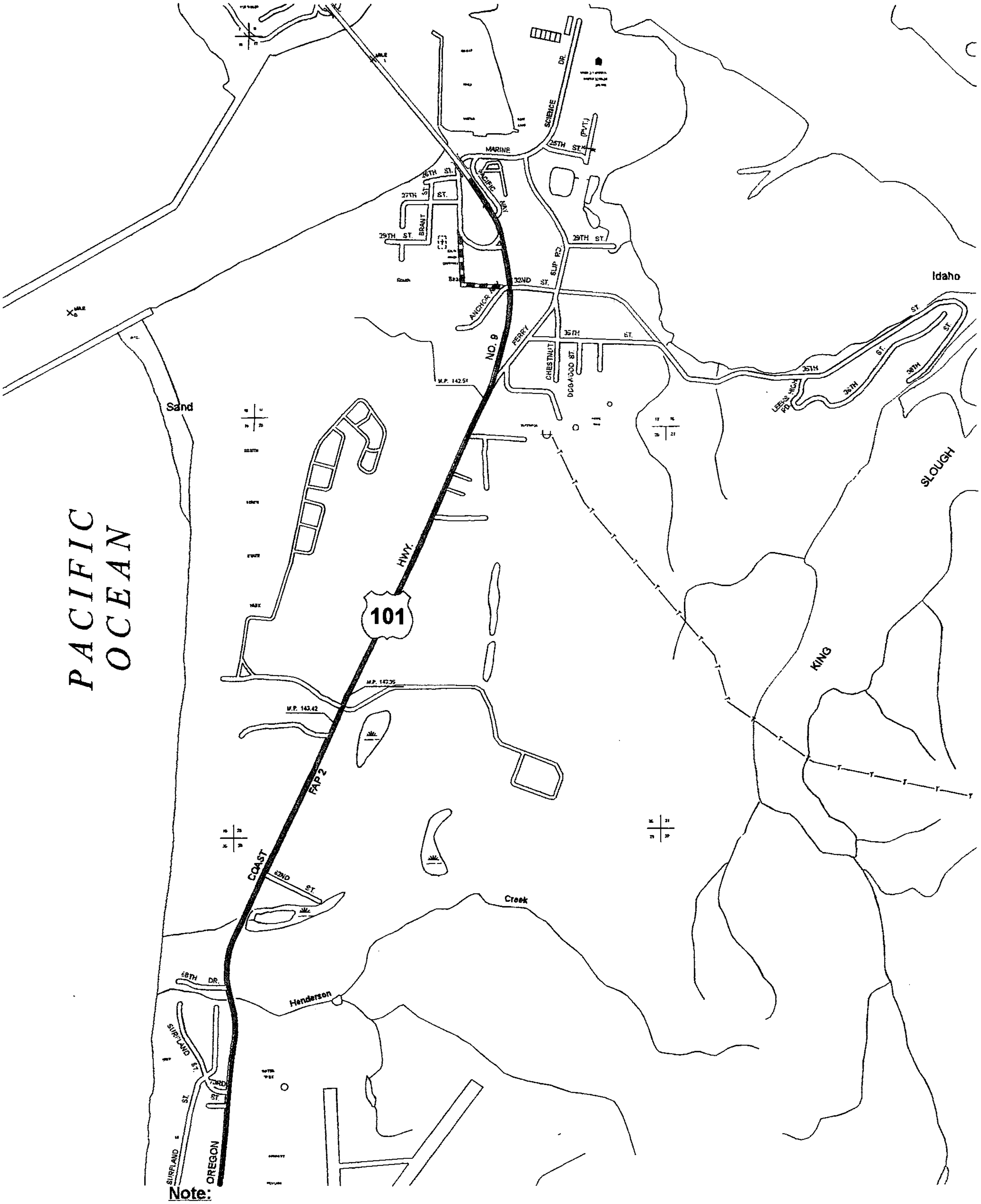
New Traffic Signals or Signal Improvements 🚦

0' 1,000' 500' 2,000'

City of Newport Transportation System Plan

Roadway Improvements (North Newport)

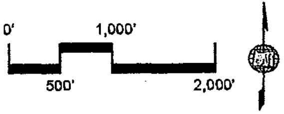
Fig. 2



Note:
Improvements continue
south to 123rd Street

Legend:

New Roads	▬ ▬ ▬ ▬ ▬
Improvements to existing roads	▬▬▬▬▬



City of Newport
Transportation System Plan

Roadway Improvements
(South Newport)

Fig. 3

New Roadway Projects

The only major new facility being recommended is a new north-south arterial street, west of U.S. Highway 101. The recommended alignment is part of the City's Comprehensive Plan and is needed to provide an effective transportation network in Newport. The remaining new roadway projects are primarily extensions and linking of local and collector streets.

- North-South Arterial, between Highway 20 and 7th Street, between 7th Street and 32nd Street, and between Harney Drive and 36th Street. For the section between Highway 20 and 7th Street, construct to arterial standards, including a 44-foot-wide cross section with curb and gutter, storm drainage, and traffic control. Include a sidewalk and bikeway on both sides. For the section north of 7th Street, topography limits the ability to construct to the 44-foot cross section. A combination of bike and pedestrian improvements on Big Creek Road and vehicle-based improvements on the arterial will be used to meet the arterial standard requirements. Include improvements to Harney Drive and intersection connections with the arterial. Add pedestrian facilities along Harney Drive. The actual feasibility and alignment of the new roadway must be determined by survey; the lines representing the roadway in Figures 1 and 2 are representational and should not be construed to convey the final alignment.
- NW Nye Street (extension to Ocean View Drive): Construct to collector standards; 40' pavement section with curb and gutter, storm drainage, and traffic control (maximum grade of 15 percent). Include bike lane from Ocean View to 2nd St. (incl. Nye ext.)
- SE 1st Street (between Douglas Street and Fogarty Street): Construct roadway to connect SE 1st Street between Douglas and Fogarty. Include bike lane on one side of the street.
- NE Avery Street (NE 71st Street to NE 73rd Street): Connect NE 71st Street and NE 73rd Street using NE Avery Street right-of-way.
- SW Abbey Street: Extend SW Abbey Street to SW Elizabeth Street.
- NE 5th Street (between 7th Drive and Newport Heights Road): Construct to collector standards; 36' pavement section with curb and gutter, storm drainage, and traffic control. (Some sections will be 24' with no parking do to topographic limitations.)
- SW Abalone Street (extension to 32nd Street): Construct new roadway to connect Abalone to 32nd Street. Add bike lane to one side of the street.
- Extend Biggs Street to NW 60th Street. Extend NW 60th Street to Highway 101.
- NW Harney Drive: Extend NE Harney Drive from Highway 101 to Ocean View Drive. Include bikeway and sidewalk along entire length of roadway.

Table 2: Existing Street Improvement Projects

Improvements to Existing Roadways	Func. Class	Side-walks	Bicycle Lanes	Priority (years)	Estimated Cost
Reconstruct NE 3rd Street (between NE Eads St. and NE Harney Rd.)	Local	Yes	No	1-5	$134,000
Reconstruct NW 60th /Biggs Av./ NW 55th (between Hazel Ct & 60th)	Collector	Yes	No	11-15	$52,000
Widen Highway 101 to four lanes (between Bridge and SE 123rd St.)	Principal Arterial	Yes	Yes	16-20	$10,690,000
Widen Highway 101 to five lanes (Harney St. to North City Limits)	Principal Arterial	Yes	Yes	11-15	$7,165,000
Widen Highway 20 to five lanes (John Moore Drive to Highway 101)	Principal Arterial	Yes	Yes	6-10	$960,000
TOTAL COST (Existing Roads)					**$19,001,000**

Existing Street Improvement Projects

- NE 3rd Street (between NE Eads Street and NE Harney Road): Reconstruct to local standards; 36' pavement section with curb and gutter, storm drainage, and traffic control.
- NW 60th Street/Biggs Avenue/NW 55th Avenue (Hazel Court to 60th): Construct to collector standards; 40' pavement section with curb and gutter, storm drainage, and traffic control.
- Highway 101 (between Bridge and SE 123rd Street): Widen to four lanes along Highway 101 and widen to five lanes at key intersections (SE 32nd, SE 62nd, and two other intermediate intersections).
- Highway 101 (from just south of Harney Street to northern city limit): Widen to five lanes where there are currently two lanes of capacity.
- Highway 20: Provide for five lanes of capacity from John Moore Drive to Highway 101.

Transportation System Management/New Traffic Signals

Transportation System Management is a traffic control tool that attempts to maximize the efficiency of the existing transportation system without adding additional roadway capacity. TSM projects can be characterized as being low-capital cost alternatives that can be implemented in a relatively short time frame and that aim to make better use of existing facilities, either by operational changes or by better traffic management.

There are several TSM projects that have been recommended for implementation in Newport. These projects are listed in Table 3 below.

Table 3: Transportation Management System (TSM) Improvement Projects

TSM Improvements	Priority (years)	Estimated Cost
Highway 101 Revisions (between Hwy 20 & Yaquina Bay Bridge): Removal of on-street parking, no bike lanes, left turns only at Bayley, Abbey, Hurbert, Angle, and Olive.	1-5	$17,400
Highway 101/NE Avery Street: Access management modification (right-in, right-out only)	1-5	$10,000
US 20 at SE Avery Street: Provide signing and channelization. Right-in, right-out, prevent left turn off Avery to go to Highway 20 and on to Highway 101.	1-5	$6,700
John Moore Road at SE Bay Boulevard: Provide realignment and channelization.	6-10	$28,100
US 101 at SE 1st and South Cape: Provide island and channelization.	1-5	$4,000
US 101 at SW Fall and Frontage Road: Change traffic flow to one-way north on Frontage Road and extend island.	1-5	$2,000
Naterlin at US 101 (Yaquina Bay Bridge): Provide realignment and channelization	1-5	$24,100
NE 52nd Street Area Improvements: Align NE 52nd with Lighthouse Drive. Eliminate Highway 101 access from NE 54th Street. Improve NE Lucky Gap between NE 52nd Street and NE 54th Street. Vacate NE Pacific Street and NE Shell World Place between NE 52nd Street and NE 54th Street. Provide access from Longview Hills to NE 52nd Street.	6-10	$554,900
NW 56th Street Area Improvements: Eliminate Old Highway Loop between NW 55th Street and NW 58th Street. Extend NW 56th Street to Highway 101. Improve NW Gladys Street between NW 56th Street and NW 60th Street as a frontage road.	1-5	$302,000
Surface Parking Lots for 101 Business: Construct surface parking lots to supplement parking removed from 101 with restriping.	6-10	$150,000
Construct a new parking structure on Abbey Street Parking lot (4 levels with top level open). Include bike racks. Restripe Bay Blvd. to accommodate parallel parking south of Fall Street to Naterlin Drive.	11-20	$3,207,000
NE 57th Street: Eliminate Highway 101 access. Cul-de-sac NE 57th Street on its western terminus. Connect Hazel Court to NE 60th Street.	6-10	$150,000
Close SW 2nd Street between Highway 101 and SW Angle Street. *(to be completed as part of signalization project at Highway 101 and Angle St.)*	11-20	$25,000
Hwy 101/Hurbert Street: Signal improvements to provide for left turns.	1-5	$150,000
Hwy 101/Hwy 20: Signal revisions/improvements. Realign E. Olive Street.	1-5	$620,000
TOTAL COST (TSM Improvements)		**$5,251,200**

New Traffic Signals

It has been identified that as traffic volumes increase, several intersections throughout Newport will require the installation of traffic signals. The cost for each traffic signal is estimated at $200,000, totaling $1,000,000 for five signals. This includes the cost for installation and signal coordination infrastructure.

Listed below are the locations that will likely require new traffic signals or turn lanes, or both, as traffic volumes increase. The proposed location and spacing of new traffic signals on state facilities would comply with existing plans and policies, as indicated in the 1991 Oregon Highway Plan and as detailed in the City of Newport Access Management Plan. These intersections should be monitored to determine the point in time at which signalization is warranted.

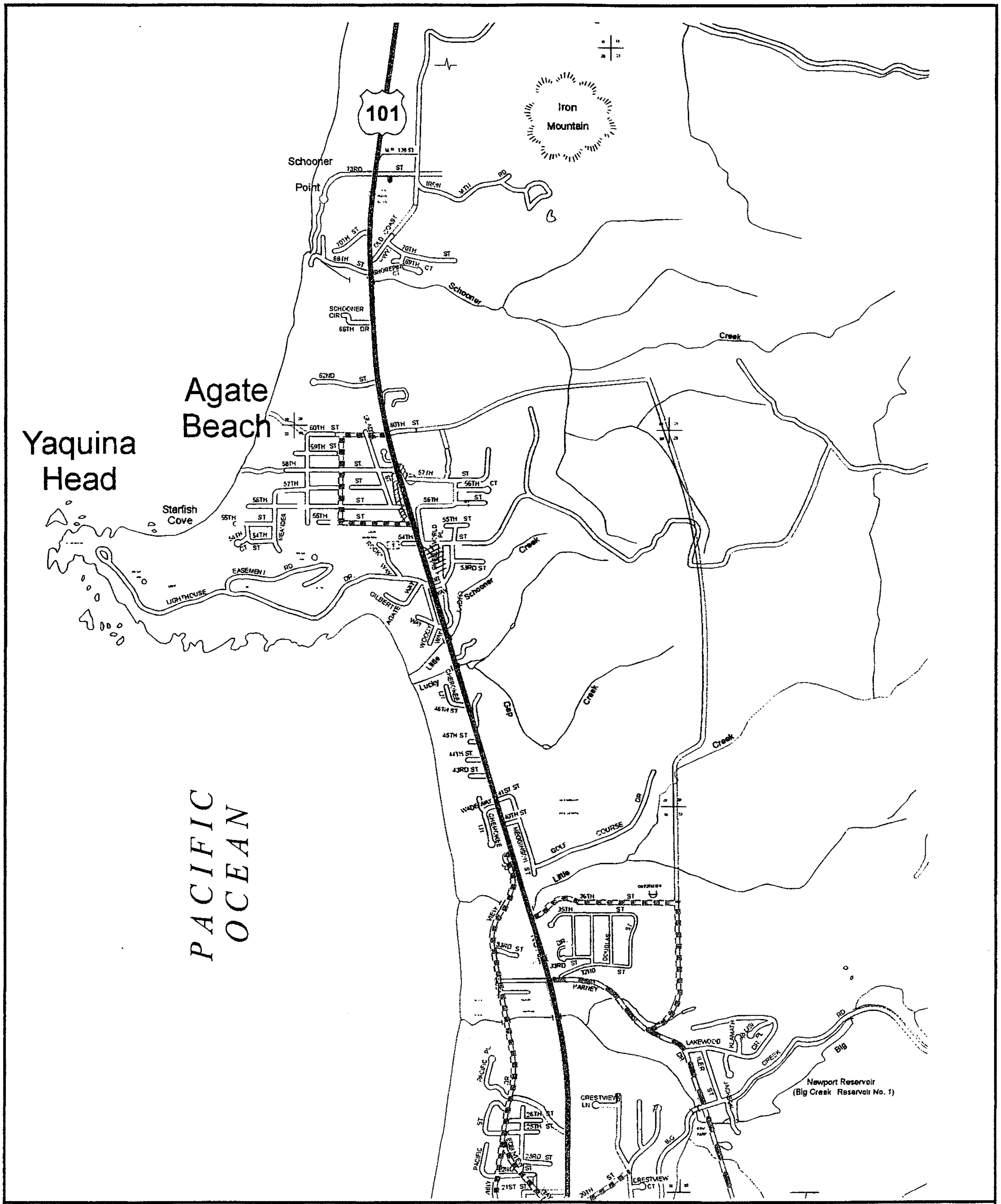
- ⇒ Highway 101 at Abbey Street (1-5 years)
- ⇒ Highway 101 at Angle Street (11-15 years)
- ⇒ Highway 101 at NE 32nd Street (6-10 years)
- ⇒ Highway 101 at NE 52nd Street (6-10 years)
- ⇒ Highway 101 at NE 73rd Street (16-20 years)

Functional Classification System

Streets perform various roles in a community, ranging from carrying large volumes of primarily through traffic to providing direct access to abutting property. These functions are often conflicting, and a hierarchical classification system is needed to determine the appropriate function and purpose of each roadway.

Figure 4 and Table 4 presents the recommended functional classification system plan for the City of Newport. This plan recommends four roadway classifications. These classifications include:

- **Principal Arterials** - These facilities carry the highest volumes of through traffic and primarily function to provide mobility and not access. Principal arterials provide continuity for intercity traffic through the urban area and are usually multi-lane facilities. The only facilities identified as a major arterials are U.S. Highways 20 and 101.
- **Minor Arterials** - These facilities interconnect and augment the principal arterial system and accommodate trips of somewhat shorter length. Such facilities interconnects residential, shopping, employment and recreational activities within the community. The following roads are identified to function as minor arterials:
- **Collector Streets** - These streets provide both land access and movement within residential, commercial and industrial uses. These streets gather traffic from local roadways and serve as connectors to arterials.
- **Local Streets** - These streets provide land access to residential and other properties within neighborhoods and generally do not intersect any arterial routes. All remaining streets are identified as local streets.



Legend:

Principal Arterial ▬

Minor Arterial ▬ ▬ ▬ ▬

Collector ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪

Local ═

0' 1,000'

500' 2,000'

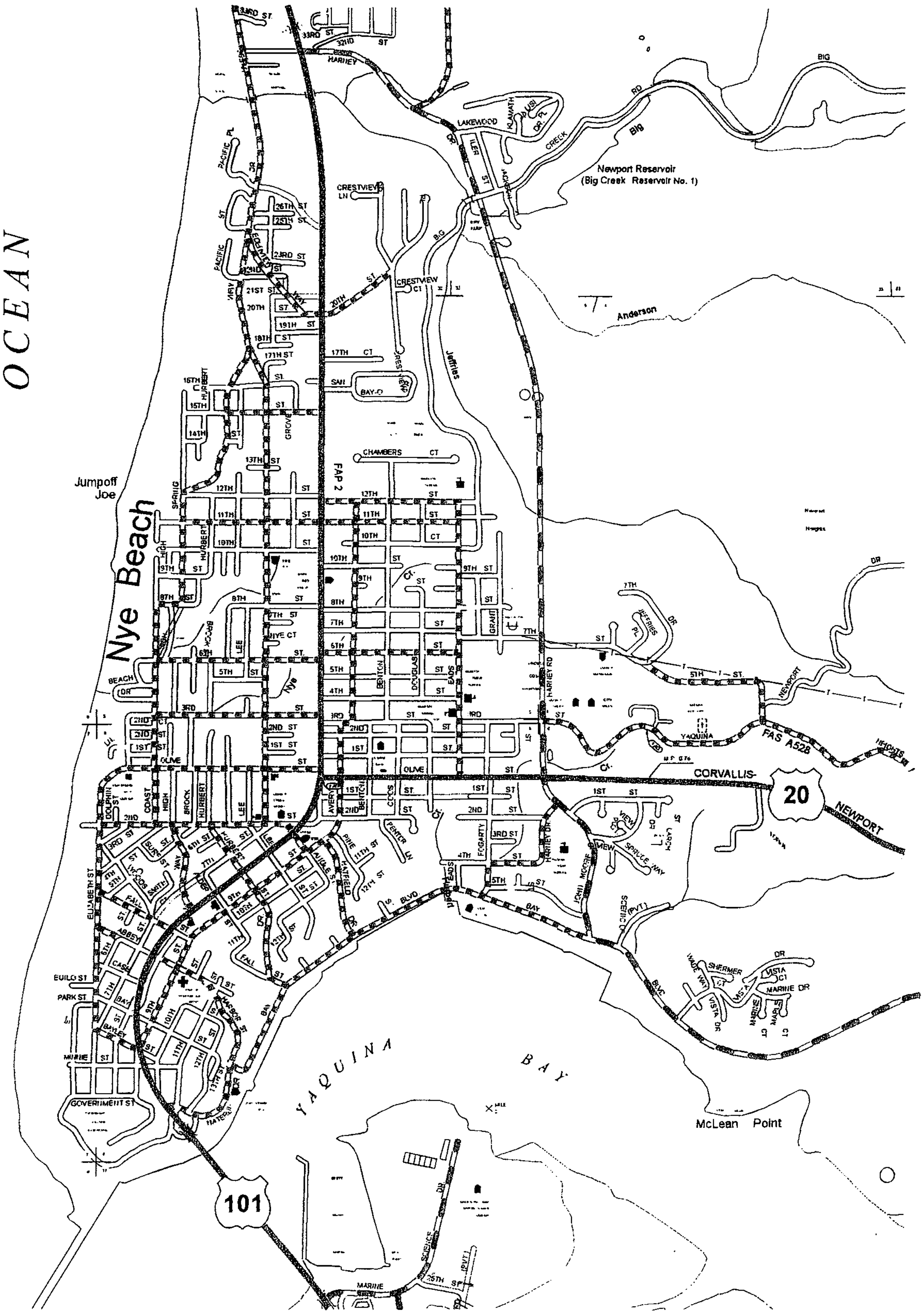
OREGON DEPARTMENT OF TRANSPORTATION

City of Newport Transportation System Plan

PB 100 YEARS

Recommended Functional Classification System

Fig. 4a



Legend:

Principal Arterial ▬▬▬

Minor Arterial ▬ ▬ ▬ ▬

Collector ▪▪▪▪▪▪▪▪

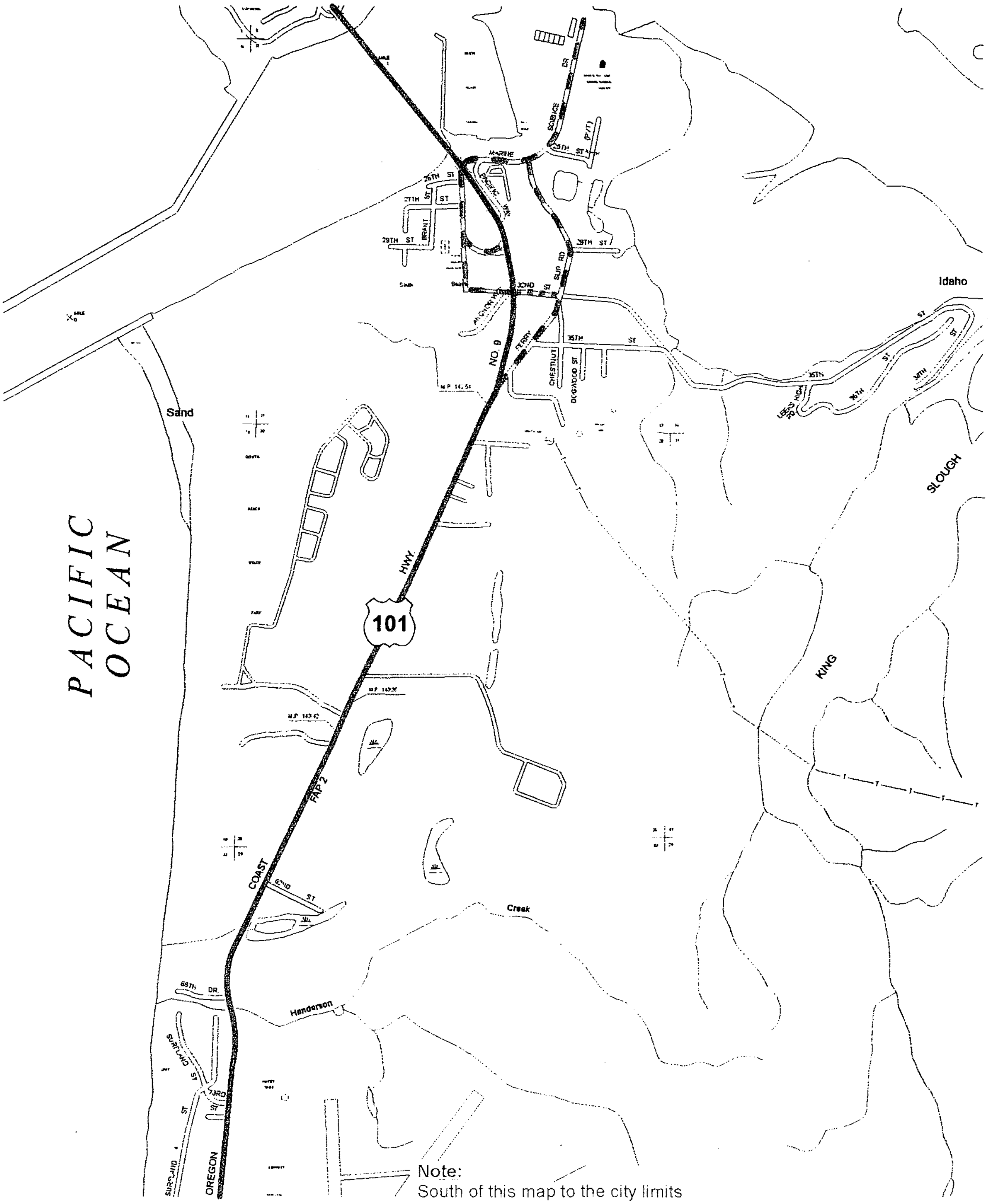
Local ═══

0' 1,000' 500' 2,000'

City of Newport
Transportation System Plan

Recommended Functional Classification System

Fig. 4b



Note:
South of this map to the city limits
Highway 101 is a Principal Arterial.
All other roads are Local.

Legend:

Principal Arterial	▬▬▬	Local	═══
Minor Arterial	▬ ▬ ▬ ▬		
Collector	▪▪▪▪▪▪▪▪		

0' 1,000' 500' 2,000'

City of Newport
Transportation System Plan

Recommended Functional Classification System

Fig. 4c

Table 4: Recommended Functional Classification of Roadways

Principal Arterials	**Limits**
U.S. Highway 101	North UGB Limits to South UGB Limits
U.S. Highway 20	Highway 101 to East UGB Limits
Minor Arterials	**Limits**
SW Abalone Street	SW 29th Street to OSU Drive
SE Bay Boulevard	John Moore Road to East UGB Limits
SE Ferry Slip Road	Highway 101 to SE OSU Drive
Harney Drive	Highway 101 to North-South Arterial
John Moore Road	SE Bay Boulevard to Highway 20
North-South Arterial	Harney Drive to Harney Drive
SE OSU Drive	SW Abalone Street to end of Street
SW 32nd Street	SW Abalone Street to Highway 101
Collectors	**Limits**
SW Abbey Street	Highway 101 to SW Harbor Way
SW Alder Street	SW 2nd Street to SW Neff Way
SW Angle Street	SW 2nd Street to SW 9th Street
SE Avery Street	SE 2nd Street to East Olive (Highway 20)
NE Avery Street	East Olive (Highway 20) to NE 12th Street
SE Bay Boulevard	SE John Moore Road to SW Naterlin Drive
SW Bayley Street	SW Elizabeth Street to Highway 101
SW Canyon Way	SW Hurbert Street to SW Fall Street
NW Coast Street	SW 2nd Street to NW 8th Street
NE Eads Street	East Olive (Highway 20) to NE 12th Street
NW Edenview Way	Highway 101 to NW Ocean View Drive
SW Elizabeth Street	SW Bayley Street to West Olive Street
SW Fall Street	SW Canyon Way to SW Bay Boulevard
SW Fall Street	SW Elizabeth Street to Highway 101
SE Fogarty Street	SE Bay Boulevard to SE 4th Street
SW Harbor Way	SW Abbey Street to SW 13th Street
SE Harney Drive	SE 4th Street to SE John Moore Road
SW Hatfield Drive	SW 9th Street to SW Bay Boulevard
SW Hurbert Street	SW 2nd Street to SW Canyon Way
SW Naterlin Drive	SW Government Street to SW Bay Boulevard
SW Neff Way	SW Alder Street to Highway 101

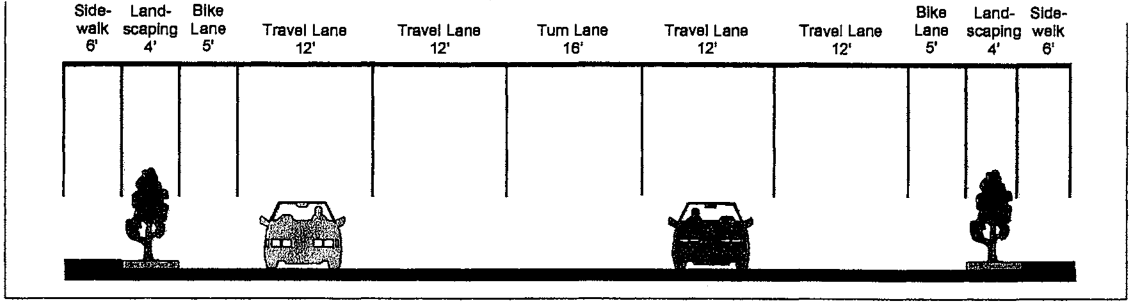
Table 4 (Continued)
Recommended Functional Classification of Roadways

Collectors (Cont.)	
NW Nye Street	West Olive Street to NW Ocean View Drive
SW Nye Street	SW 2nd Street to West Olive Street
NW Ocean View Drive	NW 12th Street to Highway 101
W Olive Street	SW Elizabeth Street to Highway 101
NW Spring Street	NW 8th Street to NW 12th Street
NE Yaquina Heights Road	NE Harney Road to Highway 20
SW 2nd Street	SW Elizabeth Street to SW Angle Street
NW 3rd Street	NW Coast Street to Highway 101
NE 3rd Street	NE Harney to NE Eads
SE 4th Street	SE Fogarty Street to SE Harney Drive
NW 6th Street	NW Coast Street to Highway 101
NE 6th Street	Highway 101 to NE Eads Street
NE 7th Street	NE 7th Drive to Yaquina Heights Drive
NW 8th Street	NW Coast Street to NW Spring Street
SW 9th Street	Highway 101 to SE 2nd Street
NW 11th Street	NW Spring Street to Highway 101
NE 11th Street	Highway 101 to Eads Street
NE 12th Street	Highway 101 to Eads Street
SW 13th Street	SW Harbor Way to SW Bay Street
NW 15th Street	NW Ocean View Drive to Highway 101
NE 20th Street	Highway 101 to NE Crestview Drive
SE 32nd Street	Highway 101 to Ferry Slip Road
NE 36th Street	Highway 101 to East City Limits
NW 55th Street	Biggs Street to Highway 101
NW 60th Street	Biggs Street to Highway 101

The hierarchical functional classification system requires different design standards for each roadway classification. For instance, major thoroughfare routes require different access control standards, paving requirements, right-of-way widths, and traffic safety devices. Figure shows the typical design standards for each roadway under the functional classification system.

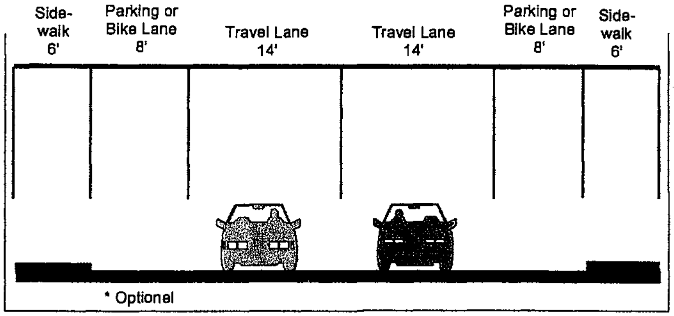
The suggested design standards are to be used as a guideline for roadway construction, including the development of new roads and the reconstruction of existing roads. The roadway design standards are established to ensure consistency throughout the City, but also to provide flexibility for unique and special situations.

Major Arterial



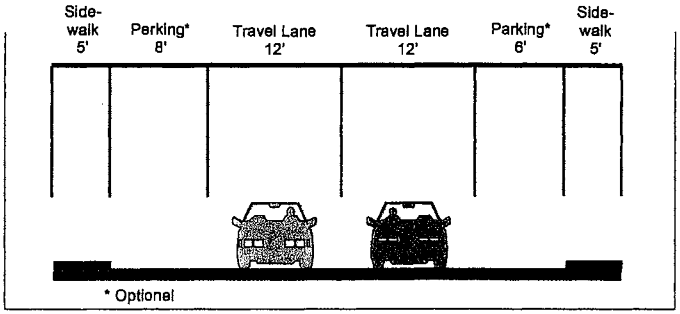
102' Right of Way

Minor Arterial



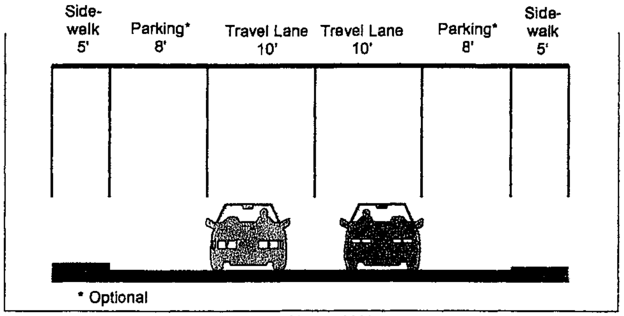
60' Right of Way

Collector



60' Right of Way

Local



50' Right of Way

City of Newport
Transportation System Plan

Recommended
Street Design Standards

Fig. 5

Pedestrian System Plan

Walking is the most basic form of transportation. Everyone is a pedestrian. Whether a traveler rides a bus or takes their automobile, each trip begins and ends with a walk. Providing a safe and convenient pedestrian network is essential for all residents and visitors of Newport and is needed to maintain the City's high quality of life.

If Newport is to meet its goals and objectives as identified in section 2.0 of the Transportation System Development Plan, it must emphasize walking as a major means of travel. To encourage more walking, the City must:

- **Provide a continuous network.** An intermittent pedestrian system that strands pedestrians at the end of unfinished sidewalks or forces them into hazardous street crossings will discourage walking.
- **Provide a safe walking environment.** A pedestrian environment that is perceived as unsafe will deter people from walking.
- **Ensure pedestrian-oriented urban design.** Design of both existing and future commercial and residential sites must give access by pedestrians equal weight with access by automobiles.

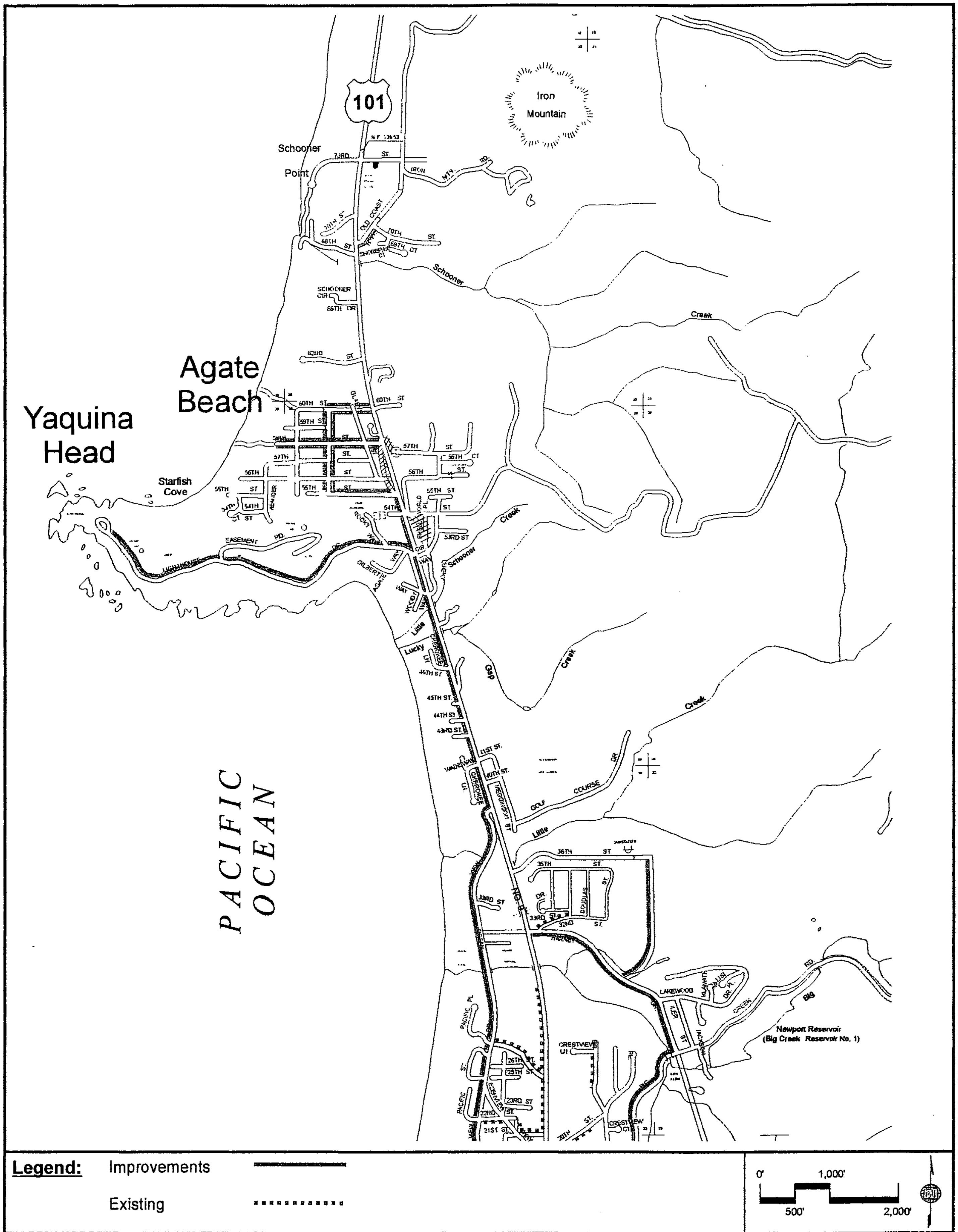
The following describes the Pedestrian Plan for the City of Newport. Included are various pedestrian elements to ensure that walking becomes a viable alternative in Newport.

Pedestrian Facility Improvements

Sidewalk improvements were identified to link existing sidewalks and to provide a system of sidewalks to ensure a balanced transportation system that offers realistic alternatives. Particular focus was on providing safe and convenient travel for children who walk to school. Figure through Figure present the recommended pedestrian plan element of the transportation network for Newport. Existing sidewalks are also shown on the recommended plan.

Specific to the plan are recommendations for a continuous sidewalk system in good repair that will connect existing and future pedestrian and transit traffic generators. Emphasis is given to the pedestrian/transit interface. Also critical to the plan is the support it provides for tourist foot traffic, from the main traffic area and to specific tourist attractions.
Table 5 displays the recommended pedestrian facility improvements along existing streets needed over the next 20 years.

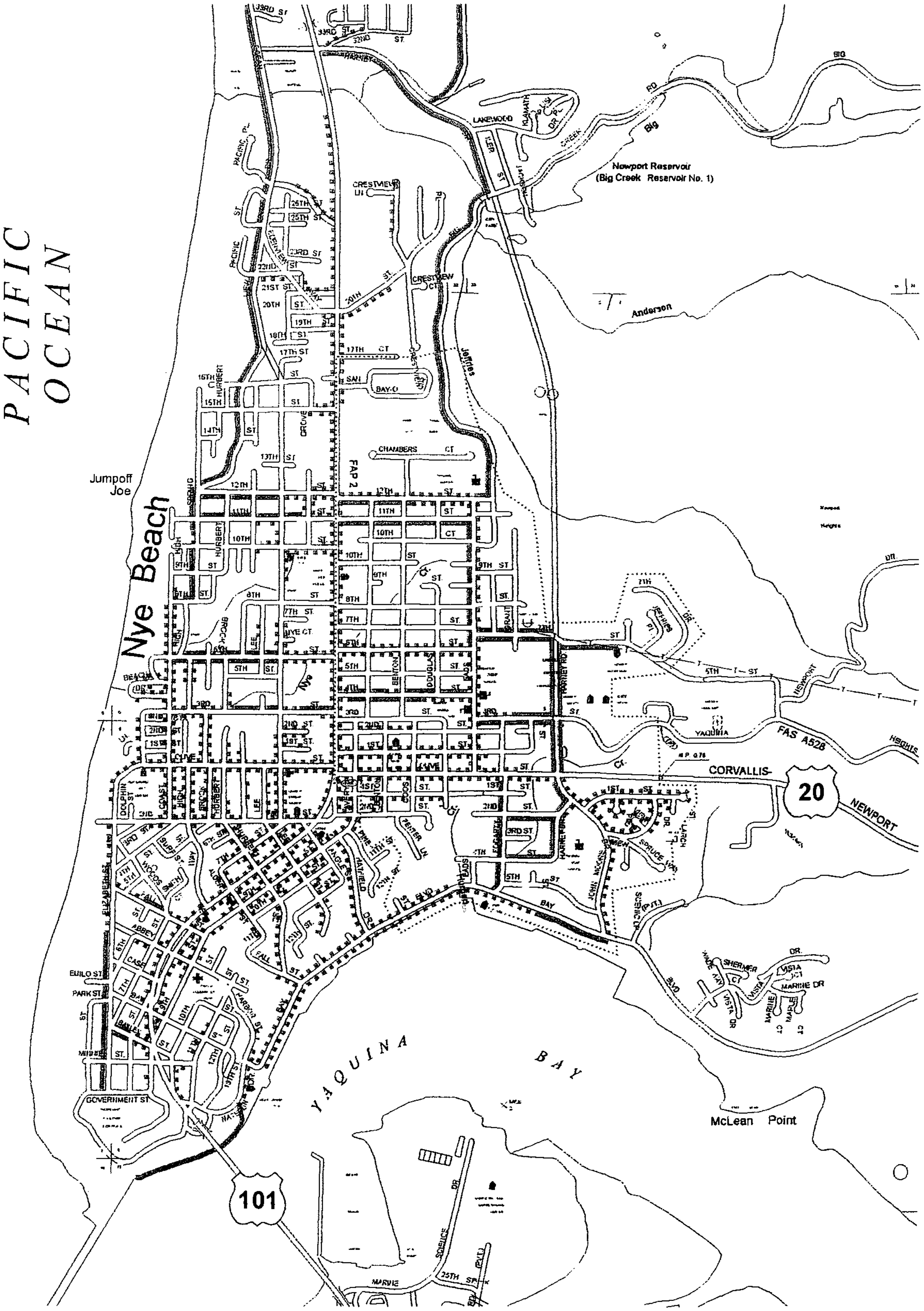
Planning level cost estimates have been prepared for projects needed to provide continuous sidewalks within the school bus perimeter and in the core area, and to provide sidewalks where they do not currently exist on streets that will be part of the future arterial or collector network.



City of Newport
Transportation System Plan

Pedestrian Improvements
(North Newport)

Fig. 6



Legend:

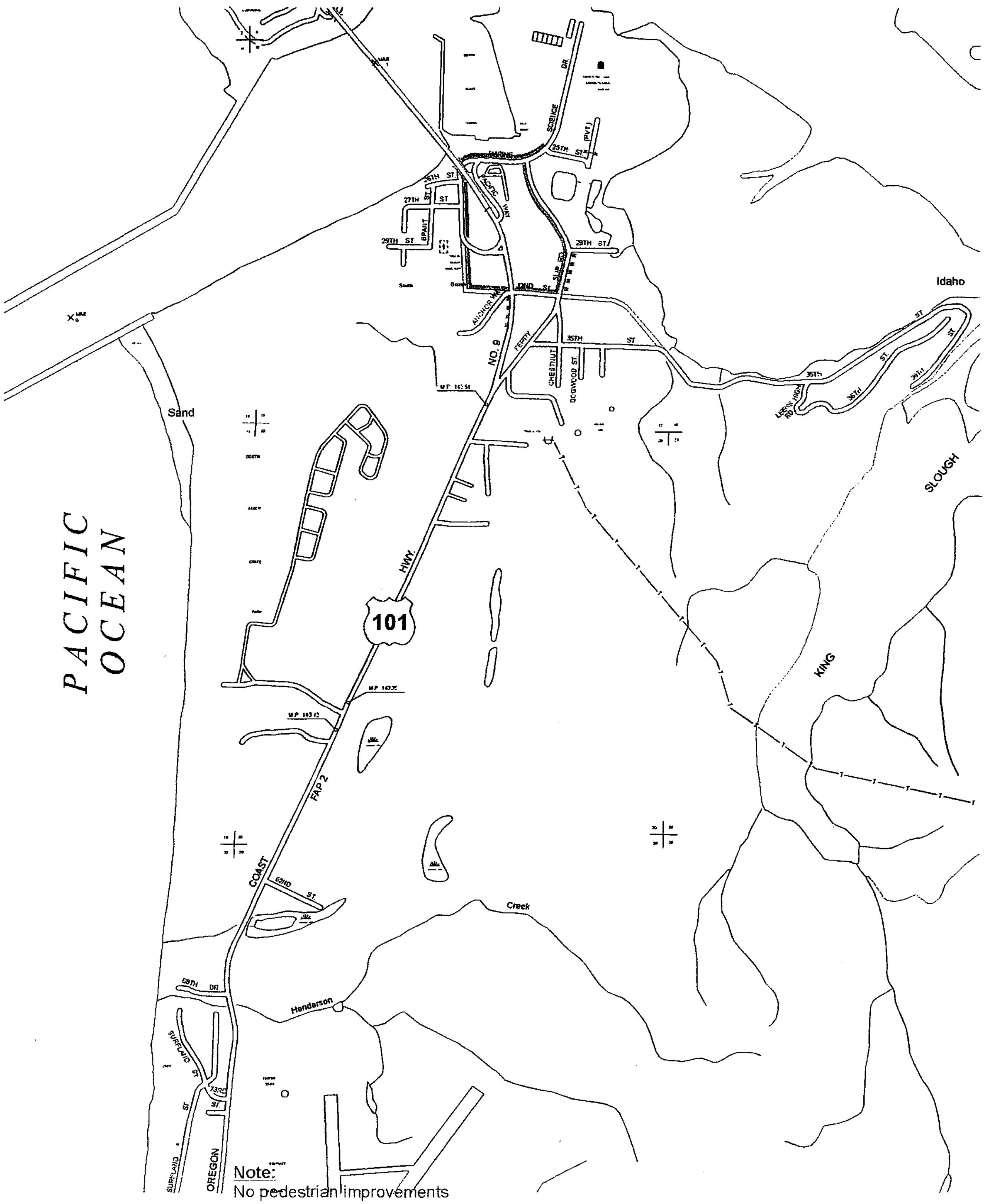
Improvements	▬▬▬	No School Bus Service Zone	┈┈┈
Existing	▪▪▪▪▪		

0' 1,000'
500' 2,000'

City of Newport
Transportation System Plan

Pedestrian Improvements
(North Newport)

Fig. 7



Note:
No pedestrian improvements south of this view except Wolftree Development.

Legend: Improvements

Existing

0' 1,000'
500' 2,000'

City of Newport
Transportation System Plan

Pedestrian Improvements
(South Newport)

Fig. 8

Table 5: Pedestrian Facility Improvement Projects (Existing Streets)

Roadway Segment	Priority (years)	Estimated Cost
Pedestrian network to serve schools (sidewalks improvements inside of the bus zone perimeter). Including adding sidewalks along: • SE 2nd Street (Fogarty Street to Harney Drive) - south side only • SE 4th Street (Fogarty Street to Harney Drive) - south side only • NE 3rd Street (Eads Street to Harney Road) - both sides • NE 4th Street (Highway 101 to Eads Street) - both sides • NE 7th Street (Eads Street to Harney Road) - both sides • NE 7th Street (Harney Road to Jefferies Place) - north side only • NE 11th Street (Highway 101 to Eads Street) - south side only • NE 12th Street (Highway 101 to Eads Street) - south side only • Fogarty Street (Bay Boulevard to Highway 20) - west side only • Harney Drive (SE 4th Street to John Moore Road) - both sides • John Moore Road (Harney Drive to Highway 20) - west side only • Harney Road (Highway 20 to NE 7th Street) - both sides • Eads Street (NE 4th Street to NE 11th Street) - both sides • Harney Drive (Highway 101 to Big Creek Road) - west side only • Big Creek Road (Harney Drive to NE 12th Street) - west side only	1-5	$160,600
Sidewalk improvements in other key pedestrian areas around Newport including adding sidewalks along: • Ocean View Drive (Spring Street to Highway 101) - west side only • Spring Street (NW 8th Street to Ocean View Drive) - west side only • NW 12th Street (Spring Street to Nye Street) - south side only • NW 3rd Street (Hurbert Street to Highway 101) - north side only • Fall Street (SW 6th Street to SW 7th Street) - north side only • Bayley Street (Elizabeth Street to SW 8th Street) - both sides • Along Yaquina Bay from Naterlin Drive to the Beach • Bay Boulevard (Grant St. to John Moore Rd.) - south side only • Highway 101 (Ocean View Dr. to NW 55th St.) - west side only • Lighthouse Dr. (Hwy 101 to Yaquina Head Lighthouse) – north side • NW 55th Street (Biggs Street to Highway 101) - north side only • NW 58th Street (NW Rhododendron to Highway 101) - both sides • NW 60th Street (Biggs Street to Highway 101) both sides • Biggs Street (NW 55th Street to NW 58th Street) - both sides • OSU Drive (Abalone to Ferry Slip Road) - north side only • Ferry Slip Road (SW 32nd Street to OSU Drive) - west side only • SW & SE 32nd St. (Abalone St. to Ferry Slip Rd.) - north side only • Abalone Street (SW 32nd Street to OSU Drive) – west side only • NW 11th Street (Spring Street to Grove Street) - north side only	11-15 (unless noted)	$430,300
• Elizabeth Street (SW 2nd St. to Government St.) - west side only	6-10	
• NW 6th Street (Coast Street to Nye Street) - both sides	6-10	
TOTAL COST (Pedestrian Improvements)		**$590,900**

New sidewalks will also be built as part of several new roadway projects, including:

- Phase IIA of the North-South Arterial between Harney Drive and 36th Street - sidewalks on west side only.
- NW Harney Drive (Extension of NE Harney Drive from Highway 101 to Ocean View Drive) - sidewalks on south side only.

Sidewalk Standards and Policies

To enable a connected and complete pedestrian system, sidewalks must be considered at the inception of transportation projects and incorporated into the total design. The City's current street standards require new sidewalks in residentially zoned areas to be 5 feet in width and shall abut the curb. New sidewalks in commercial and industrial areas and along all arterial streets are required to be at least 6 feet in width.

The City should require that sidewalks be implemented on all new roadway and reconstruction projects and ensure that sidewalks provided on developing properties be connected to the external pedestrian system.

Pedestrian Street Crossings

Adding sidewalks along a roadway are only part of the pedestrian solution; many busy streets and intersections are difficult to cross and can be barriers to walking. Allowing people to cross the street as freely as possible is important in maintaining a pedestrian friendly environment. Often the width of the street, the geometry of the intersection, and the signal timing are designed only for the needs of vehicles, not pedestrians.

To increase pedestrian crossing opportunities and safety, two approaches can be considered:

1. Designing roads that allow crossings to occur safely by incorporating design features such as raised medians or signal timing that creates gaps in traffic; or
2. Constructing actual pedestrian crossings with pedestrian activated signals, mid-block curb extensions, marked crosswalks, etc.

There are a variety locations throughout Newport where crosswalk improvements are necessary to maintain pedestrian safety. The 1995 Oregon Bicycle and Pedestrian Plan identify several techniques that can be implemented at busy intersections.

Bicycle System Plan

The purpose of the Bikeway System Plan is to develop a continuous, safe, and interconnected network of bicycle routes throughout the City of St. Newport. While all roadways and streets can be used as bikeways, designated routes along bicycle friendly streets and/or separated bicycle lanes on busy streets can improve safety as well as increase bicycle use.

Bicycle Facility Improvements

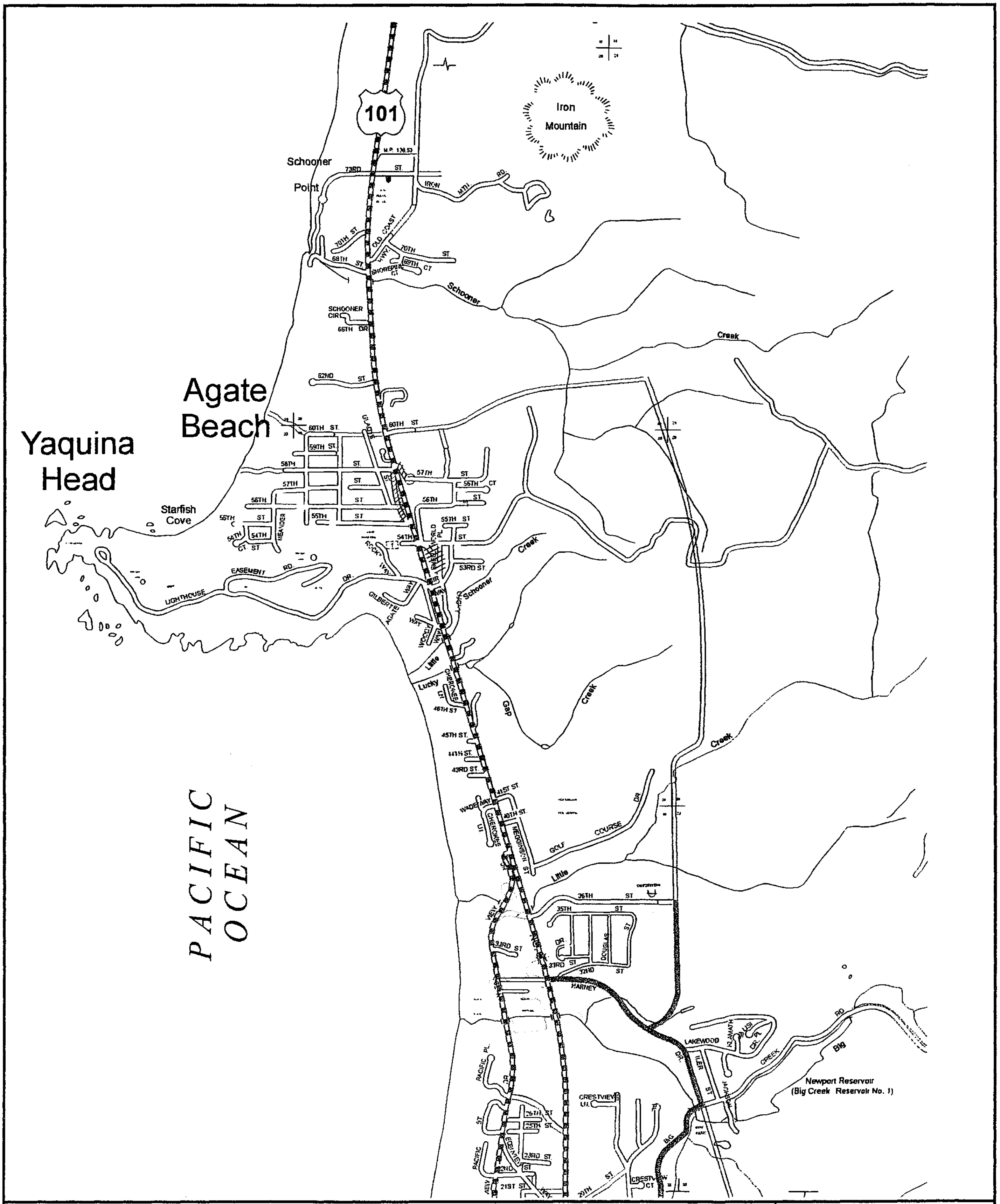
Figure 9.c illustrates the recommended bicycle plan for the City of Newport. The figure includes city- and state-designated facilities through the city, including bike lanes and designated bike routes. Highway 101 currently is a state-designated bike route. City-designated routes are along Ocean View Drive, Coast Street, and Elizabeth Street. These routes are currently signed, but lack separated bike lanes. The goal was to provide bicycle routes that enable safe and efficient travel for through bicycle traffic traveling along the Oregon Coast, as well as to provide a system for traveling within the city. The system of bicycle facilities has been designed to connect both north-south and east-west bicycle traffic. It has also been designed to connect all major generators of bicycle traffic with residential neighborhoods and tourist facilities.

Other bicycle facilities that are part of the plan include bicycle parking at the major bus stops and bus stations, and bicycle racks for all dial-a-ride vehicles (see Transit Plan).

The major bike route north-south through the city is to either use Highway 101 or to follow the Oregon Coast Bike Route starting at Ocean View Drive. There is no shoulder on Highway 101 once it reaches 25th Street. As an alternative to Highway 101 through the urban area and to provide a more scenic route, the plan proposes an alternative route that would leave the Oregon Coast Bike Route at Nye Street, continue south on Nye until Olive Street where it would head west to the beach and reconnect with the Oregon Coast Bike Route. This alternative would also allow bikers on the Oregon Coast Route to bypass the limited sight distance area on Ocean View Drive just south of where Nye will connect on it's northern terminus.

Other bike lanes to provide north-south connections include bike lanes on both sides of the proposed North-South Arterial between Harney Drive and 36th Street, continuing south to NE 12th on Big Creek Road, and along Harney Street between 3rd Street and Highway 20.

East-west recommended bike connections include a bike lane on SE 1st Street between Douglas Street and Fogarty Street, SW 2nd Street (Nye to Angle), Angle Street (SW 2nd to SE 9th), SE 9th Street (Angle to SE 1st), SE 1st Street (Avery to Fogarty), Fogarty Street (SE 1st to SE 2nd), SE 2nd Street (Fogarty to Harney), Harney Drive (SE 2nd to John Moore), John Moore Drive (Harney to Highway 20), and Olive Street (Coast to Elizabeth).



Legend:

Existing ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪

Improvements:

Add Bicycle Lanes ▬▬▬▬

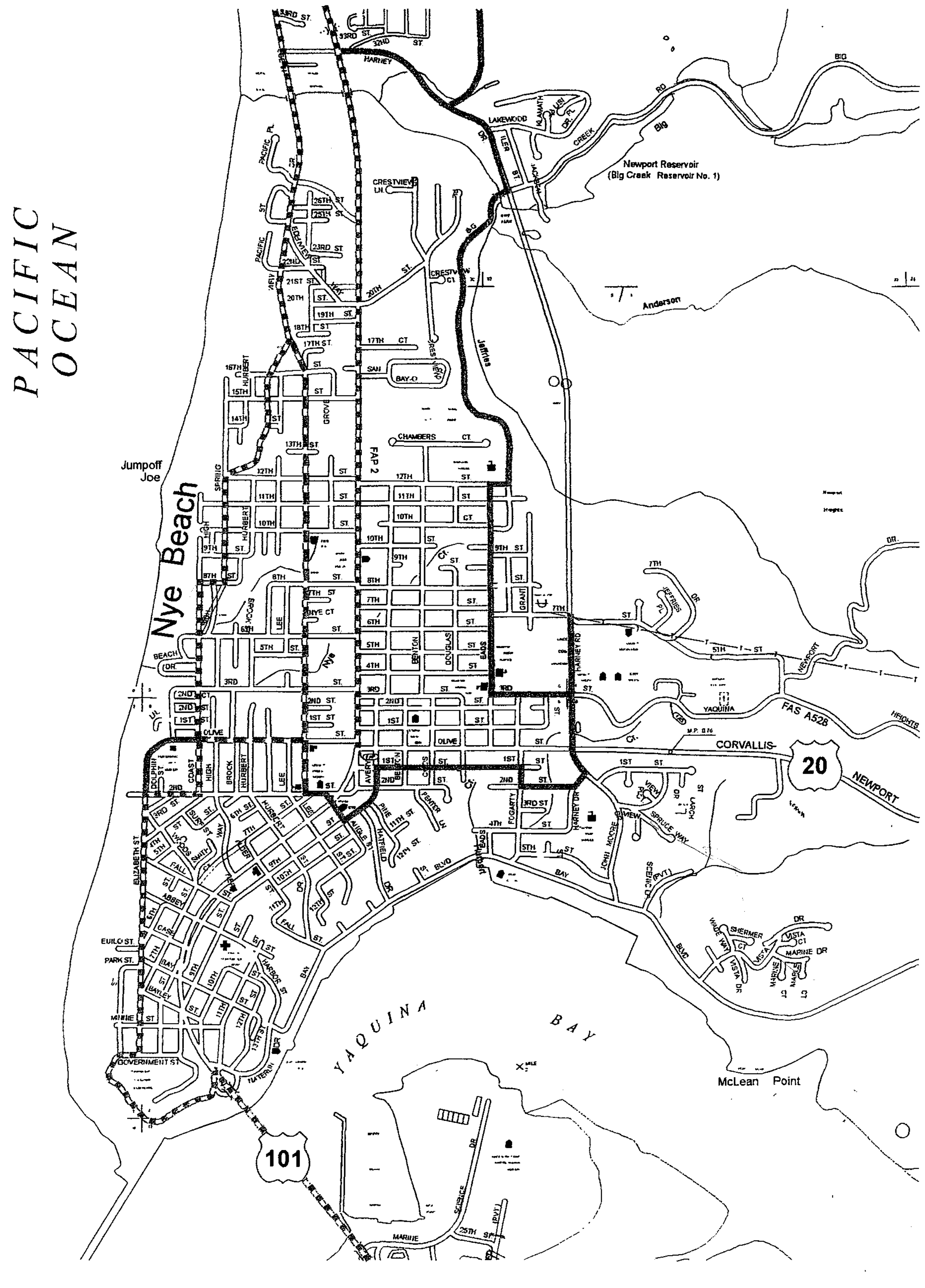
Bicycle Route Only (Signs) ▪▪ ▪▪ ▪▪ ▪▪ ▪▪ ▪▪

0' 1,000'
500' 2,000'

City of Newport
Transportation System Plan

Bicycle Facilities

Fig. 9a



Legend:

Existing ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪

Improvements:

Add Bicycle Lanes ▬▬▬▬

Bicycle Route Only (Signs) ▪▪ ▪▪ ▪▪ ▪▪ ▪▪

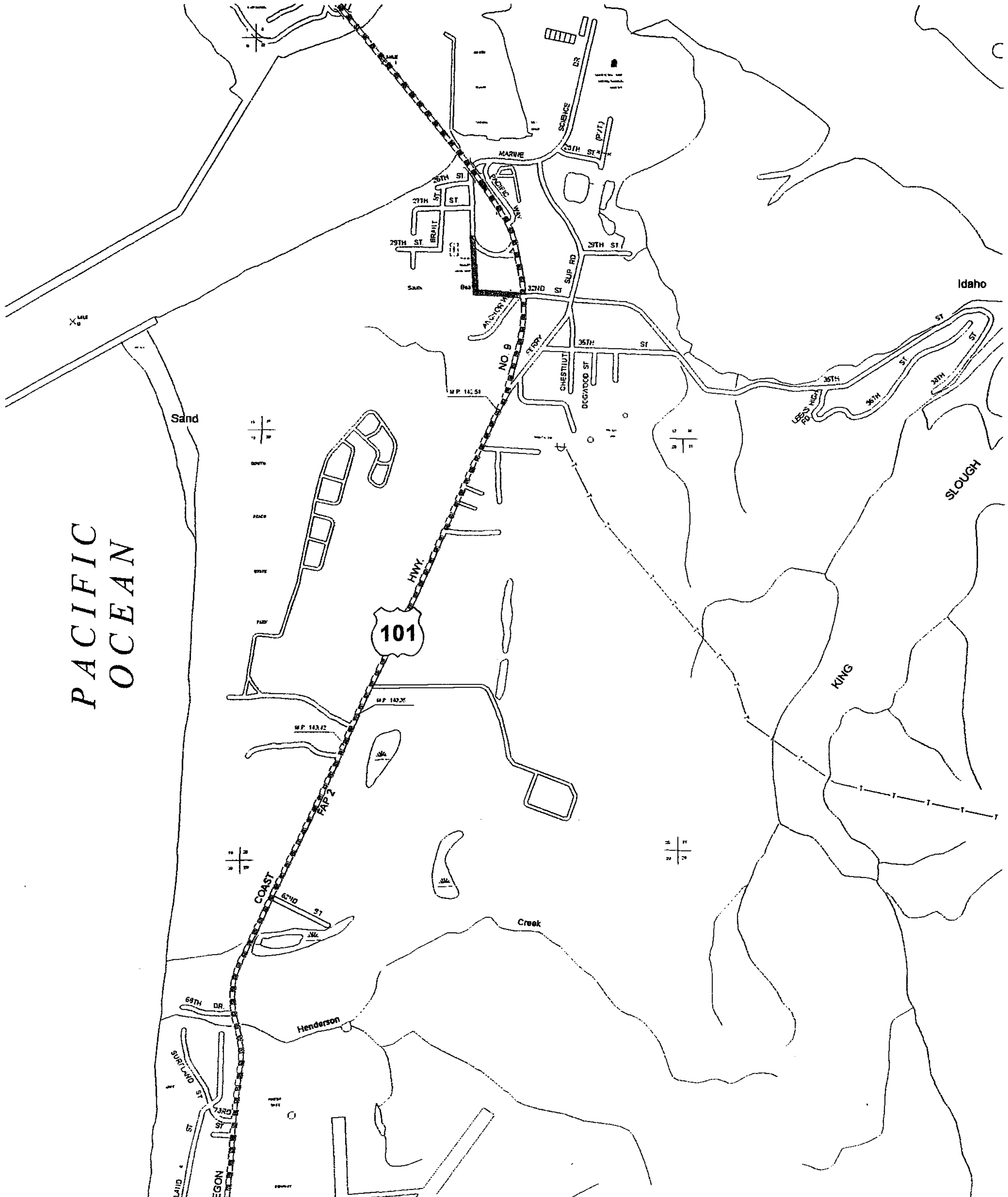
0' 1,000'

500' 2,000'

City of Newport
Transportation System Plan

Bicycle Facilities

Fig. 9b



Note:
Existing bicycle facilities only
south of this map to the city limits.

Legend:

Existing ▪▪▪▪▪▪▪▪

Improvements:
Add Bicycle Lanes ▬▬▬
Bicycle Route Only (Signs) ▪ ▪ ▪ ▪ ▪ ▪

0' 1,000'
500' 2,000'

City of Newport
Transportation System Plan

Bicycle Facilities

Fig. 9c

Table 6 presents the recommended bicycle route improvements required over the next 20 years. The cost estimate for upgrading existing roads to include bicycle lanes has been prepared for each route or series of routes. The cost estimates for bicycle facilities on new roadways have been included in the roadway construction cost estimates.

Table 6: Recommended Bicycle System Improvements

Bicycle Improvements	**Priority (years)**	**Estimated Cost**
Bicycle Parking at major bus stops and bus stations (for tourists)	1-5	$15,000
Bicycle Racks for all Dial-a-Ride vehicles (10 racks)	1-5	$7,500
Complete the East-West Bike Route. Including add striping for bicycle lanes along: • West Olive Street (Elizabeth Street to Nye Street) • SW 2nd Street (Nye Street to Angle Street) • Angle Street (SW 2nd Street to SW 9th Street) • SW 9th Street/Avery Street(Angle Street to SE 1st Street) • * SE 1st Street (Avery Street to Fogarty Street) • Fogarty Street (SE 1st Street to SE 2nd Street) • SE 2nd Street (Fogarty Street to Harney Drive) • Harney Drive (SE 2nd Street to John Moore Drive) • John Moore Drive (Harney Drive to Highway 20)	1-5	$1,500
Provide a bike route on Eads Street (NE 12th Street to NE 3rd Street) and Provide a bike route on NE 3rd Street (Eads Street to Harney Road)	11-15	$78,300
Provide bikeway along Big Creek Road (Harney Drive to NE 12th Street) Also includes sidewalk improvements. *Road will be closed to traffic after completion of the North-South Arterial.*	6-10	$112,500
Provide a north-south alternate bicycle route to Highway 101. (signed route only) Add bicycle routes signs along: • Ocean View Drive (Highway 101 to the new Nye Street extension) • * Nye Street (Ocean View Drive to Olive Street) • Olive Street (Nye Street to the Beach at Elizabeth Street) • Elizabeth Street (Olive Street to SW 2nd Street) - connects to existing bicycle path along Elizabeth Street	1-5	$500
TOTAL COST (Bicycle Improvements)		**$215,300**

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* *To be completed as part of roadway improvement project*

New bicycle lanes will also be built as part of several new roadway projects, including:

- Construct a bicycle lane on one side of the street along the SW Abalone Street Extension to 32nd Street
- Construct a bicycle lane along the new NW Harney Drive Extension (Ocean View Drive to Highway 101 at NE Harney Drive)

Bicycle Standards and Policies

In bicycle planning there is usually a high priority placed on planning and developing new bikeways. However, there needs to be more emphasis and commitment placed on the proper maintenance and operation of existing bikeways to assure acceptable and balanced bikeway programs. Adequate maintenance will help to protect the City's investment in bikeways and continue their safe use and enjoyment. A routine maintenance program should be established to remove debris and to keep the bike lane free of physical problems. Signs and pavement markings should also be inspected regularly and kept in good shape. Poorly maintained bicycle facilities will become unrideable and may become a legal liability.

Law enforcement policies should be also be emphasized to ensure bicycle safety and increase bicycle use. As with any law, lack of enforcement leads to a general disregard for the law. Bicyclists should be required to follow the laws of the road and motorists should not be allowed to use bike lanes for parking. Law enforcement is a necessary component of continued bicycle use and safety.

Transit Plan

Local Intracity Transit

It is difficult for cities this size of Newport (less than 10,000) to support fixed-route transit. The City had attempted to provide such transit service after several years of operation, service was discontinued in July 1991 in response to funding constraints. In November 1992, the new county-wide public transit system, the Central Coast Connection (CCC), began operating. Lincoln County currently provides the combined services of a scheduled stop system and a dial-a-ride service. County employees coordinate the fixed-route system consisting of an intercity shuttle and east and south county vans operating as feeder lines to the intercity shuttle. The CCC shuttle makes intercity runs from Newport to Lincoln City daily. The CCC shuttle and the intercity feeder lines between Siletz, Toledo, Waldport, Yachats, and Newport are open to the general public. The CCC makes loops off the highway to serve specific high-density population or service zones such as large resorts, the hospital, clinics, and low-income housing areas. Two dial-a-ride vans also serve as feeder lines, carrying passengers from less populated areas to the Greyhound station in Newport. Once in Newport, passengers can transfer to the CCC inter-city shuttle buses, the Valley Retriever line, and Greyhound buses.

The dial-a-ride service is currently operated with volunteer drivers weekdays from 8 a.m. to 5 p.m. These vans are generally scheduled to capacity 1 to 2 days in advance. Currently, the dial-a-ride service provided 3000 hours of annual service and approximately provides 450 rides per month. In addition to general public ridership, transit services are being purchased by 22 different county, federal, and tribal agencies. In 1994, this transit service served 109,000 rides over 260 service days, for an average of 419 daily rides.

The Recommended Transit Plan would enhance and expand this existing transit service through the following elements:

- The hours of operation would be extended on weekdays and service would be added on weekends. This would serve minimum wage, off-hour, and shift workers for local restaurants, hotels, and food processing plants.

- Four 27-passenger vans would be added, two for dial-a-ride service and two contracted to Valley Retriever for service from Newport to Bend.

- Shuttle service would be provided to hotels, main tourist attractions (e.g., the Bay Front, beach areas, the Marine Science Center, and the Oregon Coast Aquarium and new parking structures). Two additional vans would be provided for this service.

- There would be funding to increase and improve the dial-a-ride service by subsidizing the use of private taxi service when necessary as a back up. Operating funds would be dedicated for salaries for dial-a-ride drivers.

- Covered bus shelters would be provided at major bus stops including NE 36th/Highway 101, Agate Beach RV Park, South Beach espresso and the State offices at NE 4th Street.

- Bicycle parking would be provided at major bus stops (see above for locations) and bus stations, and bicycle racks would be installed on all dial-a-ride vehicles.

- A centrally located, multi-modal facility would be constructed that would include intra- and inter-city bus transfers, bicycle parking, a park-and ride lot, and offices for taxi and limousine dispatch services and Lincoln County Transit.

Implementation of the Transit Plan is expected to occur over the next 5 to 20 years. The additional vans would be purchased in the shorter time frame, over the next 5 to 10 years as demand indicates. The multi-modal facility is recommended for the 20-year time period, with purchase of appropriate land occurring earlier.

Long Distance/Intercity Transit

The long distance service provided by Greyhound and Valley Retriever is regarded as a benefit to the community and is supported by the city. The Recommended Transit Plan provides this support through provision of a multi-modal facility for transfers between these long distance service providers and city and county transit services. The additional local service recommended in the Plan also supports continued demand for long distance service through better service for connecting trips.

Table 7 displays all the recommended transit improvements included in the Plan with their associated annual or capital costs.

Table 7: Recommended Transit Improvements

Bicycle Improvements	**Priority (years)**	**Estimated Annual Operating Costs**	**Estimated Capital Cost**
Support Continuation of Existing Lincoln County Transit Service	1-20	$434,200	—
Improve Dial-a-Ride Service through the use of private taxis as a backup service	1-20	$8,000	—
Provide covered bus shelters would be provided at major bus stops.	1-5	—	$40,000
Purchase two larger transit vehicles for Dial-a-Ride Service	1-5	—	$130,000
Construct a centrally located multi-modal transit facility	11-15		$500,000
Purchase two large vans and lease to Valley Retriever for service from Newport to Bend	6-10	—	$175,000
TOTAL COST (Transit Improvements)		**$442,200**	**$845,000**

Air/Water/Rail/Pipeline Plans

Air Transportation Plan

The Newport Municipal Airport is owned by the City of Newport. It is classified as a General Aviation, General Utility category airport and is a public airport capable of handling corporate-type aircraft. Existing airport services include scenic flights, flight training, and pilot facilities. The U.S. Coast Guard has exclusive use of one helipad, but a second helipad is available for public use. The U.S. Coast Guard Search and Rescue unit is also based at the airport. The future plan for the airport calls for increased general aviation use and does not include service to commercial aircraft.

The OTP Aviation System Plan has designed the facility as a Level 2 airport in the State's system to be included in the National Plan of Integrated Airport Systems (NPIAS). Level 2 includes *'all potential airports/helicopter/vertiports'*. If the Airport was to attain scheduled commercial air services, its State Level will be upgraded to Level 1 which includes *'all primary commercial air service airports/vertiports'*.

The Newport Municipal Airport Master Plan outlines a staged development program for the airport (see Table 8, below).

Improvements focus on serving an increased number of smaller aircraft. Stage I consists of primarily landside development and is complete. Stage II centers on new general activities from 1995 to 1999. Stage III, from 2000 to 2009, will continue the expansion of airport facilities.

The closest facilities that provide adequate facilities for both air carrier and corporate operations are Portland International Airport and Mahlon Sweet Field in Eugene.

Table 8: Staged Development Program - Projected Development

	LOCAL	FAA	OTHER	TOTAL
STAGE II (1995-1999)				
Road Relocation	$18,000	$162,000	$0	$180,000
Land Acquisition	$1,000	$9,000	$0	$10,000
Hangar Taxiways	$4,000	$32,000	$0	$36,000
Auto Parking	$40,000	$0	$0	$40,000
Aircraft Apron	$11,000	$94,000	$0	$105,000
Clear Zone Earthwork	$10,000	$90,000	$0	$100,000
Runway Marking	$200	$1,800	$0	$2,000
Single-Unit Hangars (5)	$0	$0	$125,000	$125,000
FBO Hangar	$0	$0	$300,000	$300,000
Corporate Hangar	$0	$0	$200,000	$200,000
Airport Maintenance Shop	$200,000	$0	$0	$200,000
ARFF Station/City Fire Station	$9,000	$81,000	$0	$90,000
TOTAL STAGE II	**$293,200**	**$469,800**	**$625,000**	**$1,388,000**
STAGE III (2000-2009)				
Terminal	$300,000	$280,000	$0	$580,000
Auto Parking	$225,000	$0	$0	$225,000
Terminal Roadway	$22,000	$198,000	$0	$220,000
Apron Expansion	$10,000	$90,000	$0	$100,000
Relocate VOR	$50,000	$0	$0	$50,000
Parallel Taxiway Extension	$39,000	$351,000	$0	$390,000
Overlay Runway 16-34 and Taxiway	$88,000	$787,000	$0	$875,000
Runway 2-20 Taxiway	$23,000	$207,000	$0	$230,000
Corporate Hangars (2)	$0	$0	$400,000	$400,000
Single-Unit Hangars (5)	$0	$0	$375,000	$375,000
TOTAL STAGE III	**$757,000**	**$1,913,000**	**$775,000**	**$3,445,000**
TOTAL STAGES II & III	**$1,050,200**	**$2,382,800**	**$1,400,000**	**$4,833,000**

Source: Newport Municipal Airport Master Plan, 1991.

Water Transportation

The upland areas adjacent to, and development within, Yaquina Bay are controlled by the City of Newport, Lincoln County, the Port of Newport and the State of Oregon. The tourism, commercial fishing, and commercial shipping industries that use the bay provide a significant part of the local economy. The Recommended Water Transportation Plan considers a wide variety of needs and acknowledges the competition between marine-related industries for certain tracts of waterfront property.

For the near term, dredging is expected to continue for the Port of Newport. The Army Corps of Engineers is currently evaluating an alternative financing plan to continue this service for all dredging locations including Newport. It is unknown at this time if the outcome of the alternative plan will impact the current dredging level currently committed to the Port of Newport. It is anticipated that the level of Port activity will influence the outcome of that decision.

Recommended improvement projects for the port have been prioritized into three categories based on the timeframe for implementation (see Table 9, below). Funding has not been determined for all of the projects.

Table 9: Recommended Port Improvement Projects

Priority 1 – Develop in the Next 5 Years Project	**Cost ($ x 1,000)**	**Funding Source**
Rehabilitation of Port Dock 5 Pier	75	Port
Multi-level Parking Structure	2,000	UR
Revitalization of Newport International Terminal	Unknown	Port
Rehabilitation of Existing Corps of Engineers Breakwater and 175 feet New West Extension	1,200	Corps/State/Port
Marine Commercial Lease Facility	Undetermined	Undetermined

Priority 2 - Develop in Next 5 to 10 Years Project	**Cost ($ x 1,000)**	**Funding Source**
Widening of Bay Boulevard	Undetermined	Undetermined
Public Viewing Dock	Undetermined	Undetermined

Priority 3 - Develop in Next 10 to 15 Years Project	**Cost ($ x 1,000)**	**Funding Source**
Second Ship Berth	32,000	Port
Second Barge Berth	5,800	Port

Source: Public Facilities Plan, 1990 and Port of Newport Staff Review, 1995.

Rail Transportation

Willamette and Pacific Railroad provides freight service from the Western Willamette Valley to the terminus of the rail line at Toledo, east of Newport. There is no direct service into Newport and service is not anticipated in the 20 year horizon of this transportation plan.

Pipeline Transportation

Current pipeline service includes transmission lines for electricity, cable television, and telephone service, and pipeline transport of water, sewage, and natural gas. The Newport TSP encourages the continued use of these services for the movement of these commodities through the city.

Rapid improvements in telecommunications infrastructure may impact economic development and travel behavior in Newport. The TSP recognizes the increasing likelihood that telecommuting and other "super-highway" technologies will become viable alternatives to physical commuting, thus reducing and possibly even eliminating some auto trips during the peak hours. The use of telecommuting and other similar technologies should be encouraged through land use policy and plans.

For Newport, increased telecommuting could possibly reduce trips into and out of the Willamette Valley and likewise attract new businesses that can take advantage of the increased connectivity provided by improvements and increased options in the telecommunications. The increased telecommunications connectivity has and will continue to result in businesses having more flexibility to choose geographic locations that offer enhanced quality of life such as Newport. It is difficult to ~~quality~~ quantify the potential transportation and economic impacts from increased and improved telecommunication infrastructure. Periodic review of the Transportation System Plan should be cognizant of the potential and evaluate the impacts over time.

Project Implementation Plan

Each of the alternatives were developed to address the transportation system needs of the City of Newport over the next 20 years. The Preferred Alternative includes all of the improvements in the Low Alternative. The consensus of the TAC and the citizens of Newport was that they preferred the additional improvements to the transportation system provided by the Middle Alternative. The concern that remains is to secure financing for the transportation system improvements over the next 20 years in light of the uncertain funding situation at the federal, state, and local levels over that period. The construction of roads, water, sewer, and other infrastructure must obviously be coordinated if Newport is to develop in an orderly and efficient way. Therefore, the plan recommendations should be considered in light of developing infrastructure phasing or sequencing plans, and may need to be modified accordingly.

The recommended implementation of the transportation system improvements was planned with consideration for the timing of the actual need for each of the improvements. The time frame considered was within 5 years, 10 years, and 20 years. Implementation of the pedestrian plan, bicycle plan, transit plan, air/rail/water/pipeline plan, and roadway improvements has been staged to spread investment in this infrastructure over the 20-year life of the plan. The following is the recommended implementation plan for individual projects over the next 20 years.

Funding Options and Financial Plan

The previous section of this document identified the priority and recommended timing for all capital improvement projects identified in the Transportation System Plan (TSP). Overall, the TSP recommends $30.9 million in transportation improvements over the next 20 years[2]. Based on current transportation revenue sources, it is highly unlikely that the City will be able to finance all of the recommended improvements during this 20-year period. The City will most likely need state and/or federal assistance or create additional local revenue sources.

The purpose of this section is to present an informational analysis of Newport's ability to

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[2] This section only analyzes funding alternatives for surface transportation improvements. It excludes air and water (Port of Newport) improvements.

fund the recommended TSP based on existing sources and then present financing options available to the City to meet anticipated monetary needs. The analysis assumes that the City of Newport is currently meeting and will continue to meet all of its maintenance needs through existing revenue sources, and that any additional revenue sources could be used for capital improvement projects. The City has a backlog of some deferred maintenance projects and additional revenue could be used for these projects instead of capital improvements depending on the revisions made. The city will have to prioritize these options as revenue becomes available.

First 5 Years:

Roadway Improvement Projects

North-South Arterial - Phase IA (between US 20 and 3rd Street)	*$300,000*
North-South Arterial - Phase IIA (between Harney Drive and 36th Street)	*$409,000*
Extend NW Nye Street to Ocean View Drive	*$134,000*
Connect SE 1st Street (between Douglas and Fogarty)	*$139,000*
Reconstruct NE 3rd Street (between NE Eads St. and NE Harney Rd.)	*$134,000*
Total Cost	***$1,116,000***

TSM Improvement Projects

Highway 101 Revisions (between Highway 20 and Yaquina Bay Bridge)	*$17,400*
Highway 101/NE Avery Street (access management modification)	*$10,000*
US 20 at SE Avery Street (provide signing and channelization)	*$6,700*
US 101 at SE 1st and South Cape (provide island and channelization)	*$4,000*
US 101 and SW Fall and Frontage Road (change to one-way north on Frontage Road and extend island)	*$2,000*
Naterlin at US 101 - Yaquina Bay Bridge (provide realignment and channelization	*$24,100*
NW 56th Street area Improvements	*$302,000*
Highway 101/Hurbert Street (signal improvements to provide for left turns)	*$150,000*
Highway 101/Highway 20 (signal revisions/improvements. Realign E Olive St.)	*$620,000*
Highway 101/Abbey Street (install traffic signal)	*$200,000*
Total Cost	***$1,336,200***

Pedestrian Improvement Projects

Pedestrian Improvements to Serve Schools	*$160,600*
Total Cost	***$160,600***

Bicycle Improvement Projects

Bicycle Parking at Major Bus Stops and Bus Stations	*$15,000*
Bicycle Racks for all Dial-a-Ride Vehicles	*$7,500*
Complete the East-West Bike Route - Striping	*$1,500*
Provide a North-South Alternate Bike Route - signed route only	*$500*
Total Cost	***$24,500***

Transit Improvement Projects

Provide Covered Bus Shelters at Major Bus Stops	*$40,000*
Purchase Two Larger Transit Vehicle for Dial-a-Ride Service	*$130,000*
Total Cost	***$170,000***

Airport Improvement Projects

Recommended Airport Improvements (1995-1999)	***$1,588,000***

Water (Port) Improvement Projects

Recommended Port Improvements (Next 5 years)	***$3,275,000***

TOTAL COST (first 5 years)	**$7,670,300**

Years 6 - 10*:

Roadway Improvement Projects

North-South Arterial - Phase IB (between 7th Street and NE 32nd Street)	*$2,064,000*
SW Abalone Street (Extension to 32nd Street)	*$182,000*
Extend NW Harney Drive (between US 101 and to Ocean View Drive)	*$232,000*
Widen Highway 20 to Five Lanes (John Moore Drive to Highway 101)	*$960,000*
Total Cost	***$3,438,000***

TSM Improvement Projects

John Moore Road at SE Bay Blvd. (provide realignment and channelization)	*$28,100*
NE 52nd Area Improvements	*$554,900*
Surface Parking Lots for US 101 Business	*$150,000*
NE 57th Street Area Improvements	*$150,000*
Highway 101/NE 32nd Street (install traffic signal)	*$200,000*
Highway 101/NE 52nd Street (install traffic signal)	*$200,000*
Total Cost	***$1,283,000***

Pedestrian Improvement Projects

Sidewalk improvements along Elizabeth Street (SW 2nd St. to Gov't St) west side only	*$26,600*
Sidewalk improvements along NW 6th Street (Coast St. to Nye Street) both sides	*$25,600*
Provide Sidewalk and Bikeway along Big Creek Road (12th Street to Harney Drive) and also add sidewalk on 12th Street (Big Creek Road to Eads Street)	*$112,500*
Total Cost	***$164,700***

Transit Improvement Projects

Purchase Two Large Vans and Lease to Valley Retriever	*$175,000*
Total Cost	***$175,000***

Airport Improvement Projects

Recommended Airport Improvements (2000-2009)	***$3,445,000***

Water (Port) Improvement Projects

Recommended Port Improvements (Next 5 to 10 years)	***Undetermined***

TOTAL COST (years 6 - 10)	**$ 8,505,700**

- Airport Improvements are from 2000 to 2009

Years (11 - 20):

Roadway Improvement Projects

Extend NE Avery Street (between NE 71st ST. and NE 73rd St.)	*$185,000*
Extend SW Abbey Street to SW Elizabeth St.	*$84,000*
Extend NE 5th Street (between 7th Drive and Newport Heights Road)	*$268,000*
Extend Biggs St. to NW 60th St. and improve NW 60th St. to Highway 101	*$38,000*
Reconstruct NW 60th/Biggs Av./NW 55th (between Hazel Ct. and 60th)	*$52,000*
Widen Highway 101 to Five Lanes (between Harney Street to north City Limits)	*$7,165,000*
Widen Highway 101 to Five Lanes (between Yaquina Bay Bridge and SE 123rd St.)	*$10,690,000*
Total Cost	***$18,482,000***

TSM Improvement Projects

Close SW 2nd Street Between Highway 101 and SW Angle Street	*$25,000*
Highway 101/Angle Street (install traffic signal)	*$200,000*
Highway 101/NE 73rd Street (install traffic signal)	*$200,000*
Construct a new parking structure. Restripe Bay Blvd. to accommodate parallel parking south of Fall Street to Naterlin Drive	*$3,207,000*
Total Cost	***$3,632,000***

Pedestrian Improvement Projects

Sidewalk Improvements in Key Pedestrian Areas around Newport (see Table 5)	*$387,100*
Total Cost	***$378,100***

Bicycle Improvement Projects

Provide a Bicycle lanes on Eads Street (between NE 12th St. to NE 3rd St.) and on NE 3rd Street (between Eads St. and Harney Rd.)	*$78,300*
Total Cost	***$78,300***

Transit Improvement Projects

Construct a Centrally Located Multi-Modal Transit Facility	*$500,000*
Total Cost	***$500,000***

Water (Port) Improvement Projects

Recommended Port Improvements (Next 10 to 15 years)	***$37,800,000***

TOTAL COST (years 11 - 20) .... $ 60,879,400

Existing Newport Transportation Funding

Table 10 summarizes the City of Newport's transportation budget for fiscal years 1992/93 to 1995/96. The table reports transportation related revenue by individual source and expenditures by individual category.

The City's largest revenue source for transportation comes for the State Highway Fund (gas tax revenue), which on average, contributes about 70 percent of the annual revenue for transportation. The remaining transportation revenue comes from locally-generated sources, including the City's transportation system development charge (SDC). SDC revenue is highly variable, dependent upon new development, but over the last four years, SDC revenue has contributed between $77,000 and $250,000 per year.

Over the past four years, the City of Newport spent between $367,000 and $970,000 annually on transportation-related expenditures. Typically, the largest percentage of the expenditures are to maintain the City's existing roadway system (between $250,000 to $350,000 per year or 60 to 70 percent of the transportation budget). A portion of the remaining expenditures are spent on capital improvement projects. In fiscal years 1992/93 through 1994/95 the City spent between 20 to 30 percent on capital improvement projects (approximately $70,000 to $130,000 per year). However, in 1995/96, the City spent over $500,000 in capital improvement projects.

Outlook for Transportation Revenue in Newport

To determine whether the City of Newport can financially implement the recommended TSP, future revenues and expenditures must be analyzed. The two major sources for transportation revenue for the City of Newport should remain the State Highway Fund and System Development Charges. The ODOT forecast committee expects the State Highway Fund to grow faster than inflation through 2005 and slower than inflation afterwards. Newport's share of the State Highway Fund should follow a similar trend.

Based on historical trends, the City's primary revenue source for capital improvement projects will come from System Development Charges (SDC). SDC revenue depends heavily on new construction and thus is quite variable. Over the past four years, the City has received between $77,000 and $253,000 per year in SDCs. For this analysis, it is assumed that the City will receive on average $100,000 per year in SDC revenue. Residential and commercial growth in Newport is likely to fluctuate over the next 20 years. However, for this analysis, the SDC forecast assumes a constant residential and commercial growth rate over the 20-year (1996-2016) period, which is estimated to keep SDC revenue constant with inflation.

Traditionally, the City of Newport has received additional revenue from a variety of sources; ISTEA Grants, CFD fund and others. However, to present a more conservative baseline funding analysis, it is assumed that the City's future revenue sources will focus on the State Highway Fund and SDCs.

Table 10: City of Newport Transportation Budget

Fiscal Years 1992/93 to 1995/96

	1992/93 Actual Budget	1993/94 Actual Budget	1994/95 Actual Budget	1995/96 Actual Budget
Beginning Cash Balance	$206,949	$417,050	$613,480	$708,634
REVENUE SOURCES				
State Gas Tax Revenue	$367,878	$396,001	$408,771	$426,705
ISTEA Grant	$0	$0	$0	$42,517
CFD Fund	$5,318	$5,484	$18,342	$2,096
System Development Charges	$253,540	$137,240	$86,467	$77,013
Miscellaneous Revenue	$6,568	$4,157	$11,307	$24,921
Interest	$26,368	$20,466	$32,750	$29,414
TOTAL REVENUE	$659,672	$563,348	$557,637	$602,666
EXPENDITURES				
Payroll Related Expenditures	****	$168,758	$183,895	$234,884
Material and Services	$121,722	$97,624	$100,135	$126,538
Capital Outlays				
Street Improvements	$78,469	$52,794	$99,071	$467,418
Bicycle Improvements	$0	$7,971	$0	$5,000
Sidewalk Improvements	$0	$0	$5,980	$0
Others	$9,375	$9,376	$31,909	$61,653
Transfers	$240,000	$30,930	$36,000	$74,500
TOTAL EXPENDITURES	$449,566	$367,453	$456,990	$969,993
Unappropriated Ending Balance	**$417,055**	**$612,945**	**$714,127**	**$341,307**

Note: Personnel Services for 1992-93 were in public works fund.

Table 11 displays projected future revenue for Newport over the next 20 years.

Table 11: City of Newport Forecast Transportation Revenue 1996 to 2016
(1996 Dollars)

Year	State Highway Fund	SDC Revenue	TOTAL REVENUE
1996	$440,000	$100,000	$527,378
2000	$500,000	$100,000	$589,000
2005	$520,000	$100,000	$609,000
2010	$500,000	$100,000	$589,000
2015	$470,000	$100,000	$564,000
Total (1996-2016)	$9,842,000	$2,000,000	$12,454,448

Note: Historically 85% of the State Highway Fund has been used for maintenance purposes. Approximately 15% of this fund is available for capital improvement projects.

Table 12 displays the total amount of revenue that will be available for capital improvement projects over the next 20 years in Newport. Historically, the City has used approximately 85 percent of the State Highway Fund revenue for maintenance purposes, leaving 15 percent for capital improvement projects. It is therefore assumed that the City will be continue to use 15 percent of the State Highway Fund and all of the SDC revenue for capital improvement projects.

Table 12: Forecast Revenue Available for Capital Improvements vs. Needed Transportation Improvement Costs

Year	Revenue Available for Capital Improvements	Project Capital Costs	REVENUE DEFICIT
1996 - 2000	$1,112,800	$2,807,300	$1,694,500
2001 - 2005	$884,000	$5,060,700	$4,176,700
2006 - 2015	$1,742,500	$23,079,400	$21,336,900
Total (1996-2016)	$3,739,300	$30,947,400	$27,208,100

Note: The City of Newport currently has on hand approximately $263,500 in SDC's collected through this fiscal year available for capital improvements. This figure in included in the above table.

Based on Table 12, the City will not be able to implement the recommended TSP itself through existing revenue sources. Based on these estimates, existing revenue sources will only cover 12 percent of the recommended improvement costs, leaving a deficit of more than $27 million.

Transportation Funding Alternatives

It is clear from Table 12 that the Newport cannot fund the recommended transportation improvements itself entirely through existing revenue sources. To fund all of the needed transportation improvements, the City will need support from State and/or Federal funding programs or need to generate additional local revenue.

Funding for transportation improvement projects typically come from three sources: federal, state, and local governments. The following presents a summary of the funding options and sources available to the City of Newport. The discussion is divided into 2 sections: Federal and State funding opportunities and local funding opportunities. Under the Federal and State funding opportunities, available funding programs and grants are presented along with which specific transportation improvement projects are eligible for funding under each program. For the local funding opportunities, a summary of the options are presented and where possible, an evaluation of the potential revenue from each source is estimated.

Federal State Funding Opportunities

One of the primary funding opportunities available to the City of Newport is receiving money from ODOT for improvements to Highways 20 and 101. ODOT is currently responsible for maintaining these two roadways and could potentially participate in funding improvement projects that improve the level of service along the two highways. The specific projects that fall under this category include:

- All TSM projects along Highways 20 and 101
- All traffic signals along Highways 20 and 101
- Widening Highway 20 to five lanes
- Widening Highway 101 to five lanes.

The total capital cost of these projects is estimated at $20.6 million. It is probably unlikely that ODOT will fund 100 percent of the cost of these projects. However, for the City to implement all of the projects, it will need financial support from ODOT. For the purposes of this funding analysis, it was assumed that ODOT and the City of Newport would share the funding for all the improvements on Highways 20 and 101: 80 percent ODOT - 20 percent Newport for major highway widening projects and a 50/50 split for all TSM and traffic signal improvements.

There also several Federal and State programs administered by ODOT that fund specific types of improvements that could contribute funds for projects in Newport. Some of these programs include:

Immediate Opportunity Fund - This program is administered by ODOT but is used primarily in conjunction with projects funded by the Oregon Economic Development Department. This program is intended to fund infrastructure improvements where an immediate commitment of funds is required to attract or retain industrial and some commercial firms that will provide jobs.

Highway Enhancement Program - This program is designed for safety improvement projects where it can be shown that the project will reduce the frequency and/or severity of accidents and the cost/benefit ratios of the project is greater than one. This program requires a 10 percent local match.

Oregon Bicycle and Pedestrian Program - This program provides grants up to $50,000 for projects that would improve bicycle or pedestrian facilities, including construction or striping of bike lanes on roadways, and provision of sidewalks. This program distributes a total of $450,000 annually to Oregon cities and counties. Many of the pedestrian and bicycle projects included in the TSP would be eligible for partial funding through this program.

Transportation Enhancement Program - This program contributes funds for projects that would improve bicycle and pedestrian facilities. In Oregon, these funds have been spent primarily on off-street bicycle/pedestrian paths. The only project included in the TSP that could potentially qualify for this program would be the creation of a bicycle/pedestrian trail along Big Creek Road.

Community Development Block Grants (CDBG) - The Federal Department of Housing and Urban Development (HUD) has a program known as the Community Development Block Grant Program (CDBG). Cities receive funds based on a formula that includes their size and other demographics, including income levels and housing standards.

In practice, this program is limited to older streets in sections of the city with low to moderate income residents. For example, the City of Medford has used CDBG funds to provide sidewalks and street lighting in older parts of town. CDBG funding would require city staff to write a grant application and, if successful provide audit and compliance reports.

Special Public Works Fund - This program is administered by the Oregon Economic Development Department and provides loans and grants to fund infrastructure in commercial/industrial areas to support local economic development. The project must help create or retain a minimum of 50 jobs to receive funding through this program.

Local (City of Newport) Funding

The last section identified Federal and State funding sources available to the City of Newport to fund the recommended TSP. Based on the assumed percentage participation by ODOT for Highway 101 and Highway 20 project it is estimated that the City could receive approximately $16 million in grants and additional revenue from the State to fund improvements in Newport. However, Table 13 below reveals that even with substantial State support, the City would still have a funding deficit of more than $11 million over the next 20 years.

Table 13 indicates that the City would still need additional local revenue to fund the entire recommended TSP. The following presents some of Newport's local funding options that could be used to raise additional revenue to fund the recommended TSP.

Table 13: Estimated Level of Funded and Unfunded Projects

(1996 Dollars)

	Years 1-5	Years 6-10	Years 11-20	Total
Existing Highway Fund Revenue[1]	\$349,800	\$384,000	\$742,500	\$1,476,300
Existing City's SDC Revenue[2]	\$763,000	\$500,000	\$1,000,000	\$2,263,000
Estimated Additional State Contributions[3]	\$535,100	\$1,024,300	\$14,496,500	\$16,055,900
Total Available Funds	**\$1,647,900**	**\$1,908,300**	**\$16,239,000**	**\$19,795,200**
Total Project Costs	\$2,807,300	\$5,060,700	\$23,079,400	\$30,947,400
Unfunded Project Costs	**\$1,159,400**	**\$3,152,400**	**\$6,840,400**	**\$11,152,200**

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[1] This includes the portion of the Highway Fund available for capital improvement projects (15%, Historically 85% of the Highway Fund has been used for maintenance purposes.

[2] Newport currently has approximately \$263,000 in SDC collected through this fiscal year, which has been added to the Years 1-5 total.

[3] Revenue from potential State and ODOT Programs.

Increase SDC Charges - A transportation system development charge (SDC) is a sliding scale fee which all new development must pay for transportation improvements that result from construction of and trips generated by the development. The fee is normally based on the number of vehicle trips generated by the development. Developers are often given credits that reduce the SDC charge for making improvements to an adjacent arterial or collector street. Many cities and counties within Oregon now use transportation system development charges.

ORS 223.297 to 223.314 prescribe specific requirements that a SDC must meet to be considered legal. The statutes specify that a SDC may be used only for capital improvements and define the range of eligible capital facility improvements (i.e., water, sewer, drainage, transportation, or parks). The ORS also define the method of determining the amount that may be charged for a SDC, the types of projects eligible for funding, and annual review provisions.

The following are some typical features of a SDC:

- They are collected based on a development's impact on the transportation system.
- The proceeds from the collection of the fees are used to fund a portion of the projects needed to increase the transportation system capacity.
- The fee should be reasonable and affordable so as not to prohibit or displace future development to an area without the fee.

- Where possible, the fee should be implemented on an areawide basis to avoid variances in the costs associated with development within a community.

- Projects eligible for funding by a SDC are a part of an adopted Capital Improvements Program.

The use of the transportation SDC is a major source of funding for growth-related transportation improvements. It helps match the availability of funds with the need for funding as new development places additional burdens on street capacity.

The City of Newport is currently charging a transportation SDC of $300 per each new single family dwelling unit and $208 per multi-family unit. The rate for commercial development varies by size and type of development, but the unit of assessment is still based upon $300 (i.e. a typical restaurant is charged 82.33*$300 per 1,000 square feet, light industrial uses are charged 0.73*$300 per 1,000 square feet).

It is estimated that the current SDC rates will raise approximately $100,000 per year (based upon past SDC revenue). However, the large amount of unfunded projects in Table 5 suggests that SDC rates for transportation in Newport are not large enough to charge for the cost of projects needed to serve new development. Based on the current rate, SDC charges over the next 20 years will only cover approximately 20 percent of the needed transportation improvement costs (after accounting for additional State revenue support - $16 million). While Oregon law prohibits overcharging new development it is apparent that new development in Newport is only paying a small portion of the needed revenue to upgrade and build new collectors and arterials in the developing areas.

For comparison purposes, Table 14 displays SDC rates for transportation in Newport to rates in other nearby jurisdictions. Newport has the lowest transportation SDC rates to the other Cities in the Table.

Table 14: SDC Rate Comparisons for Newport and Nearby Communities

City	Single-Family (per unit)	Multi-Family (per unit)
Newport	**$300**	**$208**
St. Helens	$607	$370
Scappoose	$347	$208
Forest Grove	$1,690	--
McMinnville	$1,200	--
Troutdale	$593	--
Newberg	$1,520	$1,020
Washington County	$1,200	$810
Wilsonville	$2,190	$1,560
Oregon City	$1,210	$800

Note: The assessment for commercial development is variable depending upon the size and type of development. Therefore it is difficult to compare between cities.

Since Oregon law prohibits overcharging new development, the comparable SDC rates cannot be too high. The implication is that SDCs in Newport recover less than the full costs of the transportation improvements that new development requires. The level of SDCs, however, must be based on a method that relates the number of trips generated by different land use types to the cost of constructing roadways to accommodate those trips -- a city cannot simply set the rate it wants.

Table 15 below shows various SDC rates needed to fund the recommended TSP. Included in the table are the rates that would be necessary to fund 100 percent of the TSP. Since existing traffic and residents are responsible for some of the needed transportation improvements, it would difficult to justify paying for the entire TSP through SDC charges. Therefore, the necessary SDC rates to fund 40 and 60 percent of the TSP are also displayed in Table 15.

Table 15: SDC Rates Necessary to Fund TSP

		Level of TSP Funded		
Example Uses	Existing SDC	100%	60%	40%
Single Family (per unit)	$300	$1,673	$1,004	$669
Multi-Family (per unit)	$208	$1,138	$683	$455
Light Industrial (per 1,000/sq. feet)	$219	$1,221	$733	$488
Typical Restaurant (per 1,000 sq. ft)	$6,450	$35,970	$21,586	$14,384

Local Gas Tax - The City of Newport or Lincoln County could implement a local gas tax in addition to the state gas tax it currently receives. Five jurisdictions within Oregon currently have a local gas tax - the City of Woodburn ($0.01/gallon), Washington Co. ($0.01/gallon), Tillamook ($0.015/gallon), The Dalles ($0.01/gallon), and Multnomah Co. ($0.03/gallon). The local gas taxes have raised the following amounts:

Woodburn	$0.01/gallon	$ 112,490	(1993)
Tillamook	$0.015/gallon	$ 98,000	(1991)
The Dalles	$0.01/gallon	$ 291,000	(1991)
Multnomah County	$0.03/gallon	$7,466,643	(1993)
Washington County	$0.01/gallon	$1,602,209	(1993)

The Washington County gas tax is shared with cities within the County on a per capita basis. The cities of Tillamook and The Dalles are responsible for collection of their local gas tax. The remaining jurisdictions rely on the State Department of Motor Vehicles for collection and distribution. The state charges an administrative fee for collection.

A gas tax would be most appropriately implemented at the County level, because a county-wide election would be necessary for approval whether the tax would be imposed in Newport or all of Lincoln County, and because the administrative costs would take a larger share of a City gas tax. Based on Newport's size compared to nearby Tillamook, it is estimated that each $0.01/gallon tax would generate approximately $125,000 for the Newport each year. (see Table 16) . Estimated population growth and increased usage of motor vehicles would probably cause revenues from this source to grow at least as fast as inflation in most years, so this revenue source would be relatively stable in inflation-adjusted dollars.

Table 16: Local-Option Gas Tax Estimated Revenue

(1996 Dollars)

	1 cent/gallon	2 cents/gallon	5 cents/gallon
Years 1-5	$625,000	$1,250,000	$3,125,000
Years 6-10	$625,000	$1,250,000	$3,125,000
Years 11-20	$1,250,000	$2,500,000	$6,250,000
Total	$2,500,000	$5,000,000	$12,500,000

Street Utility Fee - The principle behind a street utility fee is that a street is a utility used by the citizens and businesses of a city just like a water pipe or a sewer that supplies a connection to a home or business. A fee would be assessed to all businesses and households by the City for use of City streets based on the amount of use typically generated by that particular use. For example, a single-family home typically generates 10 trips per day, so the fee is based on that amount of use. A small retail/commercial use typically generates 130 trips per day per 1,000 square feet, so the fee for the retail/commercial use would be significantly greater than the fee for the single-family residence.

By law, revenue from a street utility fee could only be used for existing maintenance purposes, not for capital improvement projects. However, this money could be used to supplement revenue from the Highway Fund, which could then be used for capital improvement projects.

A street utility fee is currently being used in Medford, where it is raising approximately $1.3 million a year. The amount of the fee is based on the land use classification as it relates to trip generation. A single-family residence generating an average of 10 trips per day pays $2.00 per month. The street utility fee was implemented in 1991 in Medford and has been challenged in court and sustained on two occasions. The revenue generated by the fee is used for operating and maintaining the street system. The City of Roseburg is currently contemplating a similar fee. Roseburg currently has a similar fee for storm water charges which they use for operating, maintaining, and constructing storm drainage facilities. The Roseburg storm drainage utility fee has also been challenged and sustained by the courts.

Table 17 presents an estimated amount of revenue that could be generate from a street utility fee in Newport. A $2 per month fee is estimated to generate approximately $200,000 per year.

Table 17: Street Utility Fee Estimated Revenue
(1996 Dollars)

	$2/Month Fee*	$3/Month Fee*	$5/Month Fee*
Years 1-5	$1,000,000	$1,500,000	$2,500,000
Years 6-10	$1,000,000	$1,500,000	$2,500,000
Years 11-20	$2,000,000	$3,000,000	$5,000,000
Total	$4,000,000	$6,000,000	$10,000,000

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* The rates per month are per residential dwelling unit. The rates for commercial businesses would be higher (based on their type of business, i.e. the higher the trip generation rate the higher the fee)

General Obligation Bonds (G.O. Bonds) - Bonds are sold by a municipal government to fund transportation or other types of improvements, and are repaid with property tax revenue generated by that local government. G.O. bonds fall outside of the limitations of Ballot Measure 5 but require voter approval.

Cities all over the state use this method to finance the construction of transportation improvements. For smaller jurisdictions, the cost of issuing bonds vs. the amount that they can reasonably issue creates a problem. Underwriting costs can become a high percentage of the total cost for smaller issues. According to a representative of the League of Oregon Cities, the state is considering developing a Bond Pool for smaller jurisdictions. By pooling together several small bond issues, they will be able to achieve an economy of scale and lower costs.

Within the limitations outlined above, G.O. bonding is an alternative for funding transportation improvements.

Property Taxes - Local property tax revenue (city or county) could be used to fund transportation Improvements. Revenue from property taxes ends up in the local government general fund, where it is used for a variety of uses. Precedents for the use of property taxes as a source of funding for transportation capital improvements can be found throughout the state. However, use of property taxes for transportation capital improvements will continue to compete with other general government services under the funding limitation set by Measure 5 for general government services (i.e., within the $10.00 limitation). Consequently, because the potential for increased funding from property tax revenue is limited by Ballot Measure 50 and by competition from other users who draw funds from the general fund; it is not a practical source for financing major street improvements.

Revenue Bonds - Revenue Bonds are those bonds sold by a city and repaid with "revenue" from an enterprise fund that has a steady revenue stream, such as a water or sewer fund. The bonds are typically sold to fund improvements in the system that is producing the revenue.

Revenue bonds are a common means to fund large, high cost capital improvements that have a long useful life. A sewage treatment plant is a good example where the high construction costs over a short period makes it difficult to pay for from operating funds, yet a long-term revenue stream from sewer revenues makes the sale of bonds a viable alternative that spreads the cost of the facility improvement over a long period.

Revenue bonds have been used to fund transportation improvements in the past. For example, in 1989 the City of Independence sold revenue bonds to fund street improvements with vehicle fuel tax revenues pledged as the method of repayment.

An example of where revenue bonds could be used is to fund the recommended parking structure in downtown Newport. The parking fees could be used to pay the debt service on the bonds.

Local Improvement District (LID) - Through a local improvement district (LID), a street or other transportation improvement is built and the adjacent benefited (i.e., local) properties are assessed a fee to pay for the improvement. LID programs have wide application. The LID method is used primarily for local or collector roads, although arterials have been built using LID funds in certain jurisdictions.

There are two specific neighborhood street improvement projects that could be funded through LIDs. These include the reconstruction of NE 3rd Street (between NE Eads St. and NE Harney Road) and the extension of NW Nye Street to Ocean View Drive. The benefits of these two projects can be directly related to the adjacent neighborhood.

Funding Conclusions

There are a variety of funding options available to the City of Newport. To fund all of the recommended capital improvement projects in the TSP would most likely require a number of new revenue sources. For purposes, of illustration, we have provided an example of what it would take to fund the entire TSP (See Table 9). The funding options include:

- Obtain $16 million in additional revenue from State grants and programs.
- Use revenue bonds to pay for recommended parking structure.
- Create Local Improvement Districts to pay for neighborhood street improvement projects.
- Increase SDC charges from $300/dwelling unit to $837 (from 20% to 50% of needed capital expenditures).
- Implement a city-wide street utility fee (i.e. $2/month for all residences).

Table 18 shows that the new funding sources would generate a surplus of revenue of about $1.0 million in Years 1-5; if this surplus were carried forward into Years 6-10, there would be enough revenue all of the recommended capital improvement projects.

Table 18: Total Funding From Various Sources to Fund the Recommended TSP (1996 Dollars)

	Years 1-5	Years 6-10	Years 11-20	Total
Existing Highway Fund Revenue	$349,800	$384,000	$742,500	$1,476,300
City's Existing SDC Revenue	$763,000	$500,000	$1,000,000	$2,263,000
Additional State Contributions (ODOT)	$535,100	$1,024,300	$14,496,500	$16,055,900
Total Available Funds	**$1,647,900**	**$1,908,300**	**$16,239,000**	**$19,795,200**
Revenue Bonds for Parking Structure	$0	$0	$3,207,000	$3,207,000
Local Improvement District for Neighborhood Street Improvements	$268,000	$0	$268,000	$536,000
Increase SDC Charge (50% of needed TSP)[1]	$895,000	$895,000	$1,790,000	$3,580,000
Street Utility Fee ($2/month residential)	$1,000,000	$1,000,000	$2,000,000	$4,000,000
Total Revenue from New Sources	**$2,163,000**	**$1,895,000**	**$7,265,000**	**$11,323,000**
TOTAL REVENUE	**$3,810,900**	**$3,803,300**	**$23,504,300**	**$31,118,200**
Total Project Costs	$2,807,300	$5,060,700	$23,079,400	$30,947,400
Unfunded Project Costs	**($1,003,600)**	**$1,257,400**	**($424,600)**	**($170,800)**

() under unfunded project costs means a surplus would exist.

[1] Includes additional SDC revenue.

Table 18 displays a potential scenario that would fund the entire recommended TSP over the 20-year period. While this may not be the direction the City of Newport chooses, it does show that recommended TSP can realistically be implemented over the next 20 years. Regardless the following funding strategy should include the following:

- Aggressively pursue federal and state funding options for capital improvement projects, especially for Highways 20 and 101..
- Increase System Development Charges (SDC) to a more comparable rate with surrounding communities. (i.e. - 50 to 60% of the needed revenue, $875 to $1,000 per dwelling unit)
- Seek one or more of the local funding options previously discussed.
- Carefully prioritize capital improvement projects.

Implementing Ordinance Recommendations

The Transportation Planning Rule (TPR) specifies that each local government in Oregon shall amend its land use regulations to implement the adopted transportation system plan. The following sections address specific requirements of the TPR related towards the implementation of the Transportation System Plan. Each section provides a summary of the TPR requirement, followed by proposed recommendations for the City of Newport to achieve each TPR objective.

TPR Requirement: OAR 660-12-045 (2) **- Land Use or Subdivision Ordinance regulations, to protect the function of transportation facilities, corridors and sites.**

subsequent requirement

TPR Requirement: OAR 660-12-045 (2)(a) and (b) - Access Control Measures/ and Standards to Protect Future Operation.

Summary: Local governments shall adopt access control measures, which include; driveway and public road spacing, median control and signal spacing standards, which are consistent with the functional classification of roads and consistent with limiting development on rural lands to rural uses and densities and provide standards to protect future operation of roads, transitways and major transit corridors.

Recommendation: Access management is important in maintaining efficient operation of a transportation system. The City should implement and add to the City Code, the recommendations of the Access Management Plan. These recommendations include:

> Implement an access management strategy for the established and developing areas of the City of Newport along Highway 101 and Highway 20 that supports the City's Transportation Goal, and ensures that Highway 101 and Highway 20 can accommodate traffic in a safe and efficient manner as traffic increases. Specific access management standards along the facilities are as follows:
>
>> In established areas of the City of Newport,[3] encourage consolidation or reduction of accesses as possible during property redevelopment and/or frontage improvements. Spacing goals for the established areas are 500 feet for driveways, 1/4 mile for public roads and 1/2 mile for signals. As redevelopment occurs, these spacing standards and access management tools should be evaluated and applied as appropriate to the specific needs of the project.
>>
>> In developing areas of the City of Newport,* as sites develop or redevelop, accesses are to be planned, consolidated and/or reduced to meet the spacing standard. New development will comply with access management standards. Spacing standards for primary arterials in developing areas are 800 feet for driveways, one-half to one mile for public roads, and one-half to one mile for

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[3] See figure 3 of the City of Newport Access Management Plan

signals.

* See Figure 3 of the City of Newport Access Management Plan

Private access spacing standards for minor arterials should be modified to include the following:

> Spacing standards for private access on minor arterials in non-residential areas shall be 200' - 400'. In residential areas, private access spacing on minor arterials shall be 150' - 300'.

TPR Requirement: OAR 660-12-045 (3)(a) - **Land Use or Subdivision Regulations to provide for safe and convenient pedestrian, bicycle and vehicular circulation.**

subsequent requirements

TPR Requirement: OAR 660-12-045 (3)(a) - Bicycle Parking

Summary: The rule requires bicycle parking facilities as part of new multi-family residential developments of four units or more, new retail, office and institutional developments, and all transit transfer stations and park and ride lots.

Recommendation: Currently, the Newport's parking requirements does include provisions for bicycle parking. Currently bicycle parking facilities are required as part of new multi-family residential developments of 4 units or more and new retail, office, and institutional developments. The required minimum number of bicycle parking spaces are as follows:

Parking Spaces Required	Bicycle Spaces Required
1 to 4	0
5 to 25	1
26 to 50	2
51 to 100	3
Over 100	1/50

Recommendation: The City's current bicycle parking requirements are adequate to meet the TPR objectives.

TPR Requirement: OAR 660-12-045 (3)(b) - Safe and Convenient Bicycle and Pedestrian Access

Summary: Facilities providing safe and convenient pedestrian and bicycle access shall be provided within and from new subdivisions, planned developments, shopping centers and industrial parks to nearby residential areas, transit stops, and neighborhood activity centers, such as schools, parks and shopping. This shall include:

- Sidewalks along arterials and collectors in urban areas;
- Bikeways along arterials and major collectors;

- Where appropriate, separate bike or pedestrian ways to minimize travel distances within and between the areas and developments listed above.

Recommendations: The City currently does require the construction of sidewalks on new streets created through subdividing or partitioning or the upgrading of streets within the incorporated portion of Newport. The City should continue the policy that requires new sidewalks be constructed along all arterial and collector streets as well as local roads in new subdivisions.

Pedestrian routes should be located along or visible from streets and linked to local destinations and building entrances. Primary pedestrian routes should be bordered by residential fronts (rather than back yards), public parks, plazas, or commercial uses. Where street connections are not feasible, short pedestrian paths should provide connections between residential and retail areas. Routes through parking lots or at the rear of residential developments should be avoided.

The recommended standard for sidewalks widths is five feet in residentially zoned areas, and at least six feet along arterial streets and adjacent to commercial and industrial areas.

Wheelchair ramps and other facilities should be provided as required by the Americans with Disabilities Act (ADA). The lower lip of the wheelchair ramp shall be flush with the roadway surface.

Currently, Newport does not have implementing ordinances related to the location of or minimum standard for bicycle lanes. The City should require bicycle lanes on all City streets outlined in the Bicycle Plan. The bicycle lanes should be implemented as; 1) the identified existing streets are upgraded, or 2) the identified new roadways are constructed.

Bikeways should also meet the minimum requirements of the 1995 Oregon Bicycle Plan and AASHTO's Guide for the Development of Bicycle Facilities. The City should provide bike lanes that range in widths from four-feet to six-feet, providing wider lanes on roads with higher vehicle speeds and larger traffic volumes. Right-of-way standards need to be adjusted where on-street parking is desired.

TPR Requirement: OAR 660-12-045 (3)(e) - Internal Pedestrian Circulation in New Developments.

Summary: Internal pedestrian circulation shall be provided in new office parks, and commercial developments through clustering of buildings, construction of pedestrian ways, skywalks, where appropriate, and similar techniques.

Recommendation: A walkway should be provided to each street abutting the property. A walkway should be provided for every 300 feet of street frontage or for every eight rows of vehicle parking. A walkway should also be provided to any bikeway or walkway along a frontage of the site which is not bordered by a street.

Sidewalks and walkways must connect the pedestrian circulation system to other areas of the site such as other buildings, parking lots, children's play areas, required outdoor areas, and any pedestrian amenities, such as plazas, resting areas and viewpoints.

The onsite circulation system should incorporate a streetscape which includes curbs, sidewalks, pedestrian scale light standards and street trees.

Walkways should be constructed to sidewalk standards except for portions of walkways in driveways and other vehicle maneuvering areas which shall be raised at least 3" and paved with a different material than the surrounding driveway.

TPR Requirement: OAR 660-12-045 (6) - Improvements to Facilitate Bicycle and Pedestrian Travel.

Summary: Local governments shall identify improvements to facilitate bicycle and pedestrian trips to meet local travel needs in developed areas. Appropriate improvements should provide for more direct, convenient and safer bicycle or pedestrian travel within and between residential areas and neighborhood activity centers.

Recommendation: The City should ensure that pedestrian and bicycle access is maintained between residential neighborhoods. Specific measures should include; constructing walkways between cul-de-sacs and adjacent roads, providing walkways between buildings, and providing direct access between adjacent uses. Another measure to facilitate pedestrian and bicycle travel is to narrow the street width along local streets.

TPR Compliance

In April 1991, LCDC, with the concurrence of ODOT, adopted the Transportation Planning Rule, OAR 660 Division 12 (updated 1995). The TPR requires local jurisdictions to prepare and adopt a Transportation System Plan by May 1997. Outlined below is a list of recommendations and requirements for a TSP for an Urban Area with a population between 2,500 and 25,000, and how each of those were addressed in the Newport TSP.

Development of a TSP

TPR Recommendations/Requirements	**Newport TSP Compliance**
Public and Interagency Involvement	
Establish Advisory Committees.	A project management team and an advisory committee were established at the outset of the process. Membership on the management team consisted of ODOT and City staff. Membership on the advisory committee included members of the public, public agencies and utilities, and City and ODOT staff.

Develop information material.	A survey was mailed to all city residents along with a meeting announcement. Mailers for each open house were included with water bill mailings. There were articles in the local newspaper prior to each open house.
Schedule informational meetings, review meetings, and public hearings throughout the planning process. Involve the community.	A total of three open houses were held throughout the planning process. Stakeholder interviews were conducted with 24 citizens. The meetings were advertised by direct mail to all residents and through the local newspaper.
Coordinate Plan with other agencies.	Coordination with local government agencies was accomplished by including them on the advisory committee, adding them to the mailing list, and through individual project briefings or meetings.

Review Existing Plans, Policies, Standards, Laws

Review, evaluate existing comprehensive plan.	The following plans were reviewed as part of the development of the TSP: *Oregon Transportation Plan, 1991; Oregon Highway Plan, 1991; Lincoln County Comprehensive Plan, 1990; Oregon Coast Highway Corridor Master Plan, 1995; Lincoln County Transit Plan, 1993; Newport Comprehensive Plan, 1991; Newport Transportation Plan and Update, 1981 and 1989; Public Facilities Plan for City of Newport, 1990; Newport Municipal Airport Master Plan, 1991; Newport Peninsula Urban Design Plan, 1994.*
Perform land use analysis.	Existing and future land use patterns were reviewed to analyze current travel patterns and future transportation needs. A more detailed analysis was conducted for the South Beach Area, which has large tracts of undeveloped land. The findings are presented in Section 5.
Review existing ordinances.	The existing City Subdivision Ordinance, Zoning Ordinance, and City Engineering

	Standards were reviewed for adequacy in the development of the Newport TSP.
Review existing significant transportation studies.	Significant transportation studies reviewed as part of the Newport TSP include the above-mentioned plans.
Review capital improvements programs, public facilities plans.	Capital improvements programs for the City and public facilities, and public facilities plans were reviewed as mentioned above.
Inventory Existing Transportation System	
Street system (number of lanes, lane widths, traffic volumes, levels of service, traffic signal locations and jurisdiction, pavement conditions, structure locations and conditions, functional classification and jurisdiction, truck routes, number and location of accesses, safety, substandard geometry).	An inventory of the existing street network, traffic volumes, traffic control devices, accident history, and levels of service in provided in Section 4 of the TSP.
Bicycle ways (type, location, width, condition, ownership/jurisdiction).	A summary of the existing bicycle route system is given in Section 4.
Pedestrian ways (location, width, condition, ownership/jurisdiction).	A summary of existing sidewalks in the in the City is given in Section 4.
Public Transportation Services (transit ridership, routes, frequency, stops, fleet, intercity bus, special transit, services).	A summary of the existing public transportation services in presented in Section 4.
Intermodal and private connections.	Identification of private connections is given in Section 4; there are no significant intermodal services in Newport.
Air transportation.	A summary of existing air service facilities is provided in Section 4.
Freight rail transportation.	A summary of existing freight rail services is provided in Section 4.
Water transportation.	A summary of water transportation services in provided in Section 4.
Pipeline transportation.	A summary of pipeline transportation is

	provided in Section 4.
Environmental constraints.	A discussion of potential environmental constraints for transportation projects is included in Section 3.
Population, employment forecasts.	Development of the forecast of transportation needs was based on population and employment numbers obtained from the Newport Comprehensive Plan, windshield surveys, and City staff information.
Determine Transportation Needs	
Forecast population, employment.	Population and employment forecasts were developed based on the Newport Comprehensive Plan, economic data, and past growth trends with the input of the Management Team. This information was used in the modeling that was done in developing the Newport TSP, based on the QRS II transportation modeling package. The model development is discussed in Section 6.
Determination of transportation capacity needs (cumulative analysis, transportation gravity model.	Future daily traffic assignments were developed using the QRS II model developed by ODOT, described in Section 6. Operation analyses were conducted on the Highway 101/20 intersection, as discussed in Section 5.
Other roadway needs (safety, bridges, reconstruction, operation/maintenance).	An analysis was performed for the Yaquina Bay Bridge and is described in Section 5. Non-capacity-related transportation needs are not identified as part of this study.
Freight transportation needs.	The recommended TSP will provide for adequate freight movement by highway. Rail freight does not currently operate in Newport.
Public transportation needs (special transportation needs, general public transit needs).	Public transportation needs were analyzed and modeled, and the Transit Plan in the TSP includes both special and general public transit needs.

Bikeway, pedestrian needs.	Both a bicycle network and a pedestrian network to serve local, tourist and through travel are included in the TSP.
Develop and Evaluate Alternatives	
Update community goals and objectives.	Goals and objectives for the TSP were established through a public process, as described in Section 2.
Establish evaluation criteria.	Evaluation criteria were established based on the TSP Goals and Objectives, and were applied to TSP Alternatives as described in Section 6.
Develop and evaluate alternatives (no-build system, all build alternatives, transportation system management, alternative/feasibility, improvements/additions to roadway system, use alternatives, combination alternatives).	Section 6 identifies the transportation system alternatives to assess the long-term transportation needs, including: 1) No-Build Alternative or base case; 2) Low Alternative; 3) Middle Alternative; and 4) High Alternative. Each alternative has a TSM component, and a transit component.
Select recommended alternative.	The Middle Alternative was chosen as the preferred alternative. The recommended TSP provides alternative mode choices to reduce reliance on the single-occupant vehicle (see TSP).
Produce a TSP	
Transportation goals, objectives and policies.	Specific recommendations regarding transportation goals and policies are outlined in the TSP.
Streets plan element (functional street classification and design standards, proposed facility improvements, access management plan, truck plan, safety improvements).	The Streets Plan element is outlined in the TSP and shown in Figures 1 to 3. The Access Management Plan is included.
Public transportation element (transit route service, transit facilities, special transit services, intercity bus and passenger rail).	The Public Transportation element is outlined in the TSP.
Bikeway system element.	The Bicycle Plan is outlined in the TSP.

Pedestrian system element.	The Pedestrian Plan is outlined in the TSP.
Airport element (land use compatibility, future improvements, accessibility/connection/conflicts with other modes).	The Airport element is outlined in the TSP.
Freight rail element (terminals, safety).	Rail service is not provided within Newport but terminates to the east in the City of Toledo.
Water transportation element (terminals).	The Water Transportation element is outlined in the TSP.
Transportation System Management (TSM).	TSM is included in the Preferred Alternative as outlined in the TSP. Access management is also described.
Transportation Demand Management (TDM).	A TDM element is not applicable per OAR 660-12-020 (2)(f) and (g).

Implementation of a TSP

Plan Review and Coordination

Consistent with ODOT and other applicable plans.	To follow.

Adoption

Process complete?	Scheduled for Fall 1997.

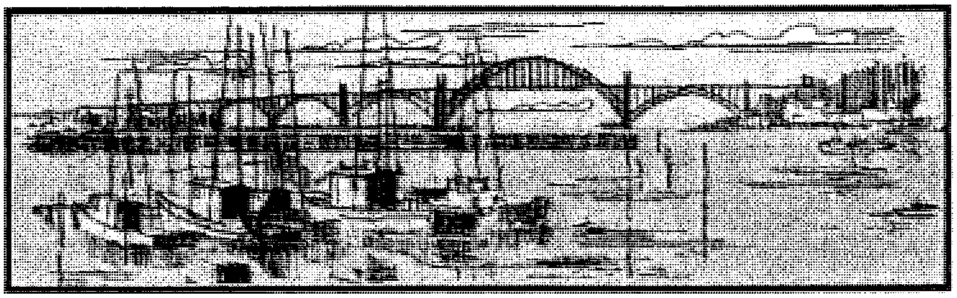
Implementation

Ordinances (facilities, services and improvements; land use regulations).	To be developed by City of Newport staff.
Transportation financing/capital improvements program.	The transportation finance options are discussed Section 6. The capital improvements program is to be developed.

DOCUMENT 2

CITY OF NEWPORT

ACCESS MANAGEMENT PLAN



Prepared by:

Parsons Brinckerhoff Quade & Douglas, Inc.

June 1997

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

NEWPORT ACCESS MANAGEMENT PLAN

Introduction

The purpose of the Access Management Plan is to define an effective access management program that will enhance mobility and improve the safety of roadways in the City of Newport. Access management strategies that limit the number of conflict points, separate conflicts as much as possible, reduce deceleration requirements and separate turning traffic from through traffic will all contribute to better mobility and safety on the City of Newport's roadways.

The primary focus of this access management plan is on the major arterials in the City of Newport; Highway 101 and Highway 20. The plan seeks to maintain the function of these roadways as the primary through routes in the City of Newport. The Access Management Plan as detailed in the following sections, establishes policies and criteria that support this function.

Background

State Highways 101 and 20 are the primary arterials in the City of Newport. Travel on these highways has greatly increased due to the growth of employment and tourism in the city over the last 15 years. The City of Newport has grown at a mostly steady pace since its incorporation in 1882, with a population of 9,785 in 1996. Population is expected to reach 15,200 by 2016. In addition to these year round residents, there are numerous vacation homes in the City, as well as seasonal increases in population due to tourism. This increases the actual number of users for City services, especially the transportation system.

It is estimated that between four and five million people annually travel through Newport. In 1985, the Cascades West Economic Development District estimated that tourism accounted for nearly 38 percent of all jobs in Lincoln County. As of 1991, there were approximately 1,500 hotel/motel units and 782 recreational vehicle spaces within the City of Newport. Tourism continues to play a strong role in the local economy and place a strong demand on the local transportation system with the addition of the Mark Hatfield Marine Sciences Center and Oregon Coast Aquarium in the same South Beach area. The recent addition of the whale facility and the arrival of Keiko at the aquarium have spurred tourism to this site beyond that experienced in recent years. Tourism is generally on an upward trend caused by a variety of factors, including the general economic conditions, population growth in Western Oregon, and the popularity of the Northwest with retirees and visitors.

Highway 101 is the major north-south transportation link for Newport, as well as the major route for the Oregon coast from Washington to California. The increased travel demand on Highway 101 has resulted in traffic congestion and delay in getting on or across the highway, which is worse during peak tourism months. Traffic volumes have grown over time at an average rate of 2 percent, but from 1993 to 1994, the ADT increased 2.56 percent. With the installation of the additional tourist attraction of Keiko and the whale facility, traffic volumes for 1995 and 1996 are expected to show a continuation of strong growth. Available count information collected in 1996 indicated that seasonal traffic is about 6 percent higher for the summer months of 1996 than would have been projected using recent annual growth trends.

Highway 20 is the major east-west route between Newport and the Interstate 5 corridor and points in between, as well as one of the primary east-west routes for the central Oregon coast. Traffic volumes along Highway 20 are considerably less than Highway 101. Although the ADT did not change between 1992 and 1993, there was a 2.38 percent increase in the following year.

City minor arterial streets are SW Abalone Street, SW 32nd Street, SE Bay Boulevard, SE Ferry Slip Road, Harney Drive, SE John Moore Road, the proposed North-South Arterial, and SE OSU Drive. The remaining roadways are collector and local roads. Figure 1 summarizes the functional classification of the City of Newport roadways.

Access Management Requirements & Tools

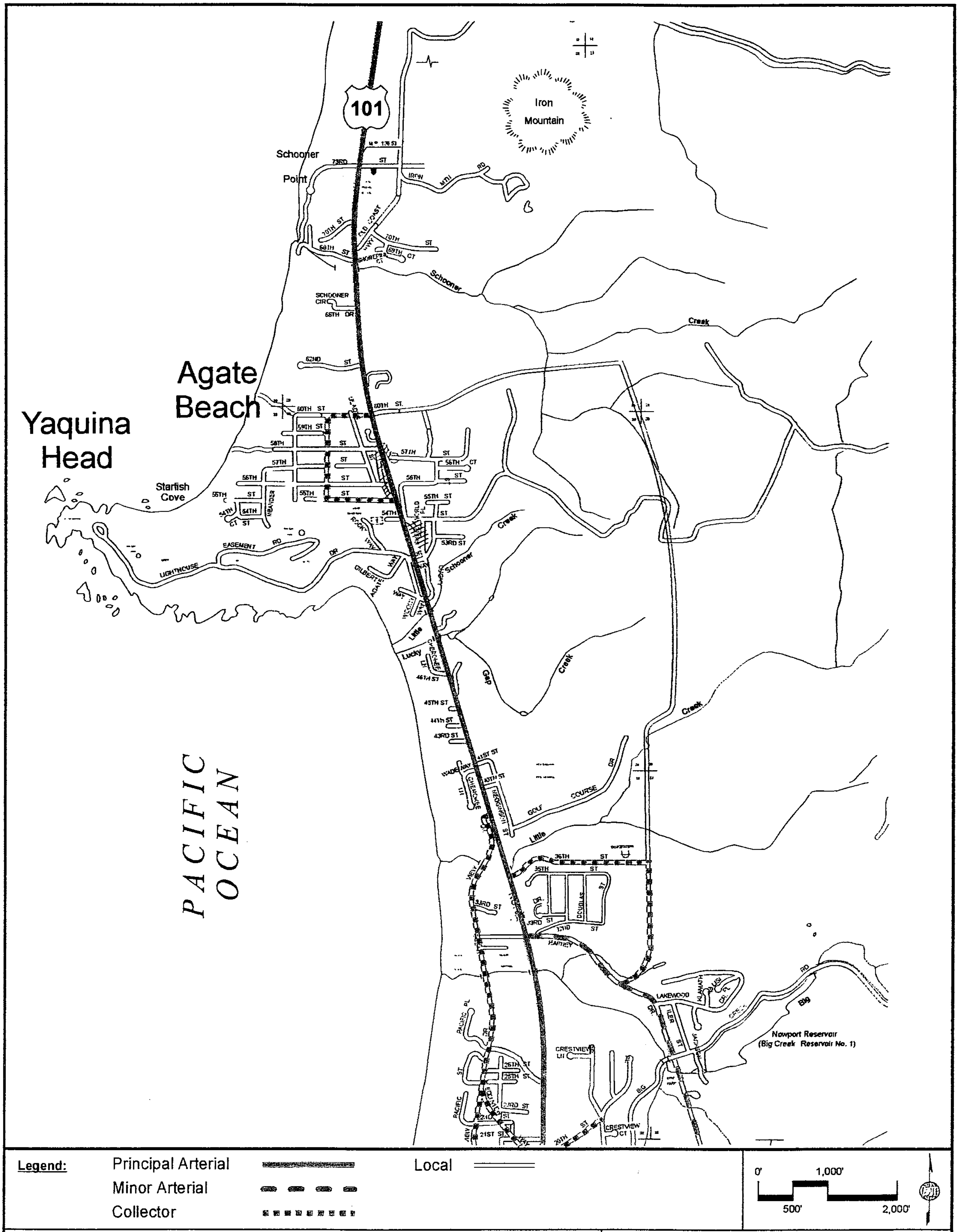
The Access Management Plan must address the growth in traffic in Newport through planning for the future transportation system. The Oregon Transportation Planning Rule requires in section 660-12-045 subsection (2):

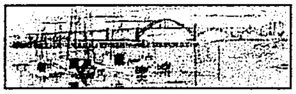
> *Local governments shall adopt land use or subdivision ordinance regulations, consistent with applicable federal and state requirements, to protect transportation facilities, corridors and sites for their identified functions. Such regulations shall include: (a) Access control measures, example, driveways and public road spacing, median control and signal spacing standards, which are consistent with the functional classification of roads and consistent with limiting development on rural lands to rural uses and densities.*

The 1991 Oregon Highway Plan (OHP) sets forth access management categories and standards for state highways, establishing six access management categories for ODOT's highway system. These categories are discussed in the plans and policies section of this plan.

Access management can be most effectively implemented when it is integrated into the land use permitting process. For developing areas, this allows jurisdictions an immediate tool to implement their access management goals as these areas apply for permits and submit plans for agency review. Applying access management to a developed arterial –representative of the conditions of many sections of Highway 101 and Highway 20 in the City of Newport – is a much more difficult due to right-of-way limitations and the economic concerns of adjacent property owners. In such areas, access management can best be implemented as adjacent properties redevelop or as part of roadway improvement or retrofit plans.

Access management is a set of measures to regulate access to streets, roads and highways from public roads and private driveways. The purpose of access management is to maximize the efficiency and safety of the existing roadway while preserving the flow of traffic and limiting the number of traffic conflicts. A traffic conflict

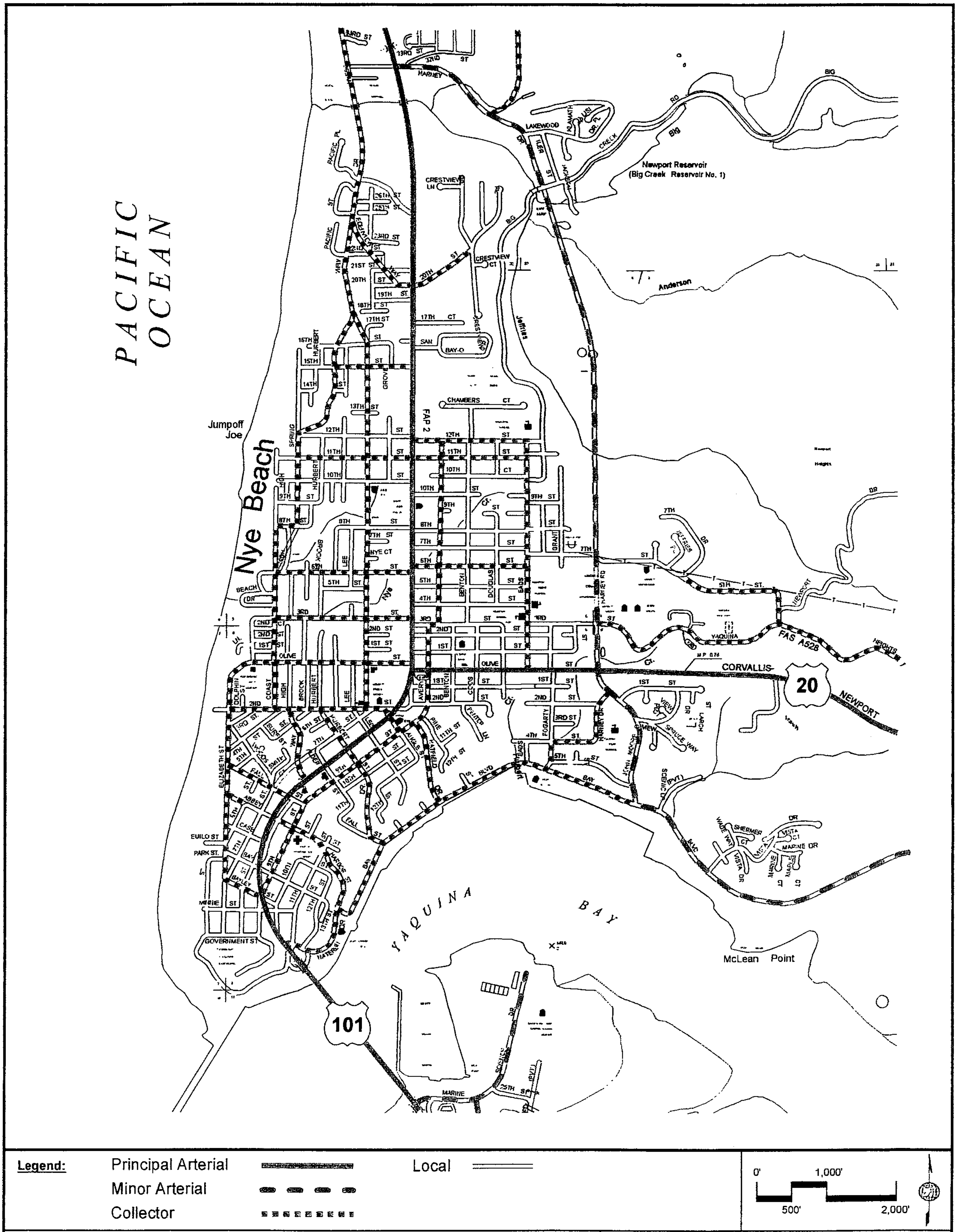




City of Newport
Access Management Plan

Recommended Functional Classification System

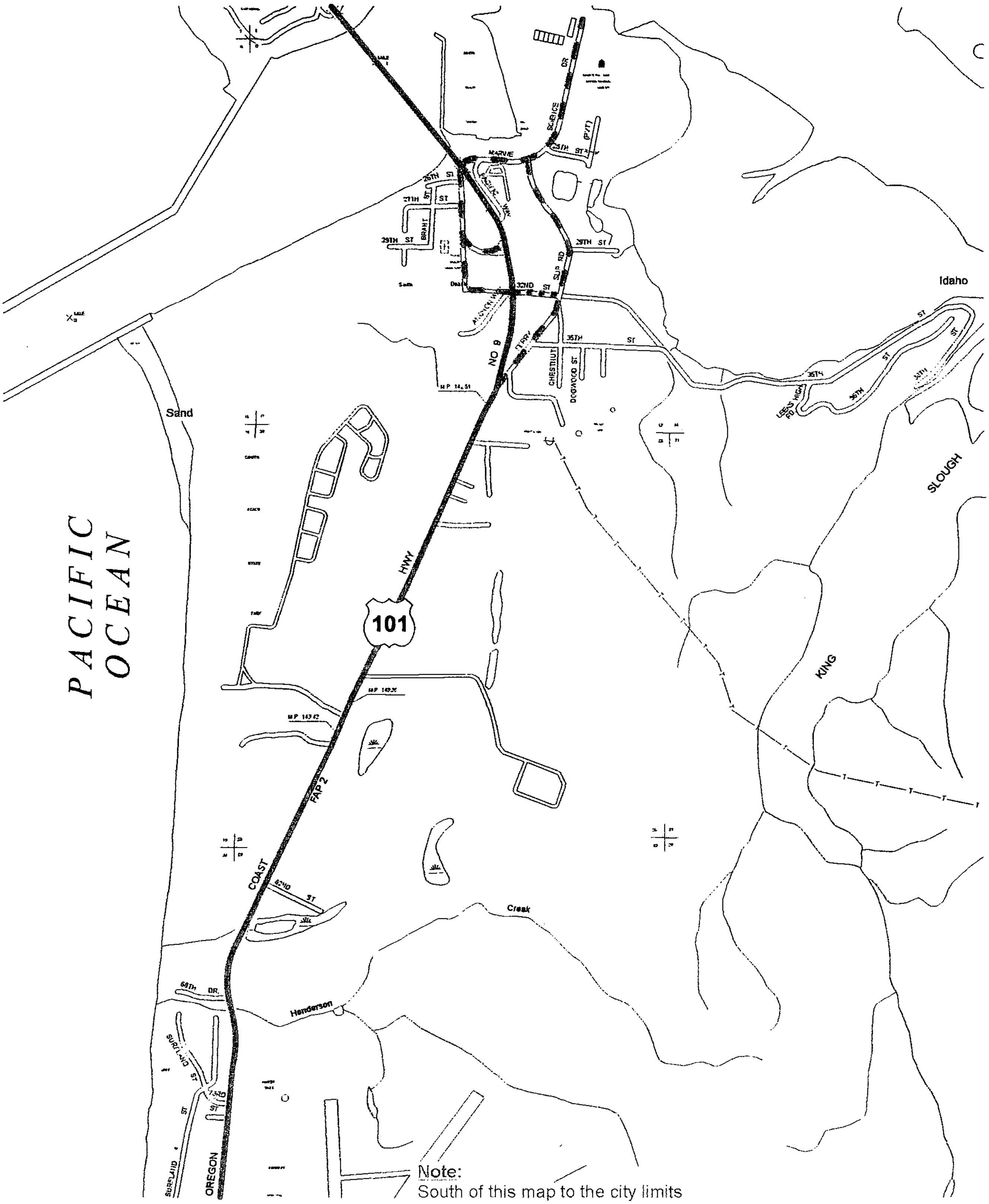
Fig. 1a



City of Newport Access Management Plan

Recommended Functional Classification System

Fig. 1b



Note:
South of this map to the city limits
Highway 101 is a Principal Arterial.
All other roads are Local.

Legend:

Principal Arterial ▬▬▬

Minor Arterial ▬ ▬ ▬ ▬

Collector ■ ■ ■ ■ ■ ■ ■ ■

Local ═══

0' 1,000' 500' 2,000'

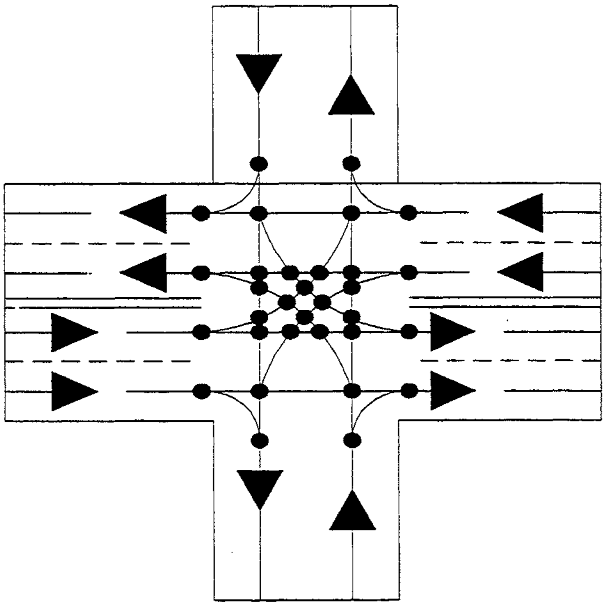
City of Newport
Access Management Plan

Recommended Functional Classification System

Fig. 1c

occurs where the paths of two traffic movements intersect. Crossing conflicts are the most serious because of the potential for collisions. The area and complexity of the crossing conflicts are also affected by the roadway cross-section. For example, with a four-lane cross-section, each conflict point involves two lanes, whereas with a two-lane section, each of the conflict points involves only one lane. Figure 2 provides an illustration of the conflict points for a four-lane section. In this configuration there are 32 conflict points.

Figure 4: Conflict Points for a Four-Lane Section



There are many different strategies for accomplishing access management but the common theme of all strategies is to reduce traffic conflicts. Strategies to reduce conflicts are listed below followed by select examples of tools that can be used to implement the strategy:

- Limit the number of conflict points
  - ✓ Installation of median barriers or closure to eliminate left turns at ingress and egress points
  - ✓ Installation of traffic signals at high volume intersections or driveways
  - ✓ Optimization of traffic signal spacing and coordination
  - ✓ Installation of physical barriers along frontage properties, e.g., curbs, fences, landscaping
  - ✓ Regulate maximum width of driveways

- Separate conflicts as much as possible when they can't be eliminated
  - ✓ Regulate minimum spacing of driveways
  - ✓ Consolidate access for adjacent properties

  - ✓ Regulate maximum number of driveways per frontage property
  - ✓ Consolidate existing access as parcels redevelop
  - ✓ Require access on adjacent cross-street (when available) in lieu of driveways on major highways

- Reduce deceleration requirements
  - ✓ Improve driveway sight distance
  - ✓ Increase effective approach width of driveway
  - ✓ Restrict parking on roadway adjacent to driveway to increase driveway turning speeds
  - ✓ Install right-turn acceleration lane

- Separate turning traffic from through traffic
  - ✓ Install continuous two-way left turn lane
  - ✓ Require adequate internal design and circulation plan
  - ✓ Provide local service roads
  - ✓ Encourage connections between adjacent properties

Many of these tools can be used within the City of Newport. A review of the existing conditions in the City, current plans and policies for access management and the access management goals and objectives as developed by the Technical Advisory committee is provided in the following section. Specific recommendations for application of these access management strategies is provided in the last section of this access management plan.

Existing Conditions

In order to evaluate the strategies and tools for implementing access management, definition of the current and projected conditions is necessary.

Access management strategies will vary with the type of facility, and the type and level of development along the facility. The City of Newport can be described in two distinct 'level of development' categories, established and developing. Established areas are defined as fully developed areas with established accesses for existing businesses and homes. Developing areas are areas where development is currently being built or has been approved by the City for construction, where development has recently occurred or areas that are planned for future development but are not currently developed to their full capacity.

Figure 5 summarizes the limits of the established and developing areas of Highway 101 and Highway 20 within the City of Newport limits.[1]

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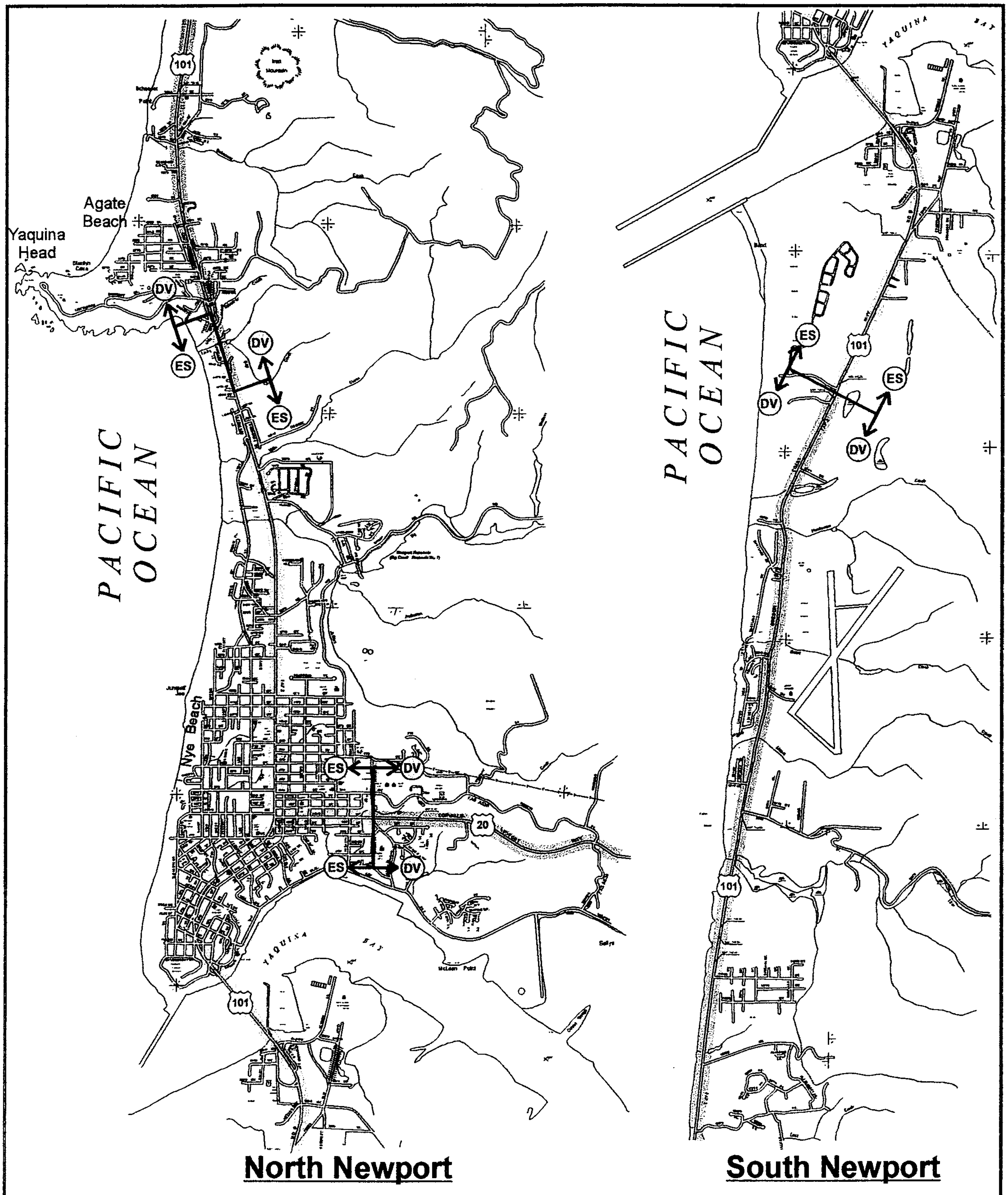
[1] The TSP Technical Advisory Committee reviewed and agreed on these defined limits during development of the City of Newport TSP.



North Newport

South Newport

Legend:

(DV) Developing Areas	▩
(ES) Established Areas	░

0' 2,000'
1,000' 4,000'

City of Newport
Access Management Plan

Access Management Designations

Fig. 3

Established Area

The established area of the city is from Woody Way/NW 44th Street on the north to the South Beach State Park Entrance on the south. This area is identified as established because it is fully developed and there are no large lots remaining to be developed. It includes the Newport city center and the established city neighborhoods. The street pattern is established as a grid system and is mostly complete. Future changes in land use would occur only as property redevelops.

Commercial development along Highway 101 begins at approximately NE 25th Street and continues on both sides of the highway until the Yaquina Bay Bridge. This commercial development includes large establishments such as Walmart, Fred Meyer, Safeway, and numerous small commercial establishments. The downtown core includes government offices and additional retail uses, and is concentrated between Olive Street and Fall Street.

Away from the highway in the central city area, the high school, the middle school, and two elementary schools are within several blocks east between N.E. 12th and SE 2nd Streets. The fairgrounds and several ball fields are in this same vicinity. Also in this area, but west of the highway, is the Performing Arts Center, with commercial development in its vicinity. There is a heavy concentration of established residential development on both sides of the highway between NE 25th Street and the Yaquina Bay Bridge.

Most of this area is dependent on Highway 101 for direct access. Within this section of Highway 101 there are 36 streets, two of which are offset; 6th Street and 12th Street. There are 118 driveways of which 13 are within the influence areas of adjacent intersections. There are six major traffic signals along Highway 101 - at 25th Street, 20th Street, 11th Street, 6th Street, Olive/Highway 20, and Hurbert Street. Highway 101 varies from three to five lanes in the established area,. with sidewalks from 25th Street to Marine Science Drive. A portion of Highway 101 from 45th Street to 54th Street has a dedicated bike lane, and the remainder of the highway has a paved shoulder of 4 feet or greater except in the five lane section from 25th Street to the bridge where no shoulder exists. South of the bridge, the established area continues until the South Beach State Park Entrance. There is only one traffic signal south of the bridge, at the intersection of Highway 101 and SE 32nd Street/Anchor Way.

Typical intersection spacing along this section of Highway 101 is 250'. For the posted 30 mph sections of Highway 101, FHWA guidelines[2] recommend signalized intersections be spaced at least ¼ mile apart to allow efficient traffic progression. Greater spacing is recommended for higher speed sections. The current signalized locations meet this criterion. Driveway spacing varies extensively throughout the established section of Highway 101. The high number of access points likely contributes to higher than average crash rates for this type of facility classification and generally contributes to highly congested conditions during peak volume periods.

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[2] Technical Guidelines for the Control of Direct Access to Arterial Highways – Volumes 1 & 2, Federal Highway Administration (FHWA-RD-76-86)

The established area along Highway 20 is much smaller. It extends from Highway 101 to John Moore Drive, mostly in the heart of downtown Newport. Highway 20 is a three-lane section with sidewalks on both sides. There is a traffic signal at the intersection with John Moore Drive. Along Highway 20 there are 8 streets, none of which are offset. There are 47 driveways of which 3 are within the influence area of the intersections.

Highway 20 is also posted for 35 mph in this section of the City. Typical intersection spacing is 350' and, as with Highway 101, driveway spacing varies extensively.

Developing Area: North Newport

There are two sections of Newport defined as developing. For the North Newport Developing Area, the limits extend along Highway 101 from the UGB to Woody Way, just south of Agate Beach (southbound direction), and to approximately NW 44th Street (northbound direction). For Highway 20, the developing area extends from John Moore Drive east to the UGB. In these areas, both highways are primarily two-lane sections with no pedestrian facilities. A center turn lane is provided on Highway 101 in the Agate Beach area at 73rd Street, at the Theater and RV park (approximately 58th Street to 62nd Street) and between 32nd Street and 55th Street.

Beginning at the north boundary of the city, at about 73rd Street, the land uses are residential. There is a new RV park on the west side of Highway 101 south of NW 66th Street. Mainly residential uses continue both east and west of the highway within the city limits until approximately NE Hamey Drive. There are exceptions, including a movie theater adjacent to the east side of Highway 101 at NE 60th Street, the Agate Beach Golf Club on NE 40th Street, some motels along the west side of Highway 101, and scattered commercial uses. Yaquina Head access is from Highway 101. The Yaquina Head Outstanding Natural Area includes the interpretive center, ADA accessible tide pools, Yaquina Head lighthouse, bird rookeries and tide pools. This area is both a park and scenic viewpoint.

Residential uses include both single-family homes and apartments. Residential development west of the highway is constrained by the narrow strip of buildable land between Highway 101 and the ocean south of Yaquina Head. The Longview Hills development, a 150+ unit retirement community of manufactured homes, is east of the highway at approximately NE 54th Street. Shore Pine Hills is another community located east of the Highway 101. The Pacific Homes Beach Club is east of the highway at NE 32nd Street.

Within the North Newport developing area, there are 12 existing streets and 13 driveways. Many of the local streets provide access for residential uses thus reducing the need for driveway access on Highway 101. As noted above, there are some commercial sites with direct highway access, including the movie theater at NE 60th and motels along the west side of Highway 101.

Most of this section is posted for a 55 mph speed limit but this may change to 45 mph in the near future. Intersection spacing varies but most are in the range of 250' – 500'. Driveway spacing varies extensively with some spacing as low as 100'.

Developing Area: South Newport

The second 'developing' section of Newport starts south of the bridge at the South Beach State Park Main Entrance and extends to the south UGB. In this section, Highway 101 is a primarily a two-lane section, with no pedestrian facilities; it has a 4-foot shoulder for bicyclists.

Land uses include the South Beach State Park located to the west of Highway 101. There are some residential developments west of Highway 101 including South Shores Estates, Pacific Shores and Surfland. The airport is located east of the highway south of SE 62nd Street, and there is additional residential development south of the airport to the east of the highway.

Land designated for high-density residential development is planned both to the east and west of Highway 101, near 32nd Street, and south of the airport. This land use designation allows for apartments, resorts, motels, and mobile home parks. There are two large parcels of land in this portion of the subarea under common ownership that total about 791 acres that are zoned for residential use. Future development of these parcels is under discussion between the city and the property owner and the site may include the mixed-use Wolf Tree Resort development, which would involve residential, commercial, and recreational uses. The final size of this development has not yet been determined, but it may involve the entire acreage. The development is, however, limited to a planned destination resort by zoning and Goal 8.

There are 11 existing streets within the South Newport developing area: Park Entrance, SE 62nd Street, SW 68th Drive, SW 73rd Street, SW 74th Street, SW 82nd Street, SW 95th Street, SE 98th Street, SE 116th Street, SE 123rd Street, and SE 130th Drive. There are also approximately 6 private driveways, mostly for residential uses.

Most of this section is posted for a 55 mph speed limit. Intersection spacing varies between ¼ - ½ mile with the majority being spaced at ½ mile or greater. Driveway spacing varies extensively but there are relatively few existing driveways and no particular pattern is established.

Crash Data

An evaluation of crash data, traffic volumes and access points was completed for the TSP and this Access Management Plan. The Oregon Department of Transportation (ODOT) provided crash data for the five-year period from January 1, 1990 through December 31, 1994. The data was specifically for Highway 101, Highway 20 and the City of Newport street network.

Highway 101 was divided into nine segments in the vicinity of the City of Newport. Highway 20 was divided into two segments. Table 1 and Table 2 identify each segment, milepost boundary, the number of crashes that occurred during the five-year period, the number of intersections and the number of driveways.

Table 1: Highway 101 Segments

Milepost Limits	Limit Description (North to South)	1993 ADT[1]	Number of Crashes	Crash Rate[2]	App. # of Access Points Intersection	Driveways	Access/ Mile
135.71 to 139.02	Urban Growth Boundary to South of Big Creek (where four-lane section begins)	14,300	36	0.33	12	13	7.2
139.03 to 139.99	Big Creek to NE 8th Street	16,500	137	4.34	8	42	52.1
140.00 to 140.37	NE 8th Street to Corvallis-Newport Highway	17,700	149	13.65	9	29	102.7
140.38 to 141.37	Corvallis-Newport Highway to Yaquina Bay Bridg	14,700	185	7.40	15	38	53.5
141.38 to 141.98	Yaquina Bay Bridge	14,100	23	2.58	na	na	na
141.99 to to 142.46	Yaquina Bay Bridge to Ferry Slip Road	14,100	23	3.09	4	9*	27.7
142.47 to 143.42	Ferry Slip Road to Park Boundary	12,380	10	0.70	3	5*	8.4
143.43 to 145.66	Park Boundary to 98th	11,730	26	0.55	5	5	4.5
145.67 to 146.46	98th to the Urban Growth Boundary	11,700	1	0.00	6	1	8.9
	Approximate Boundaries of Established Areas		Avg. Rate	2.33	62	142	

Notes: The number of crashes corresponds to the five-year period from 1/1/90 to 12/31/94.

[1] The ADT is from ODOT data and represents an average annual ADT

[2] The crash rate is for 1993 only. Crash rate is the number of crashes per million vehicle miles of travel.

* These sections include a continuous driveway area serving multiple properties.

Table 2: Highway 20 Segments

Milepost Limits	Limit Description (North to South)	1993 ADT[1]	Number of Crashes	Crash Rate[2]	App. # of Access Points Intersections	Driveways	Acces Mile
0.00 to 0.76	Highway 101/Highway 20 Intersection to East City Limits	12,000	43	1.70	8	47	72.30
0.77 to 1.91	East City Limits to Urban Growth Boundary	10,000	6	0.21	3	1	3.50
	Approximate Boundaries of Established Area		Avg. Rate	0.85	2	2	

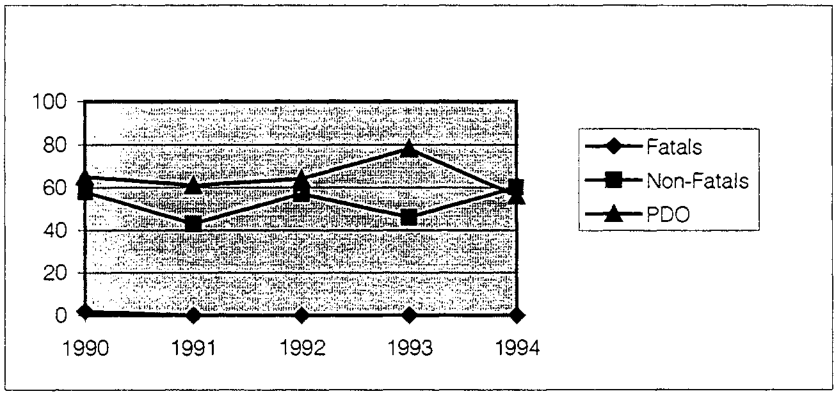
Notes: The number of crashes corresponds to the five-year period from 1/1/90 to 12/31/94.

[1] The ADT is from ODOT data and represents an average annual ADT

[2] The crash rate is for 1993 only. Crash rate is the number of crashes per million vehicle miles of travel.

A total of 590 crashes were reported on Highway 101 during this five-year period (See Figure 6). Of this total, 264 were non-fatal crashes, 324 were property damage only, and two were fatal crashes. The injury crashes resulted in two fatalities and 403 injuries. On Highway 101, the most prevalent types of crashes were rear-end (42.2 percent), and turning movements (34.2 percent), followed by sideswipe-overtaking (6.1 percent), and fixed/other object (5.8 percent).

Figure 6: Total Number of Crashes on Highway 101



Note: PDO = Property Damage Only

The overall 1993 crash rate along Highway 101 for the study area is 2.33 crashes per million vehicle miles of travel, though several sections within these limits have much higher rates. The statewide average for similar facilities is .83. There were 12 locations where ten or more crashes occurred during the five-year period. They are listed in Table 3. All of these high crash locations are within the designated 'established' areas.

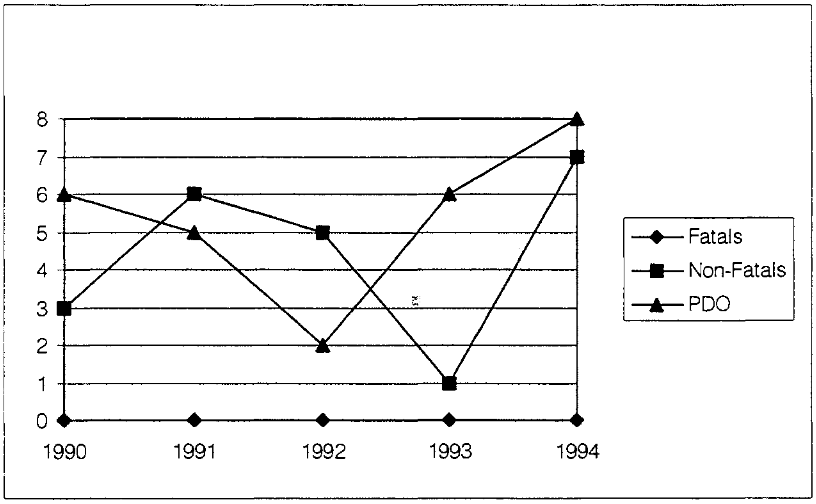
Table 3: Highway 101 High Crash Location

Milepost	Number of Crashes	Cross-Street (if applicable)	Types of Crashes
139.32	18	NW 20th Street	9 REAR, 5 TURN, 2 SS-O, 1 ANGL, 1 HEAD
139.79	15	NE/NW 11th Street	5 TURN, 4 REAR, 3 ANGL, 2 PED, 1 BACK
140.09	13	-----	6 REAR, 5 TURN, 2 FIX
140.32	11	-----	5 REAR, 4 TURN, 1 ANGL, 1 PED
140.36	19	-----	8 TURN, 3 SS-O, 3 REAR, 2 FIX, 1 PED,1 ANGL
140.37	24	Highway 20	11 REAR, 8 TURN, 3 SS-O, 1 ANGL, 1 PED
140.59	11	-----	7 REAR, 1 TURN, 1 O-TN, 1 ANGL, 1 PED
140.73	11	Alder Street	7 TURN, 3 REAR, 1 ANGL
140.93	19	-----	11 REAR, 7 TURN, 1 ANGL
141.07	12	Newport Frontage Rd.	8 REAR, 3 TURN, 1 ANGL
141.15	20	-----	12 REAR, 4 ANGL, 4 TURN
141.67	11	Yaquina Bay Bridge	8 REAR, 1 O-TN, 1 FIX, 1 MISC

Note: REAR = Rear-end, TURN = Turning Movement, SS-O = Sideswipe-Overtaking, ANGL = Angle, HEAD = Head-on, PED = Pedestrian, FIX = Fixed Object, O-TN = Overturned, and MISC = Miscellaneous.

For Highway 20, a total of 49 crashes were reported during this five-year period (See Figure 7. There were 22 non-fatal crashes, 27 property damage only, and no fatal crashes. The injury crashes resulted in 29 injuries. The most prevalent types of crashes occurring on US 20 were turning movement (32.7 percent), rear-end (28.6 percent), and angle (26.5 percent) crashes.

Figure 7: Total Number of Crashes on Highway 20



The overall 1993 crash rate along Highway 20 for the study area is 0.85 crashes per million vehicle miles of travel. Though the rate is higher on Highway 20 in the established area it is still below the statewide average and likewise well below several sections on Highway 101. Though the number of driveways in this section is still relatively high, the commercial development in this area is less vehicle intense and driveway usage is likely not as frequent as areas along Highway 101. There was only one location that experienced ten or more crashes during the five-year period -- this occurred at MP 0.04 where 17 crashes happened (ten angle, six turning movement, and one backing).

Based on a review of the crash data, traffic volumes and number of accesses there appears to be a direct correlation between the number of accesses and the number of crashes. This relationship is most apparent when comparing the accident rate on each section to the number of accesses per mile. The highest accident rate is for the section of Highway 101 between NE 8th Street and Highway 20. This section also has the highest access/mile rate at 102.7. This relationship between accesses and crash rates is similar to observations along similar facilities within the state. Access management strategies applied in these corridors can be expected to reduce crashes and improve safety.

Current Plans and Policies

The current applicable plans and policies for both the Oregon Department of Transportation and the City of Newport were reviewed for sections pertinent to access management.

City of Newport Comprehensive Plan

Transportation Element

Under this element of the Newport Comprehensive Plan, Policy 6 states that - *The city shall coordinate with the Oregon Department of Transportation in the formulation and implementation of access management programs for Highway 101 and Highway 20.*

Engineering Standards

The City does not have a classification or standards for Highways 101 or 20 since these are State highways. In the City's Engineering Standards these roads are referred to as "major urban highways." The Engineering Standards do address the City's streets and sets out standards for these streets. City standards restrict access on City arterial streets, as described below, indicating that the City supports access restrictions on arterial streets.

Arterial Streets

By definition, arterial streets should connect areas of principal traffic generation and major urban (and rural) highways. The Arterial Network will provide the collection and distribution of traffic (including public transit) onto the minor street network of collector and local streets. The location of an arterial should help define land use and should strengthen neighborhood identity.

Arterial streets should form a "continuous street network" and these routes should be given preferential treatment over collector and local streets in the signing and signalization of intersections. The intersection of local streets directly with major arterials should be discouraged. Wherever possible, local street access to the arterial should be provided through the collector street network.

Planning Criteria: An Arterial Street

- Should have limited direct access to adjoining properties
- Should not be accessed by private drives in new plats

Collector Streets

Collector streets serve internal traffic within areas having a single land use pattern. The collector streets carry local traffic within a neighborhood area. They carry traffic from the local streets to the minor and/or major arterial network or to schools, local shopping centers, or other local streets within the neighborhood

Planning Criteria: A Collector Street

- May provide same access to abutting property as local streets
- Should serve as links between minor traffic generators and arterial streets

Local Streets

Local streets provide direct access to abutting property. Through-traffic should be discouraged. Careful planning and the use of circuitous street layout will break up the continuity of traffic movement. Some form of street closure or traffic diverter can convert the typical grid street pattern into a form of circuitous street layout. When properly planned and designed, traffic control devices will not be necessary at intersecting local streets.

Planning Criteria: A Local Street
- Should have the primary function of providing direct access to property
- Should not have direct intersections and sole connections with major arterial streets

Oregon Department of Transportation

The 1991 Oregon Highway Plan establishes six access management categories for ODOT's highway system. These categories were reviewed during development of the Oregon Coast Highway Corridor Plan. In that plan, Highway 101 in Newport has been identified as a Category 3 from the north city limits to Big Creek, a Category 4 from Big Creek to Ferryslip Road, and a Category 3 from Ferryslip Road to the south city limits. A definition of these categories is provided below. Table 4 summarizes the classification system attributes for these categories from the OHP.

> Category 3:
> These highway segments provide for efficient and safe medium to high speed and medium to high volume traffic movements, on interregional, intercity and longer distance intracity routes. The segments are appropriate for areas that have some dependence on the highway to serve land access and where financial and social costs of attaining full access control would substantially exceed benefits. This category includes some of the statewide facilities.
>
> Category 4:
> These highway segments provide for efficient and safe medium to high speed and medium to high volume traffic movements, on higher function interregional and intercity highway segments. They also may carry significant volumes of longer distance intracity trips. They are appropriate for routes passing through areas that have moderate dependence on the highway to serve land access and where the financial and social costs of attaining full access control would substantially exceed benefits. This category includes a small part of the statewide facilities and most regional facilities.

Table 4: ODOT Spacing Guidelines

Category	Access Treatment	LOI (1)	Urban/ Rural	Intersection				Signal Spacing (4)	Median Control
				Public Road		Private Drive (3)			
				Type (2)	Spacing	Type	Spacing		
3	Limited Control	Statewide	U	At grade/Intch	1/2 - 1 Mile	Rt. Turns	800'	1/2 - 1 M.	Partial
4	Limited Control	Statewide/	U	At grade/Intch	1/4 Mile	Lt./Rt. Turns	500'	1/2 M.	Partial/None (7)

In comparing these guidelines with existing spacing, many sections of Highway 101 and Highway 20 do not meet ODOT's current spacing guidelines.

Access Management Goals & Strategies to Implement

During the development of the Newport TSP, specific access management goals were established for the City of Newport's primary arterials, Highway 101 and Highway 20. These access management goals address these facilities in both the established and the developing areas of the city. The goals reflect the input of the Technical Advisory Committee, the Citizens Sounding Board, and public input from the Open Houses as well as correspondence from members of the public. The access management goals are a subset of the Transportation Goal developed as part of the City of Newport TSP process.

The City of Newport's Access Management Goal for primary arterials is:

> *Develop an access management strategy for the established and developing areas of the City of Newport along Highway 101 and Highway 20 that supports the City's Transportation Goal, and ensures that Highway 101 and Highway 20 can accommodate traffic in a safe and efficient manner as traffic increases.*

Supporting access management goals were developed for the two types of areas in the City: established areas and developing areas. The goals for these areas are defined below as well as the range of strategies that was explored by the study team.

Established Areas

The supporting goal for primary arterials in established areas is:

> *Encourage consolidation or reduction of accesses as possible during property redevelopment and/or frontage improvements.*

Many properties now having direct access to the highway within these established areas will eventually redevelop. At such time, alternate access may be provided and existing private accesses can be closed. The reduction in traffic conflicts, due to preventing future private accesses and closing old private accesses, will allow the highway to operate safely at higher volumes of traffic.

The types of access management tools most appropriate for these established areas include:

- ✓ Optimize traffic signal spacing and coordination
- ✓ Install physical barriers along frontage properties, e.g., curbs, fences, landscaping
- ✓ Regulate maximum width of driveways
- ✓ Regulate minimum spacing of driveways
- ✓ Consolidate access for adjacent properties
- ✓ Regulate maximum number of driveways per frontage property
- ✓ Require access on adjacent cross-street (when available) in lieu of driveways on Highway 101 or Highway 20
- ✓ Require adequate internal design and circulation plan
- ✓ Encourage connections between adjacent properties
- ✓ Install traffic signals at high volume intersections or driveways

Spacing goals for the established areas are 500 feet for driveways, 1/4 mile for public roads and 1/2 mile for signals. As redevelopment occurs, these spacing standards and access management tools should be evaluated and applied as appropriate to the specific needs of the project.

Developing Areas

The supporting goal for primary arterials in developing areas is:

> *As sites develop or redevelop, accesses are to be planned, consolidated and/or reduced to meet the spacing standard. New development will, to the greatest extent possible, comply with access management standards.*

The types of access management tools most appropriate for these developing areas include:

- ✓ Install median barriers or closure to eliminate left turns at ingress and egress points
- ✓ Install traffic signals at high volume intersections or driveways
- ✓ Optimize traffic signal spacing and coordination
- ✓ Install physical barriers along frontage properties, e.g., curbs, fences, landscaping
- ✓ Regulate maximum width of driveways
- ✓ Regulate minimum spacing of driveways
- ✓ Consolidate access for adjacent properties
- ✓ Regulate maximum number of driveways per frontage property
- ✓ Require access on adjacent cross-street (when available) in lieu of driveways on major highways
- ✓ Improve driveway sight distance
- ✓ Increase effective approach width of driveway
- ✓ Install right-turn acceleration lane
- ✓ Install continuous two-way left turn lane
- ✓ Require adequate internal design and circulation plan
- ✓ Provide local service roads
- ✓ Encourage connections between adjacent properties

Spacing standards for primary arterials in developing areas are 800 feet for driveways, one-half to one mile for public roads, and one-half to one mile for signals. As development and redevelopment occurs, these spacing standards and access management tools should be evaluated and applied as appropriate to the specific needs of the project.

Access Management Plan

The Newport Access Management Plan is based on, and carries out, the Access Management Goals described above. Limiting access to higher class roadways such as Highway 101 and Highway 20, maintains their functional integrity and is the basis for successful access management planning.

Given the north-south orientation of the City of Newport with Highway 101 as a central facility, alternatives for south-north movement without the use of Highway 101 are not available for all travelers. In development of the TSP and this Access Management Plan, a focused effort was placed on development of alternative routes and modes to minimize additional demand for Highway 101 travel. Where alternative routes are not available the impacts of increased travel demand for Highway 101, as well as Highway 20, were minimized to the extent possible. Specific access management treatments were developed for Highway 101 and Highway 20 in the developing areas.

Access management for the City's minor arterial, collector and local streets is based on the current City Engineering Standards and proposed ordinance modifications. The proposed ordinance modifications include additional language for access spacing on minor arterials. Recommended private access spacing for minor arterials in non-residential areas is 200' - 400'. Recommended private access spacing for minor arterials in residential areas is 150' - 300'. These criteria would apply to the North-South Arterial which is classified as a minor arterial.

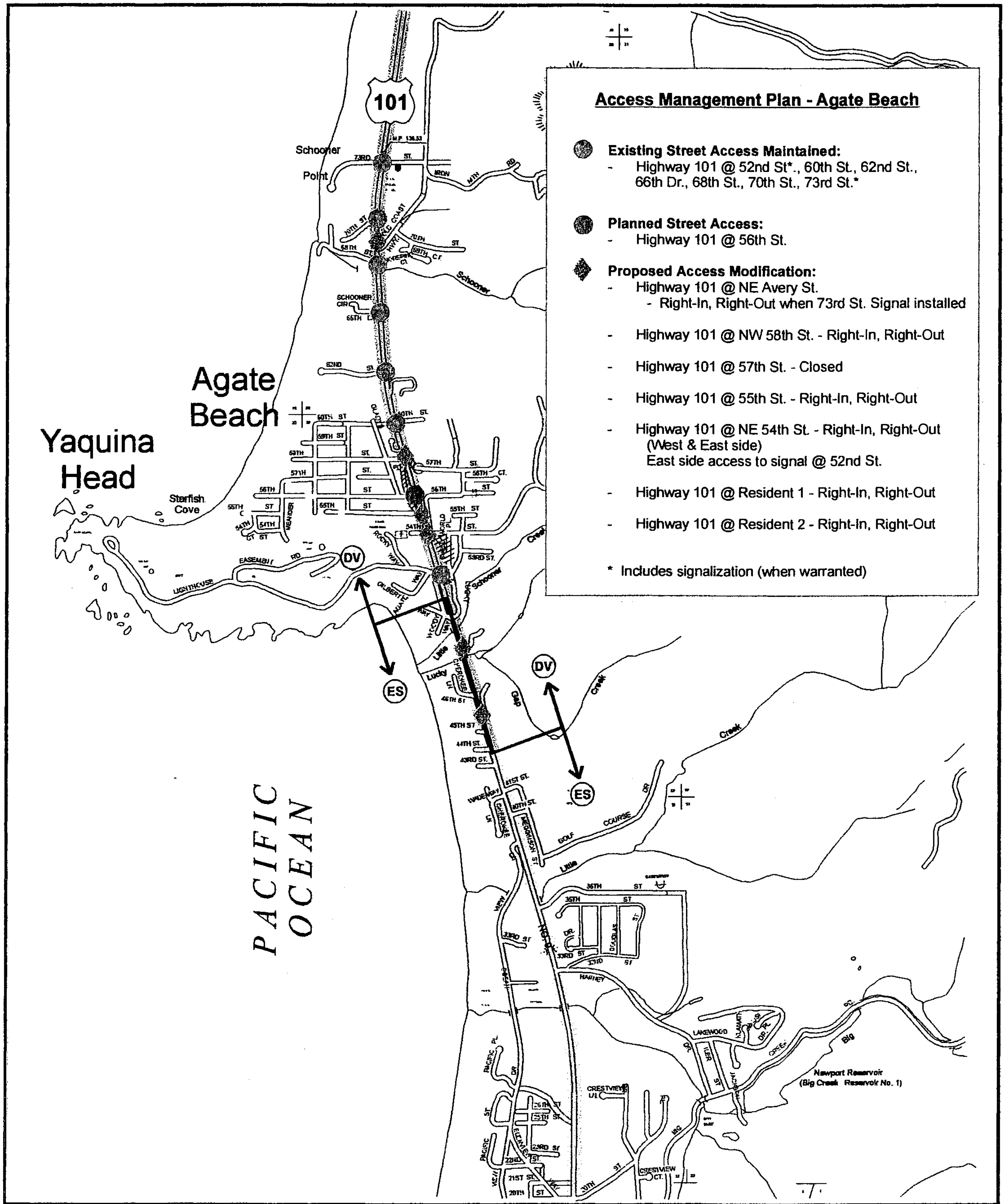
Established Area

As part of this current access management plan, no specific locations have been proposed for access management treatments within the established areas of the City of Newport. The opportunities to apply the various access management techniques will occur when specific areas are being redeveloped. New access points that violate the spacing standards will not be allowed but each case will be reviewed to achieve a solution that balances the functional needs of Highway 101 and Highway 20 with the circulation and economic needs of the abutting property. Access for redeveloping properties will be required to apply the recommended access management tools including but not limited to consolidation of driveways, minimum driveway spacing requirements, optimum internal circulation design, connections with adjacent properties, and access to cross-streets in lieu of the highway.

Developing Area: North Newport

The access management plan for the North Newport developing area is detailed in Figure 8. Several tools were evaluated for the North Newport area including driveway and intersection consolidation, median treatments and installation of signals at higher volume streets. Median treatments to restrict turns were considered but were not deemed appropriate for the needs of the area. Alternative modifications that focus on closure of existing accesses, improvement of local service roads, consolidation of traffic flow to existing intersections and limiting left turns at existing intersections were selected as tools that best meet the needs of the local community and maintain the function of Highway 101. These proposed modifications reflect the consensus of the North Newport community, the TAC and City of Newport staff. The specific recommendations of the plan are summarized below.

Three access categories are identified for 'developing' areas of Newport's principal arterials, Highway 101 and Highway 20: *Existing Street Access to be Maintained*, *Planned Street Access* and *Proposed Access Modification*. The *Existing Street Access to be Maintained* denoted with a green circle, typically represent access points that meet the spacing standard, or that will be allowed an exception, and will be maintained. The second category, *Planned Street Access*, is denoted with a blue circle. These locations represent planned access points that meet the spacing standard. The third category, *Proposed Access Modification*, is denoted with a purple diamond, and represents locations where modifications such as closures or right-in, right-out treatments are proposed.



Access Management Plan - Agate Beach

● **Existing Street Access Maintained:**
- Highway 101 @ 52nd St*., 60th St., 62nd St., 66th Dr., 68th St., 70th St., 73rd St.*

● **Planned Street Access:**
- Highway 101 @ 56th St.

◆ **Proposed Access Modification:**
- Highway 101 @ NE Avery St.
  - Right-In, Right-Out when 73rd St. Signal installed
- Highway 101 @ NW 58th St. - Right-In, Right-Out
- Highway 101 @ 57th St. - Closed
- Highway 101 @ 55th St. - Right-In, Right-Out
- Highway 101 @ NE 54th St. - Right-In, Right-Out (West & East side) East side access to signal @ 52nd St.
- Highway 101 @ Resident 1 - Right-In, Right-Out
- Highway 101 @ Resident 2 - Right-In, Right-Out

* Includes signalization (when warranted)

Legend:

(DV) Developing Areas ▨

(ES) Established Areas ▨

0' 1,000'
500' 2,000'

City of Newport
Access Management Plan

Access Management Plan
Developing Area
(North Newport)

Fig. 6

Within the North Newport developing area, the following existing street accesses will be maintained: 73rd Street, NW 70th Street, NW 68th Street, NW 66th Drive, NW 62nd Street, 60th Street, and 52nd Street. The preferred spacing in this section of Highway 101 is a minimum of ½ mile for public roads. The spacing for these roads ranges from ¼ to ½ mile. Opportunities to consolidate these roads to other access points were investigated but no viable alternatives were identified.

There is one new Highway 101 access proposed at 56th Street. This access represents the consolidation of local traffic demand to a single access point. The project would be completed in conjunction with improvements to the local service road system and closure of the Old Loop Highway between NW 55th Street and NW 58th Street. This project would include revisions to make NW 58th Street and NW 55th Street right-in right-out access only.

There are six planned modifications to existing access points. At Highway 101 and NE Avery Street, Highway 101 and NW 58th Street, and Highway 101 and NW 55th Street the existing full access will become right-in, right-out only. This type of treatment will help to reduce delay and improve safety by preventing the conflicting left-hand turns on and off of Highway 101. The same right-in right-out treatment will be applied to the Highway 101 and 54th Street intersection. Residents on the east side of the highway will have the alternative for full access at 52nd Street.

At 57th Street, the access to Highway 101 will be closed with alternative access provided from 60th Street. This closure will support better spacing of the public road access points. There are also two existing residence access points to Highway 101 near Lucky Gap Creek and NW 45th Street which will become right-in, right-out only.

Installation of traffic signals appears warranted for both the 73rd Street and 52nd Street during the 20 year TSP planning horizon. Access modifications and closures along Highway 101 in the vicinity of 52nd Street will make this intersection a primary service point for existing and planned development east of the highway. Planned development east of Highway 101 and the connection of 71st Street to 73rd Street (and the subsequent closure of the Old Coast Highway access) are the primary contributors to meeting the signal warrant for 73rd Street.

Signal warrants were also investigated at 60th Street. When improvements are completed to Gladys Avenue and many of the existing adjacent Highway 101 accesses are converted to right-in right-out (or closed), this intersection will be a primary access to and from Highway 101 for properties west of the Highway. Per the signal warrant analysis, this location would not meet warrants in the 20 year horizon but it should be reevaluated during the planning period. If all three signals were eventually in place, they would meet the desired spacing standards.

In combination, these planned access management modifications will consolidate the existing Highway 101 accesses and improve the safety and efficiency of Highway 101 through this section of the corridor.

Developing Area: South Newport

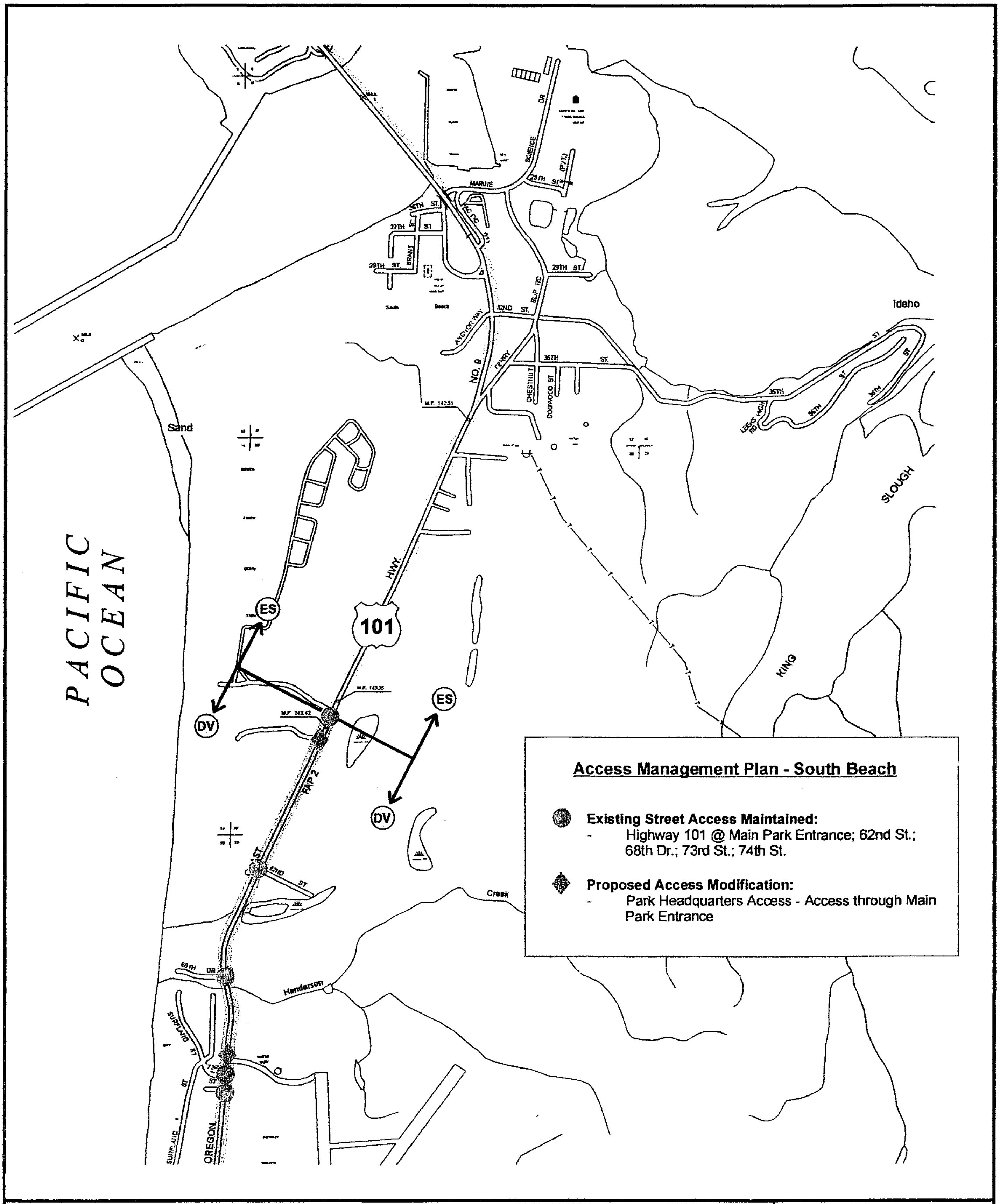
The access management plan for the South Newport developing area is detailed in Figure 9 and Figure 10. As with the North Newport developing area, several access management tools were evaluated for the South Newport area including driveway and intersection consolidation and median treatments. In general, the level of existing development and related access needs are less than that in the North Newport area. This resulted in fewer recommended modifications to the existing system and will allow for better implementation of spacing and access standards as these properties do develop.

There are 11 existing street accesses in the South Newport Developing area that will be maintained as they currently exist. These include the Park Entrance, SE 62nd Street, SW 68th Drive, SW 73rd Street, SW 74th Street, SW 82nd Street, SW 95th Street, SE 98th Street, SE 116th Street, SE 123rd Street, and SE 130th Drive. The majority of these intersections meet the spacing standards. The 73rd/74th Street intersections are under the spacing standard but 74th Street services just a few existing residences and no opportunities are available to cost effectively reroute this traffic to 73rd street. The second exception is at the 95th/98th Street areas where these intersections are approximately ¼ mile apart. In this case the roads service opposite sides of the Highway and no opportunities were identified to consolidate the access.

One new access point will be provided on Highway 101 in the South for the Wolf Tree development midway between SE 98th Street and SE 116th Street. The need for this access is directly contingent of planned improvements by the property owner. If established, the access would meet the spacing standards.

There are three planned modifications to existing access points. The Park Headquarters Access will be consolidated with the Main South Beach Park Entrance instead of its current unique access from Highway 101.

During initial development of the Access Management Plan, the existing northern airport maintenance access was planned to be closed when the east side entrance and associated South Beach arterial are developed. A new fire station has been built on the airport property and the fire department requires that this north entrance remain open to Highway 101 for emergency purposes. There is a possibility that a flashing signal will be installed at this access location to expedite the fire department's departure from the station. In any case, use of this access will be infrequent.



Access Management Plan - South Beach

● **Existing Street Access Maintained:**
- Highway 101 @ Main Park Entrance; 62nd St.; 68th Dr.; 73rd St.; 74th St.

◆ **Proposed Access Modification:**
- Park Headquarters Access - Access through Main Park Entrance

Legend:

(DV) Developing Areas ▨

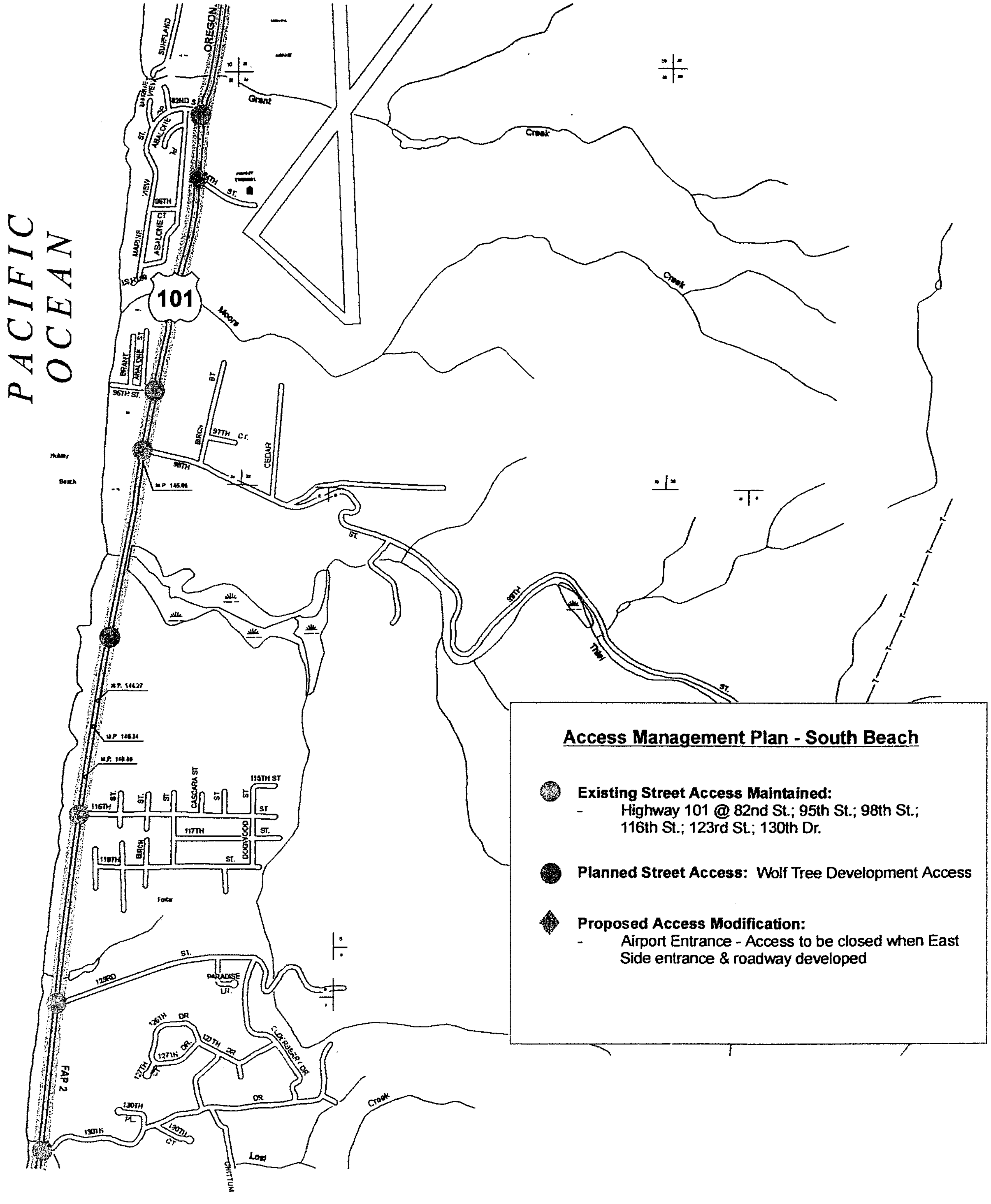
(ES) Established Areas ░

0' 1,000'
500' 2,000'

City of Newport
Access Management Plan

Access Management Plan
Developing Area
(South Newport)

Fig. 7



Access Management Plan - South Beach

● **Existing Street Access Maintained:**
- Highway 101 @ 82nd St.; 95th St.; 98th St.; 116th St.; 123rd St.; 130th Dr.

● **Planned Street Access:** Wolf Tree Development Access

◆ **Proposed Access Modification:**
- Airport Entrance - Access to be closed when East Side entrance & roadway developed

Legend:

(DV) Developing Areas ▨

(ES) Established Areas ▨

0' 1,000'
500' 2,000'

City of Newport
Access Management Plan

Access Management Plan
Developing Area
(South Newport)

Fig. 8

The southern airport maintenance access will be closed in the future when the South Beach Arterial is built. No modification to this existing access is planned until the alternative airport access is built.

In combination, these planned access management modifications will consolidate the existing Highway 101 accesses and improve the safety and efficiency of Highway 101 through this section of the corridor.

Conclusion

The Access Management Plan was developed in response to the growth in travel in Newport, especially on Highways 101 and 20, and the resulting need to provide for safe and efficient travel within and through the city. The Plan was developed in accordance with the guidelines of the Transportation Planning Rule and the Oregon Highway Plan. The Access Management Plan also takes into consideration the need to address access in different ways for established and developing areas of the city, and is based on the input of city residents in setting goals and objectives for access management in Newport.

The goals and objectives and the Plan for the established areas of the city are consistent with the ODOT Access Management Classification System, Category 4, for Highways 101 and 20. The Plan applies the access management standards as property redevelops in this heavily developed area of the city. No new accesses that violate the standards will be allowed. No existing access will be closed as part of this Plan; access will be reviewed as property redevelops.

The goals and objectives and the Plan for the developing areas of the city are consistent with the ODOT Access Management Classification System, Category 3, for Highway 101. The access management standards have been applied for these areas along the highway as described above. All new accesses must meet the Category 3 standards.

The access management standards for City minor arterials, collectors and local streets are those identified in the current City Engineering Standards, which are incorporated into this Access Management Plan, and identified in the current plans and policies section of this document.

Implementation

The City of Newport views Highway 101 and Highway 20 as the most important arterials in their multi- modal transportation network and likewise recognizes the importance of these facilities as statewide facilities per the Oregon Highway Plan. In implementation of the City's Comprehensive Plan and the associated Transportation System Plan, the City will strive to maintain the function of these facilities to meet their statewide as well as regional needs. Specific access management recommendations for these primary arterials is as follows:

> *Implement an access management strategy for the established and developing areas of the City of Newport along Highway 101 and Highway 20 that supports the City's Transportation Goal, and ensures that Highway 101 and Highway 20 can accommodate traffic in a safe and efficient manner as traffic increases.*

> *In established areas of the City of Newport, encourage consolidation or reduction of accesses as possible during property redevelopment and/or frontage improvements. Spacing goals for the established areas are 500 feet for driveways, 1/4 mile for public roads and 1/2 mile for signals. As redevelopment occurs, these spacing standards and access management tools should be evaluated and applied as appropriate to the specific needs of the project.*
>
> *In developing areas of the City of Newport, as sites develop or redevelop, accesses are to be planned, consolidated and/or reduced to meet the spacing standard. New development will comply with access management standards. Spacing standards for primary arterials in developing areas are 800 feet for driveways, one-half to one mile for public roads, and one-half to one mile for signals.*

Private access spacing on minor arterials is also addressed in this access management plan. Specific access management recommendations for these minor arterials is as follows:

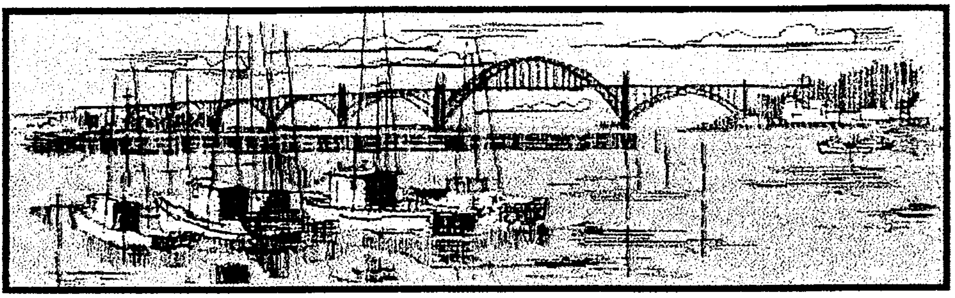
> *Spacing standards for private access on minor arterials in non-residential areas shall be 200' - 400'. In residential areas, private access spacing on minor arterials shall be 150' - 300'.*

The Transportation System Plan is adopted by ordinance by the City of Newport, after review and approval by the Department of Land Use and Transportation. This Access Management Plan is thus also adopted as part of the TSP. After adoption, the City's Engineering Standards will be updated to reflect the Access Management Standards for Highways 101 and 20 and other facilities as documented in this Access Management Plan.

DOCUMENT 3

CITY OF NEWPORT

TRANSPORTATION SYSTEM PLAN DEVELOPMENT



Prepared by:

Parsons Brinckerhoff Quade & Douglas, Inc.

June 1997

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS

ADT	Average Daily Traffic
AIP	Airport Improvement Plan
CBD	Central Business District
CCC	Central Coast Connections
CDBG	Community Development Block Grant
CSB	Citizens' Sounding Board
DHV	Design Hourly Volume
DMV	Department of Motor Vehicles
EDA	Economic Development Administration
EID	Economic Improvement Districts
IFR	Instrument Flight Rules
FAA	Federal Aviation Administration
FAP	Federal Aid Primary
FAS	Federal Aid Secondary
FAU	Federal Aid Urban
FHWA	Federal Highway Administration
G.O.	General Obligation (Bonds)
HPMS	Highway Performance Monitoring System
HUD	[U.S. Department of] Housing and Urban Development
ILS	Instrument Landing System
ISTEA	Intermodal Surface Transportation Efficiency Act
K	x 1,000
LCDC	Land Conservation and Development Commission
LF	Lineal Foot
LID	Local Improvement District
LOS	Level of Service
MP	milepost
MPH	Miles per Hour
MPO	Metropolitan Planning Organization
MUTCD	Manual of Uniform Traffic Control Devices
NAT	Newport Area Transit
NPIAS	National Plan of Integrated Airport Systems

O&M	Operations and Maintenance
OAR	Oregon Administrative Rules
OASP	Oregon Aviation System Plan
OCZMA	Oregon Coastal Zone Management Association
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
ONHP	Oregon Natural Heritage Program
ONP	Newport Municipal Airport
ORS	Oregon Revised Statutes
OSHD	Oregon State Highway Division
OTP	Oregon Transportation Plan
OTSC	Oregon Traffic Safety Commission
PASSER II-90	Progression Analysis and Signal System Evaluation Routine (TTI Model)
RV	Recreational Vehicle
SDCs	System Development Charges
SIGCAP	Signalized Intersection Capacity Analysis Program (ODOT)
TAC	Technical Advisory Committee
TDM	Transportation Demand Management
TPR	Transportation Planning Rule
TRANSYT-7F	Traffic Network Study Tool, Version 7F (FHWA Model)
TSM	Transportation System Management
TSP	Transportation System Plan
UGB	Urban Growth Boundary
v/c	vehicle-to-capacity ratio
VFR	Visual Flight Rules
VHT	Vehicle Hours of Travel
VMT	Vehicle Miles of Travel
WCP	Wetland Conservation Plan
W&P	Willamette & Pacific (Railroad)

EXECUTIVE SUMMARY

A comprehensive analysis of the transportation system within the Newport area has been prepared in accordance with the Oregon Revised Statute 197.712, Oregon Administrative Rule 660 Division 12, the Transportation Planning Rule. This legislation and corresponding administrative rule states that by 1997 all jurisdictions must have developed and adopted a Transportation System Plan (TSP). Accordingly, this study was conducted to provide the necessary elements for the City of Newport to prepare its TSP. In addition, this document provides Lincoln County and the Oregon Department of Transportation (ODOT) with those recommendations necessary for incorporation into their respective TSPs.

The goals of the TSP, as developed by the TAC and with public input, were as follows:
Transportation: Develop a plan to manage future transportation needs in the City of Newport and prolong the useful life of the existing transportation system.
Community: Develop a plan for a transportation system that supports the character of Newport.
Resources: Develop a plan for a transportation system that harmonizes with the inherent scenic beauty of the City of Newport, and protects environmental resources.
Economic: Develop a plan for a transportation system that supports sustainable economic diversity and vitality for the City of Newport.

This study includes an analysis of existing conditions, a review of applicable existing plans and policies, a plan for development of alternative transportation systems to address the future needs of the City, a preferred transportation system plan, a transportation finance plan, and a description of the plan's compliance with the TPR.

The City of Newport has developed in a north-south linear pattern along Highway 101, between the Pacific Ocean and the Coastal Range. There is a grid network of local streets serving the central area of the city, but no alternative north-south routes serving the length of the City. Therefore, Highway 101 is heavily used for both through and local trips in Newport. The Yaquina Bay Bridge is a critical north-south link between the northern and southern halves of Newport, as well as a critical link along Highway 101. The other major state facility serving Newport is Highway 20, an east-west link to the Willamette Valley. Significant traffic congestion occurs at the Highway 101/Highway 20 intersection.

There are both pedestrian and bicycle facilities within Newport; however, there are many missing links in these systems that result in the lack of a viable alternative transportation choice for users.

Other transportation system components in Newport include a demand-responsive transit system for the elderly and disabled and an intercity fixed-route system operated by Lincoln County. These services have limited hours and days of operation but are heavily used. Additional transportation system components include the Newport Municipal Airport, which serves the general public with facilities for general aviation, helicopters and corporate aircraft. The Port of Newport includes facilities for commercial fishing and shipping, as well as for recreation.

A detailed analysis of the street network indicated that the existing system of signalized and unsignalized intersections within Newport is operating below acceptable standards at certain locations. During peak times, volume exceeds capacity on the Yaquina Bay Bridge, at the Highway 101/Highway 20 intersection, and on Highway 101 at Ocean View Drive. Volumes on other intersections or roadway segments are currently approaching capacity.

A more detailed analysis was conducted for specific areas of concern in Newport, including the Highway 101/Highway 20 intersection, the Yaquina Bay Bridge, and the largely undeveloped South Beach area.

Traffic volumes in Newport fluctuate heavily with seasonal tourism. Such attractions as the Mark Hatfield Marine Sciences Center, Oregon Coast Aquarium, the Bay Front and Nye Beach draw many visitors. The future growth potential for the city was determined based on the Comprehensive Plan, and past and current growth trends.

Future multi-modal travel demand was estimated using population and employment forecasts and the QRS II model developed jointly by ODOT and Parsons Brinckerhoff (PB). The model was used as a tool to identify future transportation needs and compare the transportation system alternatives.

In developing solutions to address long-term transportation needs, a No-Build condition, or a base case of previously planned improvements, was considered and would result in unacceptable capacity or safety conditions. A process of Alternatives Analysis was conducted to develop projects that mitigated the identified deficiencies and restored the necessary capacity, while enabling alternative modal choices within the community. This methodology addressed the established goals and objectives and led to development of the Preferred Transportation System Alternative.

Transportation system improvement costs were calculated for the improvements in each alternative, and in the Preferred Alternative. These improvements include new sidewalks, bicycle facilities, public transportation vans and facilities, and roadways to provide future capacity and access for all users. An implementation plan includes a phasing plan for construction and implementation of these improvements over the next 20 years.

Based on the findings of the Newport Transportation System Plan Study, it is recommended that the City participate with ODOT in the development of their respective transportation system plans to ensure a coordinated and consistent policy and plan, especially for cross-jurisdictional transportation facilities.

1.0 INTRODUCTION

The City of Newport, in conjunction with the Oregon Department of Transportation (ODOT), initiated a study of the City's transportation system. This study has been conducted in compliance with State of Oregon legislation requiring local jurisdictions to prepare a Transportation System Plan (TSP) as part of their overall Comprehensive Plan. This document is organized to provide the necessary elements for the City of Newport to assemble its TSP. In addition, it provides Lincoln County and ODOT with the necessary recommendations for incorporation into their respective TSPs.

Oregon Revised Statute (ORS) 197.712 and the Land Conservation and Development Commission (LCDC) administrative rule known as the Transportation Planning Rule (TPR) require all public jurisdictions to develop the following:

- A road plan for a network of arterial and collector streets
- A public transit plan
- A bicycle and pedestrian plan
- An air, rail, water, and pipeline plan
- A transportation finance plan
- Policies and ordinances for implementing transportation system plans

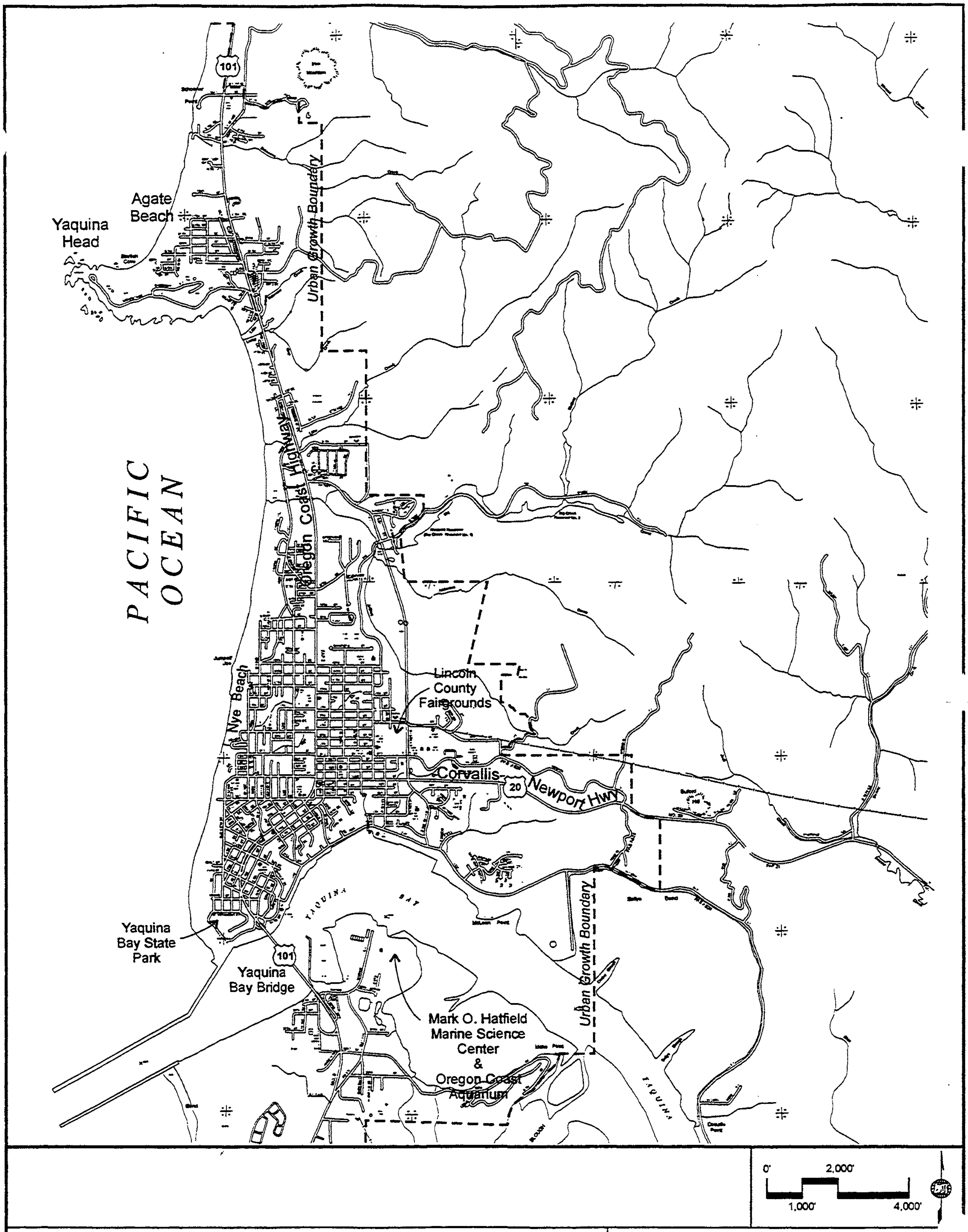
Federal and state guidelines require that transportation plans provide a balanced transportation system providing transportation options, and that such plans reduce reliance on the single-occupant vehicle and increase the opportunity for modal choice. The new state rule also requires that local communities coordinate their plans with county and state transportation plans.

1.1 Study Area

The City of Newport is situated on the Oregon coast, bounded on the west by the Pacific Ocean and on the east by the foothills of the Coast Range. It has developed in a linear pattern for 11 miles along Highway 101, and includes the intersection of Highways 101 and 20. The location of growth and development within the city has been driven in large part by topographic constraints and the city's relation to Highway 101 and the type of traffic that this highway serves. Another strong influence has been Yaquina Bay, with its associated amenities and development.

In 1993, the population in the City of Newport was reported at 9,640 with employment at 5,164. Employment in the City historically has been related to tourism, with fishing and lumber as secondary activities. Newport is the major source of retail goods and services for Lincoln County residents. The summer tourism places a high demand on transportation facilities resulting in severe congestion on the major roadways. Major tourist attractions include the Bay Front, Nye Beach, the Mark Hatfield Marine Science Center and the Oregon Coast Aquarium.

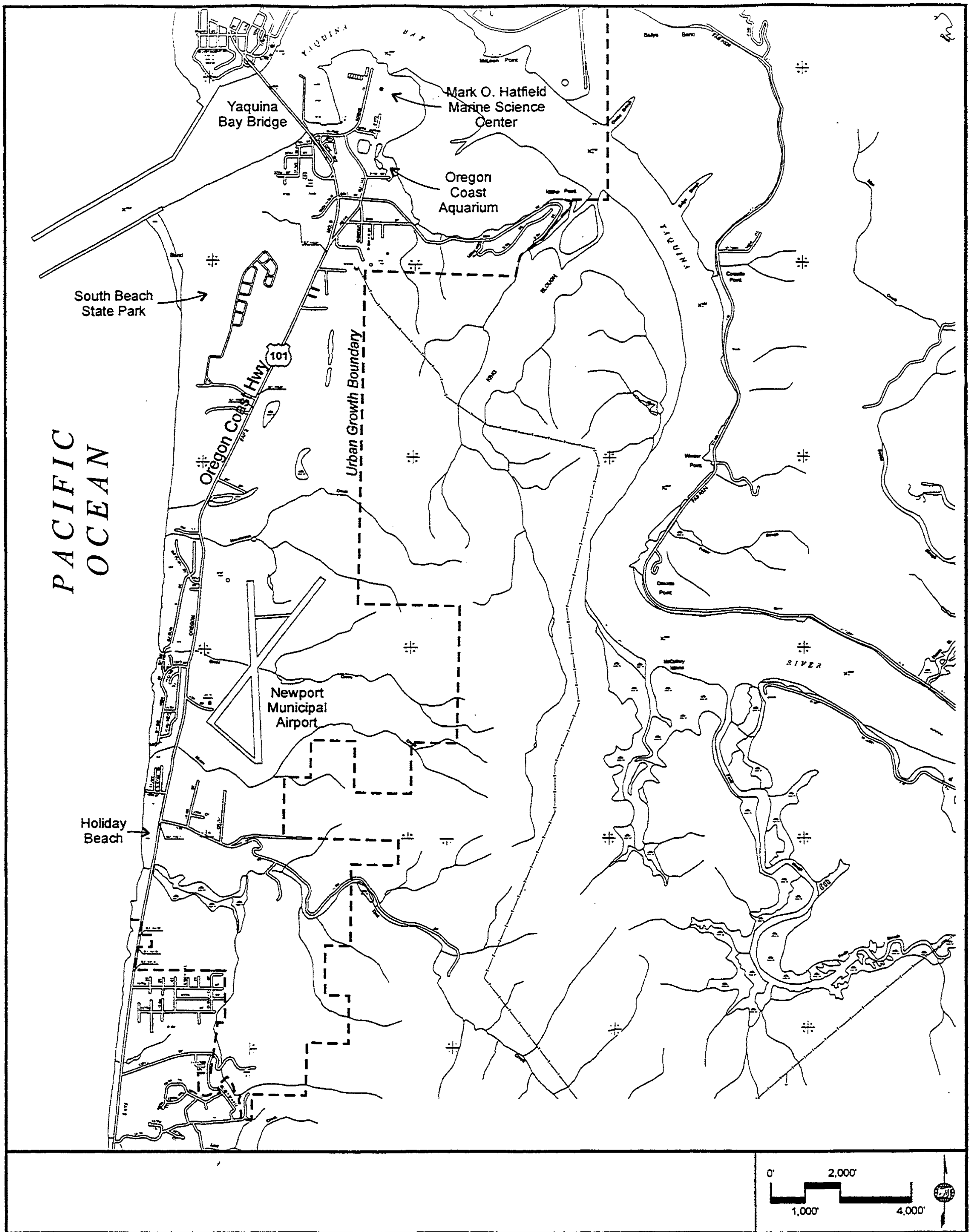
The recognized boundary for this study is the current Urban Growth Boundary (UGB) for the City of Newport, which is larger than the current city limits boundary. Figure 1 and Figure 2 illustrate the study area.



City of Newport
Transportation System Plan

Study Area Map
(North Newport)

Fig. 1



City of Newport
Transportation System Plan

Study Area Map
(South Newport)

Fig. 2

1.2 Public Involvement

The public involvement process was initiated at the beginning of the study to obtain public input and involve the public in the entire TSP study process. A Technical Advisory Committee (TAC) was formed to guide the study process. It consisted of representatives from each affected jurisdiction and agency as well as members of the public to provide critical review of the analysis and guidance to the study team.
The general public was involved through stakeholder interviews that were held at the beginning of the study process to identify transportation issues of concern to the community. To obtain wider input on the issues, a survey was sent to more than 6,000 city residents with city water service along with their water bills and an announcement of the first open house. An open house, followed by a public workshop, was held on June 26, 1995. Additional open houses were held in January and June 1996. The open houses were advertised with newspaper display ads, a public service announcement on radio, and a cable television ad. Two feature articles appeared in the *Newport News Times*.

Information and results from the stakeholder surveys, the mail survey, the public open houses, and the open house comment forms have been summarized and are included in Appendix A. All of this information was incorporated into the development of the Newport Transportation System Plan.

1.3 TSP Study and Plan Organization

The development of the Newport TSP began with the establishment of the TSP goals and objectives, and development of the evaluation criteria, as outlined and described in Section 2. Goals and objectives were developed with the input of the TACs and the public at the first open house. The technical team then developed the evaluation criteria based on these goals and objectives and they were reviewed and approved by the TAC. The goals and objectives then guided the development of the transportation system alternatives.

In Section 3, the existing and future conditions for the City of Newport are presented. These include land use, population and employment, and the natural and cultural environments. The review of existing plans, policies, ordinances, standards, and funding sources is also presented.

An inventory of the existing transportation system was conducted to identify physical, operational, traffic safety, and travel characteristics of roadways within the Newport area, as outlined in Section 4. Transportation issues were identified by the Management Team, and then verified by the TAC and the public through stakeholder interviews and at the first open house.

Certain transportation issues unique to the City of Newport were studied in more detail and the results are presented in Section 5. These include access management, the Highway 101/Highway 20 intersection, the Yaquina Bay Bridge, and the mainly undeveloped South Beach subarea of the city.

The next step was the development of the transportation system alternatives, which are described in Section 6. The alternatives were modeled using the QRS II model developed for Newport by ODOT and PB, and planning level costs were developed. This section also includes the evaluation of the alternatives that was conducted with the TAC and the public.

The Draft Transportation System Plan is presented as a separate document. The preferred alternative is described, and the recommended bicycle plan, pedestrian plan, public transportation plan, the air/rail/water/pipeline plan, and the street system and access management plans are included. In addition, the potential funding sources and breakdown are described.

The TSP also lists the requirements and recommendations of the Oregon TPR (OAR 660 Division 12) and outlines how the Newport Transportation System Plan provides the analysis and findings needed for the city to comply with the TPR.

2.0 GOALS AND OBJECTIVES

2.1 Introduction

The goals and objectives for the City of Newport TSP identify the components of a plan that is appropriate for the city. They reflect the values of the community toward the city's transportation system and how it fits into the unique character of Newport. They are consistent with the City's Comprehensive Plan, and they take into consideration the requirements of the Oregon Transportation Plan (OTP) Goal 12 and the TPR.

The goals guide the development of the TSP, and the objectives identify the elements to be addressed in the plan. The goals are general statements of purpose for how the TSP relates to each element of the city's setting. There are goals for Transportation, Community, Resources, and Economics. Each goal has specific objectives that identify how the goal is to be carried out.

The objectives for the Transportation Goal address each of the transportation modes, including bicycles, pedestrians, and transit. The objectives for the Community Goal mention the various users of the transportation system, including local and recreational traffic. The Resources Goal objectives include all elements of the natural environment, as well as parks and recreational resources. The Economic Goal objectives take into consideration the various elements of the city's economy including tourism, lumber and fishing and Newport's role as a major source of goods and services for Lincoln County residents.

The goals and objectives are based on the input of the Newport citizens. They also reflect the input of the agencies that have jurisdiction over the different elements of the transportation system in Newport. The City of Newport has jurisdiction over the majority of streets in the city, as well as the Newport Municipal Airport. ODOT has jurisdiction over two major highways in the city - Highways 101 and 20. Lincoln County operates a transit system that serves residents of the city. The City of Newport, Lincoln County, and the Port of Newport jointly control the port facilities. The State of Oregon owns the Yaquina Bay Bridge.

The goals and objectives give overall guidance to developing the plan strategies and specific policies that make up the TSP. They provided the basis for developing evaluation criteria (or measures of effectiveness) to analyze and compare the transportation system alternatives for the city to allow selection of the Preferred Alternative.

2.2 Development of the Goals and Objectives

The draft goals and objectives were developed based on existing documents and input from several sources, including:

- City of Newport Comprehensive Plan
- Oregon Transportation Plan
- Transportation Planning Rule

- Oregon Coast Highway Corridor Master Plan
- Newport Peninsula Urban Design Plan
- Stakeholder Interviews conducted in May 1995

The draft goals and objectives were presented to the TAC on June 15, 1995 for review and comment. They were also presented at an open house on June 26, 1995. Based on comments received from both of these presentations, the goals and objectives were revised and presented to the TAC for final review on October 5, 1995.

2.3 Goals and Objectives

This section describes each one of the four goals and their respective objectives for this project.

Transportation Goal: Develop a plan to manage future transportation needs in the City of Newport and prolong the useful life of the existing transportation system.

Objectives:

- Reach acceptable level of service[1] on Highway 101 and Highway 20
- Improve Highway 101/Highway 20 connection
- Improve the Highway 20 connection to the valley
- Identify improvements to enhance public safety
- Develop access plans and strategies for established and developing areas
- Reduce conflicts between community, local, and recreational traffic
    - ⇒ Identify alternatives for local north-south traffic
- Identify how intermodal services and facilities will be provided in the community
- Identify bicycle and pedestrian facilities for local and recreational users
- Identify transit alternatives for local, intercity, and recreational users
- Refine options for meeting future capacity needs for the Yaquina Bay crossing

Community Goal: Develop a plan for a transportation system that supports the character of Newport.

Objectives:

- Provide connectivity and access for residential, commercial, and recreational traffic
- Enhance access to the civic and recreational areas and facilities of the City, such as the South Beach area, Bay Front, the airport, the Performing Arts Center, the Visual Arts Center, schools, senior centers, parks, and other recreational facilities

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[1] Per the Oregon Highway Plan, level of service on Highway 101 should be LOS C.

- Maintain neighborhoods by providing improvements consistent with each neighborhood's character

Resources Goal: Develop a plan for a transportation system that harmonizes with the inherent scenic beauty of the City of Newport, and protects environmental resources.

Objectives:

- Minimize impacts to parks, waysides, and recreational resources
- Maintain and enhance visual opportunities for local and recreational users
- Minimize adverse impacts to natural coastal environments, including wetlands, estuaries, and other wildlife habitat, especially that of threatened and endangered species

Economic Goal: Develop a plan for a transportation system that supports sustainable economic diversity and vitality for the City of Newport.

Objectives:

- Provide for the movement of goods, services and people within the city and to and from the city
- Provide circulation for local and recreational traffic to reach the city's tourist attractions
- Identify local, state, and federal support for components of the transportation system
- Support the economic vitality of local businesses

2.4 Development of the Evaluation Criteria

Evaluation criteria are needed to evaluate transportation system alternatives and to allow selection of the preferred alternative to be included in the TSP. These criteria are based on the goals and objectives that were developed to ensure that the preferred alternative accomplishes those goals and objectives. The criteria are tools to measure how well each alternative addresses each of the goals.

The evaluation criteria for each goal are specific to the goal, as discussed further in Section 2.5. Each alternative was analyzed using the evaluation criteria and a comparison was then made between the alternatives.

Many evaluation indicators can be quantified with a good degree of precision (i.e., transit travel times or capital cost estimates) while others rely totally on subjective evaluation (i.e., impact on visual quality of areas near a proposed improvement). In selecting a set of evaluation criteria, emphasis was placed on criteria that can be quantified. However, because it was not always possible to use that type of criterion, as in assessing visual and aesthetic impacts, an attempt was made to select measures that can be clearly defined and understood by all involved, and that most effectively show differences between the alternatives. These subjective criteria were developed with a

'+,-' rating system. In all cases, the No-Build condition receives a neutral, '+/-', rating and the build alternatives are rated relative to the No-Build condition. Each subjective criterion is substantiated in text on why particular ratings were applied. The TAC was used extensively in evaluation of subjective criteria to achieve a common consensus on the relative ratings.

Transportation Goal criteria include measures of how easy it will be to travel around the city, how long it will take, and if safety will be maximized with an alternative. Community Goal criteria include measures of how accessible different locations in the city will be, how available transit service will be, and what the land use impacts will be for each alternative. The Resource Goal criteria address environmental impacts. Lastly, the Economic Goal criteria use measures of how easy it will be to move people and goods around the city, what the public costs are, and how funds can be obtained for each alternative.

All of these criteria were used to analyze the Low Alternative, the Middle Alternative and the High Alternative. A summary of each alternative's rating according to the evaluation criteria is discussed in Section 6.0.

2.5 Evaluation Criteria

Each goal has various evaluation criteria associated with it. The following is a description of each criterion, as well as the specific measures used in its evaluation.

Transportation Goal Criteria

Mobility

Mobility is a measure of the relative ease with which people and goods can travel to and between different activities. A mobile person is able to get to the places where he or she lives, works, shops, socializes, and plays with reasonable travel time and convenience. An adequate transportation system provides this mobility for all members of the community. Therefore, mobility relies on all available modes of transportation, including the automobile, public and private transit, bicycles, and walking.

Measures:

⇒ Average speed by roadway functional class - Model output: miles per hour (mph)
⇒ Access to transportation disadvantaged - Qualitative comparison (+/-)
⇒ Provision for various transportation system users - Qualitative comparison (+/-)
(Commercial, commuter, residents, recreational)

Vehicle Miles of Travel (VMT)

Vehicle miles of travel are the total number of miles that all vehicles have driven on all roadways in a transportation system or on selected roadways. VMT is measured for a specified period, usually 24 hours. VMT is often calculated on both a region wide and a per-person basis. VMT is a measure of both how far people are traveling in their vehicles to their destinations and of how many vehicle trips are being made. VMT is a major component of automobile emissions and is determined in large part by the proximity of activity locations within the community.

Measures:

⇒ Total VMT and VMT per person - Model output: vehicle-miles
⇒ VMT by functional roadway classification - Model output: vehicle-miles by type

Vehicle Hours of Travel (VHT)

Vehicle hours of travel are a measure of the time spent by travelers in their vehicles on the roadway system.

Vehicle hours of travel represents the total number of hours spent in vehicles on a specific road or a road network in a given time frame, usually 24 hours. VHT is often calculated on both a regionwide and a per-person basis. VHT comprises of time spent traveling as well as time spent waiting (delay). VHT is directly related to travel speed. As travel speed decreases, the number of hours spent traveling increases.

Measures:

⇒ Total VHT and VHT per person - Model output: vehicle-hours

Level of Service (LOS)

Level of service measures the adequacy of transportation facilities both in terms of physical operations and in terms of driver perception. The purpose of transportation facilities is to move travelers between locations. LOS applies a ranking system to define how well a transportation system is serving its purpose. In general, if travelers are able to travel easily along a roadway facility with little delay and interaction with other vehicles, then LOS is "good." If travel is very slow and interaction with other vehicles is high, then LOS is "bad."

Measures:

⇒ Miles in system by LOS by functional classification - Model output: LOS F, E, D, C or better (based on the Signalized Intersection Capacity Analysis Program [SIGCAP] vehicles-to-capacity ratio [v/c] criteria -See Appendix B for Level of service definitions.)

Availability of Transit

The availability of transit is an element of the mobility and accessibility evaluation criteria. The purpose of transit is to provide options for travel to those who cannot, or choose not to, walk, bicycle, or drive a car to their destination. Transit can also be used for special purposes—for example, event shuttles, shuttles between major activity locations, and shuttles along tourist routes. An evaluation of transit components is a critical part of a complete transportation plan.

Measures:

⇒ Level of community-wide transit service - Qualitative comparison (+/-)
⇒ Level of transit service for transportation disadvantaged - Qualitative comparison (+/-)
⇒ Level of transit service for tourist destinations - Qualitative comparison (+/-)

System Safety

Vehicle safety is measured in terms of types of crashes, crash rates, and traffic violations. These types of measures cannot be known when considering future alternatives; however, qualitative comparisons can be made for transportation alternatives relative to their ability to address safety concerns in specific areas known to have safety problems.

Measures:

⇒ Addresses safety concerns from analysis and public input - Qualitative comparison (+/-)

Community Goal Criteria

Access to Different Modes and Destinations

This measure is related to the mobility discussion regarding access for various transportation system users. Community residents have a variety of needs and wishes that are satisfied at differing locations. Different travel options should be available to help limit congestion and to prevent people from being stranded if a certain mode fails. This measure is a qualitative comparison that describes the ability of a transportation system to provide travelers with a variety of options.

Measures:

⇒ Level of pedestrian, bike, auto, and transit access to neighborhoods - Qualitative comparison (+/-)
⇒ Level of pedestrian, bike, auto, and transit access to community - Qualitative comparison (+/-)

Availability of Transit

(See previous description, Transportation Goal Criteria)

Minimization of Land Use Impacts

Transportation system planning and land use planning should be done in complementary fashion. The transportation system must be compatible with and support adopted land uses. Different types of streets and levels of traffic are appropriate for different types of land uses. Streets serving neighborhood and school traffic usually carry lower levels of traffic than streets serving more intense land uses.

Measures:

⇒ Supports land use plans - Qualitative comparison (+/-)
⇒ Minimizes neighborhood traffic infiltration - Percent VMT on minor collector/local street system - Model output

Resource Goal Criteria

Minimization of Environmental Impacts

Transportation amenities are part of a larger set of community amenities. Transportation system planning should consider the environmental, historic, and cultural aspects of a community that help to make that community a desirable place to live. The goal is to avoid or minimize impacts to these community features.

Measures:
⇒ Minimizes impact on significant natural and cultural features (natural areas, wetlands, historic/cultural resources, schools, parks, and cemeteries) - Qualitative comparison (+/-)
⇒ Minimizes visual and aesthetic impacts - Qualitative comparison (+/-)

Economic Goal Criteria

Mobility

(See previous description, Transportation Goal Criteria)

Minimization of Public Costs

Transportation alternatives must be designed to provide the greatest benefit for the available public dollar. Both capital and operating costs can be developed for the elements of various transportation alternatives. The alternatives can then be evaluated to ensure that transportation goals and objectives are being met in an efficient manner. These goals and objectives can conceivably be met with a variety of solutions. Solutions that make the best use of available funding should be favored.

Measures:
⇒ Capital and operations/maintenance costs - $$ and relative comparison (+/-)

Fundability

This measure relates to minimization of public costs. Fundability takes a closer look at the types of federal, state, local and private money available, the transportation projects that qualify for the available funds, and how much funding is available.

Measures:
⇒ Potential availability of revenue, by type (Federal, State, Local, Private)

3.0 EXISTING AND FUTURE CONDITIONS

This section reports on the existing and projected future conditions that occur on the City of Newport's transportation network. The information provides the basis upon which the transportation alternatives were developed.

3.1 Growth, Population, and Employment

The City of Newport has grown at a relatively steady pace since its incorporation in 1882, with a growth rate of approximately 2 percent per year over the last 20 years. The population was 580 by 1920, and has grown steadily since then, with a population of 9,785 in 1996. Population is expected to reach 15,200 by 2016 (based on projections developed as part of this TSP).

The City encompassed 8.41 square miles or 5,382.4 acres within the city limits in 1988. The resulting population density was 3.6 persons per acre, based on 2,341.48 net acres after excluding lands dedicated as streets and alleys, commercial and industrial land, and parks and other open spaces.

The median age in Newport, 32.7 years, is slightly higher than the state average but slightly lower than the county. It is anticipated that the median age will increase between now and the year 2016 as the baby boomer generation ages and as a retirement age population moves into the community. Based on the 1990 census information, the greatest number of residents are between the ages of 21 and 59 years (51 percent).

All of this data is based on only year-round residents. There are numerous vacation homes in the City, as well as seasonal increases in population as a result of tourism. Of the 4,105 dwellings in the City of Newport 86 percent are occupied year round. The remaining dwellings are vacation homes. These homes increase the actual number of persons using city services, especially those using the transportation system, particularly during the summer and on weekends.

Employment in the City historically has been related to tourism, with fishing and lumber as secondary activities. Newport is the major source of retail goods and services for Lincoln County residents. It is also the County seat and the area providing the most jobs for County residents. The Oregon Coast Community College is also located in Newport, again serving countywide residents. Of the 5164 jobs within the City of Newport in 1993, 1630 were retail, 704 were industrial, 1402 were government or education, 45 were agricultural and 1383 were service oriented.

It is estimated that between 4 and 5 million people travel through Newport each year. In 1985, the Cascades West Economic Development District estimated that tourism accounted for nearly 38 percent of all jobs in Lincoln County. As of 1991, there were approximately 1,500 hotel/motel units and 782 recreational vehicle spaces within the City of Newport (see Section 3.2 for a more detailed discussion of new development). Tourism continues to play a strong role in the local economy and places a strong demand on the local transportation system, particularly with the addition of the Mark O. Hatfield Marine Science Center and the Oregon Coast Aquarium in the same South

Beach area. The recent addition of the whale facility and the arrival of Keiko at the aquarium have spurred tourism to this site beyond that experienced in recent years. Tourism is generally on an upward trend caused by a variety of factors, including the general economic conditions, population growth in Western Oregon, and the popularity of the Northwest with retirees and visitors.

Newport, along with Astoria and Coos Bay, is one of the three largest fishing ports on the Oregon Coast. There is a large commercial fishing fleet based in Newport and during peak season nearly 1,000 workers are employed on these boats. This employment is expected to remain relatively stable, with possibly some slight slippage, over the next several years.

Although the restructuring of the timber industry has resulted in significant decreases in the number of employees, the absolute numbers and the importance to Lincoln County and Newport economies are still significant. Reductions in employment in this sector are expected over the next several years. Other employment sectors in Newport include ocean research and educational facilities, government services, and retail trade and services. The greatest demand in new jobs is expected to be in the service area. The largest employer within the City of Newport is the Lincoln County School District. Regionally, the papermill in Toledo is the single largest employer.

3.2 Land Uses

The City of Newport is bounded on the west by the Pacific Ocean and on the east by the foothills of the Coast Range. Consequently, the City has grown to the north and south along Highway 101. Some development has occurred in the surrounding foothills and along the Yaquina River and creek valleys, but this is generally rural development outside the City.

The Newport urban area includes lands within the city limits. The City and Lincoln County have agreed on a site-specific boundary that limits spatial city growth until 2010. The lands between the city limits and this future growth boundary are lands that will become available for future growth. This UGB delineates where annexations and the extension of city services will occur. Development of those lands within the UGB requires coordination between the County, the property owners, and the City.

Existing Land Uses

With the City of Newport UGB, there are approximately 5400 acres of which approximately 1075 is devoted to streets, 490 is zoned commercial, 385 is zoned industrial, 1090 is for parks, open spaces or other public lands and the remaining 2360 is zoned residential.

Beginning at the north boundary of the City at about 73rd Street, the land uses are residential. There is a recreational vehicle (RV) park on the west side of Highway 101 south of NW 66th Street. Mainly residential uses continue both east and west of the highway until approximately NE Harney Drive. There are exceptions, such as a movie theater adjacent to the east side of Highway 101 at NE 60th Street, the Agate Beach Golf Club on NE 38th Street, some motels along the west side of Highway 101, and scattered commercial uses.

Residential uses include both single-family homes and apartments. Residential development west of the highway is constrained by the narrow strip of buildable land between Highway 101 and the ocean, south of Yaquina Head. The Longview Hills development, a 150+ unit retirement community of manufactured homes, is east of the highway at approximately NE 54th Street. Shore Pine Hills is another community located east of the Highway 101. The Agate Beach Golf Club is east of the highway at NE 40th Street.

Yaquina Head access is from Highway 101. The Yaquina Head Outstanding Natural Area includes the interpretive center, ADA accessible tide pools, Yaquina Head lighthouse, bird rookeries and tide pools. This area is both a park and scenic viewpoint.

Extensive commercial development along Highway 101 begins at approximately NE 25th Street and continues on both sides of the highway until the Yaquina Bay Bridge. This commercial development includes both large and small establishments, such as Walmart, Fred Meyer, Safeway, and numerous small retail stores and restaurants. The downtown core includes government offices and additional retail uses, concentrated between Olive and Fall Streets.

Away from the highway in the central city area, the high school, the middle school, and two elementary schools are within several blocks east between 12th and 2nd Streets. The fairgrounds and several ball fields are also in this same vicinity. Also in this area, but west of the highway, is the Nye Beach Historic area with the Performing Arts Center and commercial development. The area includes Visual Arts Center; Don Davis Park, beach access and tourist related facilities. There is a heavy concentration of established residential development between NE 25th Street and the Bridge on both sides of the highway.

East of Highway 101 and south of downtown is the Bay Front area, which is located along the waterfront and was established around commercial fisheries and docks. This area is now a heavy tourist attraction, with numerous shops and restaurants. The portion of the city east of this area is in waterfront and industrial uses. North of Bay Boulevard is residential development.

South of this area, Highway 101 continues across the Yaquina Bay Bridge. South Beach State Park is located to the west of the bridge. The South Beach area is located along the bay east of the bridge. This area includes the Mark O. Hatfield Marine Science Center, the South Beach Marina, the Oregon Coast Aquarium and various commercial and industrial uses.

There are some scattered residential uses south of the bay, mainly west of Highway 101. West of the highway, the State Park continues with RV facilities. The airport is located east of the highway south of SE 62nd Street. There is additional residential development south of the airport to the east of the highway.

Parks within the city include the Yaquina Head area, Agate Beach State Park, Big Creek City Park, Frank Wade City Park, Yaquina Bay State Park, and South Beach State Park.

Government and community facilities include the Lincoln County Courthouse, Lincoln County Fairgrounds, Lincoln County Public Works, the Coast Guard Station, Newport City Hall, the Performing Arts Center, the Mark O. Hatfield Marine Science Center and Oregon Coast Aquarium, the Pacific Community Hospital, the Oregon Coast Community College, a State Police office, two fire stations and the Department of Motor Vehicles office.

New Development

There are several sites where development is currently underway. A 200-unit apartment complex is under construction along NE 36th Street. A whale tank was added to the Oregon Coast Aquarium in the South Beach area. Additional homes are being built in some existing subdivisions north of the commercial area. The Thundering Seas Jewelry School is planned for a site at Highway 101 near NE 33rd Street.

Planned Land Uses

The planned land uses for the City follow generally the same pattern as the existing land uses (see Figure 3a for north Newport and Figure 3b for south Newport). The majority of land is designated for residential uses, with the largest concentration north of the bridge. There are large parcels of land designated for residential development south of the bridge, south and east of the airport.

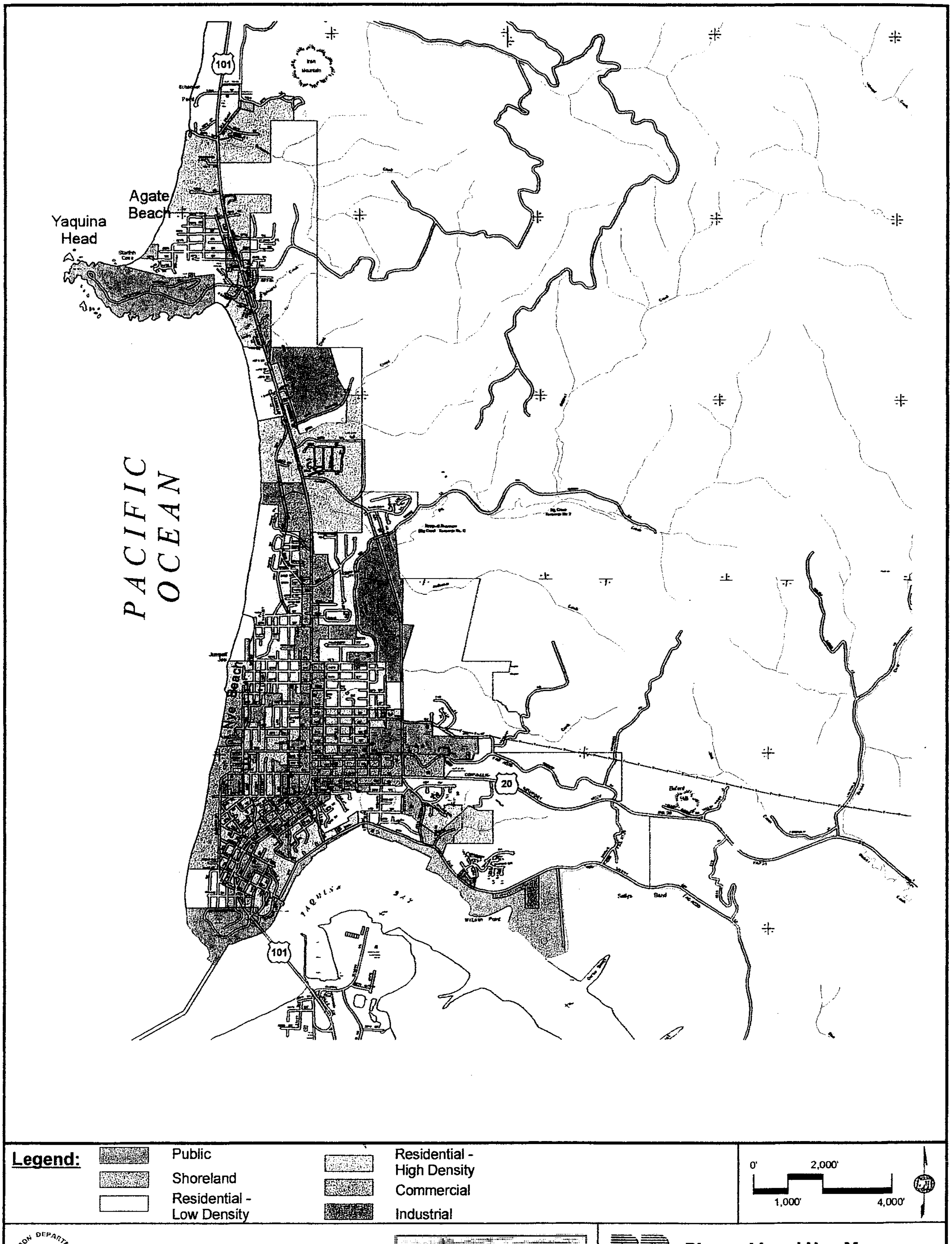
Commercial uses are concentrated along Highway 101 and in the Nye Beach area. Industrial land is concentrated east of the highway, south of the bay and in the northeast section of town near the Oregon State Police and the solid waste transfer station. The airport land is designated as a public facility use. Park uses and institutional uses are scattered throughout the City.

3.3 Natural Environment

Wetlands

The City of Newport and the U.S. Department of Fish and Wildlife have mapped wetlands within the city's UGB. The wetland delineations within the city are shown on the Ocean Shorelands map, which is part of the Comprehensive Plan. These maps indicate, although they do not specifically state, that the following areas are wetlands:

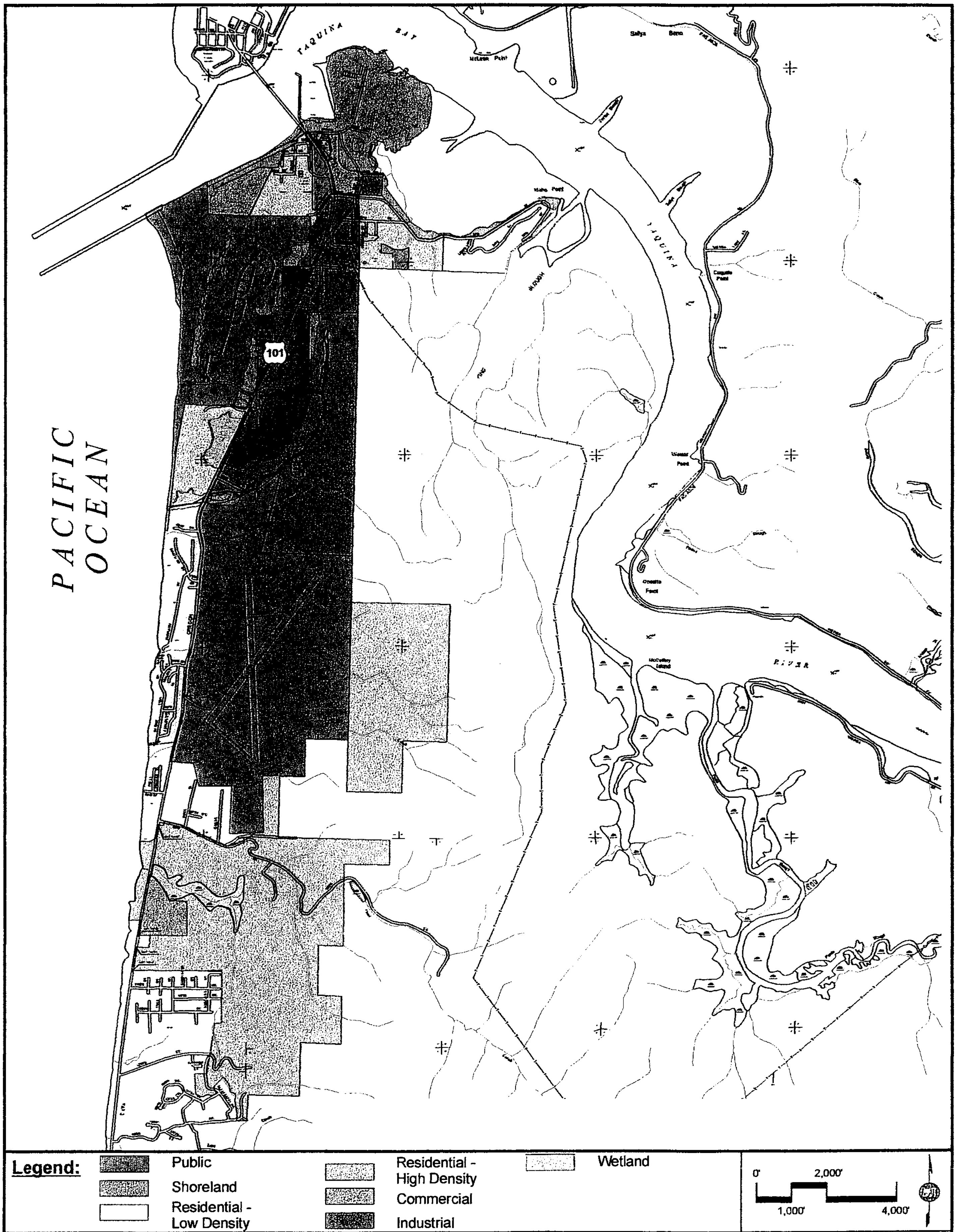
- Portions of the South Beach dune complex
- An unnamed drainage east and west of Highway 101 just to the north of the Newport Municipal Airport property and south of the South Beach State Park
- Grant Creek west of Highway 101
- Moore Creek west of Highway 101
- The Thiel Creek drainage basin within the Newport UGB



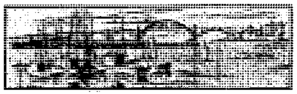
City of Newport
Transportation System Plan

Planned Land Use Map (North Newport)

Fig. 3a



City of Newport
Transportation System Plan



Planned Land Use Map
(South Newport)

Fig. 3b

In addition to the City's designated sites, the U.S. Department of Fish and Wildlife has identified the sites on the map entitled "National Wetlands Inventory, Newport North." The city, state, and federal governments have designated and mapped wetland boundaries within the Newport UGB; however, the scale of those maps makes it difficult to determine exact wetland boundaries. State and federal wetland regulations require that all wetlands be identified and exact boundaries established. This can be done through a site-by-site analysis as development is proposed or through an area-wide analysis in advance of any development.

A wetland delineation for the South Beach area from the northern boundary of the airport to approximately SE 35th Street was prepared in a previous study[2]. For the rest of the City's UGB, the more general maps from the U.S. Department of Fish and Wildlife, the Division of State Lands, and the City will have to be used until a more detailed inventory can be performed.

Threatened and Endangered Species

The following information about threatened and endangered species in the Newport vicinity was excerpted from the Oregon Coast Highway Corridor Plan:[3]

> For the purposes of the Oregon Coast Highway Corridor Plan, initial screening of potential threatened and endangered species and sensitive habitats was performed through a search of the Oregon Natural Heritage Program's (ONHP) natural heritage database. The database contains the most up-to-date information available on the distribution and abundance of plants and animals native to Oregon. Although based on a large volume of information, it is not a substitute for detailed field surveys.
>
> This information is provided at county and U.S. Geological Survey quadrangle levels of location detail. Table 1 reflects species or communities that are believed to be potentially or actively threatened with destruction (ONHP, 1991). Due to the sensitivity of location information for threatened and endangered species, only general references to location are provided.
>
> This preliminary list should eventually be supplemented with information provided by natural resource agencies such as the U.S. Fish and Wildlife Service, the Natural Marine Fisheries Service, the Oregon Department of Fish and Wildlife, and with information obtained through field surveys.

---

[2] Wetland Conservation Plan for South Beach, Newport, Oregon (Draft), Scientific Resources, Inc., December 10, 1990.

[3] Oregon Coast Highway Corridor Plan, Research and Inventory Report, Volume 2 - Natural Resources, July 1993.

Table 1: Threatened and Endangered Species

Name	Common Name	Protected 1	7.5' Quad Map 2	No. 3
Lepidostoma goedeni	Goeden's pepidostoman caddisfly		Newport North	1
Falco peregrinus	Peregrine falcon	*	Newport North	1
Pelecanus occidentalis	Brown pelican	*	Newport North	1
Fesrub coastal headland grassland	North coast headland grassland		Newport North	1
Arborimus (=Phenacomys albipes)	White-footed vole		Newport North	1
Speyeria zerene hippolyta	Oregon silverspot butterfly	*	Newport North	1
Gavia immer	Common loon		Newport South	1
Charadrius alexandrinus	Snowy plover	*	Newport South	1
Low intertidal high salinity sandy saltmarsh			Newport South	1
Cordylanthus maritimus ssp *palustris*	Salt-march bird's-beak		Newport South	2
Pelecanus occidentalis	Brown pelican	*	Newport South	1
Falco peregrinus	Peregrine falcon	*	Newport South	2
Fesrub dune grassland	Red fescue stabilized sand dunes		Newport South	1
Lycopodium inundatum	Northern bog clubmoss		Newport South	1

Notes:
Source: ONHP, 1992.
1 = Protected species include those with federal or state endangered (LE), threatened (LT), or candidate (C, CI) status only.
2 = U.S. Geological Survey 7.5' quadrangle map base maps.
3 = Number of records per highway segment.

Summary

The natural environment of Newport includes the Oregon Coast, Yaquina Bay, and numerous wetlands, creeks, and estuaries. There are also dunes and a major drainage basin within the city. This setting creates habitat for all types of wildlife and vegetation, some of which may be threatened or endangered species. Any transportation project in Newport will have to take this into consideration and will likely be required to include avoidance or mitigation measures during project design and construction. During project planning and design, detailed field studies may be necessary to delineate wetland boundaries, or to identify habitat for threatened or endangered species, or both.

3.4 Historic and Cultural Resource Sites

The Newport planning area contains several historic sites and buildings and two potential historic districts. Many of the sites and buildings are worth preserving, whereas some alterations and remodels have destroyed the historic qualities. While there are no conflicting uses among the sites currently listed, the inventory of historic-cultural sites developed thus far does contain several structures that are in precarious physical condition. Those sites may also be subject to a use change that could diminish their historic value. According to the Comprehensive Plan, all of the Newport planning area is archaeologically sensitive.

The Lincoln County Historical Society has identified the following sites within the Newport UGB as being of historic significance:

Abbey Hotel/Bayview Hotel Site:
Peter Morton Abbey was one of Newport's pioneer settlers in 1867. He built the Bayview Hotel on the waterfront in 1871 and moved it back against the hill in 1911. The hotel was torn down in 1935. The Abbey Hotel, built in 1911 at 704 SW Bay Boulevard, operated until it burned in 1964. It was a three-story wooden building with 45 rooms. George Bahr, the owner in 1964, replaced the hotel with a restaurant-bar called "The Abbey," which was subsequently torn down for a parking lot in 1986. The OCZMA has recognized the site as having historic importance.

Owner: City of Newport

Current Use: Public parking lot and rest rooms

Conflicting Use: Yes (zoned for water-related uses)

Site of Special Historic Significance: Yes

Building of Special Historic Significance: No

Conclusion: Preservation of the site is not required. A sidewalk marker may be appropriate.

Burrows Boarding House:
This building was originally located west of Highway 101 at the site of the Bank of Newport. Originally used as a boarding house and then as the Bateman Funeral Home, the Lincoln County Historical Society moved it in 1976 to SW 9th Street next to their museum to serve as a museum annex. Photographs in 1889 show the Queen Anne style building as a boarding house. OCZMA has rated the house as being of historic significance to the City of Newport.

Owner: Lincoln County Historical Society (the land is owned by the City of Newport)

Current Use: Museum

Conflicting Use: None (zoned for public buildings)

Site of Special Historic Significance: No

Building of Special Historic Significance: Yes

Conclusion: The building and site are worth preserving, and both the Lincoln County Historical Society and the City of Newport adequately protect them. Any modification or alteration to the building or the site must be reviewed by the Planning Commission to ensure the maintenance of its historic value consistent with the provisions of the City of Newport Zoning Ordinance.

Cape Foulweather Lighthouse/Yaquina Head Lighthouse:
Constructed by the U.S. Lighthouse Service in 1862, this is the second-oldest lighthouse on the Oregon Coast and was built to replace the light at the entrance to Yaquina Bay. Apparently, the lighthouse was originally to have been erected on Cape Foulweather, but the supplies were mistakenly landed at Yaquina Head, so it was built there. The Oregon Coastal Zone Management Association (OCZMA) has classified the site as being of natural historic significance, and it is marked with a Lincoln County Historical Society marker, as well as being listed on their map. The National Register of Historic Places also lists the site.

Owner: U.S. Bureau of Land Management

Current Use: Automated lighthouse, wildlife refuge, and a scenic and natural area

Conflicting Use: None

Site of Special Historic Significance: Yes

Building of Special Historic Significance: Yes (lighthouse only)

Conclusion: The site and lighthouse should be preserved. Other out buildings are not significant and are not worth the preservation effort. Any modification or alteration to the lighthouse or the site must be reviewed by the Planning Commission to ensure the maintenance of its historic value consistent with the provisions of the City of Newport Zoning Ordinance.

The Castle:
Located on SW Alder Street just west of Highway 101, and now divided into three apartments, this house was built by Charles A. and Teresa Roper in 1912.[4] The site is listed on the National Register of Historic Places.

Owner: Jeff Ouderkirk

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[4] Charles Roper was the Mayor of Newport from 1921-1923.

Current Use: Residential (apartments)

Site of Special Historic Significance: No

Building of Special Historic Significance: Yes

Conclusion: The building is worth preserving. Any modification or alteration to the building or the site must be reviewed by the Planning Commission to ensure that its historic value is maintained consistent with the provisions of the City of Newport Zoning Ordinance.

Ernest Bloch Home:
Ernest Bloch, a well-known composer and orchestra conductor, occupied this house from 1941 until 1959. It has been classified as being of historic importance to the nation by the OCZMA, and a bronze plaque mounted on a boulder located at the junction of Yaquina Head Lighthouse and Highway 101 marks the site.

Owner: First Baptist Church of Salem

Current Use: None

Conflicting Use: The site is zoned for retail commercial uses. There could be negative results for the site if development pressures become too great. If retail commercial uses are not allowed, unfavorable economic consequences could occur. If conflicting uses develop on or near this site, the loss of a cultural resource could be socially detrimental. No energy consequences will occur as a result of either allowing or not allowing the conflicting uses.

Site of Special Historic Significance: Yes

Building of Special Historic Significance: Yes

Conclusion: Both the site and the Bloch Home are of sufficient significance that the Planning Commission must review any proposal for modification or alteration of the structure to ensure the maintenance of its historic value consistent with the provisions of the City of Newport Zoning Ordinance.

The Grand:
This two and one-half story wooden structure at 618 SW Bay Boulevard is one of the oldest structures, if not the oldest, on the Newport waterfront. It was built in 1886 as an Oddfellows or Masonic Lodge in Olsonville (about a half a mile up the bay from its present location) and was established as a boarding house. It is now known as "Circa 1886," a gift shop. The building has historic significance to the county according to the OCZMA.

Owner: Richard C. Wilton

Current Use: Gift shop

Conflicting Use: While the building's location provides much of its historical significance, the designation of the area for water-related uses could pose a conflict. Because the building is one of the city's few historic buildings, its loss would have adverse social consequences. Its preservation would not have an adverse economic impact, as long as the character of the Bay Front remains a mix of tourist and water-related uses. No significant energy consequences are likely to occur as a result of the preservation of this building or the identified conflicting uses.

Site of Special Significance: No

Building of Special Significance: Yes

Conclusions: Review by the Planning Commission of any alterations or modifications to this building will ensure maintenance of the historic value of the structure. The provisions contained in the City of Newport Zoning Ordinance will govern any review.

Jump-Off Joe Rock:
Located north of Nye Creek off Coast Street, this large Nye Sandstone formation has eroded over the years to a small sea stack. Legend attributes the name to an Indian named Joseph, who was chased to the site by men and was advised by a Siletz woman to "Jump off, Joe," which he did. OCZMA classifies the site as being of importance to Lincoln County, and the Lincoln County Historical Society distinguishes the site with a marker and by showing it on their map of historic places.

The Jump-Off Joe landslide area is an example of a detached mass sliding on a seaward-dipping bedding plane. Both north and south of Jump-Off Joe, the heads of slides have moved land forward several hundred feet and have cut off roads, damaged or destroyed houses, and disrupted the ground surface. More than 16 acres of land have been involved in the Jump-Off Joe landslide area. While this is a dramatic example of a catastrophic slide potential, much of Lincoln County's development is along the margin of the marine terrace where soft soil and weathered rock is being undermined by erosion at a rapid rate; consequently, catastrophic landslides are a potential hazard in many areas.[5] For this reason, the city has concluded that, while this particular slide area must be mentioned as a geologic hazard, it has not been found to be scientifically significant.

Owner: State of Oregon

Current Use: Natural area

Conflicting Use: None (site is in the ocean)

Site of Special Historic Significance: Yes

Conclusion: State ownership protects the site. The inshore area is City of Newport parkland, which contributes to site protection.

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[5] State of Oregon Department of Geology and Mineral Industries, Bulletin 81: Environmental Geology of Lincoln County, Oregon, 1973.

Lincoln County Historical Museum:

A log building on SW 9th Street, the museum has one of the finest Indian interpretive exhibits on the Coast.

Owner: Lincoln County Historical Society (the land is owned by the City of Newport)

Current Use: Museum

Conflicting Use: None (zoned for public buildings)

Site of Special Historic Significance: No

Building of Special Historic Significance: No

Conclusion: The building is a replica of an early log cabin and contains important historic exhibits and artifacts. Change, expansion, removal, or replacement of the building by the Historical Society, as needed, is allowed.

New Cliff House/Gilmore Hotel:

Located on the ocean at the end of NW 3rd Street, this hotel was completed in 1913 by W.D. Wheeler. He and Peter Gilmore traded businesses in 1921, Gilmore taking over the hotel and Wheeler taking on Gilmore's chicken ranch outside of town. The Gilmore is the last of the turn-of-the-century oceanfront resort hotels in Newport still standing. Completely restored, it is currently operating as the Sylvia Beach Hotel.

Owner: Sylvia Beach Hotel, Inc.

Current Use: Hotel

Conflicting Use: No (zoned for tourist commercial)

Site of Special Historic Significance: Yes

Building of Special Historic Significance: Yes

Conclusion: The structure is restored. The Planning Commission must review any future alterations to ensure the maintenance of the historic value. Such review shall be consistent with provisions of the City of Newport Zoning Ordinance.

Oar House Bed and Breakfast:
The Oar House Bed and Breakfast is located at 520 SW 2^{nd} Street. Built in approximately 1900 for Mrs. C. H. Bradshaw as "The Bradshaw," a rooming house, it has functioned in that capacity for 75 of its 88 years. On the corner of SW 2nd and SW Brook Streets, it is an L-shaped cross-gabled Craftsman style building. Although altered by the addition of some auxiliary structures, wall openings, and room partitions, the building retains most of its original fabric and function. Photographs dated 1907 and 1910 indicated little change to the main structure configuration except for the addition of the cupola in 1981.

Owners: Steven and Patricia Souza

Current Use: Bed and breakfast and residence

Conflicting Uses: No (zoned for high density residential and is developed residentially)

Site of Special Historic Significance: Yes

Building of Special Historic Significance: No (building has been substantially altered)

Conclusion: The building and site do have the potential to be of special historic significance, but alterations to the building have compromised its historic quality. This site will need to be looked at closer to make a final determination of its significance.

Ocean House Hotel Site and U.S. Coast Guard Station:
The Ocean House Hotel was built in 1866-67 by James R. Bayley[6] and Samuel Case. Case, the proprietor, came to the area as an infantryman to serve at the Siletz Reservation. The current U.S. Coast Guard Station is located on the Ocean House Hotel Site and was built in about 1935. The OCZMA has listed the site as having historic importance to the county. A Lincoln County Historical Society marker identifies the Ocean House site, and it is shown on their map.

Owner: U.S. Coast Guard

Current Use: Coast Guard Station

Conflicting Use: None

Site of Special Historic Significance: Yes

Building of Special Historic Significance: Yes

Conclusion: The historic marker for the site should be maintained, as should the typical 1930s Coast Guard Style. This is a significant anchor to the original town site. Any modification or alteration to the building or the site must be reviewed by the Planning commission to ensure the maintenance of its historic value consistent with the provisions of the City of Newport Zoning Ordinance.

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[6] Mayor of Newport from 1884-85, 1892-93, and 1897-99.

Old Oddfellows Hall:
Located on the southwest corner of SW Hurbert Street and Highway 101, this large wooden frame structure was completed in 1912. Besides the Oddfellows, it has also housed Newport's U.S. Post Office and various retail businesses. A restaurant is currently in operation there.

Owner: Charles Thompson

Current Use: Restaurant and other retail businesses

Conflicting Use: Yes. The building has been substantially altered. The area is zoned for retail commercial uses, but has a parking problem.

Site of Special Historic Significance: No

Building of Special Historic Significance: No

Conclusion: Neither the site nor the building should be preserved.

Old Yaquina Bay Lighthouse:
Built in 1871, this was the first lighthouse on the Oregon Coast. It is classified as being of historic importance to the nation by the OCZMA, and the Lincoln County Historical Society distinguishes the site on their map and with a marker. The National Register of Historic Places also lists the site. The lighthouse is on property owned by the Oregon State Parks Department, which maintains it as a museum. It is open to the public during the summer months.

Owner: Oregon State Parks Department

Current Use: Museum

Conflicting Use: None

Site of Special Historic Significance: Yes

Building of Special Historic Significance: Yes

Conclusion: The building and site are worth preserving and the Oregon State Parks Department adequately protects them. Any modification or alteration to the lighthouse or the site must be reviewed by the Planning Commission to ensure the maintenance of its historic value consistent with the provisions of the City of Newport Zoning Ordinance.

Royal Bensell Home:
Located at 757 SW 13th Street, this home was built in 1885 by Royal A. Bensell, an infantryman on the Grand Ronde Reservation in the Civil War. He was a co-owner of a steam sawmill at Depot Slough and was in involved in direct lumber shipments to San Francisco. Bensell served as a representative to the State Legislature from western Benton County from 1868-1882, and was justice of the peace and collector of customs

for the Yaquina District in the 1880s. Mr. Bensell also served as mayor of Newport in 1908-1910, 1915-1917, and part of 1921. The OCZMA notes this home as being of historic importance to the county.

Owner: Dr. Russell Guiss

Current Use: Residence

Conflicting Use: Yes

Site of Special Historic Significance: Yes

Building of Special Historic Significance: No

Conclusion: The structure has undergone wholesale structural and aesthetic changes during the last 25 years through the efforts of the current owners, Dr. and Mrs. Russell Guiss. These alterations have irrevocably altered the original appearance and character of the house by commingling contemporary building materials and designs with the original structure.

Scott House:
Located on SE Bay Boulevard across from Port Dock 5, this house was built in 1928 by General Ulysses S. Grant McAlexander, a World War I veteran known as the "Rock of Marne." The house was built on the foundation of Dr. James R. Bayley's mansion and has been partially rehabilitated. Since this house is not the original structure and has been altered, it has no special historic significance. The site itself has been significantly altered in anticipation of commercial development.

Owner: Magna Corporation

Current Use: Restaurant and lounge (Gracie's at Smuggler's Cove)

Conflicting Use: Yes (zoned for high density residential)

Site of Special Historic Significance: No

Building of Special Historic Significance: No

Conclusion: The building and the site are not significant and not worth any preservation effort.

Yaquina Bay Bridge:
Completed in 1936 after 2 years of construction, the bridge replaced the Yaquina Bay Ferry and was a key element of the coast highway system. The bridge led to development of the business district along Highway 101 in Newport, dramatically increasing tourism on the Oregon Coast. OCZMA has categorized the bridge as having importance to the state.

Owner: State of Oregon

Current Use: Bridge

Conflicting Use: None

Site of Special Historic Significance: Yes

Structure of Special Historic Significance: Yes

Conclusion: If it is necessary to expand the bridge, expansion should be done in the same corridor. Any expansion must preserve the bridge silhouette by locating on the west side. Any modification or alteration to the bridge or the site must be reviewed by the Planning Commission to ensure the maintenance of its historic value consistent with the provisions of the City of Newport Zoning Ordinance.

Considerations: Besides the above sites and structure, the Bay Front and the Nye Beach areas are two potential historic districts. No specific study and determination has been made, but the importance of those two areas for their historic significance suggests that the city should explore the possibility of designating them as historic districts.

As for archaeological sites, all of the Newport Planning Area falls within the "high density" archaeological site density classification shown in the 1976 Lincoln County Statewide Inventory of Historic Sites and Buildings[7]. In addition, the state archaeologist has said that areas as far as 5 miles upstream on all streams and rivers emptying into the ocean are archaeologically sensitive areas.

Summary

There are several historic sites and two potential historic districts in Newport. Modifications or alterations to most of the sites or structures must be reviewed by the Newport Planning Commission for consistency with the provisions of the City of Newport Zoning Ordinance. According to the City of Newport Comprehensive Plan, all of the Newport Planning Area is archeologically sensitive. Any transportation project in the city will have to take into consideration the potential for cultural resources and detailed field studies may be necessary. Projects that may affect a historic site or structure will have to address these impacts and may have to be reviewed by the Planning Commission.

3.5 Existing Plans, Policies and Standards

The following documents were reviewed for applicable policies and standards that were then considered in the preparation of the Draft TSP. Only those policies that address transportation systems issues are included below.

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[7] Oregon Department of Transportation (Parks and Recreation Division), State of Oregon Inventory of Historic Sites and Buildings, 1974.

City of Newport Comprehensive Plan

Energy Conservation

Policy 3 - The city will encourage the use of forms of transportation (e.g., bicycles and mass transit) that are more energy efficient.

Economic Section

Goal 1: To maintain and enhance the quality of the environment, community services, and the overall quality of life in the community.

Policy 1 - The City of Newport shall promote local and regional cooperation through institutional partnerships, organized in ways that work best to accomplish the given task.

Policy 4 - The City will work toward providing commuter air service at the Newport Municipal Airport.

Goal 3: To maintain and improve both the public and private infrastructure which is supportive of economic development efforts within the community.

Policy 3 - The City shall continue to promote the improvement of Highway 101 and State Highways 18, 20, and 34, which connect Highway 101 and the metropolitan valley populations.

Policy 4 - The City will strive to work with the State of Oregon and other parties to establish adequate setbacks and access control and to provide the rights-of-way necessary to minimize conflicts between current highway use, future development, and the needs of both travelers and residents.

Policy 5 - The City will be supportive of efforts to maintain channel depths in Yaquina Bay necessary to support deep draft shipping, as well as the commercial and recreational fishing fleet.

Public Facilities Element

Goal 1: To ensure adequate planning for public facilities to meet the changing needs of the City of Newport urbanizable area.

Policy 4 - Essential public services should be available to a site, or should be able to be provided to a site with sufficient capacity to serve the property, before a development can receive approval from the city. For purposes of this policy, essential services include mean sanitary sewers, water, storm drainage, and streets.

Transportation Element

Goal: To provide for safe and efficient transportation facilities for the Newport urbanizable area.

Policy 1 - The street network shall be designed and developed considering such factors as traffic volumes, travel time, speed, traffic interruptions, convenience, safety, and abutting existing and future land use.

Policy 2 - The City will classify streets as state highways, arterials, collectors, and locals for the purpose they serve, and those streets will be designed and developed accordingly.

Policy 3 - The city transportation system should strive to accommodate the needs of transportation-disadvantaged residents.

Policy 4 - The City shall include bicycle and pedestrian routes in its transportation system.

Policy 5 - The City shall participate and coordinate with the Oregon Department of Transportation in the formulation and implementation of their Six-Year Highway Improvement Plan.

Policy 6 - The City shall coordinate with the Oregon Department of Transportation in the formulation and implementation of access management programs for Highway 101 and Highway 20.

Airport Element

Goal 1: To provide for the aviation needs of the City of Newport and Lincoln County.

Policy 2 - The City will cooperate with state and federal agencies in the development of the airport.

Parks and Recreation

Goal: The City shall pursue implementation of the Parks System Master Plan, as adopted and made a part of the Comprehensive Plan by the Planning Commission and City Council.

Policy 2 - The City shall cooperate with other local and state agencies in the establishment of recreation trails.

School Services

Policy 2 - If the decision is made to expand or relocate the middle and high school facilities, the city will work cooperatively with both the school district and the county to effect such a change, in conformance with utility, transportation, and land use planning considerations.

Policy 4 - The City shall coordinate with the Oregon Coast Community College Service District at their request in guiding expansion to appropriate areas within the city for their facilities.

Urbanization

Goal: To promote the orderly and efficient expansion of Newport's city limits.

Policy 2 - The City will recognize county zoning and control of lands within the unincorporated portions of UGB.

Policy 3 - The City recognizes Lincoln County as having jurisdiction over land use decisions within the unincorporated areas of the UGB.

Newport Peninsula Urban Design Plan

This plan is contained within the Newport Comprehensive Plan.

Policy 1 - Preserve the beautiful natural setting and the orientation of development and public improvements in order to strengthen their relationship to that setting.

Policy 3 - Improve the vehicular and pedestrian networks in order to improve safety, efficiency, continuity, and relationships connecting the peninsula neighborhoods.

Policy 4 - Coordinate with the Oregon Department of Transportation (ODOT) highway projects that are compatible with and responsive to these policy objectives and design districts implementing said policies.

Policy 8 - Strengthen the peninsula's economic vitality by improving its desirability through improved appearance, function, and efficiency.

City of Newport Transportation Plan and Update

Both the 1981 City of Newport Transportation Plan and the 1989 Update were reviewed for this study, and both of these documents were used as a starting point for the TSP. These documents contained information on existing roadways, traffic crash information, traffic movement characteristics, and street features and conditions. The Plan Update also included an access management plan for Highway 101 in the Agate Beach area, and a transportation study of the South Peninsula area. Both documents were used to provide base information about Newport's transportation system. Appendix F provides a summary of recommended intersection and roadway improvements as document in the 1989 Transportation Plan Update.

State Plans

Statewide Goals: TPR OAR 660, Division 12

Under Oregon's statewide planning process, transportation issues are addressed primarily under Goal 12. The objective of the goal is to provide and encourage a safe, convenient and economic transportation system. This is accomplished by requiring all jurisdictions to prepare multi-modal transportation plans that are based on an inventory of transportation needs and a consideration of social, economic, environmental, and energy impacts.

In 1991, LCDC adopted the Transportation Planning Rule (TPR) to implement Goal 12. The TPR was revised in April 1995. This rule is predicated on the preparation and coordination of TSP's, which are defined as plans for one or more facilities that are planned, developed, operated, and maintained in a coordinated manner to supply continuity of movement between modes and within and between geographic jurisdictional areas. In addition, these TSP's must be consistent with all other elements of regional and local land use plans and regulations, including planned land uses

ODOT, regional, and local governments all must prepare and adopt TSP's complying with the TPR. State, regional, and local TSP's are required to be in compliance with the standards set forth in the TPR. It establishes a planning hierarchy whereby regional TSP's must be consistent with adopted elements of the state TSP, and local TSP's must be consistent with the regional TSP.

A local TSP establishes a system of transportation facilities and services adequate to meet identified local transportation needs, i.e. needs to move people and goods within communities and portions of counties and to provide access to local destinations. As with regional TSP's, local TSP's must be prepared, adopted, and amended in compliance with the TPR.

The TPR places responsibility for developing the state TSP on ODOT. ODOT must identify a system of transportation facilities and services adequate to meet identified state transportation needs, i.e., needs for movement of people and goods between and through regions of the state and between the state and other states. The Oregon Transportation Plan (1992), prepared by ODOT, is discussed below.

The TPR requires that, where conflicts arise between proposed regional TSP's and acknowledged comprehensive plans, representatives of affected local governments will meet to discuss the means to resolve the conflicts. Identified methods of conflict resolution include changing the draft TSP to eliminate any conflicts and amending acknowledged comprehensive plan provisions to eliminate the conflicts.

The role of preparing and adopting the regional TSP rests with Lincoln County, while cities must adopt local TSP's that must be coordinated among the affected governments and must be consistent with the regional TSP and adopted elements of the state TSP.

Oregon Transportation Plan

The OTP is a long-range comprehensive state transportation plan that sets priorities and state policy in Oregon for the next 40 years. The plan is closely linked to the TPR. It carries out the federal Intermodal Surface Transportation Efficiency Act (ISTEA) requirements for a state transportation plan.

The OTP envisions healthy growth, clean air, and less traffic congestion for Oregon. Reducing the use of the single-occupancy vehicle and reducing the vehicle miles of travel are both priorities of the OTP.

The OTP is implemented through integrated state, regional and local planning and private sector actions. ODOT multi-modal and modal plans and system management plans carry out or amplify the OTP and are consistent with it. The TPR calls for the TSP's of metropolitan planning organizations (MPO's), counties, and cities to be consistent with the adopted elements of the OTP.

The OTP provides general direction to several Modal System Plans. Along with the Highway and Bicycle Plans, there is or will be, a Rail Plan, Transit Plan, Aeronautics Plan, Waterways Plan, Pipeline Plan, and Ports Plan.

Oregon Highway Plan

The Oregon Highway Plan, 1991, is one modal element of the overall transportation planning effort contained in the OTP. The Oregon Highway Plan classifies the state highway system into four levels of importance: interstate, statewide, regional, and district. Regional Transportation Plans must conform to the policies outlined in the Highway Plan.

As a modal plan, the Highway Plan implements the Oregon Transportation Commission's directions and policies relating to highways. As the OTP develops to include all transportation modes, future Highway Plans will be amended to align with OTP policies and OTP direction.

Oregon Coast Highway Corridor Master Plan

The Oregon Coast Highway Master Plan, dated 1995, establishes guidelines for a 20-year master plan working toward achieving a united vision of what the Highway 101 Coastal Transportation Corridor should become over the next 40 years. The plan encompasses an area extending the length of Oregon from the Washington border to the California border, along Highway 101 - the Oregon Coast Highway. The Corridor Master Plan identifies recommended improvement activities and implementation strategies for preparing the TSP for Newport.

3.6 Ordinances, Zoning, and Engineering Standards

Zoning

The Newport zoning ordinance serves many purposes. Those relevant to the development of the TSP are: to implement the Comprehensive Plan; to lessen the congestion on streets; to facilitate adequate provisions for community utilities and facilities such as transportation; and, in general, to promote public health, safety, convenience, and general welfare.

To carry out the purpose and provisions of the ordinance, different zones have been established. Each zoning district is intended to serve a general land use category that has common location, development, and use characteristics. Each zone has characteristic traffic trip-generation rates and transportation service needs according to its function.

R-1/Low Density Single-Family Residential. The intent of the R-1 district is to provide for large lot residential development. This district also should be applied where environmental constraints such as topography, soils, geology, or flooding restrict the development potential of the land.

R-2/Medium Density Single-Family Residential. The intent of this district is to provide for low density, smaller lot size residential development. It is also the ambition of this district to serve as a transitional area between the low-density residential district and higher density residential districts.

R-3/Medium Density Multi-Family Residential. This district is intended for medium density multi-family residential development. It is planned for areas that are able to accommodate the development of apartments. New R-3 zones should be near major streets, on relatively flat land, and near community or neighborhood activity centers.

R-4/High Density Multi-Family Residential. This district is intended to provide for high-density multi-family residential and some limited commercial development. New R-4 zones should be on major streets, on relatively flat land, and near commercial centers.

C-1/Retail and Service Commercial. The intent of the C-1 district is to provide for retail and service commercial uses. It is also intended that these uses will supply personal services or goods to the average person and that a majority of the floor space will be devoted to that purpose. Manufacturing, processing, repair, storage, or warehousing is prohibited unless such activity is clearly incidental to the business and occupies less than 50 percent of the floor area.

C-2/Tourist Commercial. The intent of this zone is to provide for tourist needs, as well as for the entertainment needs of permanent residents.

C-3/Heavy Commercial. The intent of this zone is to provide for commercial uses that use more than 50 percent of the floor area for storage, repair, or compounding of products but do not constitute a nuisance because of noise, dust, vibration or fumes.

I-1/Light Industrial. The intent of this zone is to provide for commercial and industrial uses that can be located near residential or commercial zones. Uses that are associated with excessive noise, dust, vibration, or fumes shall be prohibited.

I-2/Medium Industrial. The intent of this zone is to provide areas suitable for industrial activities, including manufacturing, fabricating, processing, packing, storage, repairing, and wholesaling. This classification should be applied to industrial areas having good access to transportation facilities and not near residential zones.

I-3/Heavy Industrial. The intent of this zone is to provide for industrial uses that involve production and processing activities generating noise, vibration, dust, and fumes. Typically, this zone requires good access to transportation, large lots, and segregation from other uses due to nuisances.

W-1/Water-Dependent. The intent of the W-1 district is to protect areas of the Yaquina Bay Shorelands, as identified in the Newport Comprehensive Plan, for water-dependent uses. For purposes of this section, a water-dependent use is one that needs contact with or use of the water for water-borne transportation, recreation, energy production, or water supply.

W-2/Water-Related. The intent of the W-2 district is to provide areas within and adjacent to the Yaquina Bay Shorelands for water-dependent, water-related, and other uses that are compatible or in conjunction with water-dependent and water-related issues.

Subdivision Ordinances

The Newport subdivision ordinance provides for land identification and division, including subdivision and land partitioning standards and development standards and procedures. The ordinance is divided into two sections, design standards and improvements.

Design standards for streets are governed by this ordinance. It clearly defines minimum right-of-way and roadway width as illustrated in Table 2. It also covers such design standards as reserve strips, alignment, future extensions of streets, intersection angles, and alleys. Pedestrian and bicycle ways are considered under this ordinance.

Table 2: Minimum Right-of-Way and Roadway Width - Current Standards

Type of Street	Minimum Right-of Way	Minimum Roadway Width
Arterial, Commercial, and Industrial	80 feet	44 feet
Collector	60 feet	44 feet
Minor Street	50 feet	36 feet
Radius for turn-around at end of cul-de-sac	50 feet	45 feet
Alleys	25 feet	20 feet

Source: Newport Subdivision Ordinance, 1982.

Street improvements that are the responsibility of the subdivider are defined, as well as elements that can be assigned at the discretion of the Planning Commission. Under this ordinance, the subdivider need not install sidewalks unless required by the Planning Commission.

Engineering Standards

Functional Classification, Planning and Design Criteria

Proper planning for the city street network and proper street design criteria for roadways will provide safe and efficient traffic movement. A well-planned street network takes into consideration many factors, such as traffic volumes, travel time, speed, traffic interruptions, convenience, land use, and safety. Different classifications of streets serve varied functions in a street network. Newport has roads within the city limits that function as state highways, arterial streets, collector streets, and local streets.

State highways and county roads provide important connections to and from Newport. The city street network includes arterial, collector, and local streets; classified for the purpose it serves. The network must be compatible with existing and proposed land use. Topography, land use, population density, and the location of traffic generators, such as shopping centers, the downtown area, schools, and recreation facilities affect development and operation. The location of industrial and commercial centers also affects the present and future characteristics of traffic volume and movement.

The location and classification of the city street network should include public transit, bicycle, and pedestrian travel routes to complete the City Transportation System. An initial and primary function of a local street is to provide access to property along that street. To provide access to these local streets and to provide an acceptable level of service, local streets should be supported by a collector street network that, in turn, is supported by a network of arterial streets. The function of and criteria for local, collector, and arterial streets are discussed later in this section.

Planning and design criteria for major arterial, minor arterial, collector, and local streets are summarized in Table 3.

Table 3: Design Criteria for Urban Streets - Current Standards

Design Element	**Arterial**	**Collector**	**Local**[1]
Right-of-Way (ft)	80	60	60
Pavement Width (ft)[2]	44	40	36
Through-Traffic Lanes	2 to 4	2	2
Lane Width (ft)	12	12	10
Median Width (ft) (continuous left turn)	16	N/A	N/A
Traffic Volumes, (veh/day)[3]	2K to 20K	2K to 8K	< 1,500
Driving Speeds (mph)[3]	30 to 45	25 to 35	15 to 25
Parking	Restrict[4]	Limited[4]	Unlimited[4]

Source: City of Newport Transportation Plan Update, March 1989

Notes:

(1) The Urban Land Institute report, "Residential Street Standards," deals with subclassification for local streets. The City Engineering and Planning Departments are developing standards for subclassification of local streets.

(2) Selection of appropriate pavement widths must consider adjacent land uses, probable peak volume traffic, parking needs, travel speeds, sight distance limitations, traffic control features, climate, terrain, and maintenance needs.

(3) Traffic volumes and driving speeds are interrelated factors. Driving speeds will affect capacity and, for high capacity routes, should usually be at least 30 mph.

(4) Desirable on existing streets where practical. Should be required on all new development or major reconstruction.

With regard to street standards, the TPR requires that locally adopted street standards must be consistent with the function, capacity, and level of service planned for streets in the local TSP and in the regional and state TSPs.

3.7 Funding Sources

Introduction

Funding for transportation improvement projects typically comes from three sources: federal, state, and local governments. A description of the funding sources from each of those three categories follows. In some cases, funds may come from one level of government (such as federal) to be spent by another level of government (i.e. state).

Federal Funding Mechanisms

Intermodal Surface Transportation Efficiency Act (ISTEA)

In 1991 Congress passed and the President signed the Intermodal Surface Transportation Efficiency Act (ISTEA). The act emphasizes flexibility in funding transportation solutions and establishes a series of funding categories for implementation. Funding through the ISTEA is targeted to improvements that demonstrate beneficial impacts towards implementing a region' s TSP; enhance the multi-modal nature of the transportation system; and meet local land use, economic, and environmental goals. Previously, federal aid funding was targeted to highways based on their function or classification (i.e., Federal Aid Primary (FAP) and Federal Aid Secondary (FAS) funds were targeted to those roads on designated FAP or FAS routes).

Funding categories created by ISTEA are intended to provide an area with more discretion in allocating federal transportation funds to projects ranging from highway improvements to transit improvements, management systems, and improvements to non-vehicular modes such as bicycle and pedestrian.

Transportation improvement projects within Newport are potentially eligible for funding through a number of categories under the ISTEA Act. These categories include:

1. *National Highway System (NHS): Highways* in this category include all Interstate routes and major urban and rural principal arterials. Highway 101 and Highway 20 are identified on the National Highway System.

2. *Surface Transportation Program (STP): Funding* through this category may be used on any roads (including NHS facilities) that are not functionally classified as local or rural minor collectors. These roads are now collectively referred to as Federal-aid routes. Transit capital improvement projects are also eligible for funding through this program.

3. *National Scenic Byways Program: A* National Scenic Byways Program was established in ISTEA to provide assistance to states in preserving and enhancing the scenic, cultural, historic, archaeological, and recreational resources of selected corridors. Priority funding will go to projects that protect the corridor as well as increase tourism, demonstrate strong local commitment to implementing plans, serve as models to other states, and are in multi-state corridors where states submit joint applications.

Community Development Block Grants (CDBG)

The Federal Department of Housing and Urban Development (HUD) has a program known as the Community Development Block Grant Program (CDBG). Cities receive funds based on a formula that includes their size and other demographics, including income levels and housing standards.

In practice, this program is limited to older streets in sections of the city with low to moderate income residents. It may continue to be an important source of street reconstruction funds. It will not be a factor in new road construction for capacity building.

State Funding Mechanisms

State Motor Vehicle Fund

The State of Oregon collects the following fuel and vehicle fees for the State Motor Vehicle Fund:

State Gas Tax	$ 0.24 per gallon
Vehicle Registration Fee	$15.00 per year

In addition, a weight mile tax is assessed on freight carriers to reflect their use of state highways. ODOT and cities and counties throughout the state use the revenue from the fund. Each city's distribution is based on the city's share of statewide population, and the county distribution is based on a county's share of statewide vehicle registration.

As population and vehicle registration grow, the total revenue from the State Motor Vehicle Fund will rise. However, if the fees (tax per gallon) stay at current levels, there will be a reduction in buying power caused by inflation. The last two legislatures considered, but did not pass, recommendations for increases in both the state gas tax and vehicle registration fees.

Both ODOT and Lincoln County receive funds from the State Motor Vehicle Fund. ODOT uses its allocation from the State Motor Vehicle Fund for maintenance and capital purpose. The State Transportation Improvement Program (STIP) describes the capital projects and programs to be funded with State and Federal transportation funds. Lincoln County uses its allocation primarily for maintenance purpose. Newport has typically used its allocation for street maintenance, including street lighting.

Special Public Works Funds (SPWF) - Lottery Program

The State of Oregon, through the Economic Development Department, provides grants and loans to local government to construct, improve, and repair public infrastructure in order to support local economic development and create new jobs.

SPWF funds are limited to those situations in which it can be documented that the project will contribute to economic development of a community and the creation of family wage jobs. The potential must be evaluated on a case-by-case basis to determine if a particular project might be eligible for funding under this program. From a practical standpoint, these funding requirements make it fairly limited in its potential.

Immediate Opportunity Fund

This program is administered by ODOT but is used primarily in conjunction with projects funded by the Oregon Economic Development Department. This program is intended to fund infrastructure improvements where an immediate commitment of funds is required to attract or retain industrial and some commercial firms that will provide jobs.

Toll Roads or Bridges

Certain streets or bridges could be built as toll facilities charging a fee per use.

In Oregon, tolls are currently charged on several ferries that cross the Willamette and Columbia Rivers (e.g., the bridge over the Columbia River at Hood River is a toll bridge). The bridge over the Columbia River at Astoria was a toll bridge until recently when bonds to pay for the bridge were paid off and the tolls were discontinued. The ORS provide the opportunity for ODOT to build toll bridges to connect state highways and improve safety and capacity. The statutes also provide the opportunity for the development of "private" toll bridges. Recent legislation has enabled toll roads on a limited basis, including the "Newberg Bypass", however, a toll facility in Newport would require additional legislation.

Local Funding Mechanisms

The following programs are used by cities in the funding of transportation improvements.

General Obligation Bonds (G.O. Bonds)

Bonds are sold by a municipal government to fund transportation or other types of improvements, and are repaid with property tax revenue generated by that local government. G.O. bonds fall outside of the limitations of Ballot Measure 5 but require voter approval.

Cities all over the state use this method to finance the construction of transportation improvements. For smaller jurisdictions, the cost of issuing bonds vs. the amount that they can reasonably issue creates a problem. Underwriting costs can become a high percentage of the total cost for smaller issues. According to a representative of the League of Oregon Cities, the state is considering developing a Bond Pool for smaller jurisdictions. By pooling together several small bond issues, they will be able to achieve an economy of scale and lower costs.

Within the limitations outlined above, G.O. bonding is an alternative for funding transportation improvements.

Property Taxes within the Limits of Ballot Measure 5

Local property tax revenue (city or county) could be used to fund transportation improvements. Revenue from property taxes ends up in the local government general fund, where it is used for a variety of uses. Precedents for the use of property taxes as a source of funding for transportation capital improvements can be found throughout the state. However, use of property taxes for transportation capital improvements will continue to compete with other general government services under the funding limitation set by Measure 5 for general government services (i.e., within the $10.00 limitation). Consequently, because the potential for increased funding from property tax revenue is limited by Ballot Measure 5 and by competition from other users who draw funds from the general fund; it is not a practical source for financing major street improvements.

Revenue Bonds

Revenue bonds are those bonds sold by a city and repaid with "revenue" from an enterprise fund that has a steady revenue stream, such as a water or sewer fund. The bonds are typically sold to fund improvements in the system that is producing the revenue.

Revenue bonds are a common means to fund large, high cost capital improvements that have a long useful life. A sewage treatment plant is a good example where the high construction costs over a short period make it difficult to pay for the facility strictly from operating funds. A long-term revenue stream from sewer usage fees makes the sale of bonds a viable alternative that spreads the cost of the facility improvement over a long period.

Revenue bonds have been used to fund transportation improvements in the past. For example, in 1989 the City of Independence sold revenue bonds to fund street improvements with vehicle fuel tax revenues pledged as the method of repayment.

Transportation System Development Charges (SDC)

A transportation system development charge (SDC) is a sliding scale fee that all new development must pay for transportation improvements that result from construction of and trips generated by the development. The fee is normally based on the number of vehicle trips generated by the development. Developers are often given credits that reduce the SDC charge for making improvements to an adjacent arterial or collector street. Many cities and counties within Oregon now use transportation system development charges.

ORS 223.297 to 223.314 prescribe specific requirements that a SDC must meet to be considered legal. The statutes specify that a SDC may be used only for capital improvements and define the range of eligible capital facility improvements (i.e., water, sewer, drainage, transportation, or parks). The ORS also define the method of determining the amount that may be charged for a SDC, the types of projects eligible for funding, and annual review provisions.

The following are some typical features of a SDC:

- They are collected based on a development's impact on the transportation system.
- The proceeds from the collection of the fees are used to fund a portion of the projects needed to increase the transportation system capacity.

- The fee should be reasonable and affordable so as not to prohibit or displace future development to an area without the fee.

- Where possible, the fee should be implemented on an areawide basis to avoid variances in the costs associated with development within a community.

- Projects eligible for funding by a SDC are a part of an adopted Capital Improvements Program.

The use of the transportation SDC is a major source of funding for growth-related transportation improvements. It helps match the availability of funds with the need for funding as new development places additional burdens on street capacity.

Local Gas Tax

The City of Newport or Lincoln County could implement a local gas tax in addition to the state gas tax it currently receives. Five jurisdictions within Oregon currently have a local gas tax - the City of Woodburn ($0.01/gallon), Washington Co. ($0.01/gallon), Tillamook ($0.015/gallon), The Dalles ($0.01/gallon), and Multnomah Co. ($0.03/gallon). The local gas taxes have raised the following amounts:

Woodburn	$0.01/gallon	$ 112,490	(1993)
Tillamook	$0.015/gallon	$ 98,000	(1991)
The Dalles	$0.01/gallon	$ 291,000	(1991)
Multnomah County	$0.03/gallon	$7,466,643	(1993)
Washington County	$0.01/gallon	$1,602,209	(1993)

The Washington County gas tax is shared with cities within the County on a per capita basis. The cities of Tillamook and The Dalles are responsible for collection of their local gas tax. The remaining jurisdictions rely on the State Department of Motor Vehicles for collection and distribution. The state charges an administrative fee for collection.

The existing fuel tax revenue received by Newport from the State Motor Vehicle Fund is used for street maintenance. If a local tax were added, the first priority for funding would be the pavement management system, which stresses preventive maintenance for street surfaces.

Street Utility Fee

The principle behind a street utility fee is that a street is a utility used by the citizens and businesses of a city just like a water pipe or a sewer that supplies a connection to a home or business. A fee would be assessed to all businesses and households by the city for use of city streets based on the amount of use typically generated by that particular use. For example, a single-family home typically generates 10 trips per day, so the fee is based on that amount of use. A small retail/commercial use typically generates 130 trips per day per 1,000 square feet, so the fee for the retail/commercial use would be significantly greater than the fee for the single-family residence.

A street utility fee is currently being used in Medford, where it is raising approximately $1.3 million a year. The amount of the fee is based on the land use classification as it relates to trip generation. A single-family residence generating an average of 10 trips per day pays $2.00 per month. The street utility fee was implemented in 1991 in Medford and has been challenged in court and sustained on two occasions. The revenue generated by the fee is used for operating and maintaining the street system. The City of Roseburg is currently contemplating a similar fee. Roseburg currently has a similar fee for storm water charges that they use for operating, maintaining, and constructing storm drainage facilities. The Roseburg storm drainage utility fee has also been challenged and sustained by the courts.

Local Improvement District (LID)

Through a local improvement district (LID), a street or other transportation improvement is built and the adjacent benefited (i.e., local) properties are assessed a fee to pay for the improvement. LID programs have wide application. The LID method is used primarily for local or collector roads, although arterials have been built using LID funds in certain jurisdictions.

Changes to the former “Bancroft Bond” process resulting from Measure 5 have made LID financing more difficult. It does, however, continue to offer a good mechanism for funding projects, whether related to new development or for improvements that benefit already-developed areas.

Specific Funding Sources by Mode in Newport

Water Supply Facilities

Water-development projects in Newport generally have been financed through G.O. Bonds issued by the city. It is expected that projected water development projects will continue to be financed through these types of bonds. G.O. bonds are primarily supported by the City's taxing power and credit. The bonds reduce the City's available debt level because local governments are limited in the amount of debt that can be secured overall.

Wastewater Facilities

Most of the locally financed wastewater development projects are expected to be financed through a combination of G.O. Bonds issued by the City, service rates and funding from the Urban Renewal Program. The city's taxing power and credit primarily supports G.O. Bonds. The bonds reduce the city's available debt level because local governments are limited in the amount of debt that can be secured overall. The Newport Development Commission administers the City Urban Renewal Program, which provides moneys through tax increment bonds.

Roadway Transportation Facilities

Roadway operation, improvements, and maintenance require the use of numerous funding sources available to public agencies. Improvement and maintenance funding can be on an individual or cooperative matching basis. The primary funding sources include the following:

- Federal Aid Urban Funds administered by ODOT through the Oregon State Highway Division (OSHD)
- Urban Renewal Fund increment bonds
- Local Improvement Districts
- State Gasoline Tax
- Oregon State Highway Trust Fund, Federal Safety Programs for projects not involving state or interstate highway systems (this fund is administered by the OSHD)

Transit

The revenue sources for transit vary each year. The current year funding sources include: Welfare Reform Reinvestment Grant (~50%), city donations (~10%), State Operating Grant (~11%), STF funds (~8%), CCC fares & passes (~8%), Dial-a-ride fares & passes (~2%), Capital Grant (~10%) and reimbursements (<1%). City donations are currently provided by the cities of Newport, Waldport, Siletz, Depoe Bay and Yachats.

Airport Facilities

The primary source of revenues for airport development will be the aviation users of the airport and the Federal Aviation Administration. Use of the airport's public and leased facilities generates a variety of revenues, including landing fees, building and land rentals, and fuel fees. Private sector development of facilities such as T-hangars also significantly contributes to airport development.

Grants from the FAA fund 90 percent of eligible projects at airports similar to Newport's. The Newport Municipal Airport (ONP) has received discretionary FAA development assistance in the past. These funds are distributed by the FAA on a regional priority basis.

The National Aviation Trust Fund provides moneys granted by the FAA through the Airport Improvement Program (AIP). Under the AIP, annual funding assistance for approved projects is available to "primary" air carrier airports. However, because the Airport Master Plan does not forecast enough enplanements for the airport to be considered a "primary" air carrier during the planning period, the airport will not be eligible for this type of entitlement funding.

Local funding can be provided by a variety of means, including G.O. Bonds, self-liquidating G.O. Bonds, revenue bonds, combined revenue/ G.O. Bonds, and third party support. Funds derived from these methods will assist in independently financing airport improvements and providing matching or shared funds for federal or state funding assistance.

Port Facilities

The Port of Newport funds many of its projects through a combination of federal, state, and local funding sources. Federal funds can be obtained through special appropriation acts of Congress. These funds are managed by the Economic Development Administration (EDA) and usually require a high percentage of matching local funds. State of Oregon funds can be obtained from either the Special Public Works Fund (which involves a 50 percent grant and 50 percent loan program) or from the port revolving loan fund, which is frequently used as a local match for federal programs. Local funds can be obtained through industrial revenue bonds or from G.O. Bonds.

The Newport Development Commission administers the City Urban Renewal Program, which provides moneys through tax increment bonds. The commission administers two urban renewal districts located on the north and south sides of the bay.

3.8 Additional Reports Considered

Newport Peninsula Urban Design Plan - Process Summary

The Newport Peninsula Urban Design Plan, Process Summary, was published in July 1994. This report is a summary of the first three years of work on the Newport Peninsula Urban Design Study.

The Newport Peninsula Urban Design Plan continues to be an evolving process. The positive outcomes of this effort have resulted from successful interaction among the community, the City Council, the Urban Renewal Commission, the Planning Commission, ODOT, and numerous other agencies, organizations, and institutions. Important aspects of the work include:

- A comprehensive urban design approach implemented in response to potential Oregon Coast Parkway impacts
- A community-based urban design process
- A design mediation/process facilitation role by the consultant working with all involved persons and organizations
- The "visionary" nature of the process as described by ODOT's Deputy Director
- The City of Newport's proactive role in charting its own evolutionary course for the next 20 years

A positive framework was established for the City Newport to work with the State of Oregon to cooperatively develop improvements to its urban setting and transportation network for the benefit of both entities.

The Urban Design Process consists of seven steps necessary to prepare the City of Newport for a major change in Highway 101.

- City Center Feasibility Study
- Urban Design Plan Development

- Comprehensive Plan Amendment
- Overlay / Refinements Plan
- Interagency Agreements
- Design of Action Projects
- Construction of Action Projects

The Action Projects are envisioned as the "infrastructure" that must be in place before major changes to Highway 101are made. As an example, in order to provide a five-lane section on Highway 101 through the City Center, parking will be removed but must be replaced in advance of the restriping project. Infrastructure in this case does not refer just to utilities, but to those projects that, when in place, will have a positive influence on the functional and quality-of-life factors that are so important to Newport's future. Such projects must continue to be defined by the City of Newport's residential and business communities. Once these projects are in place, it will be possible to begin redesign and construction of Highway 101.

Specific policies of this plan are outlined in Section III.A.9 of the Urban Design Plan.

Lincoln County Transit Plan

The Lincoln County Transit Plan, completed in October 1993, addresses transit throughout Lincoln County. According to this plan, which is based on the current distribution of population, employment, and services within the County, the greatest need is for mobility within the larger coastal communities and between communities along the coast. Additionally, there is significant need for mobility between the inland cities and the coastal communities. The plan identifies the following goals, which were taken into consideration in preparing the TSP:

Goal 1: Encourage Multi-modal Approach to Transportation Development. By reducing vehicle miles of travel (VMT) in Lincoln County, steadily increasing ridership on the efficient public transit system will decrease pollution, traffic congestion, and the need for road repair, while also contributing to the independence of its users.

Goal 2: Coordinate Transportation throughout the County. The objective listed under this goal includes empowering local officials and committees to ensure that local and regional planning documents include transit goals.

4.0 EXISTING TRANSPORTATION SYSTEM

This section discusses the existing transportation system within Newport's Urban Growth Boundary. The Coast Range east of the Oregon Coast limits suitable locations for inland feeder routes from the Coast to the heavily populated Willamette Valley, by which both commercial and tourist traffic gain access to Highway 101. It is, therefore, no coincidence that the largest cities along the Coast, such as are close to the junctions of these east-west feeder routes with Highway 101. Newport is the third largest City on the Oregon Coast as well as a major tourist destination in Lincoln County. The most direct inland access to Newport is on Highway 20 from Corvallis and Albany.

Highway 101 follows the coast the entire north-south length of the state; thus it travels through Newport, and links Newport with other Oregon Coast cities. Highway 20, which extends in an east-west direction through the state, connects Newport with the Willamette Valley and Interstate 5, and its western terminus is located in Newport. Both Highway 101 and Highway 20 are two-lane highways with occasional three- and four-lane passing sections.

In Newport, Highway 101 varies from two- to five-lane sections. Between the north city limits and Big Creek, the highway has two through lanes with a center turning median in some sections. From Big Creek to the Yaquina Bay Bridge, the highway is four through lanes with a center turning median north of Highway 20. South of Highway 20 there is no center lane except between Neff Way and the bridge. The Yaquina Bay Bridge is a two-lane structure. South of the bridge, Highway 101 has primarily two through lanes with turning lanes at some intersections.

In Newport, Highway 20 is a two-lane roadway east of John Moore Road. From John Moore Road to Highway 101, Highway 20 has two through lanes and a center turning median.

4.1 Street System

As of December 1994, there were 51.23 miles of roads within Newport's city limits. Of these, 38.95 miles were asphalt concrete, 11.95 miles were gravel, 0.30 miles were oil surfaced, and 0.03 miles were natural surface. The total mileage represents less than a .5 percent increase when compared to 1993. The entire roadway network for the study area is shown in Figure 1 and Figure 2.

Table 4 is a listing of each roadway classified by state highway, arterial, and collector.

Table 4: Functional Classification of Roadways

State Highways	Limits
US Highway 101	North City Limit to South City Limit
US Highway 20	Highway 101 to East City Limits

Arterials	Limits
* SW 29th Street	SW Abalone Street to Highway 101
* NE 54th Street	Highway 101 to North-South Bypass
* SW Abalone Street	SW 29th Street to SE OSU Drive
SE Bay Boulevard	John Moore Road to East City Limits
* SE Ferry Slip Road	Highway 101 to SE OSU Drive
* Harney Drive	Highway 101 to North-South Bypass
John Moore Road	SE Bay Boulevard to Highway 20
* North-South Bypass	Highway 20 to Highway 101
* SE OSU Drive	SW Abalone Street to SE Ash Street
* Port Bypass	Highway 101 to Yaquina Bay Road
* S Beach Bypass	Highway 101 to Highway 101
* Yaquina Bay Road	East City Limits to Port Bypass

Collectors	Limits
SW 2nd Street	SW Elizabeth Street to SW Angle Street
NW 3rd Street	NW Coast Street to Highway 101
NE 3rd Street	NE Avery Street to NE Avery Street
SE 4th Street	SE Fogarty Street to SE Harney Drive
SW 6th Street	SW Coast Street to SE Eads Street
SE 6th Street	SW Coast Street to SE Eads Street
* NE 7th Street	NE 7th Drive to NE Newport Heights Road
NW 8th Street	NW Coast Street to NW Spring Street
SW 9th Street	Highway 101 to SE 2nd Street
NW 11th Street	NW Spring Street to Highway 101
NE 11th Street	Highway 101 to Eads Street
NE 12th Street	Highway 101 to Eads Street
SW 13th Street	SW Harbor Way to SW Bay Street
NW 15th Street	NW Ocean View Drive to Highway 101
NW 20th Street	Highway 101 to NE Crestview Drive
* SW 26th Street	SW Brant Street to SW Abalone Street
* NW 27th Street	NW Ocean View Drive to Highway 101
* SE 32nd Street	SE Ferry Slip Road to Highway 101
* SE 35th Street	Highway 101 to SE Point Road
* SW 35th Street	Highway 101 to South Beach
NE 36th Street	Highway 101 to East City Limits
* NW 56th Street	NW North Avenue to Old Highway 101
* NW 60th Street	NW North Avenue to Highway 101
SW Abbey Street	Highway 101 to SW Harbor Way
SW Alder Street	SW 2nd Street to SW Neff Way
SW Angle Street	SW 2nd Street to SW 9th Street
SE Avery Street	SE 2nd Street to East Olive (Highway 20)
NE Avery Street	East Olive (Highway 20) to NE 12th Street
SE Bay Boulevard	SE John Moore Road to SW Naterlin Drive
SW Bayley Street	SW Elizabeth Street to Highway 101

Table 4: Functional Classification of Roadways, Continued

Collectors, Continued			Limits
*	SE	Benson Road	SE Yaquina Bay Road to Highway 20
*	SW	Brant Street	SW 35th Street to SW 26th Street
	SW	Canyon Way	SW Hurbert Street to SW Fall Street
	NW	Coast Street	SW 2nd Street to NW 8th Street
	NE	Eads Street	East Olive (Highway 20) to NE 12th Street
	NW	Edenview Way	Highway 101 to NW Ocean View Drive
	SW	Elizabeth Street	SW Bayley Street to West Olive Street
	SW	Fall Street	SW Canyon Way to SW Bay Boulevard
	SW	Fall Street	SW Elizabeth Street to Highway 101
	SE	Fogarty Street	SE Bay Boulevard to SE 4th Street
	SW	Harbor Way	SW Abbey Street to SW 13th Street
	SE	Harney Drive	SE 4th Street to SE John Moore Road
	SW	Hatfield Drive	SW 9th Street to SW Bay Boulevard
	SW	Hurbert Street	SW 2nd Street to SW Canyon Way
*	SW	Industrial Frontage Road	Highway 101 to Highway 101
*	SE	Industrial Frontage Road	Highway 101 to South Beach Bypass
	SW	Naterlin Drive	SW Government Street to SW Bay Boulevard
	SW	Neff Way	SW Alder Street to Highway 101
*	NW	North Avenue	NW 56th Street to NW 60th Street
*	NW	Nye Street	West Olive Street to NW Ocean View Drive
	SW	Nye Street	SW 2nd Street to West Olive Street
	NW	Ocean View Drive	NW 12th Street to Highway 101
	W	Olive Street	SW Elizabeth Street to Highway 101
*	SE	Point Road	SE 35th Street to End of Point
	NW	Spring Street	NW 8th Street to NW 12th Street
*	NW	Spring Street	NW 6th Street to NW 8th Street
	NE	Yaquina Heights Road	NE Harney Road to Highway 20

* Proposed classifications - some of these streets do not presently go through or are proposed new routes.

Source: Public Facilities Plan, 1990.

Table 4: Functional Classification of Roadways, Continued

Collectors, Continued	Limits
* SE Benson Road	SE Yaquina Bay Road to Highway 20
* SW Brant Street	SW 35th Street to SW 26th Street
SW Canyon Way	SW Hurbert Street to SW Fall Street
NW Coast Street	SW 2nd Street to NW 8th Street
NE Eads Street	East Olive (Highway 20) to NE 12th Street
NW Edenview Way	Highway 101 to NW Ocean View Drive
SW Elizabeth Street	SW Bayley Street to West Olive Street
SW Fall Street	SW Canyon Way to SW Bay Boulevard
SW Fall Street	SW Elizabeth Street to Highway 101
SE Fogarty Street	SE Bay Boulevard to SE 4th Street
SW Harbor Way	SW Abbey Street to SW 13th Street
SE Harney Drive	SE 4th Street to SE John Moore Road
SW Hatfield Drive	SW 9th Street to SW Bay Boulevard
SW Hurbert Street	SW 2nd Street to SW Canyon Way
* SW Industrial Frontage Road	Highway 101 to Highway 101
* SE Industrial Frontage Road	Highway 101 to South Beach Bypass
SW Naterlin Drive	SW Government Street to SW Bay Boulevard
SW Neff Way	SW Alder Street to Highway 101
* NW North Avenue	NW 56th Street to NW 60th Street
* NW Nye Street	West Olive Street to NW Ocean View Drive
SW Nye Street	SW 2nd Street to West Olive Street
NW Ocean View Drive	NW 12th Street to Highway 101
W Olive Street	SW Elizabeth Street to Highway 101
* SE Point Road	SE 35th Street to End of Point
NW Spring Street	NW 8th Street to NW 12th Street
* NW Spring Street	NW 6th Street to NW 8th Street
NE Yaquina Heights Road	NE Harney Road to Highway 20

* Proposed classifications - some of these streets do not presently go through or are proposed new routes.

Source: Public Facilities Plan, 1990.

Traffic Conditions

Traffic Circulation

The southbound direction of Highway 101 has a 40 mile-per-hour (mph) posted speed, which is reduced to 30 mph on entering the city limits of Newport. The lane configuration of Highway 101 varies throughout the city. It has five lanes from Highway 20 to NW 25th, four lanes from Highway 20 to the bridge, three lanes from NW 25th to NW 54th, and two lanes everywhere else. There are a few undeveloped side streets. There are seven major signals on Highway 101: 25th Street, 20th Street, 11th Street, 6th Street, Olive/Highway 20, Hurbert Street, and SE 32nd Street. Many of the local roads are surfaced with gravel.

Traffic Safety Analysis

Crash Data

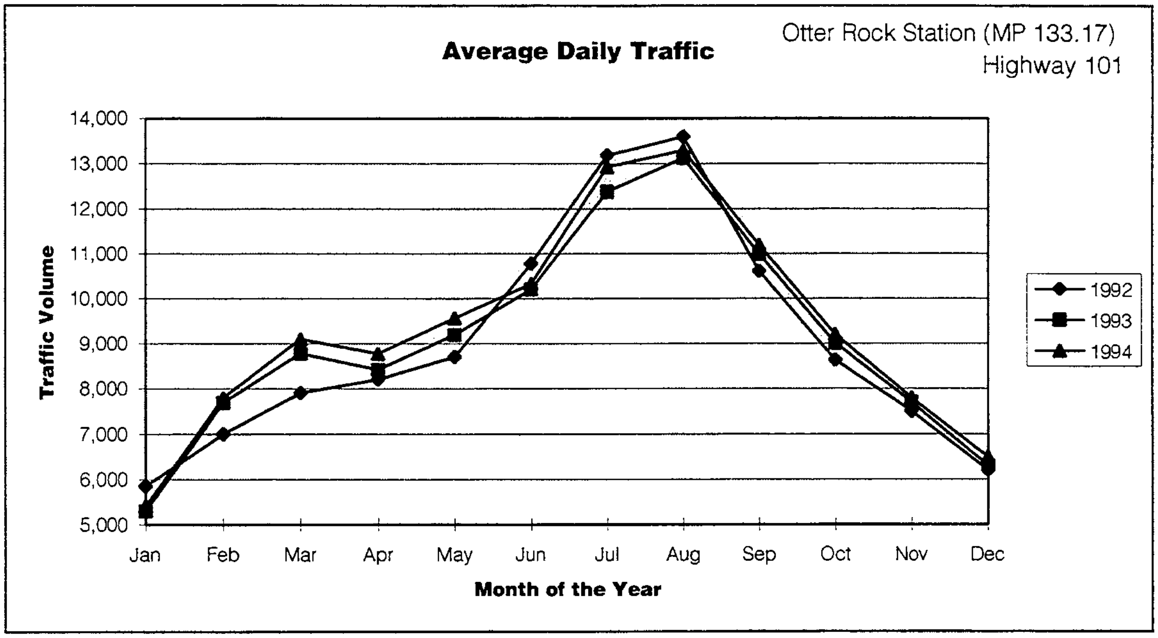
Reported crash data for the 5-year period from January 1, 1990, through December 31, 1994, were provided for the study area by ODOT. The data were specifically for Highway 101, Highway 20, and the Newport city street network. Milepost limits were established for the study area using the UGB as the outer limit. Highway 101 is also known as the Oregon Coast Highway and its limits were Mileposts (MP) 135.71 to 146.46. Highway 20 is also called the Corvallis-Newport Highway and its limits were MP 0.00 to 1.91.

Average Daily Traffic

Average Daily Traffic (ADT) for Highway 101 recorded during 1994 ranged from 5,400 to 13,295 vehicles per day depending on the time of the year. The peak months are July and August, which corresponds to the increase in summertime travel.

Figure 4 shows a graphical representation of ADT for 1992 through 1994. There was only a slight increase of 0.87 percent from 1992 to 1993, but from 1993 to 1994 the ADT increased 2.56 percent. This information was compiled from ODOT's traffic recorder data at the Otter Rock Station located at MP 133.17. Trucks make up 4 to 20 percent of ADT on Highway 101 (4 to 10 percent in urban areas and 10 to 20 percent in rural areas). These data also includes RVs.

Figure 4: Average Daily Traffic Graph - Highway 101



The principal feeder route from the east to Highway 101 is Highway 20 that runs between Newport and Corvallis/Albany. Highway 20s 1994 ADT ranged from 3,295 to 5,380 depending on the time of the year. The peak months were July and August, again reflecting the increase in summertime travel. This information was compiled from ODOT's traffic recorder data at the Burnt Woods Station located at MP 33.90. Figure 5 is a graphical representation of these traffic volumes for the past 3 years. The ADT did not change from 1992 to 1993; however, there was a 2.38 percent increase from 1993 to 1994.

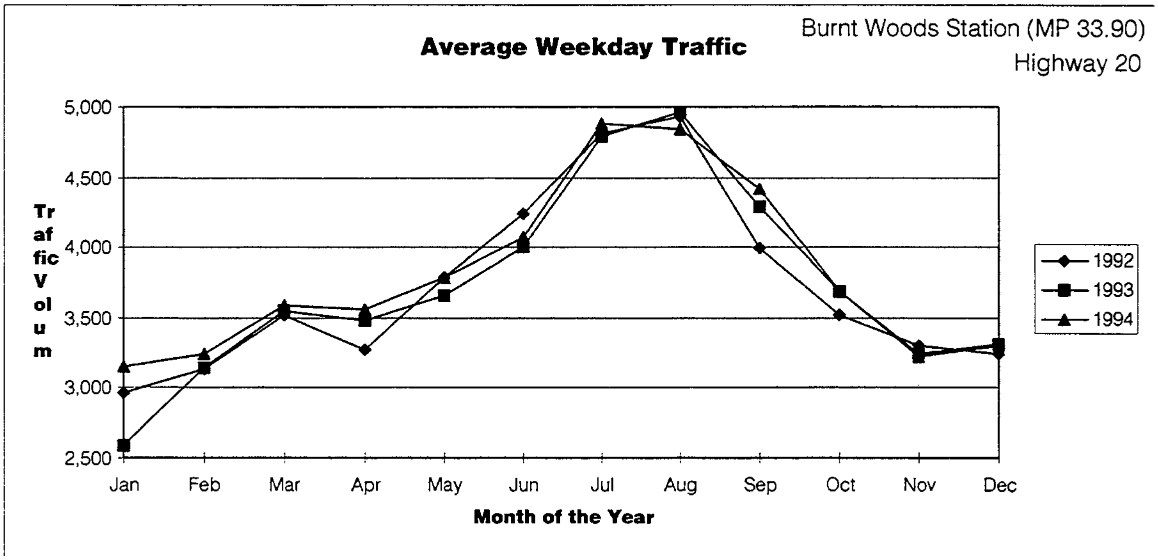
Figures 4 and 5 were provided to show growth trends in traffic from 1992 to 1994 and to show monthly variations in traffic on Highways 101 and 20. This data was obtained from permanent counters at Otter Rock on Highway 101 and at Burnt Woods on Highway 20.

Table 5 shows estimated Average Daily Traffic for three different months at several locations within the city limits of Newport. The original Newport travel demand model developed for Newport by ODOT was calibrated for the month of October. The volumes shown for October in Table 5 were ground counts obtained in 1993 for this calibration. As part of the development of this transportation systems plan, the October model was converted to an August model to reflect increases in seasonal traffic in Newport. Seasonal traffic directly effects the number of through trips, internal to external and external to internal trips. The volumes shown in Table 5 for August were estimated using the August travel demand model. The volumes shown for July are a rough estimate based on information in Figure 4 and Figure 5.

Table 5: 1993 Average Daily Traffic Within Newport City Limits

Highway 101	**July**	**August**	**October**
North City Limits	11,000	12,000	9,400
N. of 15th St.	19,600	21,000	16,800
N of 6th St.	22,000	23,900	19,400
N of Hwy. 20	22,000	23,650	19,800
S of Hurbert St.	17,200	19,000	15,800
N of Ferry Slip Rd.	15,000	16,200	11,500
South City Limits	10,200	11,000	9,600
Highway 20	**July**	**August**	**October**
E of Hwy. 101	15,300	16,000	11,200
E of Avery St.	14,750	15,375	13,300
East City Limits	13,350	13,900	11,400

Figure 5: Average Daily Traffic Graph - Highway 20



Highway 101 was divided into nine segments in the vicinity of the City of Newport. Highway 20 was divided into two segments. Table 6 and Table 8 identify each segment, milepost boundary, and the number of crashes that occurred during the 5-year period. Each segment defines a critical link with common characteristics along Highway 101 and helps to identify the magnitude of crashes within a specific segment of the roadway.

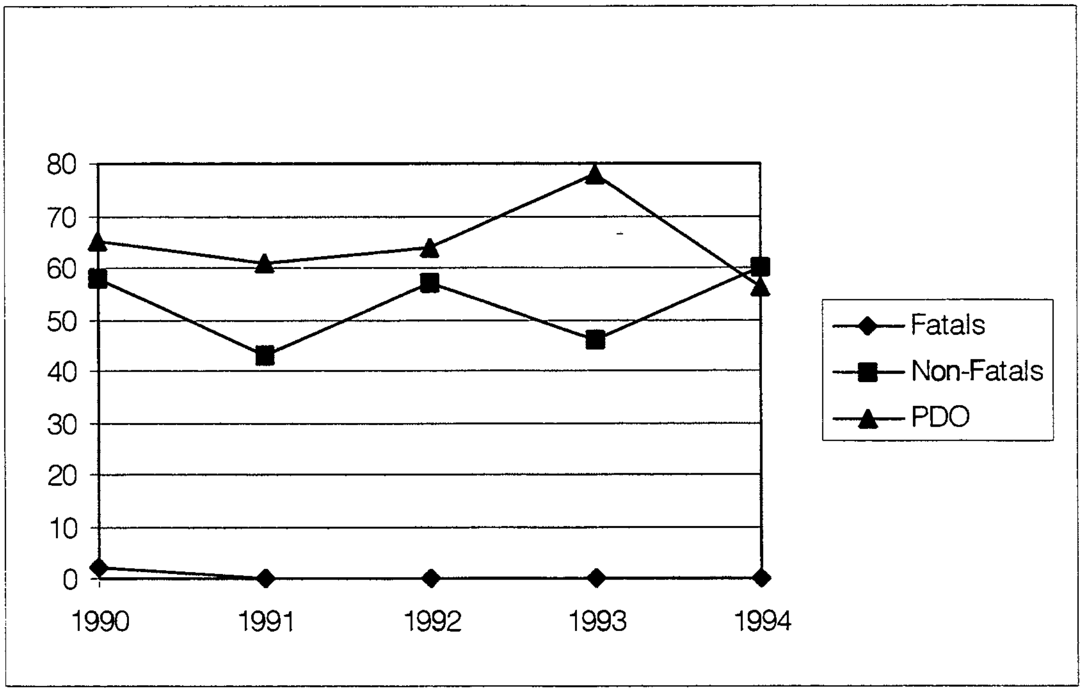
Table 6: Highway 101 Crash Rates by Section

Milepost Category	Milepost Limits	Limit Description (North to South)	Number of Crashes	Crash Rate (Per Million Vehicle Miles)
1	135.71 to 139.02	UGB to south of Big Creek (where four-lane section begins)	36	0.33
2	139.03 to 139.99	Big Creek to NE 8th Street	137	4.34
3	140.00 to 140.37	NE 8th Street to Highway 20	149	13.65
4	140.38 to 141.37	Highway 20 to Yaquina Bay Bridge	185	7.40
5	141.38 to 141.98	Yaquina Bay Bridge	23	2.58
6	141.99 to 142.46	Yaquina Bay Bridge to Ferry Slip Road	23	3.09
7	142.47 to 143.42	Ferry Slip Road to South Beach State Park Boundary	10	0.70
8	143.43 to 145.66	Park Boundary to Airport	26	0.55
9	145.67 to 146.46	Airport to the UGB	1	0.00
			Average Rate	2.33

Notes: The number of crashes corresponds to the 5-year period from 1/1/90 to 12/31/94.
The crash rate is for 1993 only.

A total of 590 crashes were reported on Highway 101 during this 5-year period (see Figure 6). Of this total, 264 were non-fatal crashes, 324 were property damage only, and two were fatal crashes. The injury crashes resulted in two fatalities and 403 injuries. On Highway 101, the most prevalent types of crashes were rear-end (42.2 percent) and turning movements (34.2 percent), followed by sideswipe-overtaking (6.1 percent), and fixed/other object (5.8 percent). Other less common types of crashes were angle, pedestrian, head-on, sideswipe-meeting, and backing.

Figure 6: Reported Total Number of Crashes on Highway 101



Note: PDO = Property Damage Only

The overall 1993 crash rate along Highway 101 for the study area is 2.33 crashes per million vehicle miles of travel. This rate is calculated based on the 1993 traffic model results and the reported number of crashes during this year. This is more than four times greater than the Statewide Average Crash Rate (0.83/million VMT)[8]. There were 12 locations where ten or more crashes occurred during the 5-year period. They are listed in Table 7.

Table 7: Highway 101 High Crash Rate Locations

Milepost	Number of Crashes	Cross-Street (if applicable)	Types of Crashes
139.32	18	NW 20th Street	9 REAR, 5 TURN, 2 SS-O, 1 ANGL, 1 HEAD
139.79	15	NE/NW 11th Street	5 TURN, 4 REAR, 3 ANGL, 2 PED, 1 BACK
140.09	13	-----	6 REAR, 5 TURN, 2 FIX
140.32	11	-----	5 REAR, 4 TURN, 1 ANGL, 1 PED
140.36	19	-----	8 TURN, 3 SS-O, 3 REAR, 2 FIX, 1 PED, 1 ANGL
140.37	24	Highway 20	11 REAR, 8 TURN, 3 SS-O, 1 ANGL, 1 PED
140.59	11	-----	7 REAR, 1 TURN, 1 O-TN, 1 ANGL, 1 PED
140.73	11	Alder Street	7 TURN, 3 REAR, 1 ANGL
140.93	19	-----	11 REAR, 7 TURN, 1 ANGL
141.07	12	Newport Frontage Rd.	8 REAR, 3 TURN, 1 ANGL
141.15	20	-----	12 REAR, 4 ANGL, 4 TURN
141.67	11	Yaquina Bay Bridge	8 REAR, 1 O-TN, 1 FIX, 1 MISC

Note: REAR = Rear-end, TURN = Turning Movement, SS-O = Sideswipe-Overtaking, ANGL = Angle, HEAD = Head-on, PED = Pedestrian, FIX = Fixed Object, O-TN = Overturned, and MISC = Miscellaneous.

Table 8: Highway 20 Crash Rates by Section

Milepost Category	Milepost Limits	Limit Description (North to South)	Number of Crashes	Crash Rate
1	0.00 to 0.76	Highway 101/Highway 20 Intersection to East City Limits	43	1.70
2	0.77 to 1.91	East City Limits to UGB	6	0.21
			Average Rate	0.85

Notes: The number of crashes corresponds to the 5-year period from 1/1/90 to 12/31/94.
The crash rate is for 1993 only.

For Highway 20, a total of 49 crashes were reported during this 5-year period (see Figure 7). There were 22 non-fatal crashes, 27 property damage only, and no fatal crashes. The injury crashes resulted in 29 injuries. The most prevalent types of crashes occurring on Highway 20 were turning movement (32.7 percent), rear-end (28.6 percent), and angle (26.5 percent) crashes. Other less common types of crashes were fixed/other object, backing, and head-on collisions.

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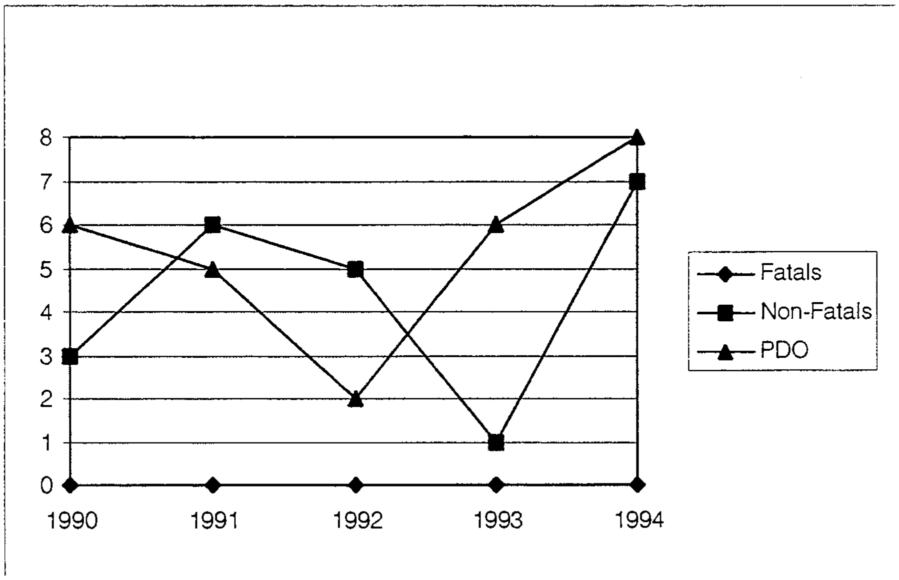
[8] Oregon Highway Monitoring System (OHMS)

Figure 7: Total Number of Crashes on Highway 20



The overall 1993 crash rate along Highway 20 for the study area is 0.85 crashes per million vehicle miles of travel, see Figure 7. This is similar to the 0.83 Statewide Average Crash Peak. This rate is calculated based on the 1993 traffic model results and the reported number of crashes during this year. There was only one location that experienced ten or more crashes during the 5-year period -- this occurred at MP 0.04 where there were 17 crashes (ten angle, six turning movement, and one backing).

A separate crash analysis was also performed using the City of Newport's crash data. During the 5-year period, there were 346 crashes on city streets, or approximately 70 crashes per year. A high crash location was classified as one that had ten or more crashes during the 5-year period. Three intersections met this criterion: Avery Street at SE 1st Street, Hurbert Street at 9th Street, and Nye Street at 6th Street. At Avery Street, 8 of the 11 crashes were angle and the remaining were turning movements. At Hurbert Street, there were 12 crashes: five angle, four turning movement, one backing, one rear-end, and one sideswipe/overtaking. At Nye Street, all ten of the crashes were angle.

4.2 Transit, Passenger, and Rail Service

Transit Service

The Newport Area Transit (NAT) System began providing bus service to the public in November 1980. However, its operation was jeopardized by a lack of sufficient operating funds. Newport residents contributed a larger percentage of NAT's budget through the City of Newport's general funds each year. In an attempt to increase its operating budget, NAT management doubled passenger fares, but this resulted in a dramatic drop in ridership, further decreasing operating funds. Finally, the passage of Ballot Measure 5, Oregon's property tax limitation legislation, made it difficult to continue funding the operation. Although NAT provided more than 2,000 rides per month, the service was discontinued on July 1, 1991 because of the funding problems.

In November 1992, the new countywide public transit system, Central Coast Connections (CCC), began operating. Lincoln County Transit, which currently operates CCC, provides the combined services of a scheduled stop system and a dial-a-ride service outside the county. Transfers are made between Lincoln County Transit and the Valley Retriever Buslines. Lincoln County employees coordinate the fixed-route system, which consists of the intercity shuttle and the east and south county vans operating as feeder lines to the intercity shuttle. The CCC shuttle makes intercity runs from Newport to Lincoln City daily. The CCC shuttle and intercity feeder lines between Siletz, Toledo, Waldport, Yachats, and Newport are open to the general public.

The CCC operates Monday through Friday from the Lincoln County Council on Aging office. Eight 15-passenger vans provide service specifically to each area served (Lincoln City [2], Siletz [1], Toledo [1], Newport [2], and Waldport/Yachats[2]), and one 24-passenger bus makes three daily runs along Highway 101 between the Lincoln City area and Newport. The CCC makes loops off the highway to serve specific high-density population or service zones, including large resorts, the hospital, clinics, and low-income housing areas. Two of the Dial-a-Ride vans serve as feeder lines, carrying passengers from less populated areas to the Greyhound station in Newport. Scheduled stop service is provided, with four paid drivers and a number of on-call drivers to fill in for extra service and vacations. Single fares and passes are available for all vehicles. Once in Newport, passengers can transfer to the CCC shuttle bus, the Valley Retriever, and Greyhound buses. The CCC system currently has a monthly ridership of approximately 2,500.

There are also special runs operated, on request, to park-and-ride sites for events such as the Lincoln County Fair, the Depoe Bay Salmon Bake, and the Fourth of July celebration. Besides providing inter-city service, the feeder lines provide four round trips daily on the Bay Front.

In Newport, one van is used for dial-a-ride service Monday through Friday. A second van brings riders to the Newport senior meal site on Monday, Wednesday, and Friday, with shopping, medical, and errand service afterward. On Tuesday and Thursday, this vehicle is available for general dial-a-ride service. With advanced notice, Dial-a-Ride will provide shuttle service to and from local airports. In addition, local hotels will provide shuttle service to and from airports for their registered guests.

The dial-a-ride service is operated with volunteer drivers weekdays from 8 a.m. to 5 p.m. All buses are equipped with two-way radios for demand response service with a 48-hour advance notice required. These buses are generally scheduled to capacity one to two days in advance. The current ridership for this system is 450 riders with 3000 units of service.

In addition to general public ridership, transit services are being purchased by 22 different agencies, including Adult and Family Services, the Community Services Consortium, and the Confederated Tribes of Siletz. In 1994, this transit service provided 109,000 rides over 260 service days, for an average of 419 total daily rides.

Passenger Service

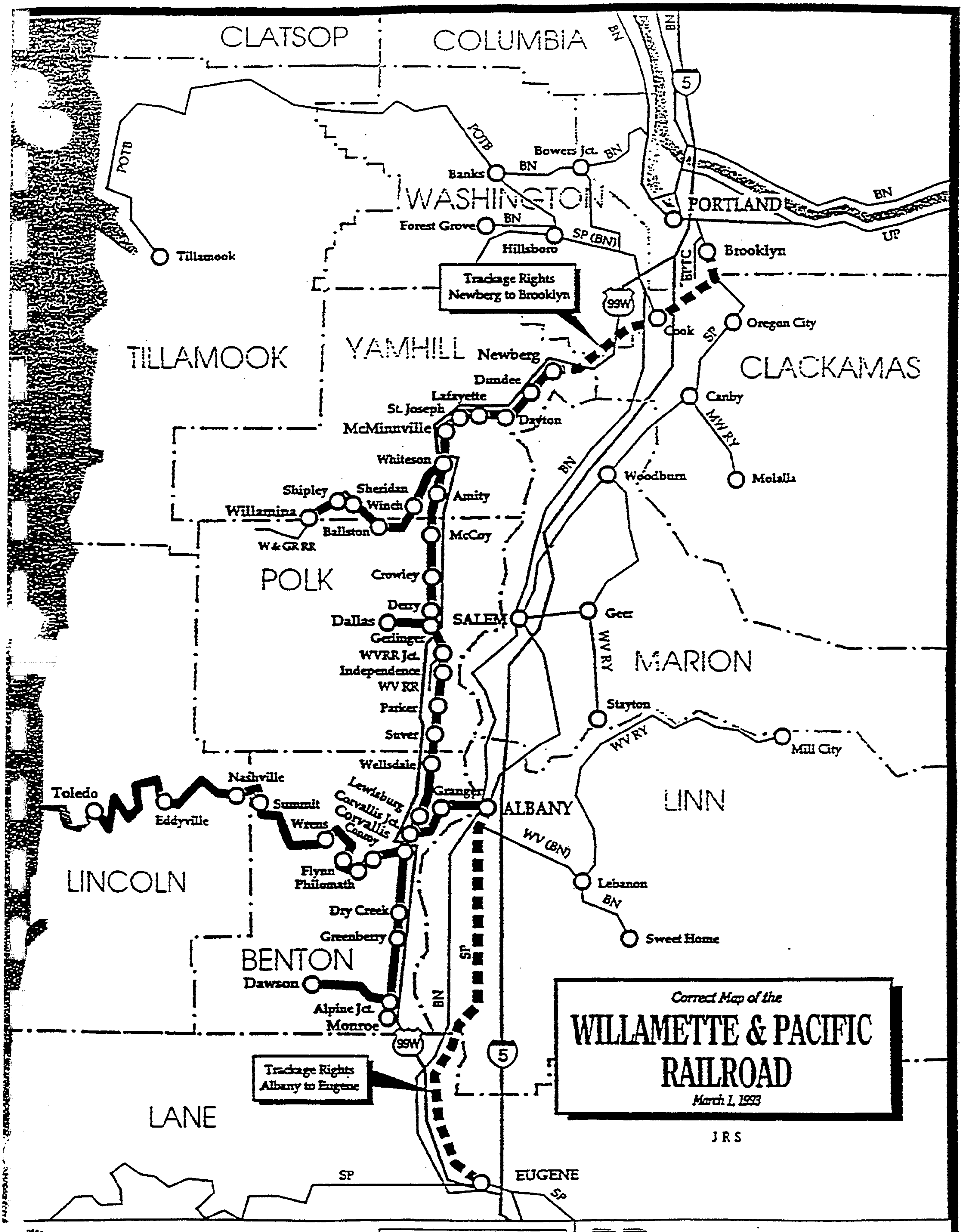
Greyhound provides daily intercity bus service to and from major Willamette Valley cities (Portland, Salem, Corvallis, and Eugene), as well as to and from most coastal cities. The Greyhound bus passes through Lincoln County twice daily in the northbound and southbound directions on its route between Portland and San Francisco. Travelers can make connections with other major Pacific Northwest cities and the rest of the country in Portland.

The Yaquina Cab Company provides 24-hour taxi service with radio dispatched vehicles. Most of Yaquina Cab's passenger trips originate in the Newport area.

The Valley Retriever is a private transportation service based in Newport at the Greyhound station. It provides daily shuttle service between Corvallis, Bend, and Newport. Passengers are picked up and dropped off at designated stops along the routes. The driver will drop off or pick up passengers at the Amtrak station in Albany on an on-call basis. Valley Retriever also provides a back-up bus for the CCC system when needed, and a capital grant has been approved so Lincoln County can purchase a vehicle that can then be leased to the Valley Retriever. This coordinated effort between private provider, government, and private non-profit is being studied as a model around the state.

Rail Service

In May 1993, the Willamette and Pacific (W&P) Railroad purchased rights to operate the Southern Pacific rail lines in Lincoln County. W&P provides freight service from the western Willamette Valley to the terminus of the rail line at Toledo. Freight service is not provided to Newport. Currently this railroad has 22 locomotives and assorted freight cars and cabooses. Passenger service is not currently available, but rail excursion travel on W&P may be possible in the future. Figure 8 shows the W&P service area.



Willamette & Pacific Railroad Service Area

Figure 8

4.3 Bicycle Facilities

Bicycle travel in Newport increases in the summer months. Highway 101 serves both touring and local cyclists. North of 25th Street, it has paved and striped shoulders at least 4 feet wide. Between 25th Street and the bridge, bicyclists on Highway 101 share the roadway with motorized traffic because the limited road width will not safely accommodate a striped shoulder or bike lane. Because of this limitation, the Oregon Coast Bike Route is routed on to city streets – Ocean View Drive, Spring Street, Coast Street and Elizabeth Street. The route then crosses the Yaquina Bay Bridge and continues south along Highway 101 where a striped shoulder extends to (and continues beyond) the city limits.

In other areas of Newport, bicycles are accommodated on shared roadways. Many of these routes have signs but currently lack separate bike lanes.

4.4 Pedestrian Facilities

Figure 22 and Figure 23 in Section 6.1 shows the existing sidewalks within the city. Most existing sidewalks are in good repair. There are numerous gaps in the sidewalk network, and continuous north-south or east-west facilities are lacking.

4.5 Bridges

The Yaquina Bay Bridge is a historic bridge located on the south side of the City of Newport central business district and is the primary connection between the northern and southern sections of Newport. It was completed in 1936 after 2 years of construction. Owned by the State of Oregon, the bridge replaced the Yaquina Bay Ferry and is a key element of the coast highway system. The Oregon Coast Zone Management Association (OCZMA) has categorized the bridge as having importance to the state.

According to the City of Newport Comprehensive Plan, if it becomes necessary to expand the bridge, it should be expanded in the same corridor. Any expansion must preserve the bridge silhouette including locating on the west side of the existing structure. Any modification or alteration to the bridge or the site must be reviewed by the Planning Commission to ensure that its historic value is maintained consistent with the provisions of the City of Newport Zoning Ordinance. Current capacities and volumes and an evaluation of alternate corridors are discussed in Section 5.2.

Table 9: Harbor Facilities and Conditions

Existing Facilities	**Condition**
Case Street Parking Facilities	Inadequate
U.S. Coast Guard Station	Unknown
Port Administration and Commercial Fishing Facilities	
Port Dock 1 Pier and Transit Floats	Adequate
Public Restrooms and Showers	Inadequate
Port Dock 3 (replaced 1994)	Adequate
Port Dock 5	Adequate
Port Docks 7C and 7D	Adequate
Port Docks 7E and 7F	Inadequate
Operations and Maintenance Shop	Inadequate
Port Office	Inadequate
Hoist Dock	Adequate
Swede's Dock	Inadequate
Gear Storage	Inadequate
Fuel Dock	Adequate
Embarcadero Marina	Adequate
Newport International Terminal	
Ship Berth	Inadequate
Barge Berth	Inadequate
Office	Inadequate
Warehouse	Inadequate
Ro/Ro Dock	Adequate
Staging for Export	Adequate
Water Front Nature Trail	Adequate
Hatfield Marine Science Center	Adequate
HMSC and Research Vessel Dock (construction 1995/96)	Adequate when complete
Seawater Intake	Adequate
Port Dock 2	Adequate
EPA Facility	Adequate
Yaquina Bay Salmon Ranch	Inadequate
Newport Marina at South Beach	
South Beach Marina Building (construction 1995/96)	Adequate when complete
Moorage	Adequate
Launch Ramp	Inadequate
Marina Office	Inadequate
RV Park (Sportman's)	Inadequate
RV Park (Marina)	Adequate
Public Fishing Pier	Adequate
Idaho Point Marina	Unknown
Idaho Point Boat Launch and Parking	Unknown
Navigation Channel	Adequate
Industrial Park	Unknown

Notes:
1) Source: Public Facilities Plan, 1990 and Port of Newport Staff Review, 1995.

2) Condition was determined based on whether improvements were needed and if the facility was able to serve 1989 needs. Information on existing facilities and conditions was derived from the 1989 Newport Urban Renewal Agency publication.

4.6 Port Facilities

The City of Newport, Lincoln County, and the Port of Newport control the upland areas adjacent to and development within, Yaquina Bay. The Newport Urban Renewal Agency has a significant development role on both sides of the bay. The Port of Newport provides a variety of facilities, including public docks, more than 1,200 sport and commercial moorages, deep water shipping facilities (for vessels up to 650 feet in length), a 19-acre gravel staging area, and Coast Guard stations.

The Port encompasses more than 14,000 feet of waterfront property that borders the north and south shores of Yaquina Bay. Land uses on the north side of Yaquina Bay focus primarily on tourism, commercial fishing and shipping, and support industries. The south sides of the bay are used primarily for research and education facilities, recreation and marine-related education. Much of the area encompassed by the Port is included in Unit 5 of the Yaquina Bay Estuary Management Plan, a development management unit. Approximately 250 acres of area is undeveloped and zoned for water-related/water-dependent use. The tourism, commercial fishing, and commercial shipping industries, combined with research and educational interests, provide a significant contribution to the local economy.

Table 9 provides a list of the existing port facilities outlined in the Public Facilities Plan.

4.7 Airport Facilities

The Newport Municipal Airport (NMA) is owned by the City of Newport and is within the city limits, approximately 2.5 miles south of the Newport's city center. Fuel and maintenance services, scenic flights, flight training, and pilot facilities are available. The federal law by which the City obtained ownership requires that the property must be preserved as a public airport. The majority of its users come from the Lincoln County and Portland areas. NMA serves a large area primarily because it is the only general aviation airport capable of handling corporate-type aircraft. UPS has its central Oregon coast distribution facility located in Newport and uses the airport for shipping/receiving extensively including it's well publicized shipment of the whale Keiko from Mexico City to the new whale facility at the Oregon Coast Aquarium.

The closest airports that provide adequate facilities for both air carrier and corporate operations under Instrument Flight Rule (IFR) operations are Portland International, 97 miles to the northeast, and Mahlon Sweet (Eugene), 51 miles to the southeast. Smaller general aviation users, including some corporate users, may operate out of the Newport area using Toledo State Airport—9 miles to the northeast, Siletz Bay State—16 miles to the northeast, or Wakonda Beach State (Waldport)—16 miles to the south. Commuter service is available from North Bend Municipal—79 miles to the south, and McNary Field (Salem) —55 miles to the northeast. Of the 34 airport facilities in the general proximity of Newport Municipal Airport, 12 are publicly owned and 22 are private. Of the 22 private airfields, 19 are restricted for private use only. Approach zones are protected per City of Newport zoning ordinance.

Airport Facilities and Structures

This airport has been defined by the FAA (in the National Plan of Integrated Airport Systems [NPIAS]) and by the Oregon Aeronautics Division (in the Oregon Aviation System Plan [OASP]), as a General Aviation, General Utility category airport. This means that the airport serves all small airplanes and is designed to serve airplanes in Aircraft Approach Category B (defined as aircraft speed of 91 to 120 knots) and Airplane Design Group II (defined as aircraft with a wingspan of 49 to 79 feet).

Airspace

The Newport Municipal Airport is located in an area of relatively uncomplicated airspace structure and use, and can be operated without significant close-in problems during Visual Flight Rules (VFR) flying conditions (e.g., good weather). The Instrument Landing System (ILS), which became operational in fall 1994, now allows aircraft to make instrument landings during poor weather conditions and significantly increases the usefulness of the airport.

The existing length of Runway 16-34 is 5,398 feet, which is adequate to accommodate aircraft in the Airplane Design Group II (e.g., 30-seat Dornier DO-328). The existing length of the crosswind Runway 2-20 is 3,000 feet, which is adequate to serve the smaller general aviation. In addition, there are five taxiways (A-E) that connect the two runways and provide access to the terminal area. An 80 x 80-foot helipad is used exclusively by the U.S. Coast Guard and is located adjacent to the northeast edge of the terminal apron and the U.S. Coast Guard temporary facilities. A second helipad, located about 50 feet due east of the U.S. Coast Guard helipad, is available for public use. See Table 10 for a detailed list of facilities.

Airport Users

In 1987, there were 16 aircraft based at ONP (14 single-engines, one multi-engine, and one helicopter), that accounted for 14,400 operations (landings and take-offs). The U.S. Coast Guard Search and Rescue Unit based at Newport Municipal contributed approximately 500 operations to the total annual operations. No commercial air carriers use the airport. According to the Newport Municipal Airport Master Plan, based aircraft projections anticipate 40 aircraft for the year 2008: 33 single-engines, four multi-engines, two turboprops, and one rotorcraft. This would result in approximately 32,060 total operations (local, itinerant, and airline operations combined).

Table 10: Existing Airfield Facilities Data

Facility	Characteristics	Condition
Runway 16-34	5,398 feet by 150 feet, MIRL Lighting, Non-precision Marking, 0.48% gradient, No listed Displaced Threshold, Asphalt surface Load Bearing Capacity: 75,000 SW, 120,000 DW, & 170,000 DWL	Very Good
Runway 16	VORTAC and VASI approach aids 50:1 existing approach slope ratio; 50:1 FAA approach slope ratio	
Runway 34	ILS and REILS approach aids 20:1 existing approach slope ratio; 20:1 FAA approach slope ratio	
Runway 2-20	3,300 feet by 75 feet, No Lighting, Basic Displacement Marking 1.0% gradient, VORTAC approach aid, no REILS Asphalt surface Load Bearing Capacity: 33,000 SW, 50,000 DW, & 84,000 DWL	Fair to Good
Runway 2	Displaced Threshold of 1,700 feet 18:1 existing approach slope ratio; 20:1 FAA approach slope ratio	
Runway 20	Displaced Threshold of 400 feet 20:1 existing approach slope ratio; 20:1 FAA approach slope ratio	
Taxiway A	2,850 feet by 35 feet	Excellent
Taxiway B	Connects Runway 20 with Runway 16	Poor
Taxiway C	Connects runway intersection with terminal area	Excellent
Taxiway D	1,700 feet by 75 feet	Fair
Taxiway E	Connects Runway 34 with Taxiway D	Fair
Terminal	8,800 square yards	Very Good to Excellent
	Temporary; 1,681 square feet	Poor
Transport	7,000 square yards, for 737 or DC-9	Fair
Public Helipad		Very Good
Military Helipad Tie-Down Area	US Coast Guard, grassy, 300 feet by 30 feet	Very Good
Hangars	5 port a ports for 11 aircraft; 2 private individual; 2 double	Good
Public Parking	20 total; 15 public, 2 rental, gravel	Fair
Coast Guard Bldgs.	2 temporary	Poor to Fair
Fuel Storage	Jet-A (underground 20,000 gal); 100LL (underground 12,000 gal)	Unknown

Source: Newport Municipal Airport Master Plan, 1991 & Public Facilities Plan, 1990

5.0 OTHER TRANSPORTATION ISSUES

In addition to the traditional evaluation and analysis completed for a TSP, several specific areas within the City of Newport were analyzed in greater detail. These include the Highway 101/Highway 20 intersection, the Yaquina Bay Bridge, the South Beach local street system and several proposed traffic signal locations along the Highway 101 corridor. This section summarizes the analysis completed in each of these areas.

5.1 Intersection Analysis

Highway 101/Highway 20 Intersection

The intersection of Highway 101 and Highway 20 (East Olive Street) is the center of the Newport transportation network. Efficient operation of this intersection promotes efficient movement within and through the city and serves to reduce through traffic infiltration into neighborhoods. Another key component of the transportation network is the segment of Highway 101 between Highway 20 and the Yaquina Bay Bridge. This section of Highway 101 contains five intersections between, and including, Highway 20 and Bayley Street.

This section of the TSP presents analysis of and findings for year 2016 traffic operations at the Highway 101/Highway 20 intersection and at the proposed signalized intersections south along Highway 101 to the bridge. The analysis considers the existing Highway 101/Highway 20 intersection configuration as well as potential geometric and operational improvements. These potential improvements include:

- Realignment of East Olive Street to the north (aligned with West Olive Street)
- An east-west couplet with East Olive Street (eastbound) and NE 1st Street (westbound)
- An east-west couplet with East Olive Street (eastbound) and NE 2nd Street (westbound)
- Limited "right-in, right-out only" access to West Olive Street

SIGCAP (developed by ODOT) and the FHWA's PASSER II-90 and TRANSYT-7F software programs were used in the analysis. SIGCAP was used to analyze the intersections of Highway 101/Highway 20 and the Highway 101/NE 1st Street intersection in isolation. PASSER II-90 and TRANSYT 7-F were used to evaluate each of seven intersections along Highway 101 as part of an integrated arterial signal system. This analysis evaluates these intersections as if they were all signalized. This is a worst case condition in that many of these intersections will not require signalization, based on MUTCD signal warrants, during the 20 year planning horizon.

Currently both the Highway 101/Highway 20 and Hurbert Street intersections are signalized. The seven intersections included in the analysis[9] are NE 2nd Street, NE 1st Street, East Olive Street, Angle Street, Hurbert Street, Abbey Street, and Bayley Street. NE 1st Street and NE 2nd Street would only be signalized as part of their respective east-west couplet configurations, i.e., under the NE 2nd Street couplet NE 2nd is signalized and NE 1st is not. Likewise, under the NE 1st Street couplet, NE 1st is signalized and NE 2nd is not. The output from all simulations is included in Appendix C. The analysis assumes coordinated operation of these signals as included in the current TSP alternatives.

The Newport QRS II travel model was the source for all traffic volume growth data used in the simulation runs for this analysis. The travel model provides an estimation of roadway segment traffic volumes. ODOT collected current intersection volume counts as part of the validation process of the travel model. These counts were used to develop turning movement percentages at the intersections. These turning movement percentages were combined with the forecasted volumes from the travel model to develop forecasted peak one-hour intersection turning movements for use in SIGCAP, PASSER II-90, and TRANSYT-7F. Figure 9 illustrates traffic volumes for three possible analysis conditions. The volumes shown in Figure 10 are hourly volumes for the respective analysis conditions.

Highway 101/20 - SIGCAP Analysis

SIGCAP is used to calculate percent saturation for individual intersection movements and for the intersection as a whole. Percent saturation is a measure of vehicular demand for the facility relative to the available vehicular capacity for a given period. Table 15 presents saturation percentages and corresponding LOS values for the various Highway 101/Highway 20 intersection options.

Highway 101/Highway 20 Intersection

With the current intersection configuration, the Highway 101/Highway 20 intersection operates at LOS E as of 1993 and would operate at LOS F in 2016. The first potential improvement analyzed was realignment of East Olive Street to the north (aligned with West Olive Street). This realignment would improve intersection operations to LOS D as of 1993 and LOS E-F in 2016. In 2016, volume would be at 99 percent of the re-aligned intersection capacity. Figure 9 shows traffic volumes for the study area with the realigned intersection configuration.

A second potential improvement (in combination with a realignment) would be to restrict West Olive Street to a modified "right-in, right-out only" access and to add a second southbound-to-eastbound left-turn lane on Highway 101. (Note that this would also require that Highway 20 have two eastbound lanes to accommodate the dual left turns for Highway 101.) Under this alternative, vehicles traveling eastbound on West Olive Street to Highway 101 would only be allowed to turn right onto southbound Highway 101. Only southbound Highway 101 and westbound Highway 20 traffic could use

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[9] Because this analysis was performed early in the TSP process, a signal was assumed at each of the listed locations. A signal warrant analysis is completed in Section 6.2 of this TSP and identifies locations that would warrant signalization within the 20 year planning horizon of this TSP.

westbound West Olive Street. Northbound Highway 101 traffic would be restricted from taking a left turn onto West Olive Street.

Figure 9 shows the traffic volumes for the Highway 101/Highway 20 intersection with this treatment. The modified right-in, right-out treatment of West Olive Street in combination with the dual southbound left turn lanes on Highway 101 would improve the operation of the Highway 101/Highway 20 intersection to LOS D-E (85 percent saturation) in 2016.

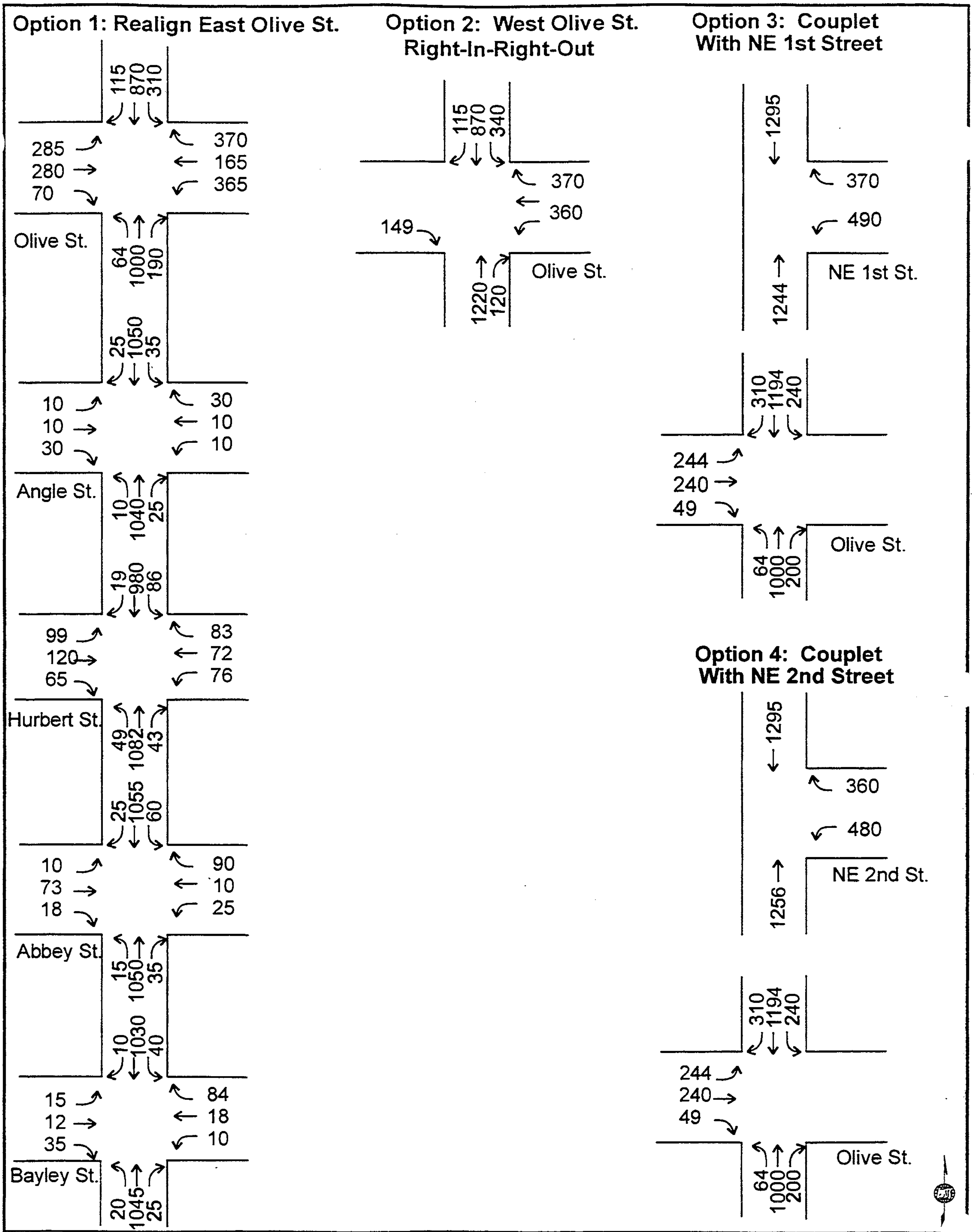
Couplet Option

The third potential improvement would be to create an east-west couplet with East Olive Street and either NE 1st Street or NE 2nd Street. This improvement would be in combination with the proposed East Olive Street realignment. East Olive Street would accommodate eastbound vehicles and NE 1st Street would accommodate westbound vehicles. Figure 9 shows traffic volumes for the proposed couplet. SIGCAP was used to evaluate how this configuration would operate at isolated intersections, providing a "best case" LOS for the two intersections. Given the close proximity of the Highway 101 intersections with NE 1st Street and East Olive Street, proper analysis requires looking at these locations as a system. The PASSER II-90 and TRANSYT-7F analysis in the subsequent section discusses how well the intersections in the study area operate as a coordinated system.

Using SIGCAP, Table 11 shows that the proposed couplet would improve operations of the Highway 101/Highway 20 intersection to LOS D (77 percent saturation) in the Year 2016. This improved level-of-service is primarily because East Olive would operate as one way eastbound and NE 1st would operate one way westbound. At the Highway 101/Highway 20 intersection, this configuration allows the green time currently allocated to serve westbound traffic on East Olive Street to be allocated to other movements at the intersection. The Highway 101/First Street intersection would operate at LOS C-D (70 percent saturation) in the Year 2016.

Table 11: Highway 101/20 Analysis - SIGCAP Results

	% Saturation	LOS
Highway 101/20 (1993)		
Base Configuration	90	E
Realignment	75	D
Highway 101/20 (2016)		
Base Configuration	115	F
Realignment	99	E-F
Right-in, Right-out	85	D-E
Couplet w/NE 1st	77	D
Highway 101/NE 1st Street (2016)		
Couplet w/Highway 20	70	C-D


Option 1: Realign East Olive St.

Option 2: West Olive St. Right-In-Right-Out

Option 3: Couplet With NE 1st Street

Option 4: Couplet With NE 2nd Street

City of Newport
Transportation System Plan

Highway 101
2016 PM Peak Hour
Traffic Volumes

Fig. 9

Again, these values represent the best LOS that could be obtained at these intersections in a couplet configuration, ignoring proximity, and are useful for comparison purposes with the system-based analysis provided below. It's important to note that SIGCAP analyses the intersections as isolated locations and does not look at the system as a whole.

Highway 101/20 - PASSER II-90/TRANSYT-7F Analysis

PASSER II-90 (PASSER) and TRANSYT-7F (TRANSYT) are both used to develop optimal timing plans for a coordinated series of signalized intersections and to evaluate how the intersections interact with each other. This analysis uses percent saturation from PASSER and average delay from both PASSER and TRANSYT to determine intersection LOS. In optimizing the timing plans, PASSER's goal is to optimize vehicle progression along an arterial. TRANSYT's goal is to minimize a user-selected set of parameters, including vehicle stops, queues, delay, and fuel consumption. As a result, PASSER tends to report a worse LOS than TRANSYT based on average vehicle delay (TRANSYT minimizes delay). PASSER also tends to report higher intersection saturation percentages than SIGCAP because, as noted above, SIGCAP evaluates an isolated intersection while PASSER evaluates the intersection as part of a system.

Both PASSER and TRANSYT were used in this analysis to obtain as much information as possible and to present comparative results that highlight the strength of each program. In particular, these programs were run to evaluate the interaction of the NE 2nd Street, NE 1st Street, and the Olive Street intersections given the proposed couplet configuration. The programs were also used to evaluate vehicle operations along the full extent of the study corridor (NE 1st to Bayley). The traffic volumes shown in Figure 9 were used in the PASSER and TRANSYT simulations.

Table 12 shows PASSER and TRANSYT results for each of the intersections in the study area. This information includes delay and volume-to-capacity information for individual intersections and maximum queue lengths for individual movements at specific intersections.

Couplet Options

Table 12 shows that with a Highway 20/NE 1st couplet, the Highway 101/Highway 20 intersection would operate at LOS E based on percent saturation and LOS C-D based on average vehicle delay in the Year 2016. The NE 1st Street intersection would operate at LOS D based on percent saturation and LOS B-C based on average delay in the Year 2016. Based on the intersection LOS, the couplet is likely to be feasible. Table 12, however, also shows that queue spillover could occur on the southbound through-lane approach to the Highway 101/Highway 20 intersection. TRANSYT shows that these lanes would require 150 to 175 feet of storage; however, only 125 feet per lane is available. This means that vehicle queues would extend north into the NE 1st Street intersection. Vehicle queues on the northbound approach to the 1st Street intersection would not extend south into the Highway 101/20 intersection.

Table 14: 2016 Preliminary Traffic Signal Warrant Analysis

		Warrant Volumes		Approach Volumes			
Intersection	Warrant	Minor	Major	Minor	Major	Warrant Met?	Time Frame
101/Abbey St.	1	2,650	10,600	1,500	26,280	No	1-5
	2	1,350	15,900			Yes	
101/Angle St.	1	2,650	10,600	1,800	23,390	No	11-15
	2	1,350	15,900			Yes[1]	
101/Bay St.	1	2,650	10,600	1,100	26,530	No	n/a
	2	1,350	15,900			No	
101/NE 32nd	1	2,650	7,400	3,400	28,750	Yes[2]	6-10
	2	1,350	11,100			Yes	
101/NE 52nd	1	1,850	7,400	1,130	27,150	No	6-10
	2	950	11,100			Yes	
101/NE 60th	1	1,850	7,400	850	23,380	No	n/a
	2	950	11,100			No	
101/NE 73rd	1	1,850	6,200	1,100	20,800	No[3]	16-20
	2	950	9,300			Yes	

[1] The warrant for the signalization of Angle Street is dependent on the closure of 2nd Street between Highway 101 and Angles Street. This closure is included in the plan for the 11 to 15 year time frame.
[2] The warrant for the signalization of NE 32nd Street is dependent on the construction of a new arterial between NE 7th Street and NE 32nd Street/Harney Drive. This project is included in the plan for the six to ten year time frame.
[3] The warrant for NE 73rd Street is based on volume estimates in the model. The model did not include potential buildout of tax lots 900 and 902 as analyzed by Kittelson & Associates in 1994. The development of these lots would warrant a signal sooner than the 16 to 20 year time frame.

5.2 Yaquina Bay Bridge

To address future capacity issues of the Yaquina Bay Bridge, future travel demand across Newport's Yaquina Bay was evaluated. Traffic volumes on the Yaquina Bay Bridge are projected to exceed capacity for 2016 with resulting degradation in level of service on the bridge and approach roadways.

The analysis detailed in this section considers the addition of vehicular capacity across the Yaquina Bay and changes in land use patterns as two potential solutions to relieve bridge-related congestion. Because the Highway 101/20 intersection is the most critical intersection in Newport, the effect of additional bridge capacity at the three alternative locations was also evaluated to determine the associated effect on travel demand at this intersection.

Corridor Definition

Based on the modeling results summarized in Section 6.4, 2016 volumes on the Yaquina Bay Bridge would be 140 percent of available capacity. The bridge analysis looks at three corridors, A, B and C, that could be considered as locations to provide additional cross-bay capacity (see Figure 10). The evaluation is for a 2016 weekday p.m. peak hour condition. As discussed later in this document under the transportation modeling section, this peak hour represents the 30th highest p.m. weekday traffic condition which, for the City of Newport, occurs in August.

In general, the three corridors represent geographical options for locating a new bridge. Corridor A is the area within and adjacent to the existing Yaquina Bay Bridge. The existing two-lane and an expanded four-lane capacity are evaluated in this corridor.

Corridor B is a hypothetical second bridge east of the existing bridge. For analysis purposes only, this second bridge was modeled to land just south of the Marine Science Center on the south side of the bay, feeding into Highway 101, and at John Moore Drive just south of Highway 20 on the north side of the bay. This bridge location could potentially attract those trips traveling between Highway 20 to the east and Highway 101 to the south as well as local trips that find this second bridge provides a shorter or more timely route than the existing bridge.

Corridor C is a hypothetical bypass that would connect Highway 101 south of the developed area and Highway 20 east of the developed area. This corridor would be designed primarily to provide a bypass for trips traveling through Newport between destinations south and east.

Whereas Corridors A and B would continue to service the mixture of local and through traffic that currently uses the existing bridge, Corridor C is primarily an option to serve through trips. Corridors A and B would require structures of similar or greater length to the existing structure with more limited improvements to roadways leading to the structures. Corridor C would require a shorter, less complex structure but the improvements necessary to provide access to the structure would be much more extensive.

Table 15 describes the characteristics of daily traffic volumes on the bridge for 1993. Among other things, the table shows that there are a significant number of vehicles using the bridge that travel between the north half of the city and external locations to the south of the city. The table shows 10,370 daily trips per direction across the bridge. The peak hour volume across the bridge for 1993 was about 850 vehicles. The trip type percentages are likely to adjust slightly for the 2016 scenario given that there would be additional commercial activity in the southern portion of the city.

Table 15: Characteristics of Current Yaquina Bay Bridge Travel

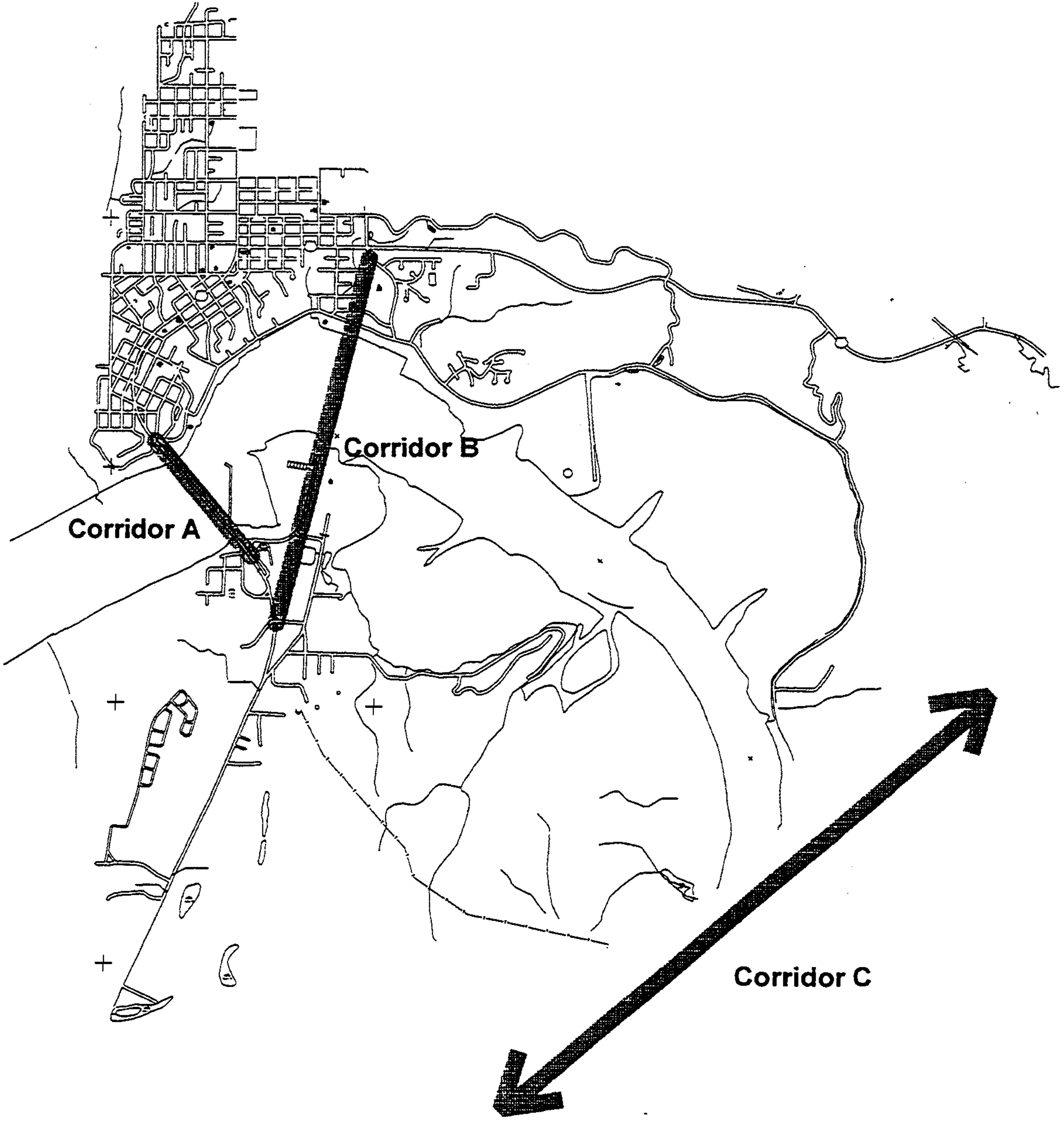
Trip Type	NB	Percent	SB	Percent
Internal to Internal	2,955	28.5	3,150	30.4
Internal to External	900	8.7	3,690	35.5
External to Internal	3,785	36.5	805	7.8
External to External*	2,730	26.3	2,730	26.3
Total	10,370	100	10,370	100

* Of the 2,739 through trips, 2,240 travel between north and south and 490 between east and south.

Forecasted 2016 Yaquina Bay Peak-Hour Vehicle Crossings

	Yaquina Bay Bridge Crossings			Corridor B Bridge Crossings			Total Bay Crossings	
Study Condition	**NB**	**SB**	**(V/C)***	**NB**	**SB**	**(V/C)**	**NB**	**SB**
Corridor A								
2-lane	1210	1210	1.55	na	na		1210	1210
4-lane	1305	1300	0.93	na	na		1305	1300
Corridor B	805	785	1.01	540	560	0.73	1345	1345
Corridor C	1160	1170	1.5	na	na		1160	1170

* Volume-to-capacity ratios for both directions of travel.



City of Newport
Transportation System Plan

Yaquina Bay
Crossing Alternatives

Fig. 10

Capacity Analysis

Table 16 highlights 2016 p.m. peak hour traffic volumes at the Highway 101/Highway 20 intersection for the various corridor configurations. These are presented to highlight the impact that the alternative bridge locations and capacities have on volumes at this critical intersection.

Table 16: Highways 101/20 Approach Volumes

Evaluation Condition	NB	SB	EB	WB	Total
Corridor A					
1993 Model	920	960	415	540	2,835
Two-Lanes	1,120	1,160	480	750	3,510
Four-Lanes	1,165	1,190	500	750	3,610
Corridor B	740	1,080	480	675	2,975
Corridor C	1,085	1,140	480	670	3,275

Note: Volumes are forecasted 2016 volumes, unless noted.

Traffic volumes for each 1.55 of the three corridors are shown in Figure 10. If the existing two-lane cross-bay capacity were maintained, the 2016 peak hour v/c ratio on the Yaquina Bay Bridge would be, approximately 360 more vehicles in each direction than can be accommodated over the bridge. Adding two lanes of capacity in Corridor A would increase peak hour demand by 100 vehicles in either direction. With the equivalent of four lanes of capacity, the v/c ratio in Corridor A would be 0.93 (LOS E). This configuration, as well as the Corridor B evaluation, assumes that Highway 101 south of the bridge is also widened to four lanes to prevent a southbound or northbound bottleneck.[10] This is consistent with the improvements shown in the High Alternative as presented in section 6.0. The four lane capacity of the bridge portion of the corridor is adequate for LOS D or better gluen projected demand.

The Corridor B option was modeled as two two-way bridges, i.e., both the existing bridge and the new bridge in Corridor B would both operate as two way facilities. Though this creates significant challenges to mitigate the merge of the two facilities south of the bridge, the alternate of a one-way couplet would have greater problems as traffic would have to be merged with Highway 20 traffic and subsequently with Highway 101 traffic for continued northbound flow.

A bridge in Corridor B would attract 1,150 total trips in the peak hour. The two-way volume on the existing Yaquina Bay Bridge would be reduced from 2,350 to 1,675 vehicles, which would be only 7 percent below capacity. The v/c ratio for the second bridge would be 0.64. Total vehicles entering the Highway 101/Highway 20 intersection would be reduced from 3,510 to 2,975. The negative impact on congestion resulting from this second corridor crossing would be at the access and egress points. These access and egress points would cause additional turning movements and circulation in the South

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[10] Corridor capacity is however, limited by intersections on each end, i.e., the 900 vehicle per lane capacity that these level of service estimates are based on are standard for maximum lane capacity through a signalized intersection.

Beach/Ferry Slip Road area and in the area of the John Moore Drive/Highway 20 intersection.

A bridge in Corridor C would not be as effective as a bridge in Corridor B at reducing traffic volumes on the existing Yaquina Bay Bridge. Total volume on the existing Yaquina Bay Bridge would be reduced from 2,520 to 2,420 vehicles. As shown in Figure 10, 2,420 vehicles are still significantly over available capacity. Total volume entering the Highway 101/Highway 20 intersection would be reduced from 3,510 vehicles to 3,375, a reduction of 135 vehicles.

Conceptual level costs were developed for both the Corridor A and Corridor B options. Given the low demand for Corridor C, costs were not developed for this option. A bridge in Corridor A would have a span of approximately 3260' and cost in the range of $73M. A bridge in Corridor B would require a span of approximately 4800' and cost in the range of $130M.

Evaluating strictly from a volume-to-capacity basis, both Corridor A and Corridor B would provide significant relief from projected cross-bay congestion, whereas Corridor C would not. In comparing the relative costs and benefits of Corridor A and Corridor B, Corridor A provides a comparable relief in projected traffic congestion at a cost 50% less than the cost for a bridge in Corridor B. On this basis, the TSP committees selected Corridor A as the corridor of choice, if a new bridge is eventually warranted. Given the significant capital investment required by a new bridge, a refinement analysis of the bridge and approach roadways is recommended prior to a final commitment to construction of a new bridge.

Land Use Patterns

As an alternative to providing additional roadway capacity or to reducing the amount of additional capacity needed, an evaluation of impacts of land use patterns on travel demand was also completed.

The dispersion of various land use activities throughout a transportation network determines, in part, traffic volumes on various transportation facilities. When there are not adequate jobs and commercial activities located near residents, the residents must travel longer distances to these locations. Developing a balance in land use patterns can help to minimize the total amount of travel made on a transportation network and on specific facilities. In Newport, this balance is particularly important considering that only one facility (the Yaquina Bay Bridge) connects the north and south halves of the transportation network. A review was made of the opportunities to change land use patterns in the South Beach Area, and what effect, if any, this would have on trips across the Yaquina Bay Bridge.

Land Use Background Reports, Plans and Studies

The Newport Comprehensive Plan addresses the future needs for both housing and commercial and industrial development in the city. According to the Comprehensive Plan, there is adequate residentially-zoned land within the UGB for the planning horizon (20 years), but there is not an abundant amount of serviced or serviceable land available and this needs to be taken into consideration if any changes to planned land uses are considered. There are constraints on the amount of buildable land available for commercial and industrial uses.[11]

The land use designations in the Comprehensive Plan provide for a balance of land uses in the South Beach Area, including residential, commercial, and industrial designations. According to the Comprehensive Plan, the amount of land designated for commercial and industrial uses was planned to be adequate until the 2010 planning year. The Comprehensive Plan states that, after reviewing the Wetland Conservation Plan, there appears to be adequate commercial and industrial land for the next 5 to 6 years (see the following discussion). This will allow the city to monitor the consumption of land, the effect of the Oregon Coast Aquarium on South Beach, and the final dispensation of the South Beach Wetland Conservation Plan. Thus, the final provision of commercial and industrial land will be made at a later date.

The Inventory Report done in 1995 looked at land that is serviced and available for development. The report stated that most inventoried land lacks services, has topographical constraints, is not available on the market, or is not the appropriate size or location to be suitable for immediate development. While some of these constraints would not prohibit future development, the natural environment constraints were looked at further in the Wetland Conservation Plan.

The WCP looked at the South Beach Area from the Yaquina Bay Bridge south to the northern boundary of the airport. It concluded that of the 1,222 acres in this area, only 206 to 263 acres were developable as a result of topographical and wetland constraints. These acreage figures take into consideration some development in wetland areas and associated mitigation. This study recommended that the land on both sides of Highway 101, which is zoned for industrial/commercial development, be developed with commercial uses to serve the Marine Science Center area. This addresses the fact that most of the developable land is along the highway in a relatively narrow strip that is more suitable for land-intensive commercial uses. This same pattern of natural environment constraints east and west of Highway 101 continues in the remainder of the South Beach Area. In addition, the Newport Municipal Airport occupies a large area of land and would not be available for a different type of development with a change in land use patterns.

Review of the Comprehensive Plan and the two reports identified above indicated that there is not much opportunity to change land use patterns or increase development densities in the South Beach Area. Much of the land that is designated for development by the Comprehensive Plan in this area is not developable as a result of topographical and wetland constraints. Most developable commercial and industrial land is along Highway 101. Re-zoning residential land for other uses would affect the amount of land available to provide a balance of housing opportunities as required by Goal 10 and incorporated into the Comprehensive Plan.

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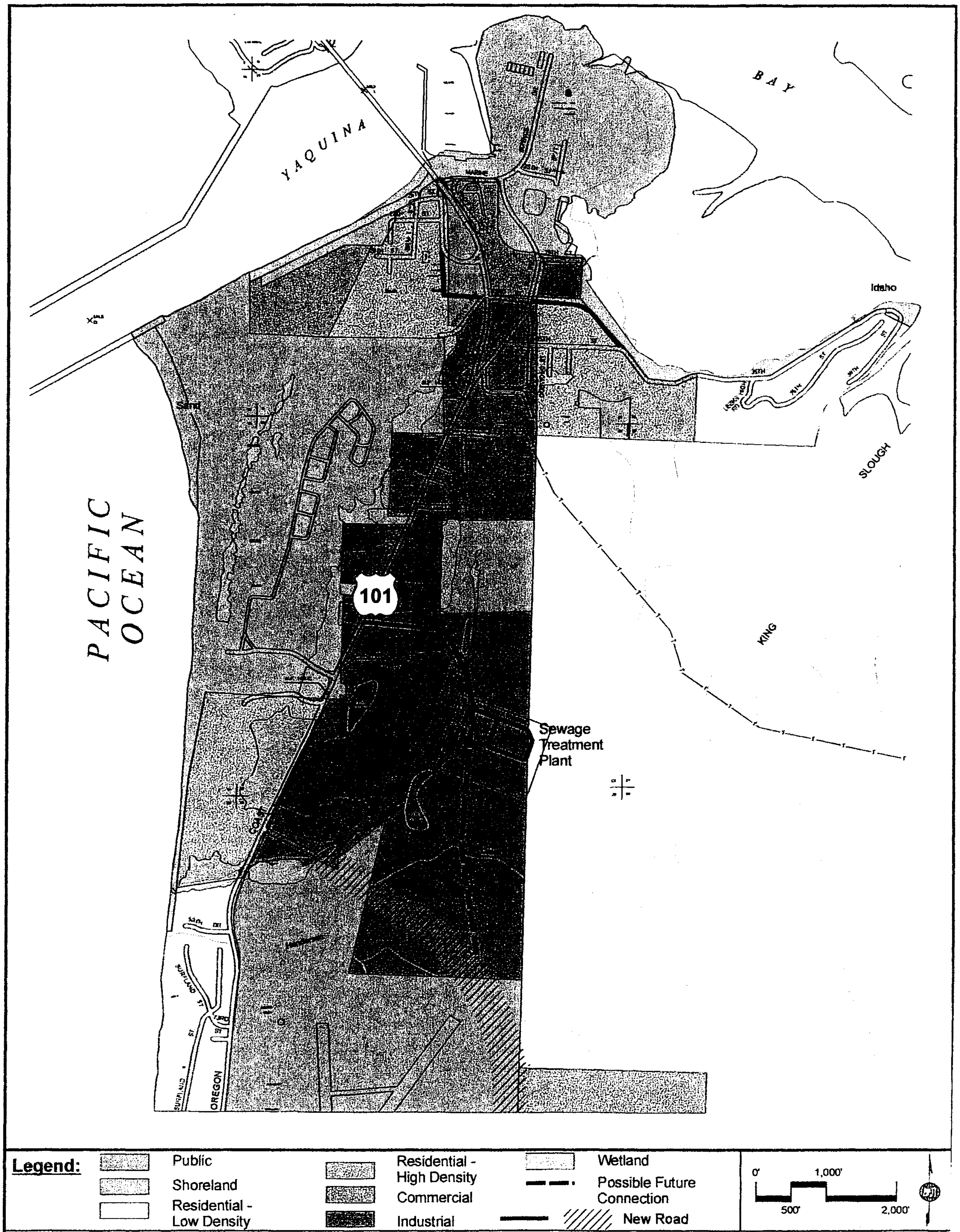
[11] Discussion based on the Comprehensive Plan and two studies done for the City: "An Inventory of Vacant Commercial and Industrial Land in Toledo and Newport,: prepared by SR Enterprises, April 1995, and the "Wetland Conservation Plan for South Beach, Newport, Oregon (Draft),) prepared by Scientific Resources, Inc., December 10,1990.



City of Newport
Transportation System Plan

Land Use Map
Comprehensive Plan
(South Newport)

Fig.11

The Mark O. Hatfield Marine Science Center and the Oregon Coast Aquarium are located east of Highway 101 around Yaquina Bay in the northeast corner of South Beach. These attractions total approximately 190 acres. This site includes public/tourist and educational facilities, as well as the whale tank for Keiko. It also offers access to the boat launch and marina south of the bay.

Residential development is located south of the bay, west of Highway 101, to the south of the airport, and east of the highway beyond that. There is an area of low-density residential development on the west side of Highway 101 across from the airport. There is a 145-acre site currently under development that is almost fully built out.

Current to development of this TSP several commercial businesses exist just south of the bridge along Highway 101 mostly small retail and commercial business.

Natural Environment

Natural environment features shape the South Beach subarea. There are wetlands and significant habitat areas throughout the South Beach area. To the west of Highway 101, there are also dune systems, both active and relict, or currently inactive.

According to the "Draft Wetland Conservation Plan for South Beach" (Scientific Resources, Inc., December 10, 1990), there are wetlands and hydric soils both east and west of Highway 101 in an almost continuous north-south pattern along both sides of the highway. These wet areas are close to the highway on the west side, and range approximately from 200 to 400 feet east of the highway on the east side.

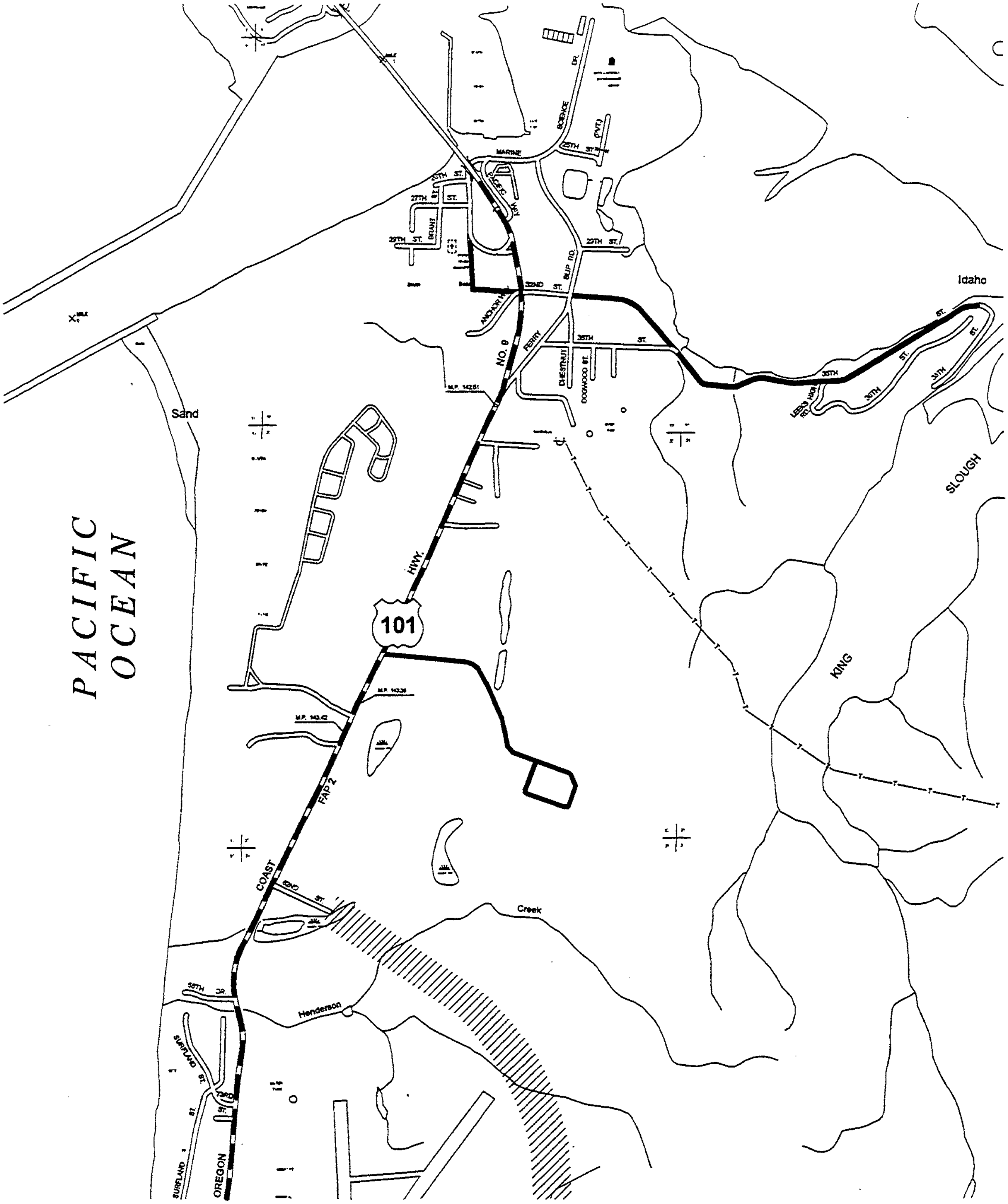
The South Beach area is rimmed on the east by the initial foothills of the Coast Range and includes slopes with sharp topographic changes. In some cases, the slopes rise over very short distances from about 20 feet to over 100 feet. On a finer scale, a narrow, relatively continuous terrace occurs at the base of the slope at elevations of about 30 feet.

Existing Roads

There is no existing grid pattern of streets serving the South Beach area (see Figure 13 and Figure 14) and the existing transportation infrastructure in the subarea is focused on Highway 101. There is no interconnection between most of the streets. Highway 101 is a two-lane section in this subarea, with a 4-foot shoulder for bicyclists. There are no pedestrian facilities.

East-west streets include 35th Street/Idaho Point Road, 98th Street/Thiel Street, and 123rd Street, each serving the eastside of Highway 101. There are several other short east-west streets on both sides of the highway. All of these streets are two-lane sections with no pedestrian or bicycle facilities. There is a traffic signal at Highway 101 and SE 32nd Street/Anchor Way.

SE Ferry Slip Road and OSU Drive serve the Marine Science Center and the Oregon Coast Aquarium. South of the airport, 98th Street runs east of Highway 101.



Legend: Proposed Improvements ▬▬ ▨

Proposed Intermittent Improvements ▬ ▬ ▬

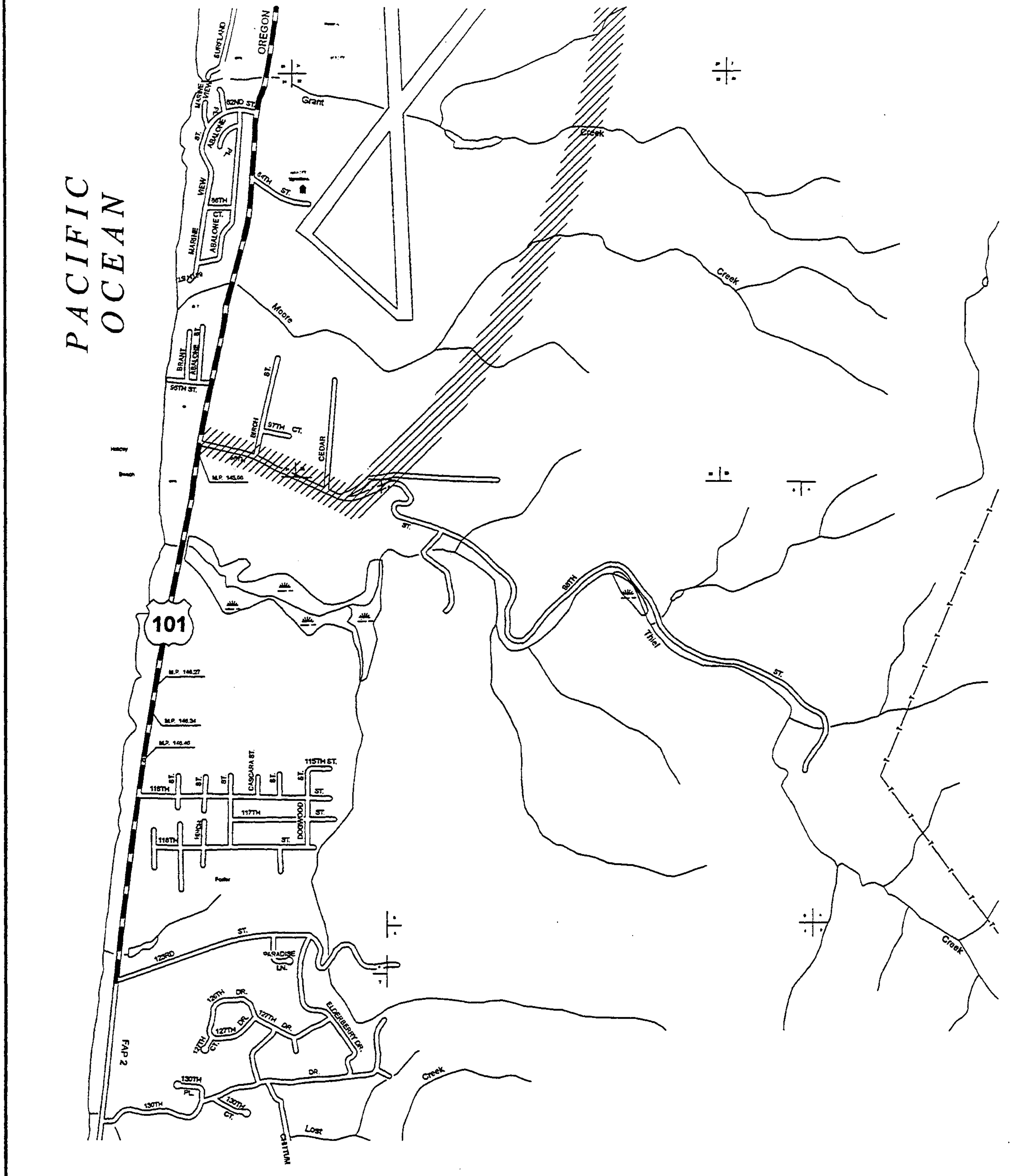
0' 1,000'

500' 2,000'

City of Newport
Transportation System Plan

South Beach
Local Street Plan

Fig. 13



Legend:

Proposed Improvements ▬ ▨

Proposed Intermittent Improvements ‒ ‒ ‒

0' 1,000' 500' 2,000'

City of Newport
Transportation System Plan

South Beach
Local Street Plan

Fig. 14

Traffic

Limited traffic volume information was available for the South Beach subarea. There was some information from a detector count log for Highway 101 at 32nd Street/Anchor Way from March 1995. Other information was obtained from a 16-hour count conducted at the same location in November 1993. Using these data as well as October 1993 data from the Otter Rock traffic recorder (located north of Newport), traffic volumes along Highway 101 were calculated to be in the range of 1070 to 1200 vehicles during the peak hour.

Level of service was determined using the output from the QRS model. Based on base model output, the 1993 levels of service along Highway 101 are as follows: Yaquina Bay Bridge is LOS F; south of the bridge to SE 32nd Street is LOS E; SE 32nd Street to Ferry Slip Road is LOS D with some LOS E; Ferry Slip Road to the South Beach Park Entrance is LOS F; and the majority of the roadway from the Park Entrance to the end of the study area is LOS D with some segments that are LOS C or better.

Crashes

The crash rates for highways are discussed in Section 4.1. This information indicates that, for Highway 101, the section in Newport south of the Yaquina Bay Bridge has fewer crashes than the section north of the bridge. However, there were 60 crashes south of the bridge from January 1990 to December 1994. The most prevalent type of crashes for the entire section of Highway 101 in Newport was rear-ends. High crash locations in the city included the Yaquina Bay Bridge, which had 11 crashes; the majority of them rear-end.

Many of the rear-end crashes may be caused by general congestion along Highway 101 as vehicles approach the bridge. As a conduit to many of the major South Beach attractions, the intersection of 32nd Street is a high traffic demand location and subsequent congestion develops. The resulting transition from a higher speed facility to these congested conditions is a likely contributor to the prevalent rear-end crashes.

Future Conditions

Planned Land Use

Comprehensive Plan land use designations for the South Beach area indicate a continuation of the existing land use pattern, with a mix of public, high-density residential, and industrial uses planned, along with some commercial and shoreland designations (see Figure 11 and Figure 12).

The industrial area will continue to be north of the airport and on the eastside of Highway 101. There are about 516 acres zoned for industrial use. The industrial designation allows not only industrial development but also commercial development that may be located near commercial or residential zones. A sewage treatment plant is currently being designed that will be located within this portion of the subarea. It will be located just north of the airport and east of the wetlands (see Figure 12).

Land designated for high-density residential development is planned both to the east and west of Highway 101, near 32nd Street, and south of the airport. This land use designation allows for apartments, resorts, motels, and mobile home parks. There are two large parcels of land in this portion of the subarea under common ownership that total about 791 acres that are zoned for residential use. Future development of these parcels is under discussion between the city and the property owner and the site may include the mixed-use Wolf Tree Resort development, which would involve residential, commercial, and recreational uses. The final size of this development has not yet been determined, but it may involve the entire acreage. The development is, however, limited to a planned destination resort by zoning and Goal 8.

There is also land designated for commercial development south of the Yaquina Bay Bridge to the west of Highway 101, and south of 98th Street on the east side of Highway 101 (part of the Wolf Tree development). These two commercially-zoned pieces of land consist of about 33 acres each.

Traffic

The growth in tourist-related traffic is expected to continue along the Oregon Coast as it has in the past (see Section 4.1). There are major traffic attractors in this subarea, including the Marine Science Center and the Oregon Coast Aquarium. In addition, by 2016, housing units in this subarea are expected to double and employment is expected to triple. All of these factors indicate a continued strong growth in traffic in this subarea, especially on Highway 101.

The August 2016 No-Build peak hour traffic volumes are projected to be about 40 to 50 percent higher than the August 1993 volumes. Along Highway 101, these volumes would be in the range of 1500 to 1800 vehicles during the peak hour. In terms of level of service, this would translate to significant congestion for almost the entire length of Highway 101 in South Newport. This congestion will be directly related to growth in the South Beach area and associated growth in traffic demand from adjacent development on roadways intersecting Highway 101.

The LOS along Highway 101 would improve once the roadway projects outlined in the Proposed Street Plan are implemented. See Section 6.0 for further information regarding evaluation of the alternatives.

Conclusion

The South Beach subarea is a part of the city of Newport that is currently largely undeveloped, and that does not have a street network in place. It is an area that is expected to receive much of the new development in the city over the next 20 years.

The natural environment, with the Pacific Ocean and associated dunes to the west, and wetlands and hills to the east defines this subarea. The result is a pattern of existing and planned linear development focused on Highway 101, the only north-south route in the subarea. The mix of public, residential, and industrial development is expected to continue as this subarea develops. Major land uses include the Marine Science Center and whale tank, the South Beach State Park, and the Newport Municipal Airport.

Traffic is expected to increase as tourism continues to grow, residential development doubles, and employment triples. The pattern of traffic crashes may indicate a need for additional capacity across the Yaquina Bay to serve this demand, as well as to alleviate the need to merge prior to accessing the bridge.

The Access Management Plan for this Developing Area applies the ODOT Access Management Classification System Category 3 standards to Highway 101 in this area. The Plan shows the appropriate access locations on to the highway in this area.

The South Beach Area Street Plan was developed taking into consideration the existing topography and natural environment in the subarea, the Access Management Plan, and the pattern of existing and planned land uses in the subarea. The street network will provide the infrastructure necessary for the development planned for this area over the next 20 years.

Additional Reports Considered

Wetland Conservation Plan for South Beach, Newport, Oregon (Draft), Scientific Resources, Inc., December 10, 1990.

An Inventory of Vacant Commercial and Industrial Land in Toledo and Newport, SR Enterprises, April 1995.

6.0 TRANSPORTATION SYSTEM ALTERNATIVES

The transportation system alternatives presented in this section were developed with information detailed in Section 5.0, output from the transportation model (discussed below) and input from the various studies, plans, stakeholders and TSP committee and open house participants. An overview of the transportation model is followed by a description of the alternatives, project cost data for each alternative and an evaluation of the alternatives performance against the TSP evaluation criteria.

6.1 Model Development

ODOT developed a transportation model for the City of Newport using the QRS II transportation modeling package. The ODOT model was used as the basis for all modeling for the Newport Transportation System Plan. The base year for model calibration was 1993.

ODOT 1993 Model

The ODOT 1993 travel model was built to represent 1993 population and employment information and 1993 roadway facilities. This model was developed for all-day traffic conditions for an "average" day of the year in 1993. An "average" day is generally representative of October traffic. In order to provide output and information adequate for developing a TSP, the model was converted to an August p.m. peak-hour model.

The conversion to peak hour was made so that it was possible to evaluate traffic demand relative to transportation facility capacity more thoroughly. The knowledge of transportation capacity is much more completely developed for 1-hour periods than it is for 24-hour time periods. The conversion to August was made so that it was possible to represent design level traffic conditions. Design level traffic conditions are known as the design hourly volume (DHV).[12] The DHV is most often taken as the 30th highest hourly volume for the design year. Model calibration data was collected in field studies completed during summer months, allowing calibration of the August model.

Traffic volumes in Newport fluctuate heavily with the seasons. The busiest months are the summer months, which are characterized by increased tourist activity. The selection of a 30th highest hour for this study considered only weekday hourly traffic volumes. The 30th highest hourly weekday volume occurs in the month of August. The method for converting the ODOT model to August and to peak hour is discussed below.

<u>*Transportation Network*</u>

Figure 15 shows the transportation facilities that are included as part of the QRS II network. The network includes all roads classified as major and principal arterials and the most significant collector and local streets. Another component of the transportation network as seen by QRS II is transportation analysis zones, or TAZ's. Newport's 45 TAZ's contain information on land use and transportation facilities for disaggregated

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[12] <u>A Policy on Geometric Design of Highways and Streets</u>. American Association of State Highways and Transportation Officials, Washington, D.C. 1990.

areas of the entire city network. Either significant roadways or natural features typically bound TAZ's. ODOT divided the city into 45 TAZ's, see Figure 16 and Figure 17.

Land Use and Trip Generation

Land use information is represented within TAZ's in the form of numbers of residential units and numbers of employees. Residential units are divided into three major categories and employment is divided into six major categories. Table 1 in Appendix D indicates land use numbers by each of the residential and employment categories for each of the TAZ's for the 1993 model.

The QRS II model calculates trips produced in and attracted to each TAZ from the respective residential and employment numbers. The model uses established trip generation rates specific to the respective land use categories. The number of trips is calculated for an all-day period and for three trip purposes; home-based work, home-based non-work, and non-home-based. The model determines the origin and destination of each trip and allocates each trip to facilities on the network that connect the respective origins and destinations.

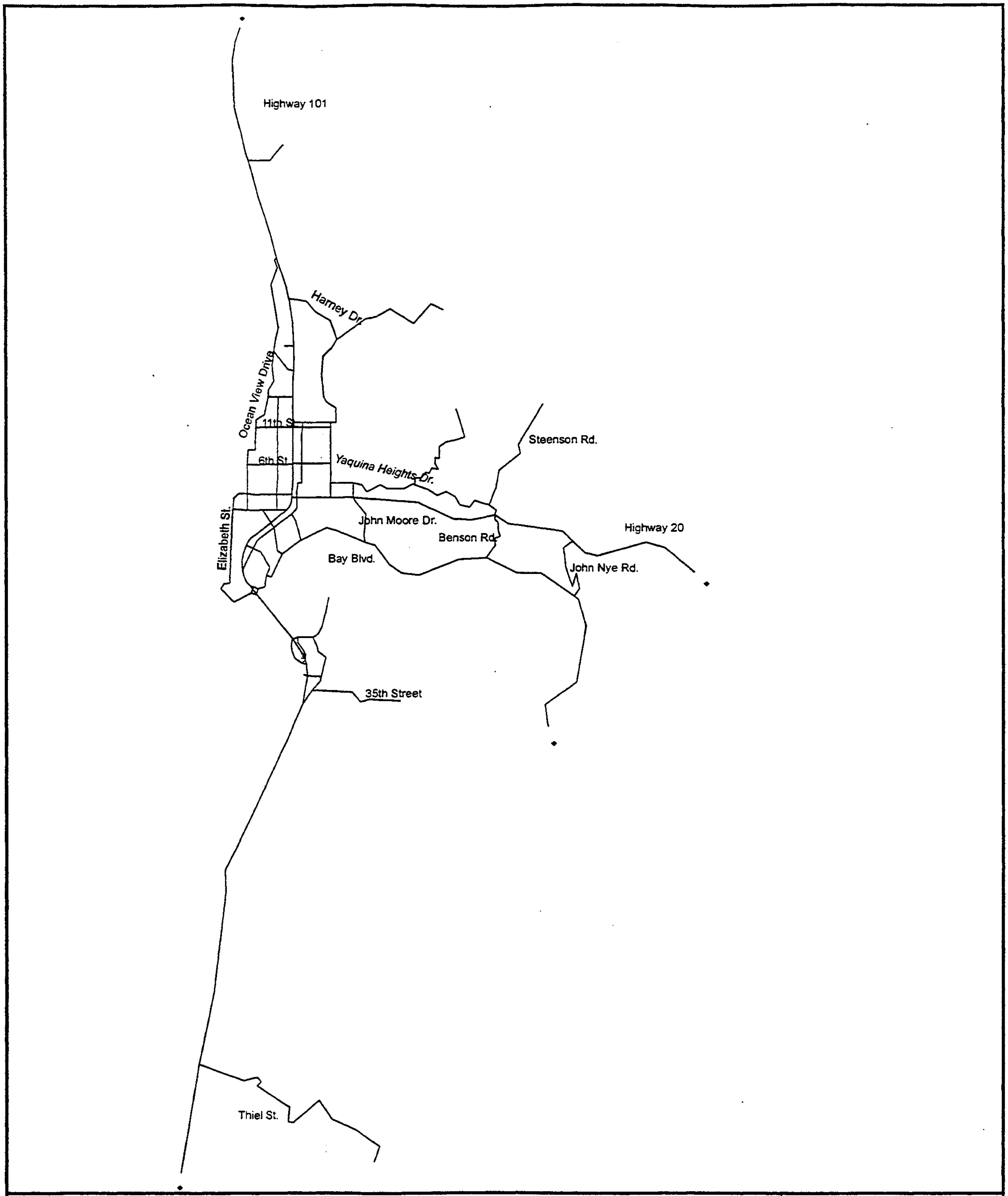
External Trips

The trips generated for each of the TAZ's in the Newport network account for trips being made by people who live and work in Newport. The volume of traffic on transportation facilities also includes trips that are made by people who are either passing entirely through the city (through trips) or those who are making a trip between a location internal to the city and a location external to the city (internal-external trips). Trips entering and exiting the Newport network can do so at four different locations known as external stations. These external stations are shown in Figure 15. Within the model, these external stations contain trip production and attraction information similar to TAZ information.

ODOT evaluated an origin/destination study that was done for the city of Newport in 1970. This study provided information on both through trips and internal-external trips using the four external stations. These trip volumes were increased by the same percentage that ADT increased for Highway 101 and Highway 20 from 1970 to 1993. These external trips were then coded into the model and allocated to the facilities on the Newport transportation network.

Conversion to an August PM Peak Hour Model

The conversion of the model to represent 30th highest hour volumes required two steps: factoring from October all-day traffic volumes to August all-day traffic volumes and factoring all-day traffic volumes down to peak hour volumes.



Legend:

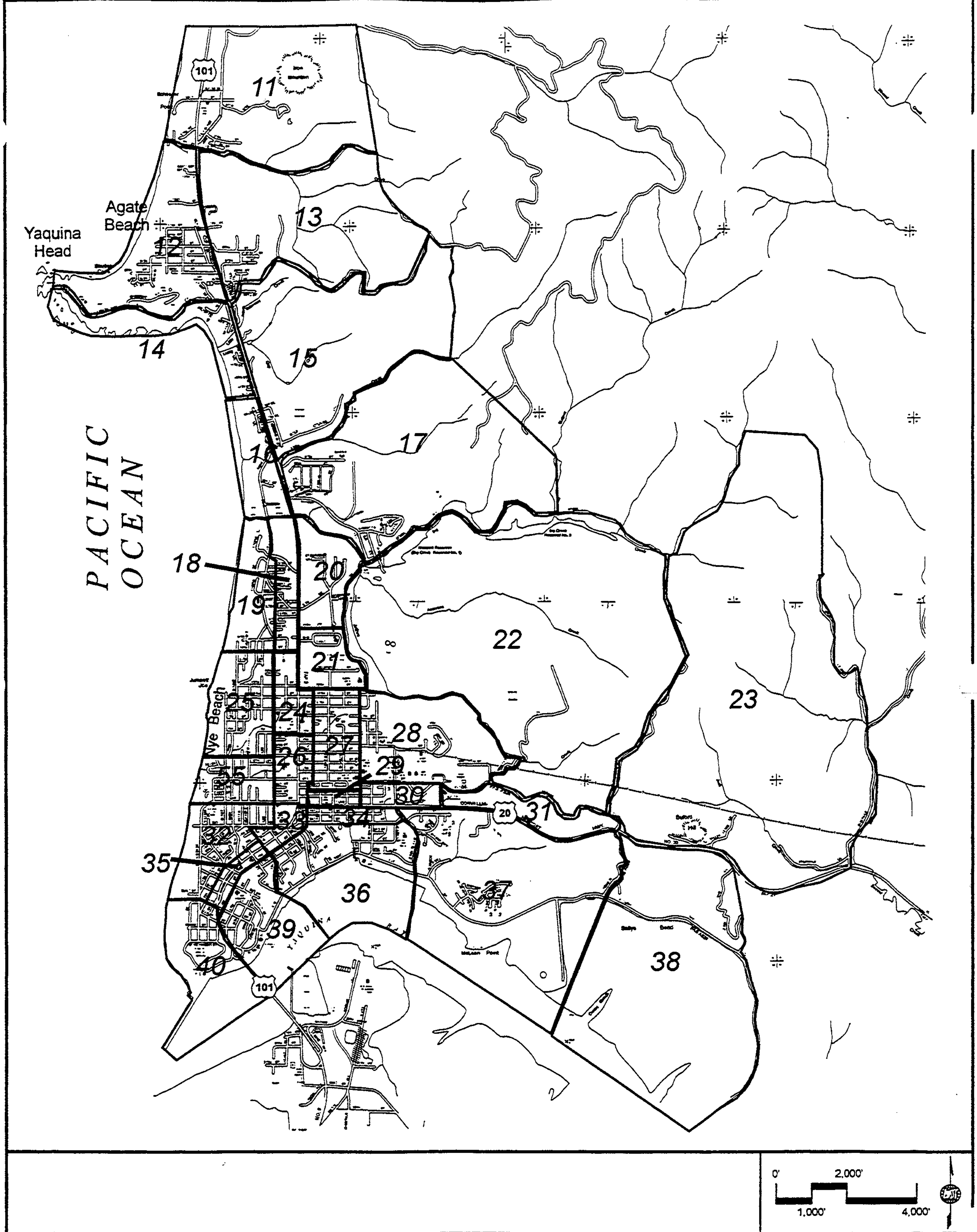
——— Newport Roadways

◆ *External Station*

City of Newport
Transportation System Plan

Travel Model Network

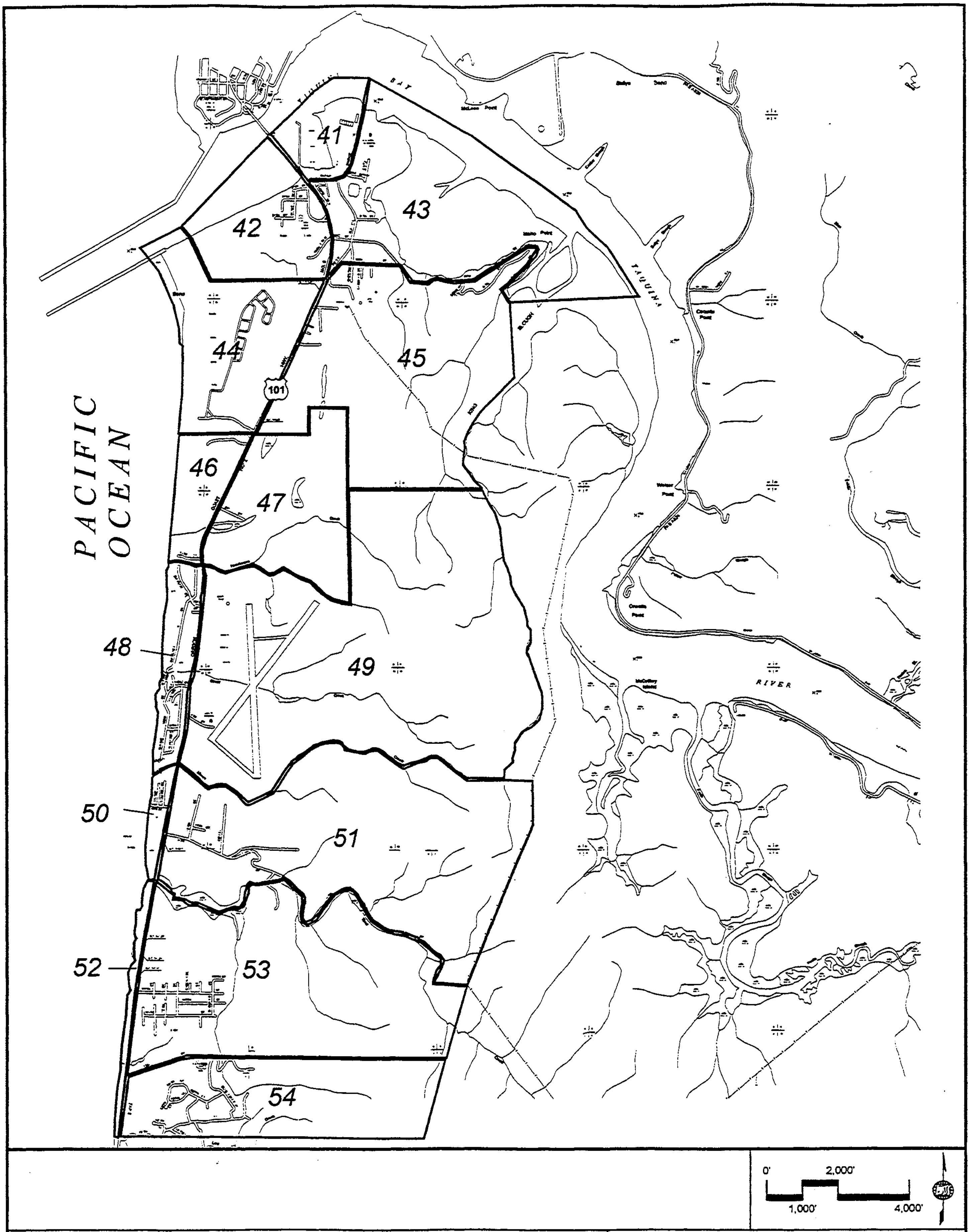
Fig. 15



City of Newport
Transportation System Plan

Transportation Analysis Zones (North Newport)

Fig. 16



City of Newport
Transportation System Plan

Transportation Analysis Zones (South Newport)

Fig. 17

All-day traffic volume count information from permanent count stations along Highway 101 and Highway 20 was used to determine the existing 30th highest hourly volume. The percentage increase in this volume over traffic volume at the same locations in the 1993 ODOT travel model was determined. This percentage increase was applied to internal-external trips and to through trips as a method to adequately represent August traffic conditions. The percentage increase was applied only to trips that are considered seasonal (i.e., external trips) because the increase in traffic volumes in August relative to October is primarily seasonal. Appendix D includes a more detailed discussion of how the external trips are factored into the model and of the impacts they have a model run.

The August all-day traffic volumes were converted to peak-hour traffic volumes. Adjustment factors (called peak-to-base ratios) were determined for each of the roadway functional classifications represented in the model. The percentage of all-day traffic occurring during the peak hour varies with roadway type, typically ranging from 8 to 11 percent. Comparisons of peak hour counts to all-day counts were supplemented by discussions with ODOT staff to determine appropriate peak-to-base ratios for each of the functional classes. The peak-to-base ratios were applied after a respective model run was completed.

Traffic Conditions

The Newport QRS II travel model does not explicitly represent roadway operation determinants such as traffic signal and stop sign delays, vehicle progression, on-street parking, and numbers of turning movements in areas with many access points. Rather, these items are observed through field observations and represented in the model by appropriately adjusting roadway capacity. The model is designed to provide an estimate of the number of vehicles using specific transportation facilities.

Roadway segments in the network are evaluated based on LOS. LOS categories, as determined by ODOT, correspond to respective v/c ratios. V/C ratios are simply the number of vehicles assigned by the model to a particular roadway segment divided by a pre-determined one-hour roadway capacity for that segment.

There are a few locations where peak hour volumes are modeled to approach or exceed roadway capacity. Based on v/c ratios only, all of these congested locations are on the principal arterials, Highway 101 and Highway 20.

In general, Highway 101 and Highway 20 experience high travel demand because they are, respectively, the only principal north/south and east/west roadway facilities. Most of the roadway segments with volume approaching or exceeding capacity are on sections of Highway 101 and Highway 20 that have one travel lane in each direction.

The most obvious location where volume exceeds capacity is on the Yaquina Bay Bridge, where the v/c ratio is 1.01. Because it is the only crossing of the Bay, there are a substantial number of vehicles using the bridge. Significant activity locations on the south side (South Beach, Marine Science Center, and the Marina) and north side (the downtown area, residential areas, the Bay Front) continually attract vehicle trips across the Bridge. Further, many internal-external trips, and all through trips with one trip end on the south side of the city, use the bridge. Finally, the narrowing from four lanes to two lanes on the southbound approach to the bridge creates a bottleneck condition.

Another area where volume exceeds capacity is at the intersection of Highway 101 and Ocean View Drive. V/C ratios to the north and south of this location range from 0.95 to 1.03 just north of the intersection. This three-lane section of Highway 101 serves as an important connection from the downtown area and Agate Beach to the Yaquina Head area. This section also serves a significant amount of adjacent residential land as well as access to and from Ocean View Drive and Harney Drive.

Two additional areas where volume approaches roadway capacity are Highway 101 in the South Beach area and Highway 20 between Highway 101 and John Nye Road. V/C ratios range from 0.80 to 0.88 near South Beach and 0.75 and 0.78 on Highway 20. Both of these facilities serve as main access routes for commercial and recreational traffic to and from Newport itself. These facilities also must serve adjacent residential, commercial, and industrial land uses included in their respective corridors.

Finally, the modeling results indicate LOS D on both Highway 101 and Highway 20 at the intersection of Highway 101 and Highway 20. This indicates that this intersection is likely operating at a low level-of-service in the peak hour. Subsequent analysis, as detailed in Section 5.2, indicates that the intersection operates at LOS E in 1993.

2016 Transportation Model

Transportation Network

The future year base model was developed to include all facilities that are funded for the study year, 2016. Using this rationale, it was determined that no additional facilities or improvements qualify for addition to the 2016 model network. Therefore, the model networks for 1993 and 2016 are identical.

Land Use

The model land use numbers for 1993 were projected to represent housing and employment activity in the year 2016. The current Newport Comprehensive Plan includes total Newport population for 2010. The annual growth rate in population from current land use numbers to 2010 was determined. This annual rate of 2 percent was used to project the 2010 population to the 2016 study year.

The current persons-per-household rate was applied to the 2016 population forecast to determine the required increase in residential units. This increase was divided into single-family and multi-family residential units, again based on current percentages.

The 1993 ratio of employment to population was determined and applied to the 2016 population to determine the number of employees in 2016. This total number was distributed to six employment categories based on current percentages of employees in each of those categories. Table 18 shows Newport population and employment for 1993 and 2016.

Table 18: Newport UGB Population and Employment

Model Year	Population	Employment
1993	9,640	5,164
2016	15,200	7,849

The final step was to determine the increase in population and employment from 1993 to the 2016 projections. These increases were distributed by City of Newport staff to model TAZ's based on knowledge of current and future land use concepts contained in the Comprehensive Plan. Table 1 in Appendix D indicates population and employment by category for each TAZ, as well as population and employment increases from 1993 to 2016. The 2016 land use numbers were input to the travel model to determine number of trips produced and attracted to each TAZ.

External Trips

In order to adequately represent all traffic on the 2016 Newport transportation network, it was also necessary to project external trips (internal-external and through) from 1993 to 2016. The external trips were projected using the annual growth rate developed in the Comprehensive Plan for population forecasts. Once again, these trips were allocated to the roadways in the transportation network.

Traffic Conditions

According to modeling results, the locations where volume is near capacity according to the 1993 model only become more congested and extended in length in the 2016 model.

The increases in 2016 residential and employment activities are fairly well distributed throughout the Newport network. Therefore, increased congestion would not be especially isolated to any specific areas. Rather, increased congestion occurs throughout the network. Again, Highway 101 and Highway 20 are the main facilities used to travel north and south and east and west, respectively, and will attract many trips. The use of Highway 101 and Highway 20 is increasingly likely with longer trips. All external trips will use Highway 101 or Highway 20, or both, for all or part of their travel within the Newport area.

The v/c ratio on the Yaquina Bay Bridge degrades from 1.01 in the 1993 model to 1.55 in the 2016 model. Increases in activity on either side of the bridge increase the demand for travel across the bridge. The increase in industrial and commercial activity in the South Beach area would be a large contributor to this traffic volume increase.

In the 2016 model, peak hour traffic volume on Highway 101 near Ocean View Drive would exceed capacity (LOS F and v/c 1.05 to 1.48 between Ocean View and NW 70th Street). The v/c ratios near South Beach degrade from LOS D and E in the 1993 model to LOS F (v/c 1.06 to 1.30) in the 2016 model. This congestion level extends south past the Newport Municipal Airport. According to the 2016 model, Highway 20 between Highway 101 and John Nye Road would degrade from LOS D (v/c 0.75 to 0.83) in 1993 to LOS E and F (v/c 0.99 to 1.23).

When comparing the future year model output to base year output, it is important to note locations where the model is indicating a change from LOS C or better to a LOS that may be of more concern. The 2016 Newport model indicates that the segment of Highway 101 from the north end of the Yaquina Bay Bridge to NW16th Street is one such location. This segment degrades from LOS C or better (v/c 0.65) in the 1993 model to LOS D (v/c 0.85) in the 2016 model. This is an important roadway segment for several reasons: it is in the geographic center of the city, providing links to all parts of the city; it contains the Highway 101/Highway 20 intersection, and; it contains a high level of commercial and residential land uses within its corridor. This segment of Highway 101 is analyzed in further detail in Section 5.0 than the QRS II model provides in order to thoroughly evaluate: traffic signals, major intersections and vehicle progression; access management issues for adjacent commercial and residential activities, and; and other issues such as on-street parking. Bay Boulevard also degrades from LOS C or better (v/c 0.50) in the 1993 model to LOS D (v/c 0.79) in the 2016 model.

An increased number of trips would be made in 2016 on the local and collector side streets. This increase is caused both by a general increase in land use activities throughout and by vehicles choosing alternative routes to Highway 101 and Highway 20, which would have become increasingly congested. At this level of analysis it cannot be concluded that the increase in volumes on local and collector streets would result in unacceptable levels of service on these facilities. However, it is likely that access to Highway 101 and Highway 20 from some of the side streets may be more difficult. Also of concern are other issues that could prevail, such as more vehicles and higher speeds in neighborhoods and school areas and other issues specific to individual sites.

Potential Land Use Adjustments

A model scenario was developed for 2016 that included the potential Wolf Tree Resort south of Thiel Street. Estimates of the details of this resort were made in order to represent the potential impact of this resort. The details include numbers of residential units, hotel units, restaurants, golf courses, and retail stores, and demographic character (i.e., potential for retirement living). These details will likely change with time. Table 19 shows the sample characteristics that were used to develop the travel model that included the Wolf Tree Resort.

Table 19: Potential Wolf Tree Resort Characteristics

Item	Quantity
Retreat Units	50
Lodge Units	175
Single-Family Units	489
Condominium Units	293
Commercial Acreage	22.33

The traffic generated by this proposed development would only increase congestion already prevalent on Highway 101 in the 2016 model. Key components of any development of this magnitude should consider the location of access points to and from Highway 101 and a mix of land uses that would limit the need to travel into the city.

Impact of Aquarium Expansion

In November 1995, the Oregon Coast Aquarium added Keiko the whale, featured in the Free Willy movies, to its list of attractions. Recent (1996) traffic counts at ODOT permanent count locations on Highway 20 were obtained to evaluate concerns that the Aquarium expansion has increased traffic at a faster rate than recent trends indicate. No 1996 information was available from the Highway 101 permanent count station as it was in the process of being moved.

The available count information indicated that seasonal traffic is about 6 percent higher for the summer months of 1996 than would have been predicted by simply projecting 1993 traffic volumes forward at recent growth rates. Without count information on Highway 101, it is difficult to conclude that traffic within Newport has also increased six percent.

Assuming that the high growth in traffic on Highway 20 is indicative of growth on Highway 101, the growth would likely be due to the aquarium expansion. It is uncertain that the Aquarium would continue to have such an impact on traffic in future years. This impact would depend on plans of the Aquarium and other potential attractions in the city.

If it is assumed that the Aquarium and other attractions do, and will continue to, attract an increased number of visitors, then the travel model developed to represent August conditions would be more representative of early September or late June traffic conditions. Given the lack of adequate data, this scenario is considered only as a potential and growth rates should be monitored over the life of the TSP to gauge the impacts higher growth rates will have on the timing of improvements.

6.2 Description of the Alternatives

The No-Build and three alternatives were developed through this TSP process. The build alternatives were the Low Alternative, Middle Alternative, and High Alternative – based on their multi-modal network components and cost.

Each build alternative is made up of improvement projects from the following categories: roadway or street networks, intersections, bicycle facilities, pedestrian facilities, structures, and transit. Because this is a TSP, only projects within the 20-year time frame (to 2016) have been included. The projects that are shown to occur in the 20+ year time frame in the High Alternative are listed for reference only.

Projects are described in detail in Table 20. A project number and symbol that identifies the type of improvement accompany each project. This identification is shown on the maps for each alternative. The improvement category, e.g. TSM, and the planning horizon time frame is also shown for each of the respective alternatives. For example, a project in the Low Alternative may have a 10-year time frame, but when in the Middle or High Alternative, it may change to a 5-year time frame. This difference in time frame is primarily due to a limited revenue stream under the Low Alternative, i.e., though a project may warrant construction based on travel demand, the revenue stream can't accommodate all projects unless they are spread throughout the 20 year planning horizon.

Table 20: Transportation System Alternatives

Legend:

Project Numbers

☐ ##	Intersection Improvement
⬭ ##	Street Network Improvement
△ ##	Structure Improvement
##	Transit Improvement
◯ ##	Pedestrian Facility Improvement
⬡ ##	Bicycle Facility Improvement

Abbreviation Definitions

Funding Sources:

G= Grants or Other Transit Funding Source
SH= Shared Funding (State/Local/Other)
L= Local Funds
T/N= Tolls or Other New Funding Source
P/P= Other Private or Public Funding (eg., LID, EID, user fees)
X= Exactions

UR= Urban Renewal Funds
FAU= Federal Aid Urban
P= Passenger Fees
LID= Local Improvement District
EID= Economic Improvement District

Category:

TDM= Transportation Demand Management
TSM= Transportation System Management

Roadway Classifications:

L= Local
C= Collector
A= Arterial
P= Principal Arterial

Source:

Comp Plan= 1990 City of Newport Comprehensive Plan
Glick= Glick Study 1993
PTA= Parent Teacher Association
Agate= Agate Beach Association
Model= Transportation Model
ODOT= Oregon Department of Transportation
Staff= City of Newport & ODOT
Stakeholder= From Stakeholder Interviews

5/28/97

Project Number	Description	Category	LOW Time Frame	MID Time Frame	HIGH Time Frame	Source	Estimated Cost (1995$)	Estmtd. O&M Cost (1995$)	Funding Sourc		Rdwy. Class.
									Descr.	Code	
LOW ALTERNATIVE											
1	Support continuation of existing Lincoln Cnty Transit service, extending the hours of service on weekdays and adding service on weekends. This would serve minimum wage, off-hour, and shift workers for local restaurants, hotels and food processing plants. This would also provide shuttle service to hotels, main tourist attractions (e.g., Bay Front, beach areas, Marine Science Center & Oregon Coast Aquarium), and parking structures. Provide two additional vans for this service.	TDM - Transit	5	5	5	Duvall		$434,155	3yr taxing measure & P/SG	G	-----
2	Funding to increase and improve the Dial-a-Ride service by subsidizing the use of private taxi service when necessary as a back-up for Dial-a-Ride.	TDM - Transit	5	5	5	Duvall		$8,000	80% G & 20% L	G	-----
3	Two larger transit vehicles (27 passenger vans) for Dial-a-Ride service (Lincoln County Transit) for the height of tourist season and for use for inter-city service (especially for South County) for trips into/from Newport, as population increases.	TDM - Transit	10	5	5	Duvall	$130,000		80% O/G & 20% L	G	-----
	Two large vans (contracted to Valley Retriever) for service from Newport to Bend.		15	10	10		$175,000		80% G & 20% L	G	
4	Operating funds for all Dial-a-Ride drivers to be paid positions, including back-up drivers for high season days.	TDM - Transit	10	5	5	Duvall	included in transit project 2			G	-----
5	Covered bus shelters.	TDM - Transit	10	5	5	Duvall	$40,000		80% G & 20% L	G	-----

Project Number	Description	Category	LOW Time Frame	MID Time Frame	HIGH Time Frame	Source	Estimated Cost (1995$)	Estmtd. O&M Cost (1995$)	Funding Sourc Descr.	Funding Sourc Code	Rdwy. Class.
LOW ALTERNATIVE continued											
6	The acquisition of land for and the construction of a wash/storage/maintenance facility for the City's transit vehicles. (The land purchased would need to be of adequate size for future expansion - 2000 SF).	TDM - Transit	15	10	10	Duvall	included in transit project 7			G	-----
⑨	Pedestrian network to serve schools (sidewalks improvements inside of the bus zone perimeter).	TDM - Transit	5	5	5	PTA	$160,625			L	-----
⑩	6th Street (Coast Street to Nye Street) - Construct sidewalk on both sides of the road.	TDM - Transit	15	10	10	Staff	$25,625			L	-----
⑪	Elizabeth Street (2nd Street to Government Street)	TDM - Transit	15	10	10	Staff	$26,563			L	-----
14	Bicycle parking at major bus stops and bus stations. (for tourists)	TDM - Transit	5	5	5	Duvall	$15,000		80% O/G & 20% L	G	-----
15	Bicycle racks for all Dial-a-Ride vehicles. (10 racks)	TDM - Transit	5	5	5	Duvall	$7,500		80% O/G & 20% L	G	-----
17	Complete the East-West bike route: 2nd Street (Nye to Angle); Angle Street (2nd to 9th); 9th Street (Angle to 1st); 1st Street (Avery to Fogarty); Fogarty Street (1st to 2nd); 2nd Street (Fogarty to Harney Drive); Harney Drive (2nd to John Moore Dr.); John Moore Drive (Harney Drive to Highway 20). Olive (Coast to Elizabeth).	TDM - Transit	5	5	5	Staff	$1,500			L	-----

			LOW	MID	HIGH						
Project Number	**Description**	**Category**	**Time Frame**	**Time Frame**	**Time Frame**	**Source**	**Estimated Cost (1995$)**	**Estmtd. O&M Cost (1995$)**	**Funding Sourc Descr.**	**Code**	**Rdwy. Class.**
LOW ALTERNATIVE continued											
29	Signalization (Hwy 101/Abbey Street): Install a new signal and include signal coordination infrastructure. (Install when warranted.)	TSM	5	5	5	Glick	$200,000		UR	SH	-----
30	Signalization (Hwy 101/Angle Street): Install a new signal, signal coordination infrastructure, and channelization. Close SW 2nd Street between Highway 101 and SW Angle Street.	TSM	20	15	10	Comp Plan/Glick	$225,000		UR	SH	-----
31	Signalization (Hwy 101/Hurbert Street): Signal improvements to provide for left turns.	TSM	5	5	5	Glick	$150,000			SH	-----
32	Signalization/Channelization (Hwy 101/Hwy 20): Signal revisions/improvements. Realign E. Olive Street.	TSM	5	5	5	Model/Staff	$620,000			SH	-----
35	Highway 101/NE 32nd Street: Signal/Intersection improvements.	TSM	15	10	10	Staff/ODOT	$200,000			SH	P
36	Highway 101/NE 52nd Street: Signal/Intersection improvements.	TSM	10	10	10	Staff/ODOT	$200,000		SG	SH	P
37	NE 52nd Street Area Improvements: Align NE 52nd with Lighthouse Drive. Eliminate Highway 101 access from NE 54th Street. Improve NE Lucky Gap between NE 52nd Street and NE 54th Street. Vacate NE Pacific Street and NE Shell World Place between NE 52nd Street and NE 54th Street. Provide access from Longview Hills to NE 52nd Street.	TSM	10	10	10	Staff/ODOT/ Agate	$554,900			L	L
39	Highway 101/NE 73rd Street: Signal/Intersection improvements. (Install when warranted)	TSM	20	20	15	Staff/ODOT	$250,000			SH	P
40	Highway 101/NE Avery Street: Access management modification (right-in, right-out only)	TSM	10	5	5	Comp Plan	$10,000			SH	P

Project Number	Description	Category	LOW Time Frame	MID Time Frame	HIGH Time Frame	Source	Estimated Cost (1995$)	Estmtd. O&M Cost (1995$)	Funding Sourc		Rdwy. Class.
									Descr.	Code	
	LOW ALTERNATIVE continued										
53	North-South Arterial, Phase IA (between US 20 and 7th Street): Construct to arterial standards; 44' pavement section with curb and gutter, storm drainage, and traffic control. Include sidewalk on both sides of the alt. local route and the east side of Harney Road (between 3rd and US 20). Also include a bike lane on both sides of the street for entire length of roadway.	Road System	5	5	5	Comp Plan	$300,000		----	X	A
57	North-South Arterial., Phase IIA (between Harney Dr. and 36th St.): Construct to arterial stds.; 44' pavemt. section with curb and gutter, storm drainage, and traffic cntrl. Include bikeway (both sides) and sidewalk the entire length of roadway.	Road System	10	5	5	Comp Plan	$408,863		----	X	A
67	SE 1st Street (between Douglas Street and Fogarty Street): Construct roadway to connect SE 1st Street between Douglas and Fogarty. Include bike lane on one side of the street.	Road System	5	5	5	Staff/Open House	$138,500			L	L
68	Highway 101 Revisions (between Hwy 20 & Yaquina Bay Bridge): Removal of on-street parking, no bike lanes, left turns only at Bayley, Abbey, Hurbert, Angle, and Olive.	TSM	5	5	5	Glick	$17,350			SH	P
69	Surface Parking Lots for 101 Business: Construct surface parking lots to supplement parking removed from 101 with restriping.	Road System	15	10	5	Glick	$150,000			L	C
71	NE Avery Street (NE 71st Street to NE 73rd Street): Connect NE 71st Street and NE 73rd Street using NE Avery Street right-of-way.	Road System	20	15	10	Staff	$185,000			L	

Project Number	Description	Category	LOW Time Frame	MID Time Frame	HIGH Time Frame	Source	Estimated Cost (1995$)	Estmtd. O&M Cost (1995$)	Funding Sourc Descr.	Funding Sourc Code	Rdwy. Class.
LOW ALTERNATIVE continued											
73	NW 56th Street Area Improvements: Eliminate Old Highway Loop between NW 55th Street and NW 58th Street. Extend NW 56th Street to Highway 101. Improve NW Gladys Street between NW 56th Street and NW 60th Street as a frontage road.	TSM	5	5	5	Glick	$302,000			L	C
76	SW Abbey Street: Extend SW Abbey Street to SW Elizabeth Street.	Road System	15	15	10	Staff	$84,000			L	C
						LOW ALT	**$4,910,439**	**$442,155 plus O&M**			

Project Number	Description	Category	LOW Time Frame	MID Time Frame	HIGH Time Frame	Source	Estimated Cost (1995$)	Estmtd. O&M Cost (1995$)	Funding Source Descr.	Funding Source Code	Rdwy. Class.
MIDDLE ALTERNATIVE											
The Middle Alternative includes everything in the Low Alternative plus the following:											
7	A centrally located multi-modal transportation facility, which would include intra- and inter-city bus connections, bicycle parking, a park-and-ride lot, offices for cab and limousine dispatch services, Lincoln County Transit, and dial-a-ride connection to bus services.	TDM - Transit		20	15	Duvall	$500,000		80-90% O & 10-20% L	G	-----
⑧	Sidewalk connections along Oceanview Drive, Spring Street, 2nd Street, (follows the existing local bike route). 12th Street (Spring to Nye); 3rd Street (Hurbert to 101); Fall Street (6th to 7th); Bayley Street (Elizabeth to 8th)(both sides); Along Bay from Naterlin Drive to the beach; Bay Blvd. (John Moore Drive to Grant (if connected through)). Highway 101 (Oceanview to 55th); Lighthouse Drive (101 to lighthouse); 55th (Biggs to 101); 58th (Beach to 101) - both sides; (other parts included in project 95 (oval)). Marine Drive (101 to 25th Street); Ferry Slip Road (32nd to Marine Drive); 32nd Street and its extension to Abalone Street (Ferry Slip to Abalone); Abalone (32nd to 101).	TDM - Transit		15	15	Staff	$365,625			L	-----
⑫	11th Street (Spring to Grove)	TDM - Transit		15	10	Staff	$12,500			L	-----
13a	Provide a bike route on Eads Street (12th to 3rd) and 3rd Street (Eads to Harney Road)	TDM - Transit		15		Staff	$78,250			L	-----

Project Number	Description	Category	LOW Time Frame	MID Time Frame	HIGH Time Frame	Source	Estimated Cost (1995$)	Estmtd. O&M Cost (1995$)	Funding Sourc Descr.	Funding Sourc Code	Rdwy. Class.
MIDDLE ALTERNATIVE continued											
18	Big Creek Road (12th Street to Harney Drive): Provide sidewalk and bikeway on one side of the road. Also add sidewalk on 12th (Big Creek to Eads). Road will be closed to traffic after the completion of Phase IB of the North-South Arterial.	Road System		10	10	Staff	$112,500			X	gravel
24	Parking Structure (Abbey Street/Bay Blvd.): Construct a new parking structure (four levels with the top level open). Include bike racks. Restripe Bay Boulevard to accommodate parallel parking south of Fall Street to Naterlin Drive.	TDM - Transit		15	10	Glick	$3,207,084			P/P	-----
50	NE 5th Street (between 7th Drive and Newport Heights Road): Construct to collector standards; 40' pavement section with curb and gutter, storm drainage, and traffic control.	Road System		15	10	Comp Plan	$268,019		FAU, LI	P/P	C
54	North-South Arterial, Phase IB (between 7th Street and NE 32nd Street): Construct to arterial standards; 44' pavement section with curb and gutter, storm drainage, and traffic control. Include improvements to Harney Drive and intersection connection with the N/S Arterial. Add sidewalk along Harney Drive (Big Creek to 101).	Road System		10	10	Comp Plan	$2,064,000		----	X	A

Project Number	Description	Category	LOW	MID	HIGH	Source	Estimated Cost (1995$)	Estmtd. O&M Cost (1995$)	Funding Sourc		Rdwy. Class.
			Time Frame	Time Frame	Time Frame				Descr.	Code	
MIDDLE ALTERNATIVE continued											
55	NW 60th Street/Biggs Avenue/NW 55th Avenue (Hazel Court to 60th): Construct to collector standards; 40' pavement section with curb and gutter, storm drainage, and traffic control. Extend Biggs Street to NW 60th Street. Extend NW 60th Street to Highway 101.	Road System		15	10	Comp Plan	$52,264		----	L	C
	Include sidewalk on both sides of NW 60th Street (Biggs to 101) and on both sides of Biggs Street (55th to 60th).			15	10		$37,500			L	
62	Highway 101 (between Bridge and 123rd Street): Widen to four lanes along Highway 101 and widen to five lanes at key intersections (SE 32nd, SE 62nd, and two other intermediate	Road System		20	20	Model/ Stakeholder	$10,690,000			SH	P
65	SW Abalone Street (extension to 32nd Street): Construct new roadway to connect Abalone to 32nd Street. Add bike lane to one side of the street.	Road System		10	10	Staff	$181,500			X	A
70	Highway 20: Provide for five lanes of capacity from John Moore Drive to Highway 101.	Road System		10	10	Model	$960,000			SH	P
74	NE 57th Street: Eliminate Highway 101 access. Cul-de-sac NE 57th Street on its western terminus. Connect Hazel Court to NE 60th Street.	TSM		10	10	Staff/ODOT	$150,000			L	L
75	NW Harney Drive: Extend NE Harney Drive from Highway 101 to Oceanview Drive. Include bikeway and sidewalk along entire length of roadway.	Road System		10	10	Staff	$231,700			X	C
77	Highway 101 (from just south of Harney Street to northern city limit): Widen to five lanes where there are currently two lanes of capacity.	Road System		15	15	Model	$7,165,000			SH	P
						MIDDLE ALT	**$30,986,381**	**$442,155**			
								plus O&M			

HIGH ALTERNATIVE

The High Alternative includes everything in the Low and Middle Alternatives plus the following:

Project Number	Description	Category	LOW Time Frame	MID Time Frame	HIGH Time Frame	Source	Estimated Cost (1995$)	Estmtd. O&M Cost (1995$)	Funding Sourc Descr.	Funding Sourc Code	Rdwy. Class.
13	Provide a second east-west bike route: 11th Street (Spring to Eads); Eads Street (12th to 3rd); 3rd Street (Eads to Harney Road); 12th Street (Eads to Big Creek); Provide a bike loop around Aquarium & Science Center: Marine Drive (101 to 25th Street); Abalone Street (101 to 29th Street); Ferry Slip Road (Marine Drive to 32nd Street); 32nd Street (Abalone to Ferry Slip).	TDM - Transit			10	Staff	$78,250			L	-----
19	Dedicated bike path to the beach	TDM - Transit			15	Staff	$9,500			L	-----
20	7th Street Bridge: Construct a new bridge along SW 7th Street to connect Alder Street with Fall Street. Include pedestrian sidewalk and bike lane across entire length of bridge.	Road System			20	Glick	$4,867,200			L	-----
33	6th Street: Realign intersection to correct offset.	TSM			20	Safety/ODO T/Staff	$702,000			L	C
34	12th Street: Realign intersection to correct offset.	TSM			15	Safety/ODO T/Staff	$368,550			L	C
46	SW Neff Way and SW Alder (between Highway 101 & SW 2nd Street): Reconstruct to collector standards; 40' pavement section with curb and gutter, storm drainage, and traffic control.	Road System			20	Comp Plan	$147,411		UR	P/P	C
47	Edenview (between Oceanview Drive and NW 20th Street): Widen to 40' pavement section with curb and gutter, storm drainage, and traffic control. Include sidewalk on both sides of Edenview from Oceanview Drive to NW 21st Street. Also add sidewalk to NW 20th Street from 101 to Edenview and NE 20th (near Crestview).	Road System			10	Comp Plan	$147,411		Gas	L	C

Project Number	Description	Category	LOW Time Frame	MID Time Frame	HIGH Time Frame	Source	Estimated Cost (1995$)	Estmtd. O&M Cost (1995$)	Funding Sourc		Rdwy. Class.
									Descr.	Code	
HIGH ALTERNATIVE continued											
48	NW High/Spring Streets (between 8th Street and 6th Street at Coast): Construct to collector standards; 40' pavement section with curb and gutter, storm drainage, and traffic control.	Road System			15	Comp Plan	$80,406		UR	P/P	C
49	Idaho Point Road (between 35th Street and end): Construct to collector stds.; 40' pavement section w/curb and gutter, storm drainage, and traffic control.	Road System			15	Comp Plan	$719,631		----	L	C
56	NE 60th Street (Connection to the N/S Alt. Local Rte.): Construct to collector standards; 40' pavement section with curb and gutter, storm drainage, and traffic control.	Road System			15	Staff	$700,000			X	C
58	North-South Arterial, Phase IIB (between 36th and 60th): Construct to arterial standards; 44' pavement section with curb and gutter, storm drainage, and traffic control. Include bikeway and sidewalk the entire length of roadway. Includes intersection connection with 36th Street and improvements to 36th Street itself, with a bike lane for the entire length of 36th Street. Include a bike lane and sidewalk for the entire length of roadway. Includes construction of 71st Street and intersection connection with the N/S Arterial. Also add sidewalk and bikeway along NE Avery Street from 71st Street to 101.	Road System			15	Comp Plan	$2,003,309		----	X	A
63	Yaquina Bay Bridge: Provide for four lanes of capacity across the bay with new bridge.	Road System			15	Model/ Stakeholder	$73,433,880			T/N	-----
64	Highway 20 (between John Moore Road and Buford Hill): Provide for left-turn pockets at key intersections (three assumed locations including Benson Road).	Road System			20	Model/ Staff	$121,500			SH	P

Project Number	Description	Category	LOW Time Frame	MID Time Frame	HIGH Time Frame	Source	Estimated Cost (1995$)	Estmtd. O&M Cost (1995$)	Funding Sourc Descr.	Funding Sourc Code	Rdwy. Class.

HIGH ALTERNATIVE continued

Project Number	Description	Category	LOW Time Frame	MID Time Frame	HIGH Time Frame	Source	Estimated Cost (1995$)	Estmtd. O&M Cost (1995$)	Funding Sourc Descr.	Funding Sourc Code	Rdwy. Class.
66	Idaho Point Road (extension to 32nd Street): Construct new roadway to connect Idaho Point Road to 32nd Street.	Road System			20	Staff	$247,000			X	L
68	Highway 101 Revisions (between Hwy 20 & Yaquina Bay Bridge): Add 12' sidewalks to both sides of the road.	Road System			15	Glick	$319,000			SH	P
						HIGH ALT	**$114,931,428**	**$442,155 plus O&M**			

Project Number	Description	Category	LOW Time Frame	MID Time Frame	HIGH Time Frame	Source	Estimated Cost (1995$)	Estmtd. O&M Cost (1995$)	Funding Sourc Descr.	Funding Sourc Code	Rdwy. Class.
Projects Beyond 20 Year Planning Horizon											
38	Highway 101/NE 60th Street: Signal/Intersection improvements. (Install when warranted)	TSM			20+	Staff/ODOT	$250,000			SH	P
28	Signalization (Hwy 101/Bay Street): Install a new signal and include signal coordination infrastructure. (Install when warranted)	TSM			20+	Glick	$200,000			SH	-----
21	Parking Structure (9th Street/Hurbert Street): Construct a new parking structure (two levels).	TDM - Transit			20+	Glick	$1,714,409			P/P	-----
22	Parking Structure (Government Center): Construct two new parking structures, one on each side of Angle Street between 9th Street and Highway 101. Each structure is four levels with the top level open.	TDM - Transit			20+	Glick	$6,405,000			P/P	-----
23	Parking Structure (7th Street/Lee Street): Construct a new parking structure (four levels with the top level open).	TDM - Transit			20+	Glick	$3,202,784			P/P	-----
25	Parking Structure (Lee Street/Bay Blvd.): Construct a new parking structure (four levels with the top level open).	TDM - Transit			20+	Glick	$3,202,784			P/P	-----
26	Parking Structure (Fogarty Street/Bay Blvd.): Construct a new parking structure (four levels with the top level open).	TDM - Transit			20+	Glick	$3,202,784			P/P	-----
27	Parking Structure (John Moore Dr./Bay Blvd.): Construct a new parking structure (four levels with the top level open).	TDM - Transit			20+	Glick	$3,202,784			P/P	-----
59	Port Bypass (between US 20 and Yaquina Bay Road): Provide right-of-way for arterial; construct 24' paved road with 8' shoulders.	Road System			20+	Comp Plan	$4,556,325			L	A
60	South Beach Bypass: Construct to arterial standards; 44' pavement section with curb and gutter, storm drainage, and traffic control.	Road System			20+	Comp Plan	$4,422,316			X	A

Project Number	Description	Category	LOW Time Frame	MID Time Frame	HIGH Time Frame	Source	Estimated Cost (1995$)	Estmtd. O&M Cost (1995$)	Funding Sourc Descr.	Funding Sourc Code	Rdwy. Class.
Projects Beyond 20 Year Planning Horizon Continued											
⑥① 61	North-South Arterial, Phase III (between Phase IIB and Highway 101): Construct to arterial standards.	Road System			20+	Comp Plan	$1,608,115			X	A
72	NE 73rd Street: Improvements to connect 73rd Street with NE Avery Street.	Road System			20+	Staff	$158,000			L	L

Sources for each of the projects are listed. These include the 1990 City of Newport Comprehensive Plan; the 1994 Newport Peninsula Urban Design Plan, Process Summary (Glick Study); the Parent/Teacher Association (PTA); the Agate Beach Association; the QRS transportation model; ODOT; Lincoln County Transit and City of Newport staff; stakeholder interviews; and input from the public open houses. Other information such as funding sources, roadway classification, and estimated capital costs are also shown.

No-Build Condition

The No-Build condition is the base case alternative. It contains any transportation improvements that are currently planned and funded. For the City of Newport, funding has not been secured for currently planned projects, so the No-Build condition does not include any additional project improvements beyond those that exist in the system in 1996. As discussed in Section 3.2, the base case assumptions for land use included in the No-Build condition incorporate planned land use per the City of Newport's Comprehensive Plans. This land use pattern was evaluated and maintained as it provides a more balanced mix of land use to the north and south of the Yaquina Bay Bridge.

Low Alternative

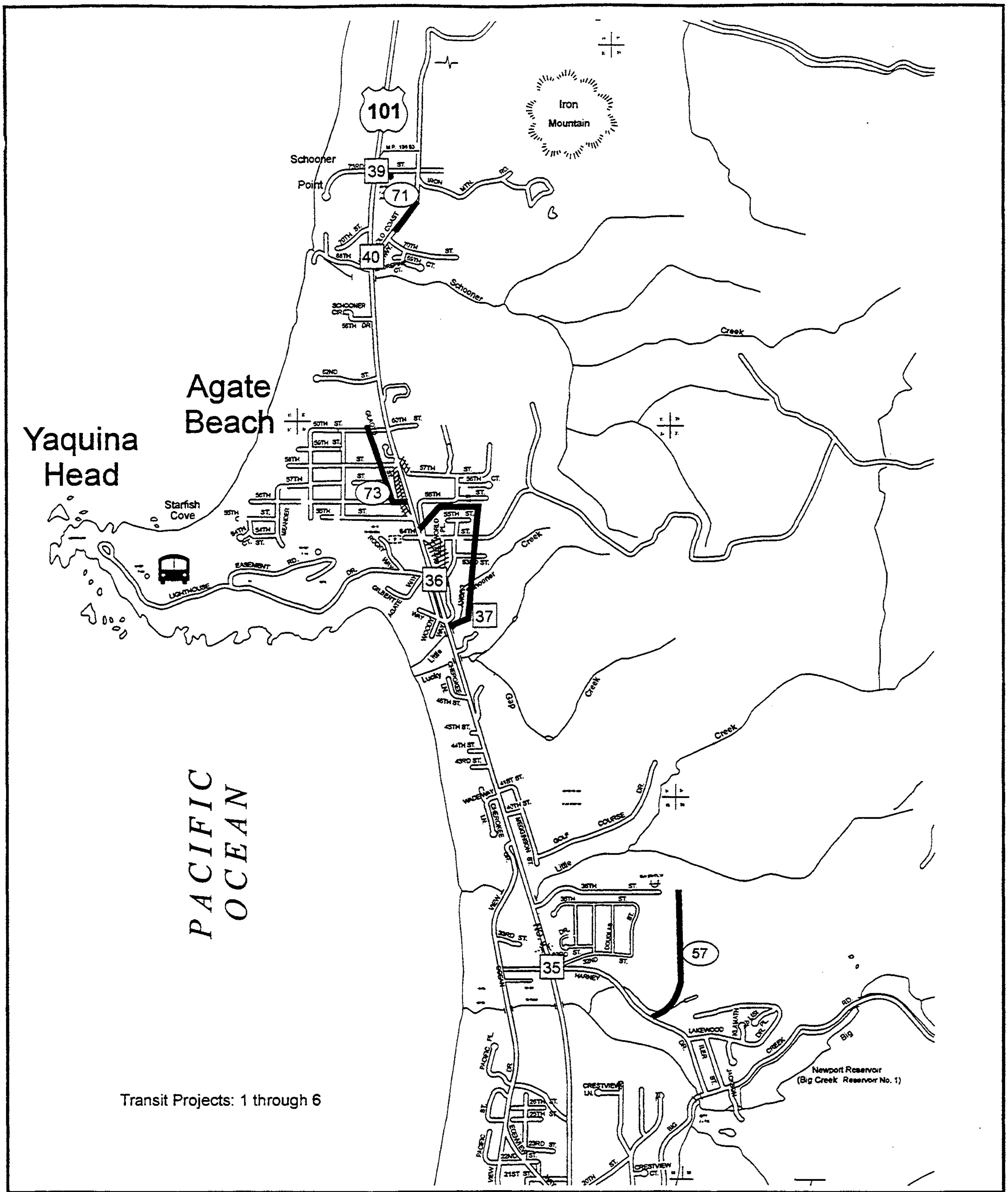
The Low Alternative is a financially constrained alternative, but contains some improvements to all modes of travel with significant improvements to alternative modes, especially transit. There is a pedestrian sidewalk network for schools; improved local north/south bike route west of Highway 101; expanded Dial-a-Ride and a tourist shuttle; improvements on Highway 101 from Highway 20 to the Yaquina Bay Bridge (removing parking from the highway, traffic signals, and left-turn bays); as well as replacement parking for Highway 101 businesses.

Roadway Network

The roadway network components consist of 14 intersection and 10 street network improvement projects. These projects range from signalization and channelization modifications at intersections to roadway extensions and even new roadway construction. Two initial sections of the north/south arterials are included. See Figure 18 and Figure 19 for a graphic representation of these projects.

Transportation System Management Element

Transportation System Management (TSM) improvements for the low alternative are primarily associated with improvements in traffic signal progression and access management. Table 20 identifies those projects considered to be TSM improvements. These include signal and timing improvements along Highway 101, particularly between Highway 20 and the Yaquina Bay Bridge, and access management improvements in the Agate Beach area around NW 56th Street and NE 52nd Street. The majority of identified TSM improvements were included in the low alternative and are thereby incorporated by reference as an element of all of the alternatives.



Legend: ▬ Improvements

1 Intersection Project

① Street Network Project

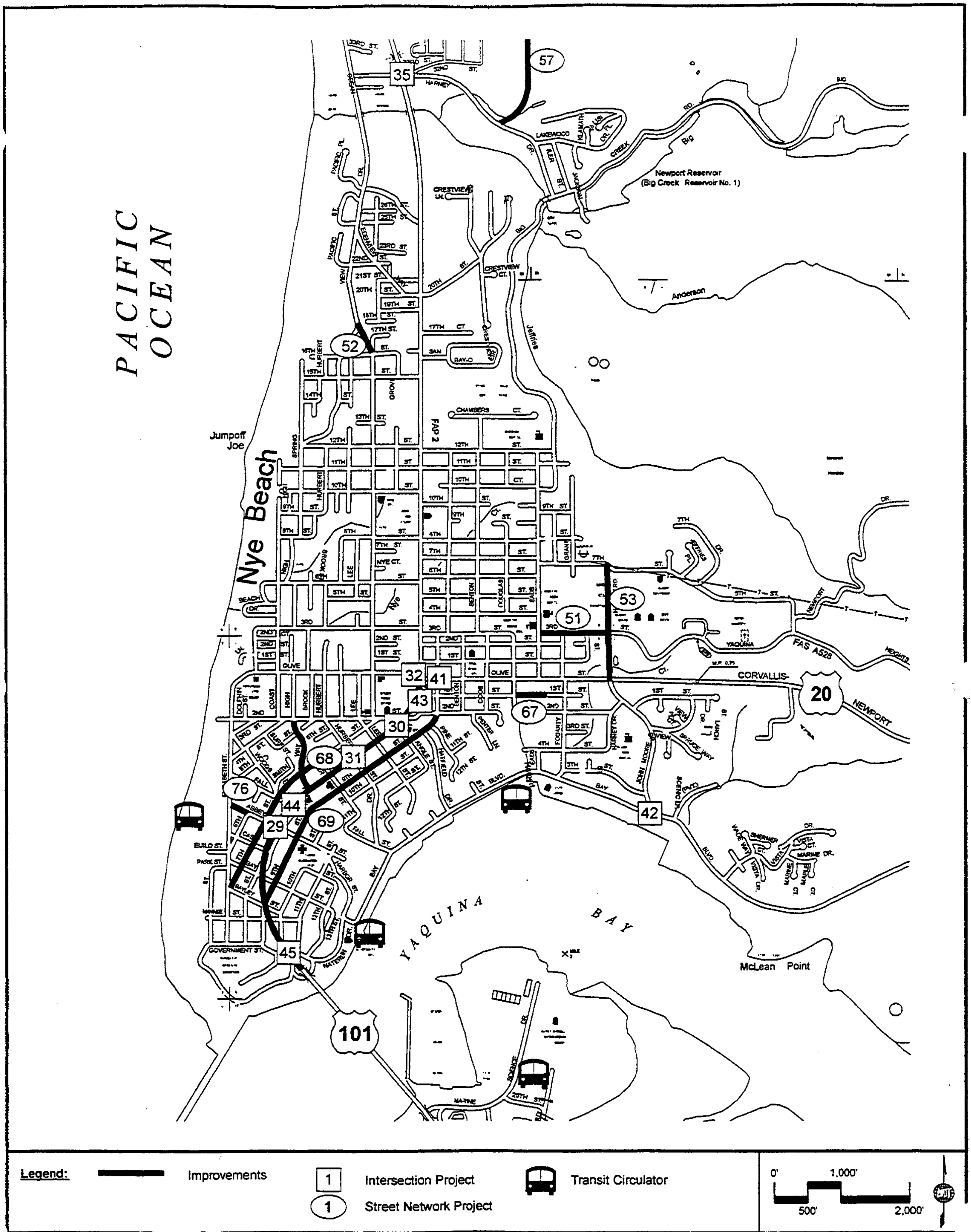
Transit Circulator

0' 1,000' 500' 2,000'

City of Newport
Transportation System Plan

Roadway Improvements
Low Alternative
(North Newport)

Fig. 18



City of Newport
Transportation System Plan

Roadway Improvements
Low Alternative
(North Newport)

Fig. 19

Bicycle Network

There are three bicycle projects that provide for bicycle parking at the major bus stops and bus stations, bicycle racks for all Dial-a-Ride vehicles, and the completion of the east-west bike route through the downtown area. See Figure 20 and Figure 21 for the specific routings.

Pedestrian Network

Pedestrian improvements are contained in three projects for this alternative. The most extensive project is directed at serving the children who walk to school. The other two projects add a north-south and east-west link to the existing sidewalk network. See Figure 22 and Figure 23 for specific sidewalk improvements.

Transit Network

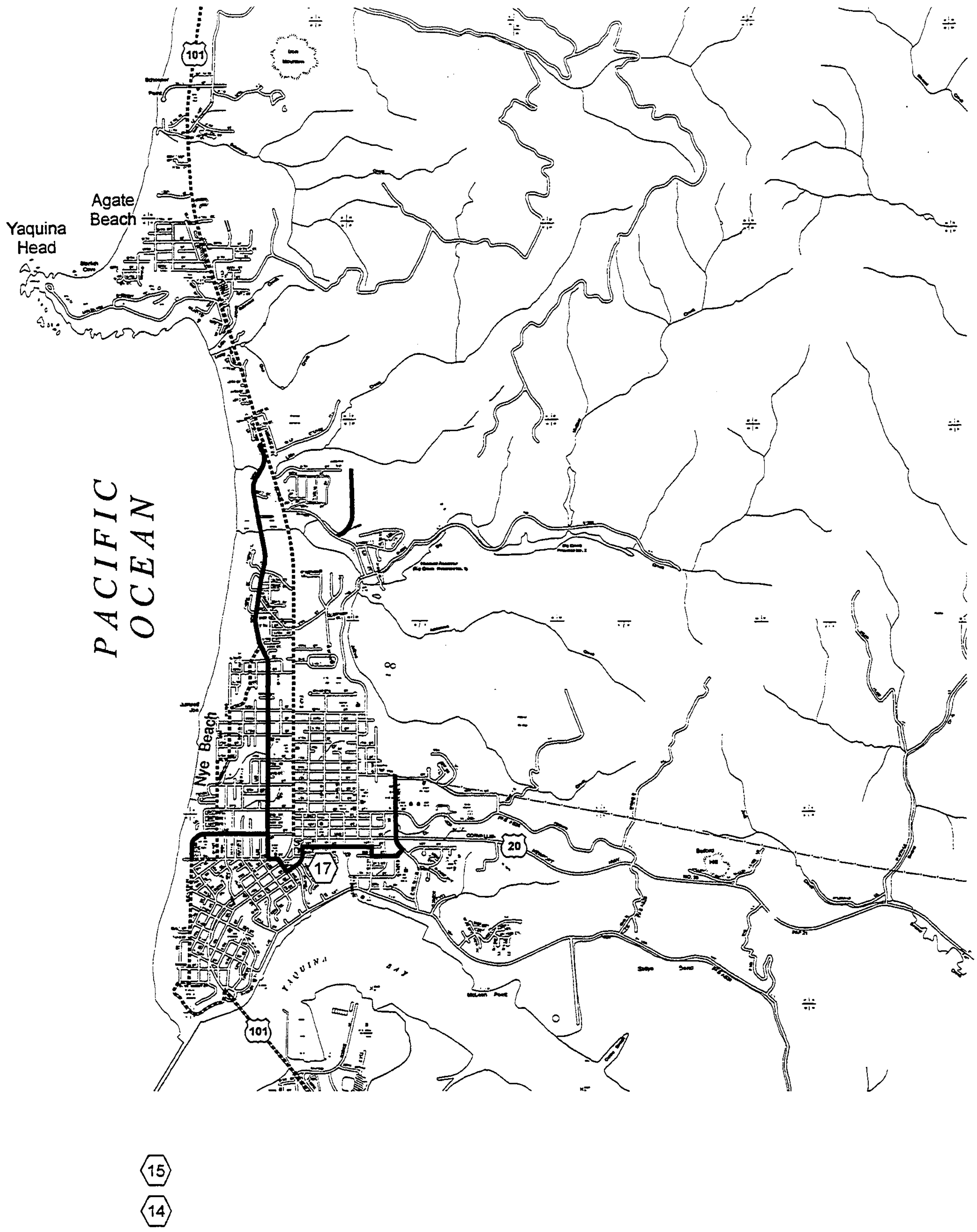
Six projects make up the transit component of this alternative. One of the key pieces is the continuation of the existing Lincoln County Transit service and extending the hours of service on weekdays and weekends. It also includes a transit circulator or shuttle service to hotels and main tourist attractions. Other improvements include covered bus shelters, subsidized taxi service, additional passenger vans, operating funds, and land for the maintenance facility. See Figure 18 and Figure 19 for the transit circulator stops throughout the city.

Middle Alternative

The Middle Alternative builds on the Low Alternative, and contains all of the projects included in the Low Alternative. The Middle Alternative will require moderate additional funding. It includes additional improvements for all modes of travel and offers increased mobility. Arterial congestion is significantly reduced from that which would still exist under the Low Alternative.

Pedestrians would have improved east-west connectivity west of Highway 101. Bicyclists would have improved local north/south bike routes east of Highway 101. A new multi-modal transportation facility or hub would be provided for better transit connections. With regard to roadways, there would be an alternative north/south route for local traffic east of Highway 101. Highways 101 and 20 would be widened and additional connectivity would be provided for local traffic. Additional access management would be provided for the Agate Beach area. On-street parking modifications and a new parking structure would provide for improved traffic circulation near the Bay Front.

Figure 24 through Figure 31 represent the Middle Alternative. These graphics not only show the projects from the Middle Alternative, but also include all of the projects from the Low Alternative. The new projects in the Middle Alternative are denoted with a project number and an asterisk on each of the maps.



Legend:

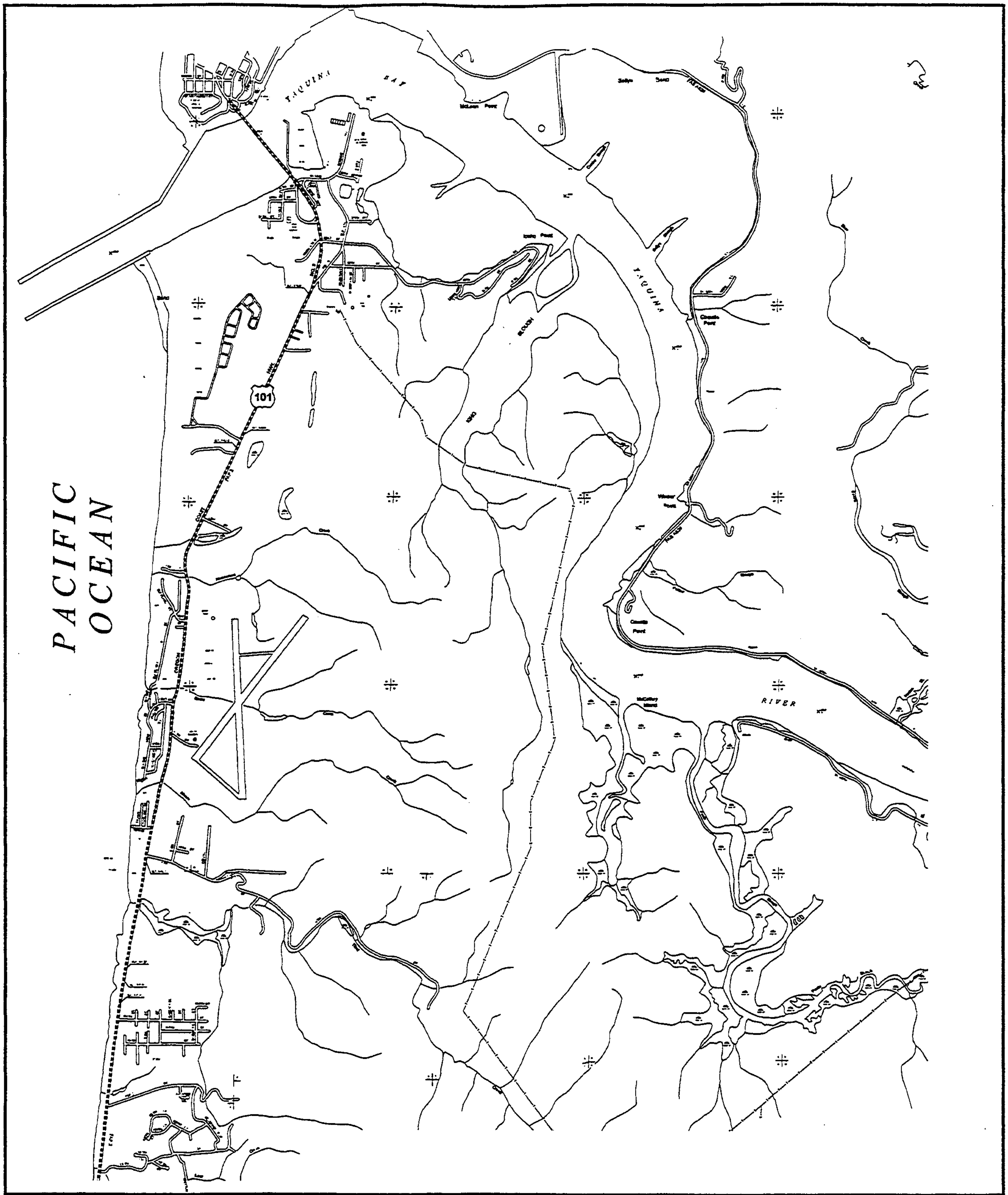
- Existing
- Improvements
- ⟨1⟩ Bicycle Project

0' 1,000' 2,000' 4,000'

City of Newport
Transportation System Plan

Bicycle Improvements
Low Alternative
(North Newport)

Fig. 20



Legend: ······················ Existing

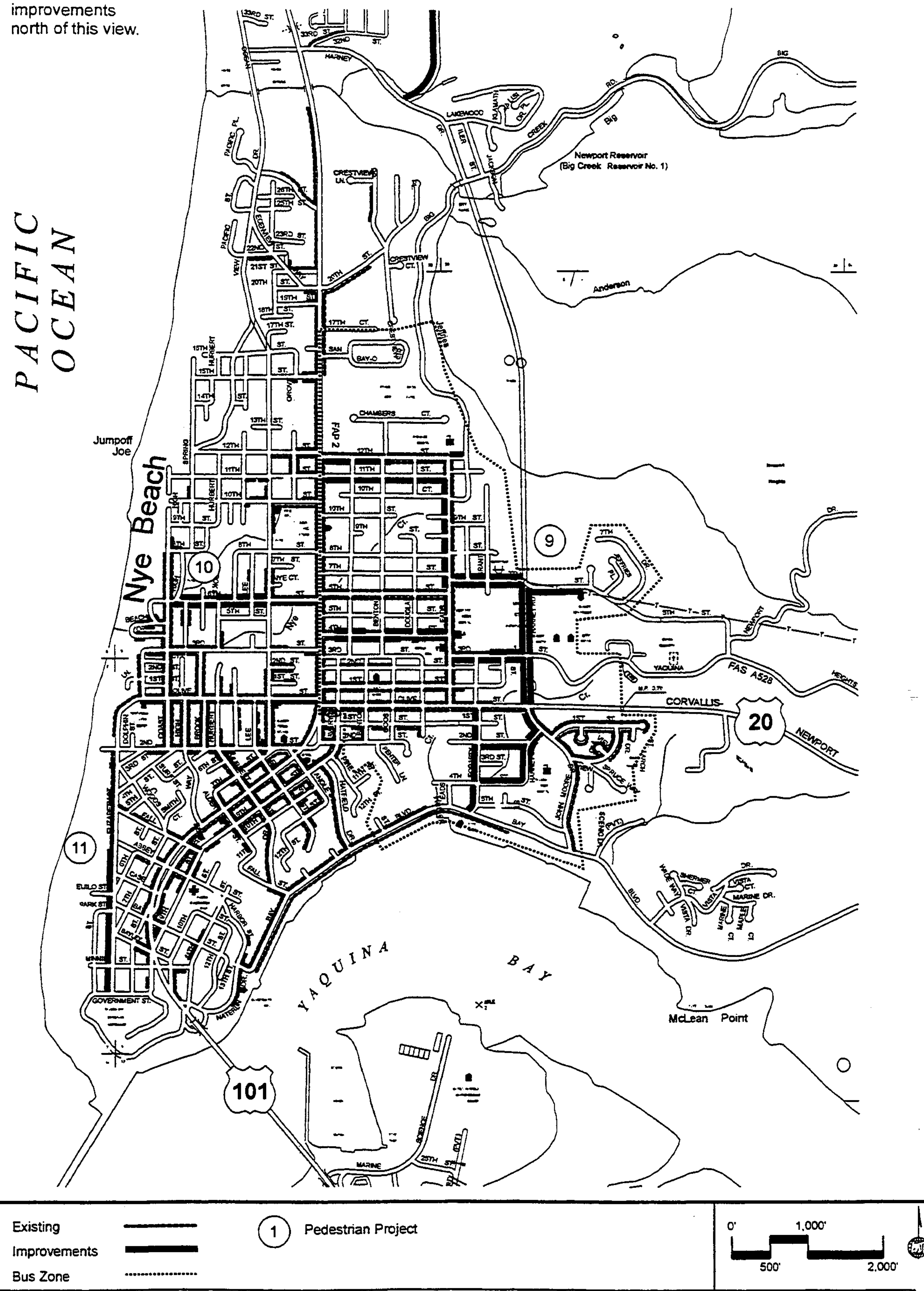
0' 2,000'
1,000' 4,000'

City of Newport
Transportation System Plan

Bicycle Improvements
Low Alternative
(South Newport)

Fig. 21

Note:
No pedestrian
improvements
north of this view.



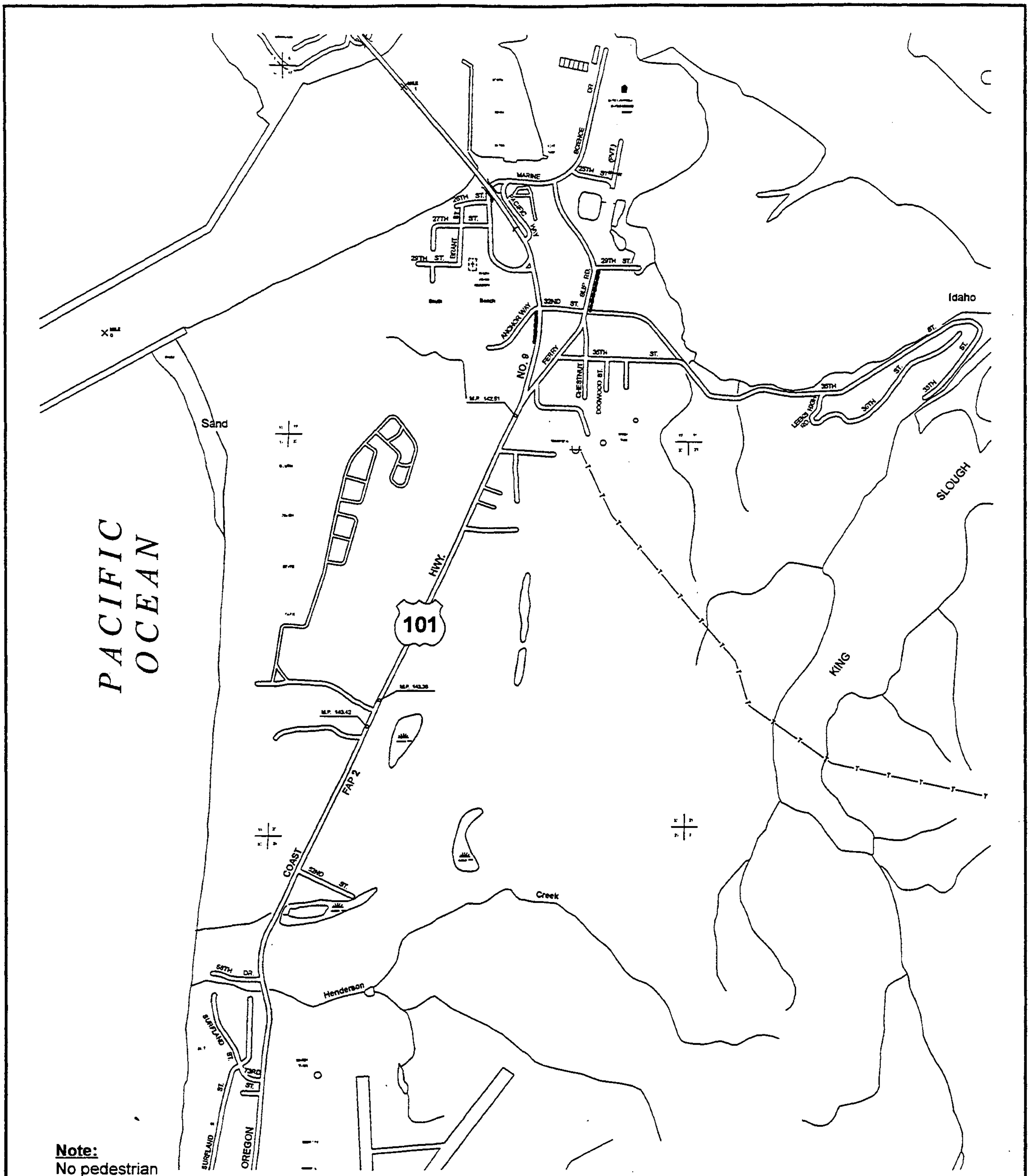
Legend:

- Existing
- Improvements
- Bus Zone
- ① Pedestrian Project

City of Newport
Transportation System Plan

Pedestrian Improvements
Low Alternative
(North Newport)

Fig. 22



Note:
No pedestrian improvements south of this view.

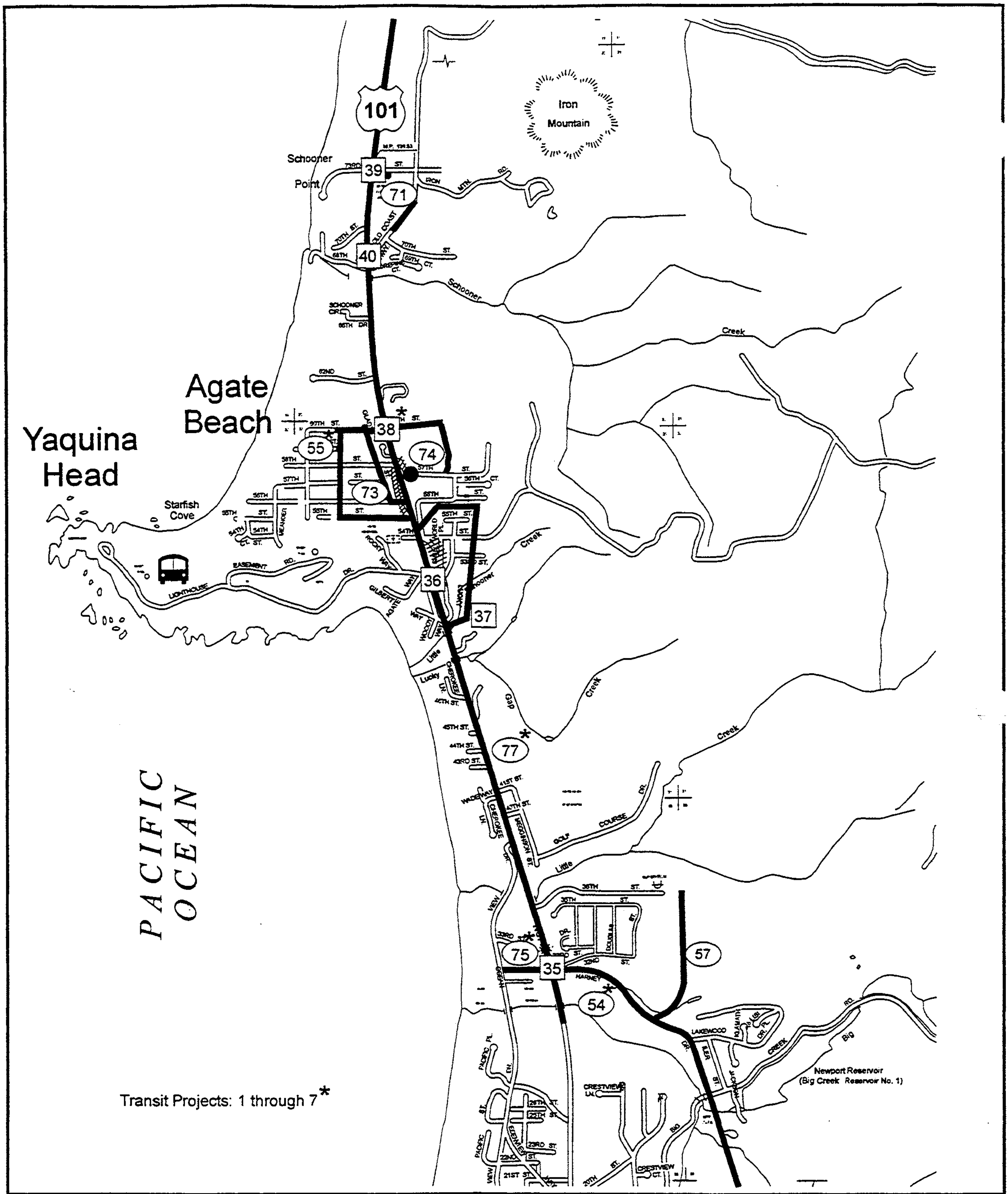
Legend: Existing ▬▬▬

0' 1,000' 500' 2,000'

City of Newport
Transportation System Plan

Pedestrian Improvements
Low Alternative
(South Newport)

Fig. 23



Legend: Improvements

1 Intersection Project

1 Street Network Project

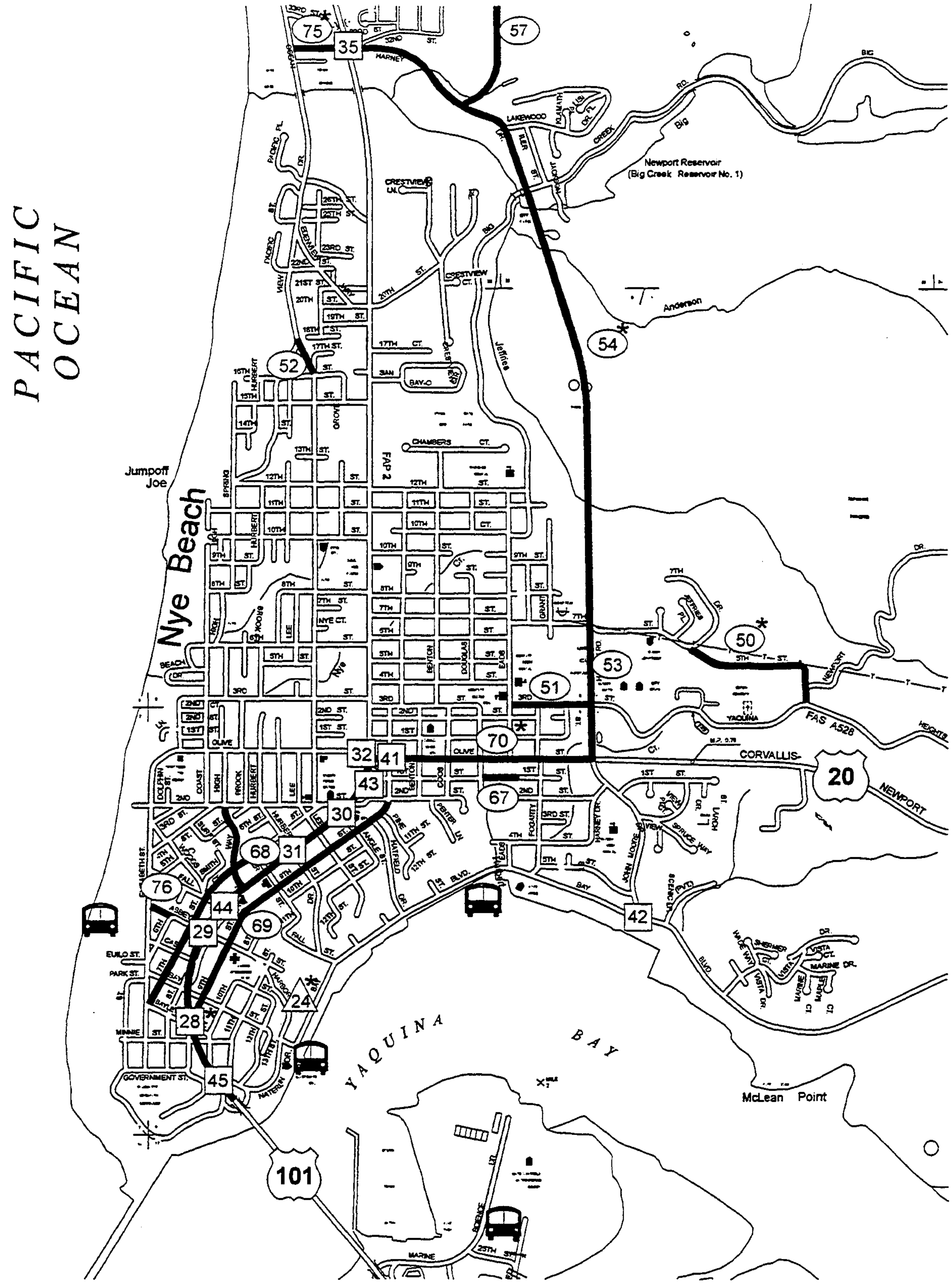
Transit Circulator

* New Project in this Alternative

City of Newport
Transportation System Plan

Roadway Improvements
Middle Alternative
(North Newport)

Fig. 24



Legend: Improvements

1 Intersection Project

20 Structure Project

1 Street Network Project

Transit Circulator

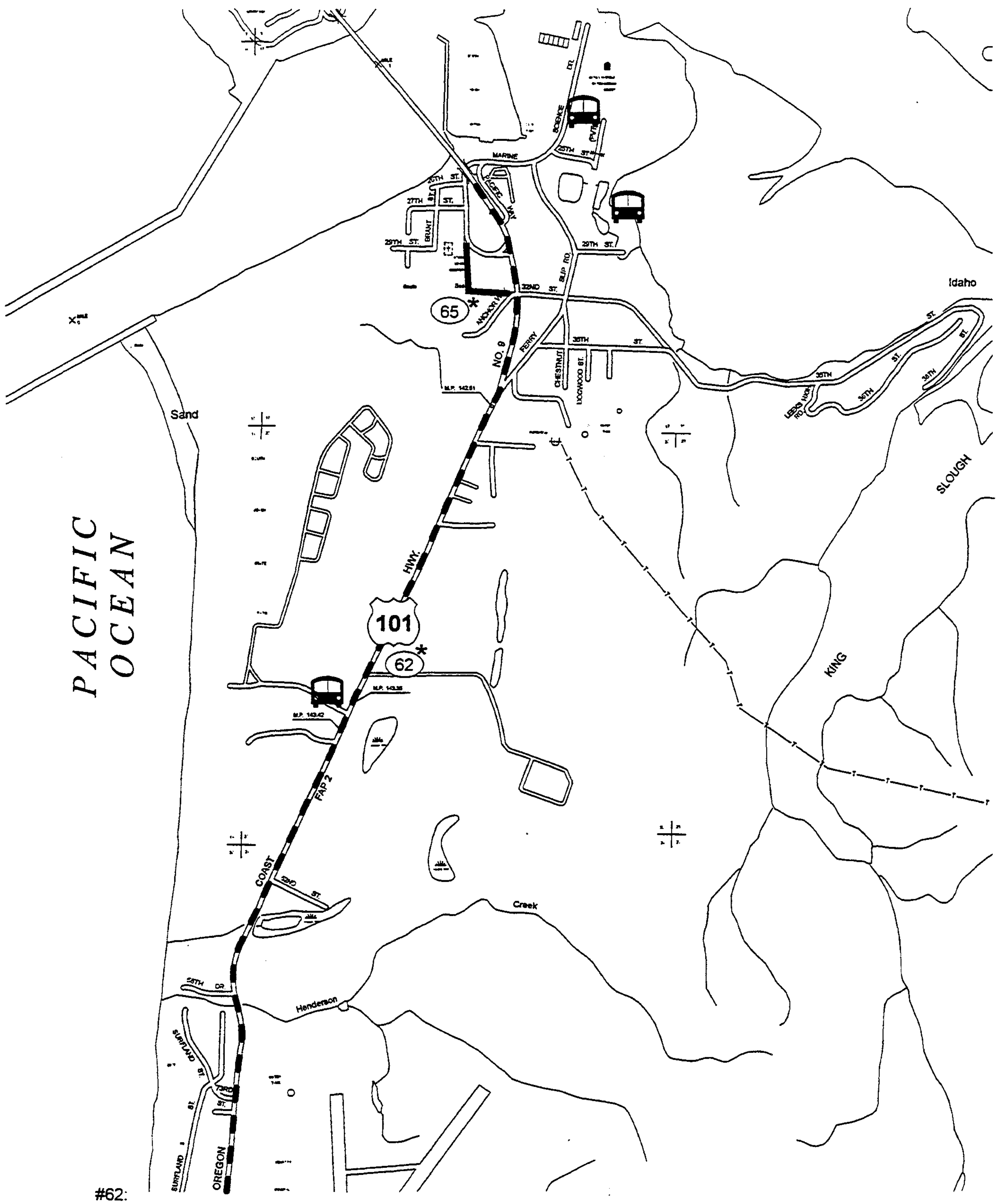
* New Project in this Alternative

0' 1,000' 500' 2,000'

City of Newport
Transportation System Plan

Roadway Improvements
Middle Alternative
(North Newport)

Fig. 25



#62:
Improvements continue
south to 123rd Street

Legend:

Improvements

Intermittent Improvements
(Major Intersections)

① Street Network Project

Transit Circulator

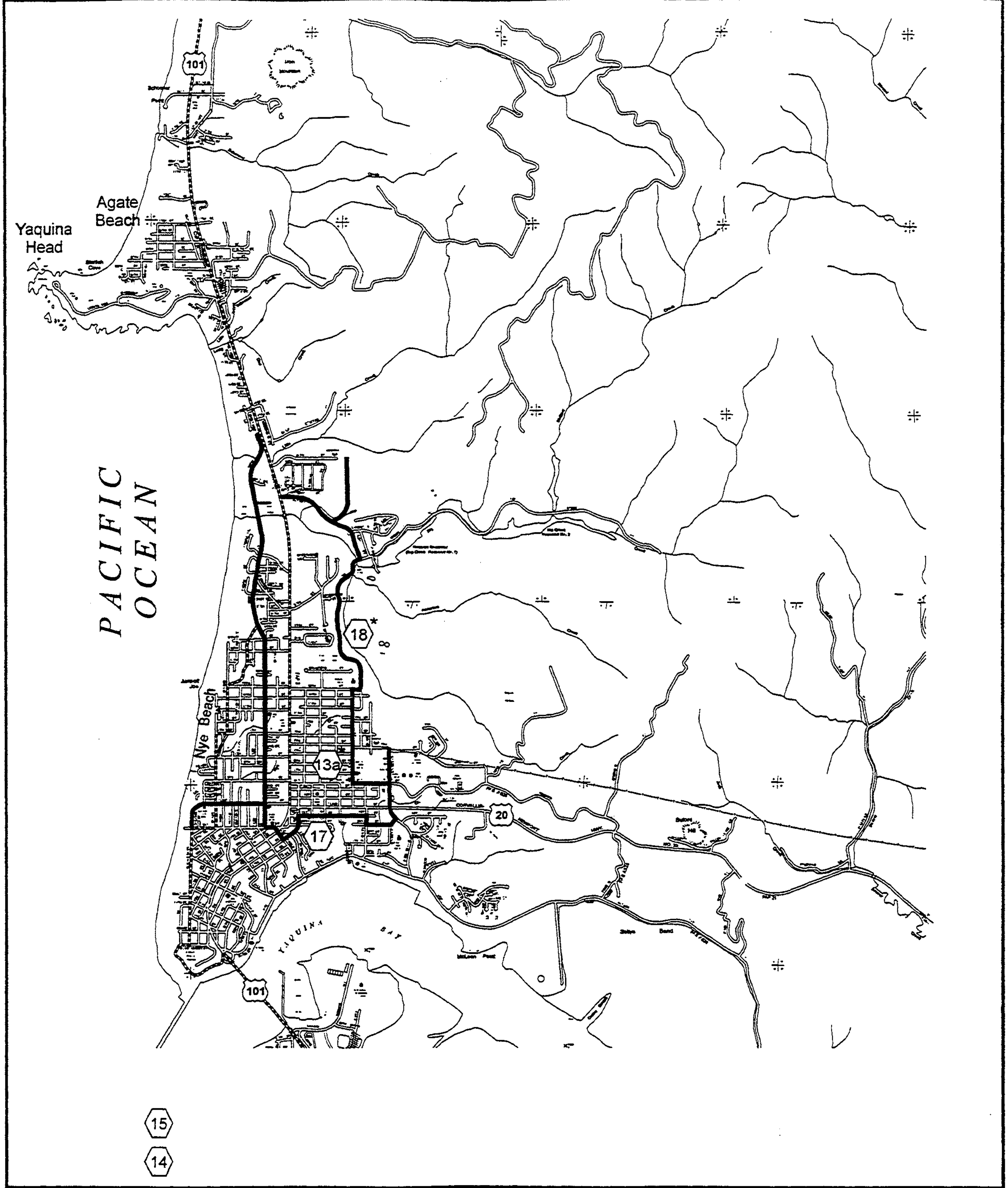
* New Project in
this Alternative

0'
1,000'
500'
2,000'

City of Newport
Transportation System Plan

Roadway Improvements
Middle Alternative
(South Newport)

Fig. 26



Legend:

Existing

Improvements

1 Bicycle Project

* New Project in this Alternative

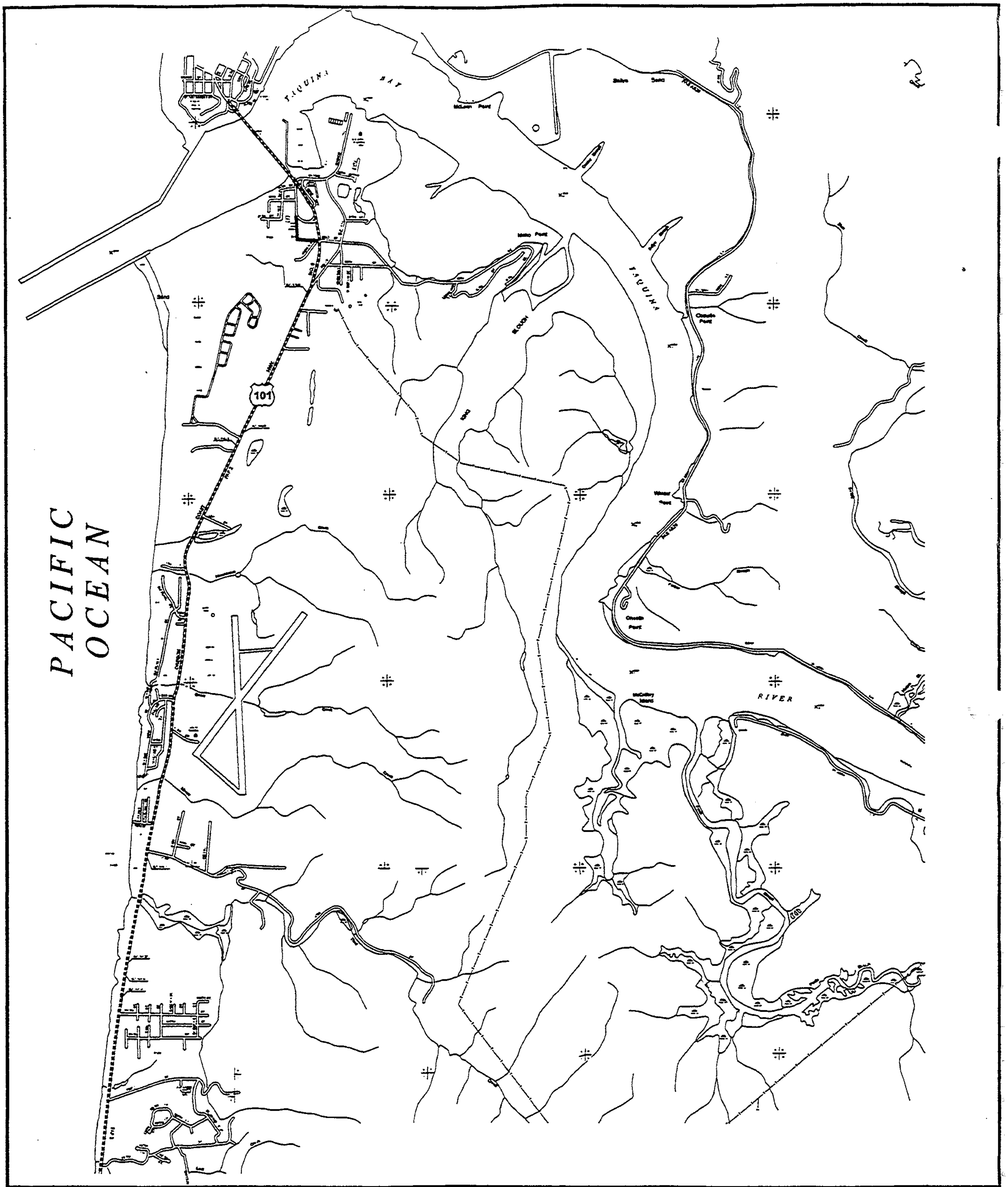
0' 2,000'

1,000' 4,000'

City of Newport
Transportation System Plan

Bicycle Improvements
Middle Alternative
(North Newport)

Fig. 27



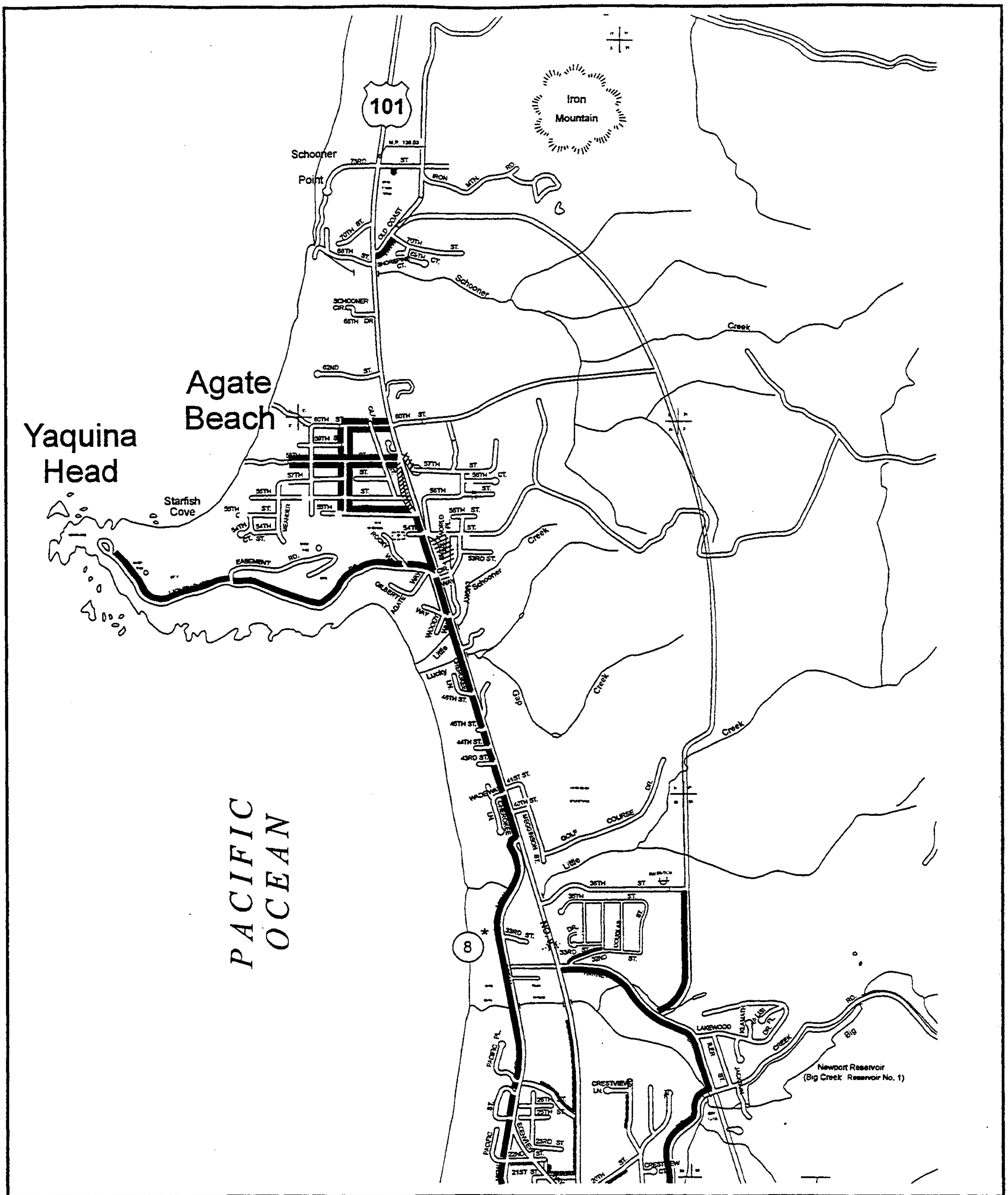
Legend:

···················	Existing
▬▬▬▬	Improvements

City of Newport
Transportation System Plan

Bicycle Improvements
Middle Alternative
(South Newport)

Fig. 28



Legend:

Existing	═══	①	Pedestrian Project
Improvements	▬▬▬	*	New Project in this Alternative

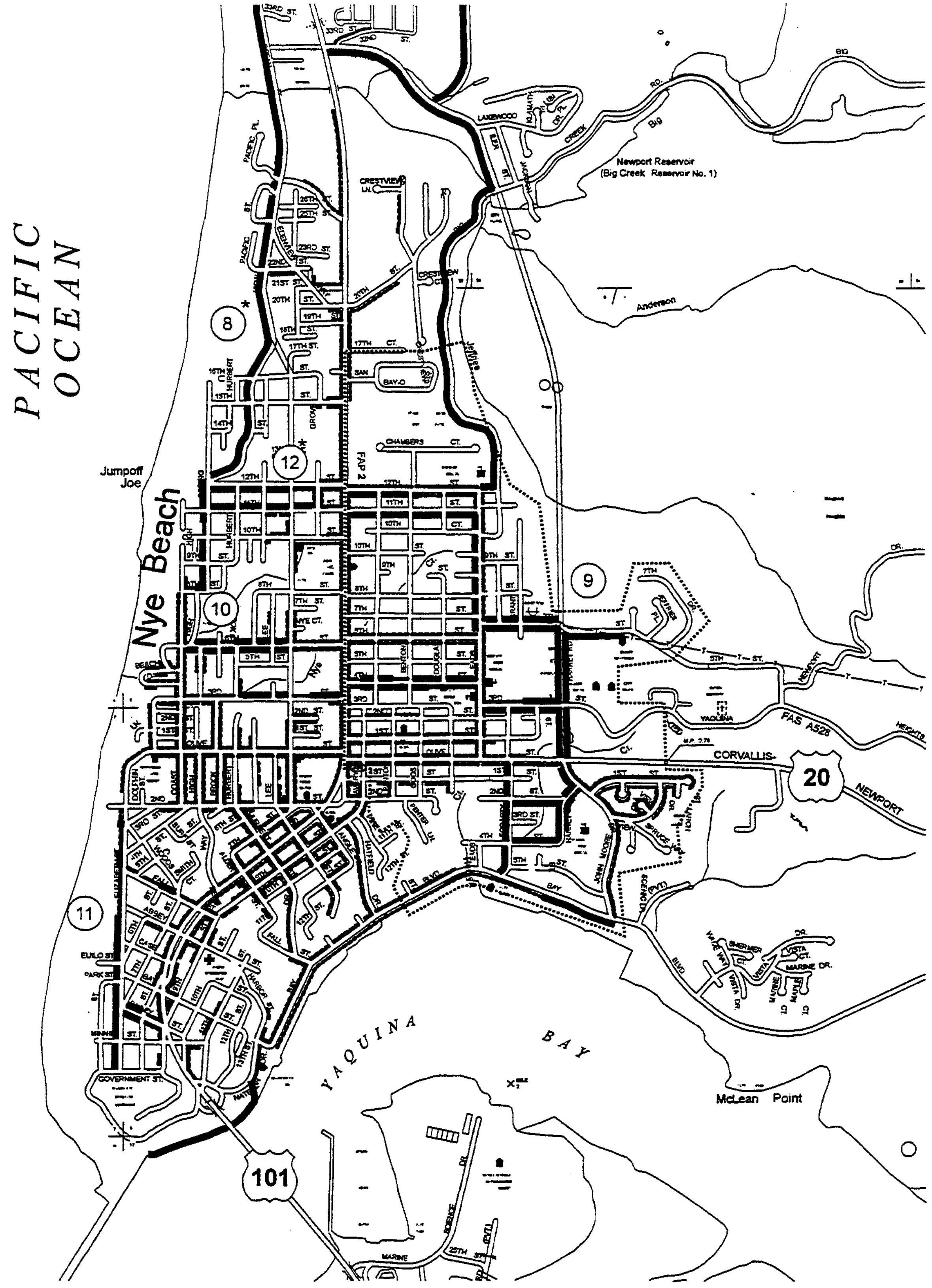
0' 1,000'
500' 2,000'

City of Newport
Transportation System Plan

PB 100 YEARS

Pedestrian Improvements
Middle Alternative
(North Newport)

Fig. 29



Legend:

Existing

Improvements

Bus Zone

① Pedestrian Project

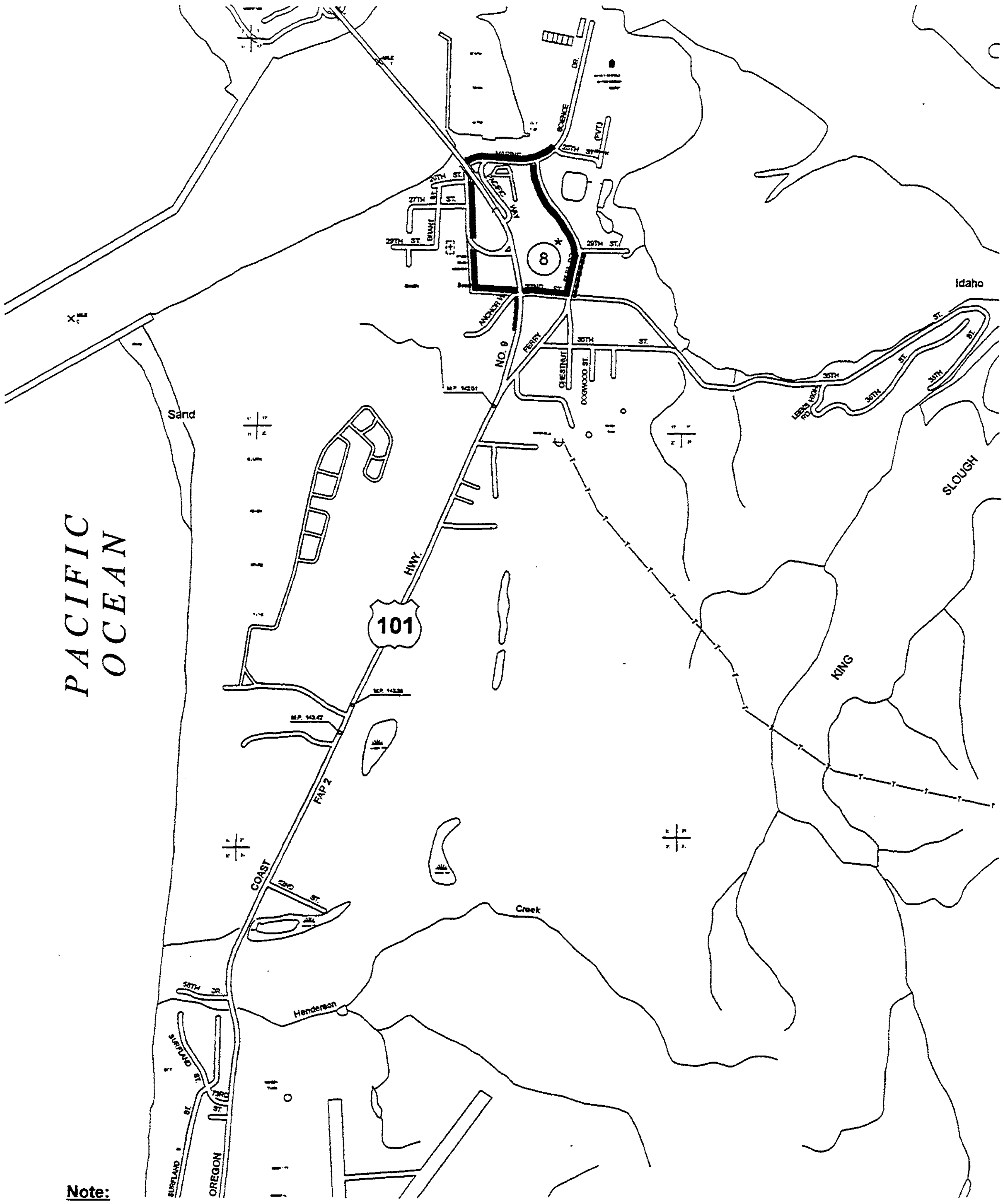
* New Project in this Alternative

0' 500' 1,000' 2,000'

City of Newport Transportation System Plan

Pedestrian Improvements Middle Alternative (North Newport)

Fig. 30



Note:
No pedestrian
improvements
south of this view.

Legend:

Existing ▬

Improvements ▬

① Pedestrian Project

* New Project in this Alternative

City of Newport
Transportation System Plan

Pedestrian Improvements
Middle Alternative
(South Newport)

Fig. 31

Roadway Network

Roadway network components in the Middle Alternative consist of two intersections and nine street network improvement projects. These projects provide new signalization and signal coordination; reconstruction of roadways to street standards; the widening of Highways 101 and 20; and some roadway extensions. The north/south arterial would be completed to Harney Drive. See Figure 24 through Figure 26 for a graphic representation of these improvements.

TSM Element

TSM improvements for the middle alternative incorporate those included in the Low Alternative and are again primarily associated with improvements in traffic signal progression and access management. These include additional signalization and timing improvements along Highway 101, a signal at Bay Street when warranted, and additional access management improvements in the Agate Beach area around NE 57th Street.

Bicycle Network

Only one additional bicycle project is added in this alternative. The project would provide a bike route along Eads and Third Streets. This addition, along with all of the improvements from the Low Alternative, is shown in Figure 27 and Figure 28.

Pedestrian Network

Two projects are included in the Middle Alternative that provide for sidewalk connections along the existing bike route from Naterlin Drive to the beach, along Highway 101 near Agate Beach, along 11th Street, and on the loop south near Ferry Slip Road. These are shown in Figure 29 and Figure 30.

Structures

In the Middle Alternative, a parking structure near the Bay Front would be constructed to relieve some of the parking impacts created by the restriping of diagonal parking to parallel parking along Bay Boulevard. The location of this structure is shown on Figure 27.

Transit Network

There is only one additional transit improvement project in this alternative, which is construction of a multi-modal transportation facility. This facility would serve as a transit center for intra- and inter-city bus connections, as well as a hub for cabs, limousines, Dial-a-Ride, bicyclists, and park-and-ride lot users. The specific location of this site has not yet been determined.

High Alternative

The High Alternative builds on the Middle Alternative, is a completion of networks for all modes of travel, and improves mobility. It represents an unconstrained funding scenario and would require an extensive amount of additional funding. A completed pedestrian network would be provided throughout the city. Both north/south and east/west bike route connections would also be completed. Transit is the same as in the Middle Alternative. Improved capacity would be provided across the Yaquina Bay with a parallel bridge. An alternative north/south route for local traffic east of Highway 101 would be extended further north than in the Middle Alternative. Additional local system improvements completing connectivity for local traffic and realignments would also be a part of this alternative.

Figure 32 through Figure 40 represent the High Alternative. These graphics not only show the projects from the High Alternative, but also include all of the projects from the Middle and Low Alternatives. The projects new to the High Alternative are denoted with a project number and an asterisk on each of the maps. Projects that are beyond the 20-year planning horizon are not shown on these figures.

Roadway Network

There are 10 street network and 2 intersection improvement projects in this alternative, including the Yaquina Bay Bridge. The remaining projects include constructing roadways to street standards, constructing new roadways, realigning intersections, and modifying channelization at intersections. All of these improvements are graphically depicted in Figure 32 through Figure 35.

TSM Element

TSM improvements for the High Alternative incorporate those included in the Low and Middle Alternatives and are again primarily associated with improvements in traffic signal progression and access management. The additional improvements beyond those in the Low and Middle Alternatives include revisions at 6th and 12th Streets to correct roadway offsets and implement signal timing improvements.

Bicycle Network

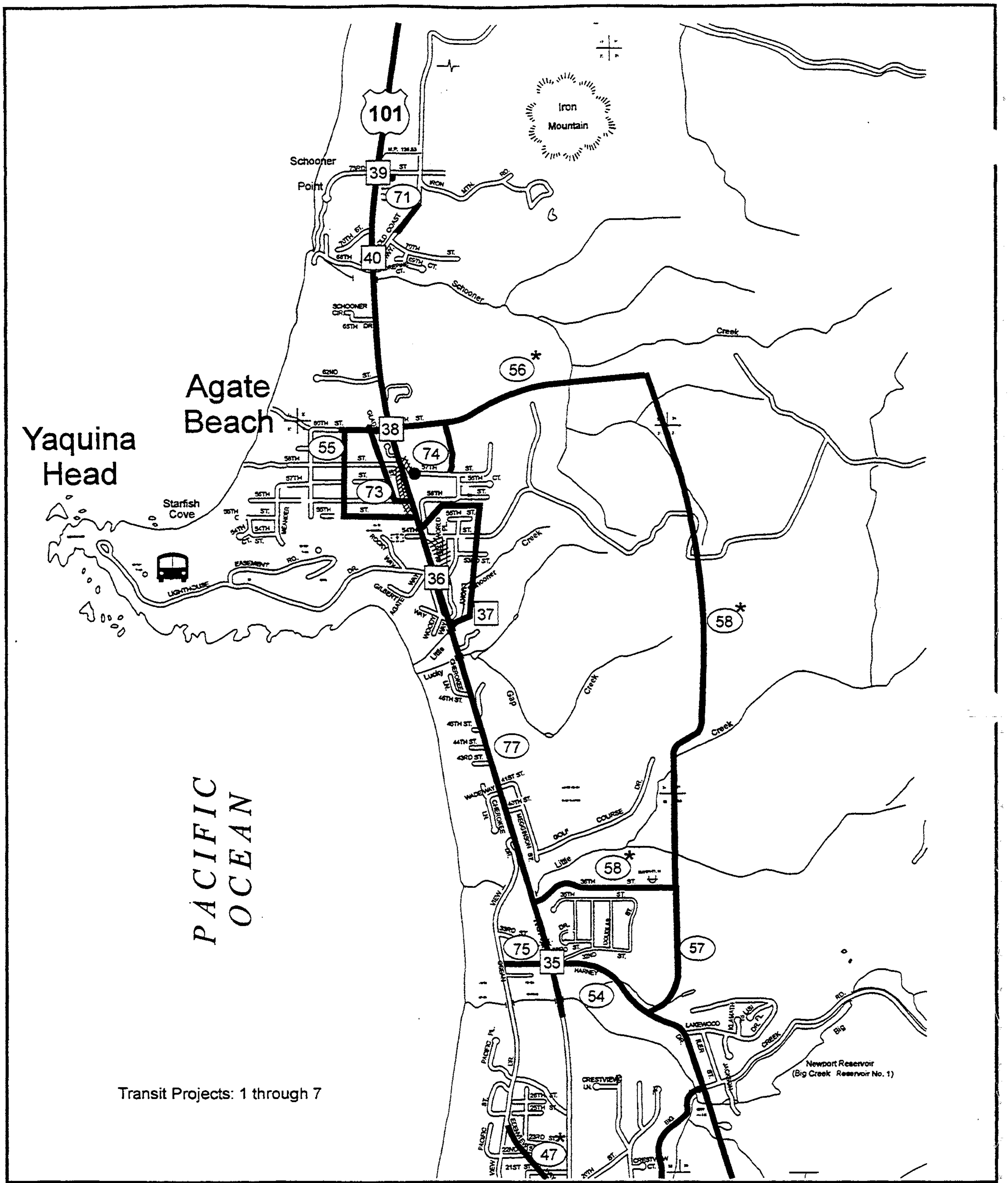
There are two bicycle projects in this alternative. One provides a dedicated bike path to the beach and the other provides a second east-west bike route through the downtown area and a loop around the Aquarium and Science Center. See Figure 36 and Figure 37 for the bike routes.

Pedestrian Network

No new pedestrian improvement projects were added to the High Alternative; however this does not mean that no new pedestrian facilities were added. Some of the roadway projects include sidewalks as a part of their project description. Figure 38 through Figure 40 show the specific sidewalk improvements.

Structures

The only structure in this alternative is the 7th Street Bridge (the additional capacity of the second Yaquina Bay Bridge was considered a roadway project). This project is shown on Figure 35.



Transit Projects: 1 through 7

Legend:

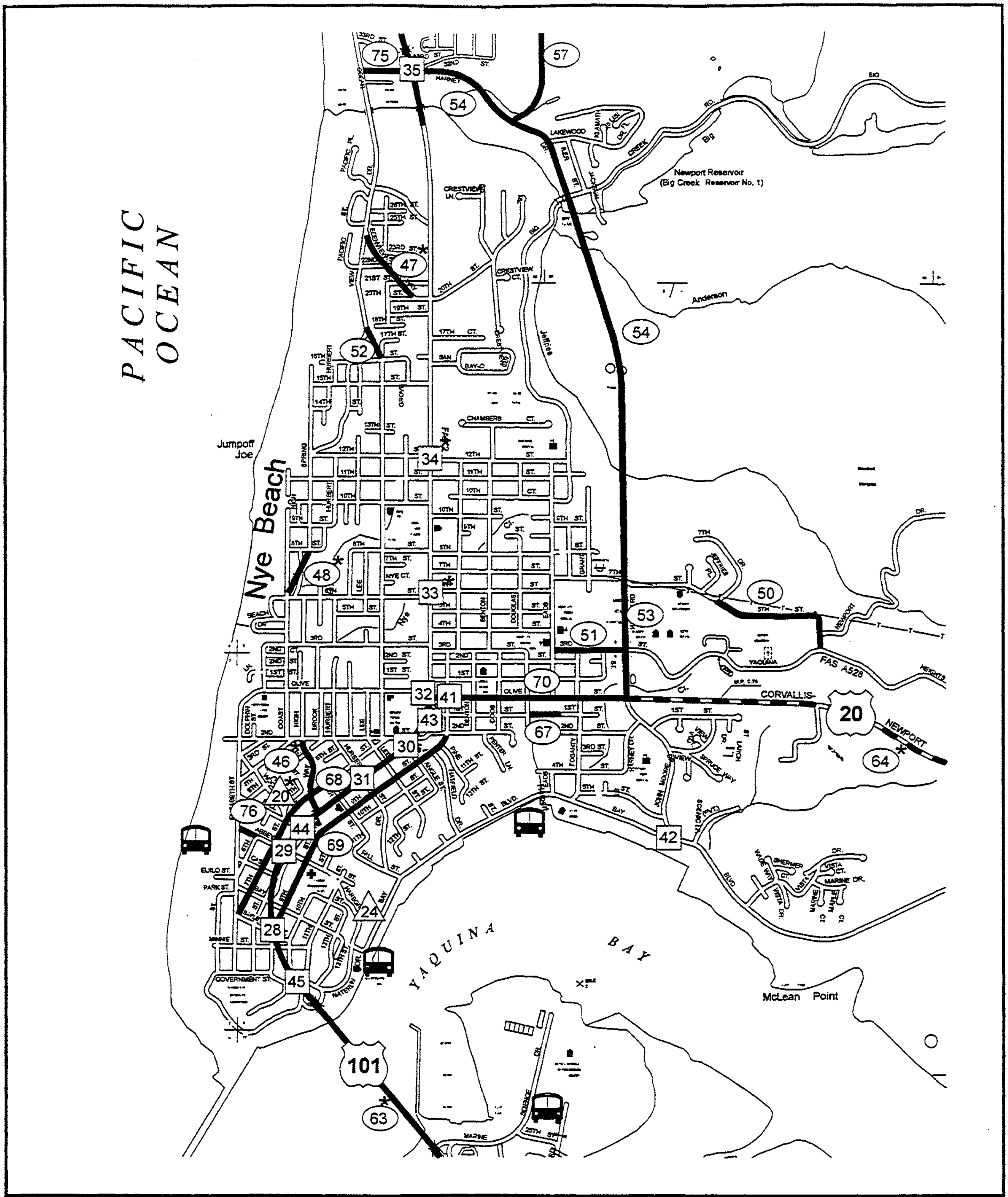
▬	Improvements
1 (square)	Intersection Project
①	Street Network Project
🚌	Transit Circulator
*	New Project in this Alternative

0' 500' 1,000' 2,000'

City of Newport
Transportation System Plan

Roadway Improvements
High Alternative
(North Newport)

Fig. 32



Legend:

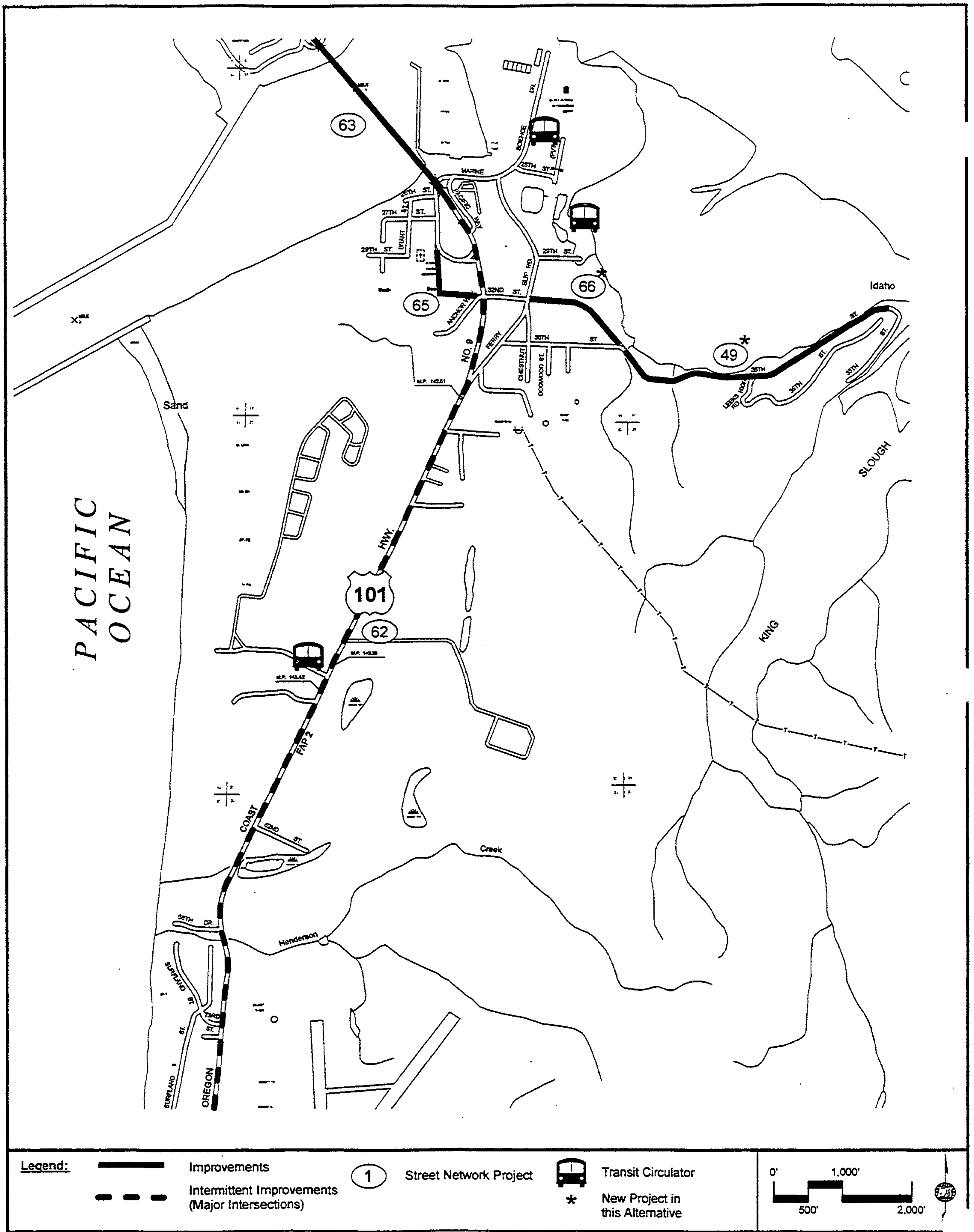
- Improvements
- Intermittent Improvements (Major Intersections)
- 1 Intersection Project
- 20 Structure Project
- 1 Street Network Project
- Transit Circulator
- * New Project in this Alternative

0' 1,000'
500' 2,000'

City of Newport
Transportation System Plan

Roadway Improvements
High Alternative
(North Newport)

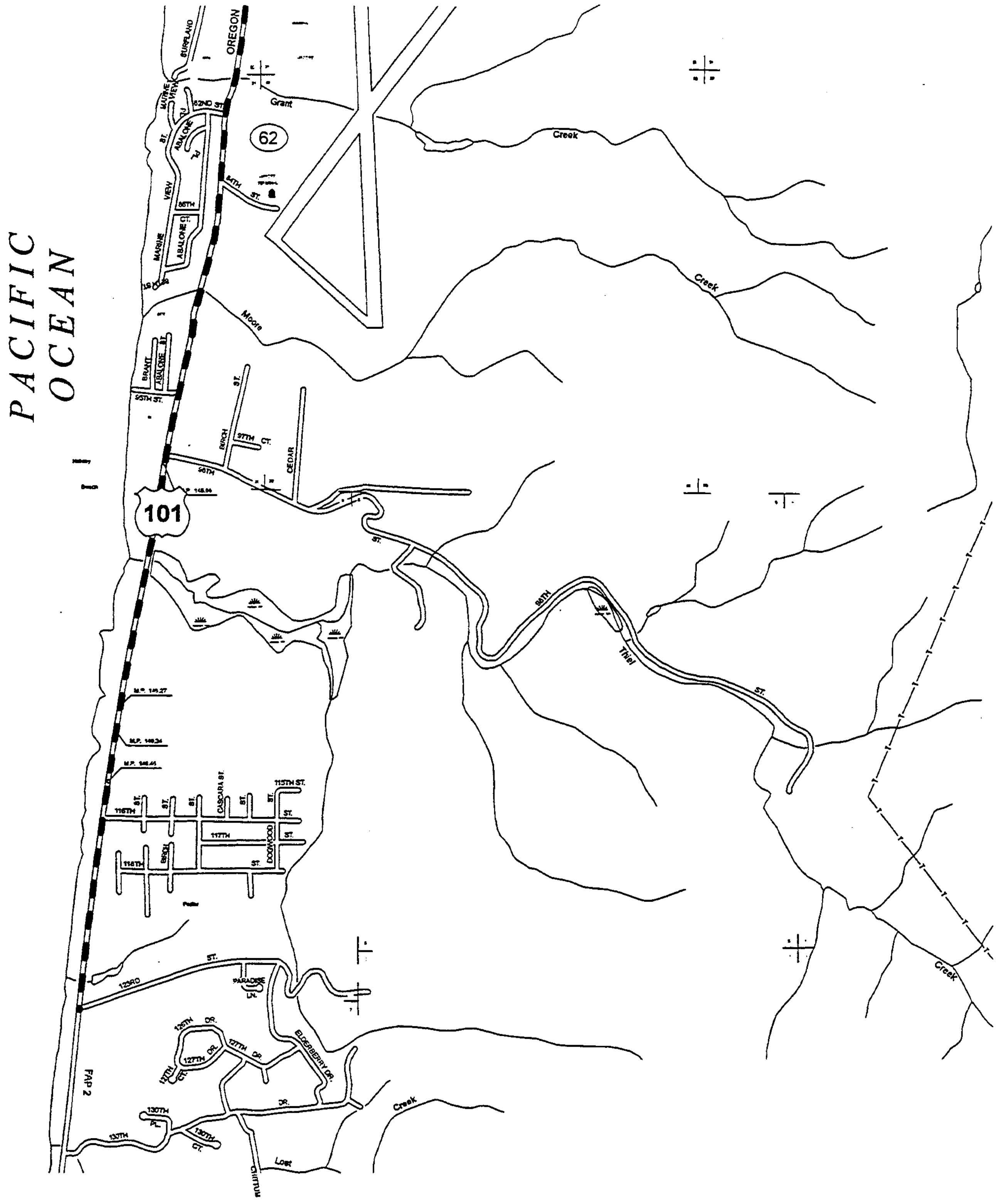
Fig. 33



City of Newport
Transportation System Plan

Roadway Improvements
High Alternative
(South Newport)

Fig. 34



Legend:

Improvements

Intermittent Improvements (Major Intersections)

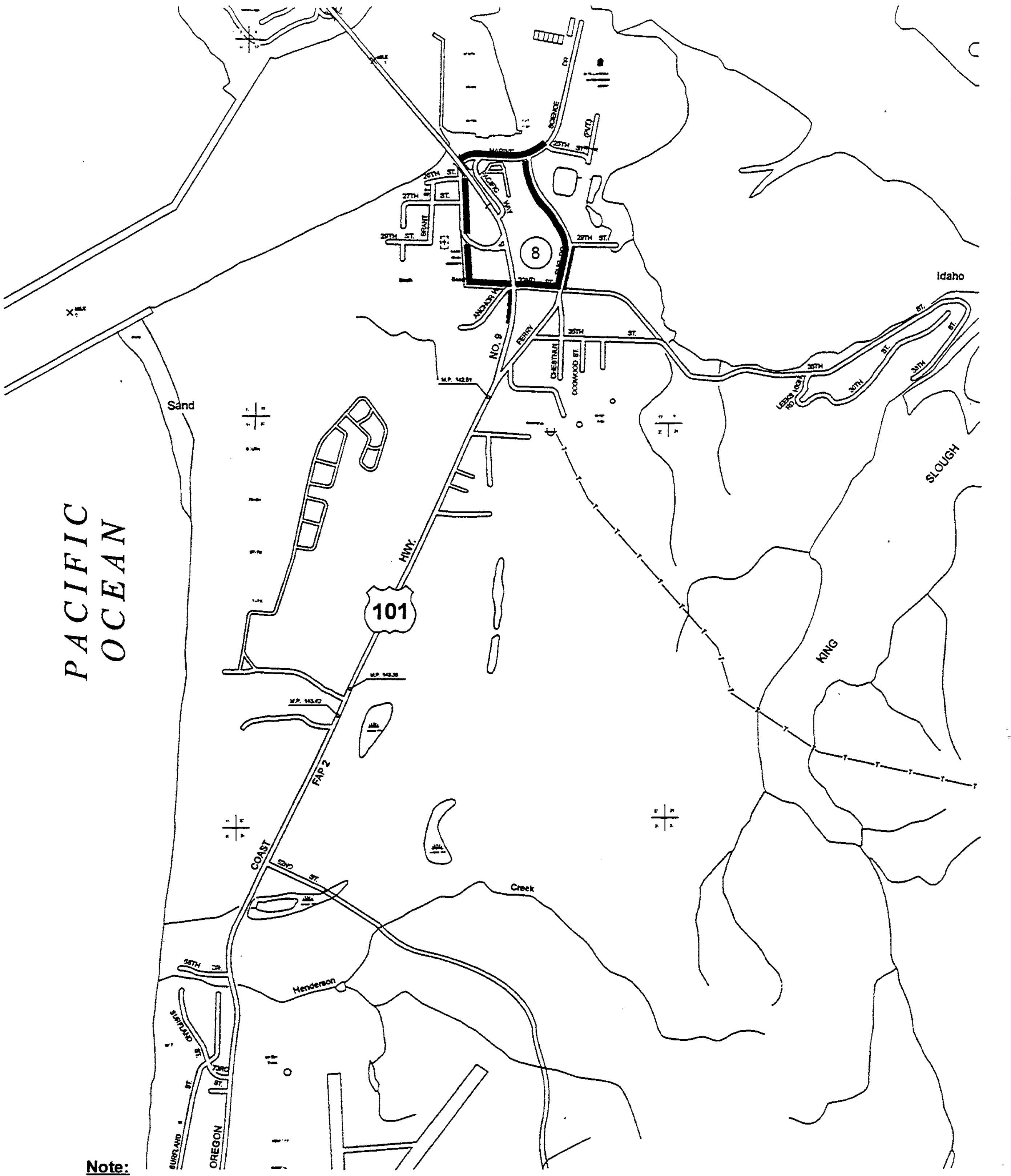
① Street Network Project

0' 1,000' 500' 2,000'

City of Newport
Transportation System Plan

Roadway Improvements
High Alternative
(South Newport)

Fig. 35



Note:
No pedestrian improvements south of this view.

Legend:

Existing

Improvements

① Pedestrian Project

0' 1,000' 500' 2,000'

City of Newport
Transportation System Plan

Pedestrian Improvements
High Alternative
(South Newport)

Fig. 40

Transit Network

There are no new transit projects added to this alternative. All recommended transit projects were included as elements of the Low and Middle Alternatives.

Identified Projects beyond 20 Year Planning Horizon

In the development of the TSP alternatives, several projects were identified that were not included within the 20 year planning horizon. These projects remain in the TSP and should be reevaluated during the planning horizon as growth occurs in Newport. A brief description of these projects is provided below. Table 18 provides detailed descriptions.

Roadway Network

There are 4 roadway projects identified beyond the 20 year horizon. Both the Port Bypass and South Beach Bypass were originally identified in the City of Newport's Comprehensive Plan. Both projects are directly dependent on growth in specific areas of Newport. The Port Bypass would provide benefits if Port of Newport activity increases. The South Beach Bypass would provide benefits when development occurs east and south of the airport. Neither of these conditions considered necessary to justify these projects in the next 20 years was projected at the time of development of the TSP.

The remaining roadway projects beyond the 20 year planning horizon are Phase III of the North-South Arterial and improvements to NE 73rd. Again, both of these projects are directly dependant on development in their respective areas and this development was not projected during the planning horizon.

Structures

The Glick plan identified a series of parking structures throughout the business and retail districts of the City of Newport. Of the eight structures identified in that plan, only two were deemed as warranted during the 20 year horizon. The remaining 6 parking structures remain in the TSP as projects to consider beyond the 20 year planning horizon. During the periodic review and update of the TSP, the timing of these projects should be reevaluated.

TSM

Signalization of the NW 60th Street/Highway 101 and Bay Street/Highway 101 intersections was evaluated as part of the TSP process. The Bay Street intersection was identified in the Glick study as a preferred route for crossing Highway 101 and the NW 60th Street intersection was tied to local road improvements and access closures along Highway 101 in the Agate Beach area. Neither of these intersections were determined to warrant signalization during the 20-year planning horizon based on current traffic projections. However, both locations should be evaluated during the planning horizon as growth occurs in the City of Newport.

the Bay Front. To address these constraints, a precast concrete segmental bridge was selected because it is the most cost-effective. Additionally, the piers can be built to match the piers of the existing bridge, though the deck will be about 7 to 10 feet higher on profile.

Using the Oregon Coast Highway Bridges Map, the following dimensions of the existing Yaquina Bay Bridge were obtained:

Total main span length = 1,324 feet
Total mid span length = 1,052 feet
Total end span length = 884 feet

Total bridge span length = 3,260 LF

It was assumed that a four-lane bridge would be constructed on the west side of the existing bridge. Because the transportation model revealed the need for four lanes of capacity, it would be a mistake to only provide for two additional lanes of capacity. The design life for the existing bridge is approximately 50 more years, and if four lanes of capacity were not provided by the second bridge, the City of Newport would face the same problem again in the future.

Under the two-lane option, 14-foot-wide travel lanes, 6-foot-wide bike lanes (one on each side), and 5-foot-wide sidewalks (one on each side) were assumed. This would provide a 50-foot cross section across the bridge. Based on a cost per square foot of $250 for the main spans, $175 for the mid-span, and $100 for the end spans, the total estimated cost of the bridge was approximately $47.1 million. This cost does not include right-of-way acquisition. Unit costs were provided by structural engineering staff employed by Parsons Brinckerhoff.

Under the four-lane option, the cross-section would increase to 78 feet to accommodate the two additional travel lanes. Using the same costs per square foot, the estimated total was just over $73.4 million (not including right-of-way acquisition costs).

7th Street Bridge

The 7th Street Bridge was estimated using cost estimating techniques similar to those used for the second Yaquina Bay Bridge. The total bridge span length was assumed to be 800 feet. The cross-section would consist of two 14-foot-wide travel lanes, one 6-foot-wide bike lane, and one 5-foot-wide sidewalk for a total cross-section of 39 LF. Using the unit cost of $100 per square foot, the total cost for this bridge (including engineering, administration, and contingencies) was approximately $4.2 million.

Parking Structures

Per information developed in the Glick Study and interpretations by City of Newport staff, the parking structure at 9th/Hurbert Street is assumed to be two levels. All of the other five parking structures are assumed to be four levels, with the top level open. The parking structure at Government Center is assumed to be two separate structures, each with four levels and the top level open.

The following additional assumptions were made to estimate costs for these structures. Each structure has dimensions of approximately 150 x 100 feet. A unit cost of $35 per square foot was used. A 35 percent contingency was included in the construction cost. Right-of-way was estimated using a cost provided in the Glick Study.

Including right-of-way costs, the parking structure at 9th/Hurbert Street was estimated to cost about $1.7 million. The Government Center parking structures were calculated to cost about $6.4 million. The other five parking structures were estimated to cost approximately $3.2 million each.

Operations and Maintenance (O&M) Costs

For this estimate, only transit and principal arterial O&M costs were estimated. Transit O&M costs were provided by Lincoln County Transit and are summarized in Table 22. Using information from the ODOT HPMS Database for Urban Roads and the 1993 Oregon Roads Finance Study, the annual maintenance cost per lane-mile for principal arterials is estimated at $13,209 (in 1995$). Table 22 lists the number of facility lane-miles that would be added in each alternative.

Table 22: Lane-Miles by Alternative (for O&M)

Roadway Class	No-Build	Low	Middle and High
Principal Arterial			
Highway 101			
Miles	10.42	11.85	18.35
Lane-Miles	26.32	27.75	44.05
Highway 20			
Miles	0.76	0.76	1.27
Lane-Miles	1.52	1.52	2.03
Total Lane-Miles	27.84	29.27	46.08

In the No-Build condition, there are 10.42 miles of existing principal arterial along Highway 101 and 0.76 miles along Highway 20, for a total of 11.18 miles. On Highway 101, 7.47 miles are two lanes wide, 0.42 miles are three lanes wide, and 2.53 miles are four lanes wide. This would amount to 26.32 lane-miles of principal arterial. For Highway 20, it is all two-lane roadway, so the total number of lane-miles is 1.52. The total for both principal arterials is 27.84 lane-miles of roadway. Using the unit cost per lane-mile yields an annual maintenance cost of $367,739.

In the Low Alternative, there is an additional 1.43 miles of principal arterial (one-lane) for a passing lane on Highway 101 in the southern part of the city. The total number of lane-miles would be 29.27 for the entire network and would increase the annual maintenance cost to $386,627.

Both the Middle and High Alternatives have the same annual maintenance costs. It should be noted that the passing lane only exists in the Low Alternative, therefore, the Middle and High Alternatives build off of the No-Build condition. For Highway 20, project

#70 widens this roadway to five lanes from John Moore Drive to Highway 101. This would add 0.51 lane-miles over the No-Build condition. Along Highway 101, Project #62 widens this roadway to four lanes from the Yaquina Bay Bridge to 123rd Street. This would add 9.82 lane-miles of principal arterial to the network (0.42 miles converted from three lanes to four, 4.7 miles converted from two lanes to four). Project #77, also on Highway 101, would widen the roadway to five lanes from just south of Harney to the north city limit, adding 6.87 lane-miles of principal arterial to the network (2.29 miles converted from two lanes to five). Combining the lane-miles from each of these projects would provide a total of 17.2 new lane-miles of principal arterial to the network or a grand total of 46.08 lane-miles. This would require an annual maintenance cost of $608,671.

6.4 Funding Sources

Potential funding sources are discussed in Section 3.7. Because the TSP deals with projects that occur over a 20-year period, it is not easy to know what funding sources and how much money will be available in the future. This funding source analysis makes the best estimate possible based on the current information available.

Each alternative was analyzed in terms of the ability to fund it over the next 20 years. Using the planning horizon time frames shown in Table 20, costs for every 5-year increment were determined and then sorted by funding source. See Table 23 for the detailed breakdown for each alternative. Figure 41 provides a graphic summary of this same information.

There were six funding source categories assumed for the City of Newport TSP projects: local, tolls/new source, public/private, grants/other transit, exactions, and shared funding. Local funds were considered to be local gas taxes (from the state gas tax or a new local tax) and bonds. Tolling was the only funding source identified to fund the second bridge across Yaquina Bay. Local improvements districts (LID's), economic improvement districts (EID's), user fees, urban renewal funds, federal aid urban (FAU), and system development charges (SDC's) were all considered to be potential sources for the public/private funding source. Grants/other transit were the grant moneys given by the federal and state government to the local government for transit improvement projects. Matching funds from the state cigarette tax, agency pass purchases, and county and city support were also forms of transit funding. Exactions are the impact fees required from developers. Shared funding sources varied from the state gas tax, federal programs, and ODOT's Six-Year Highway Improvement Program.

For the Low Alternative overall funding needs are expected to be within the existing and projected revenue stream. Projects were selected based on the concept that only limited resources would be available. It is anticipated that shared funding would cover 40 percent of the total cost, 33 percent would come from local funds, 15 percent from exactions, 7 percent from grants/other transit moneys, and 5 percent from public/private funding sources. Looking at each of the 5-year increments, the majority of the funding sources did not require more than $500,000 every 5 years. The exception is the first 5-year period, which would require a little over $600,000 in local funds and more than $1 million in shared funding (mostly for signalization and channelization improvements).

Table 23: Capital Cost Summary

LOW ALTERNATIVE

	Local Gas Tax/Bonds	Tolls/New Source	Public/Private	Grants/Other Transit	Developers	State/Federal/ Local Share	TOTAL
0-5 YRS	$602,625	$0	$0	$22,500	$300,000	$1,011,472	$1,936,597
5-10 YRS	$554,900	$0	$268,019	$170,000	$408,863	$216,700	$1,618,483
10-15 YRS	$286,188	$0	$0	$175,000	$0	$234,172	$695,360
15-20 YRS	$185,000	$0	$0	$0	$0	$475,000	$660,000
Total	$1,628,713	$0	$268,019	$367,500	$708,863	$1,937,345	$4,910,440

MIDDLE ALTERNATIVE

	Local Gas Tax/Bonds	Tolls/New Source	Public/Private	Grants/Other Transit	Developers	State/Federal/ Local Share	TOTAL
0-5 YRS	$602,625	$0	$268,019	$192,500	$708,863	$1,034,203	$2,806,210
5-10 YRS	$907,088	$0	$0	$175,000	$2,589,700	$1,638,142	$5,309,930
10-15 YRS	$815,139	$0	$3,475,103	$0	$0	$7,140,000	$11,430,241
15-20 YRS	$0	$0	$0	$500,000	$0	$10,940,000	$11,440,000
Total	$2,324,852	$0	$3,743,122	$867,500	$3,298,563	$20,752,345	$30,986,381

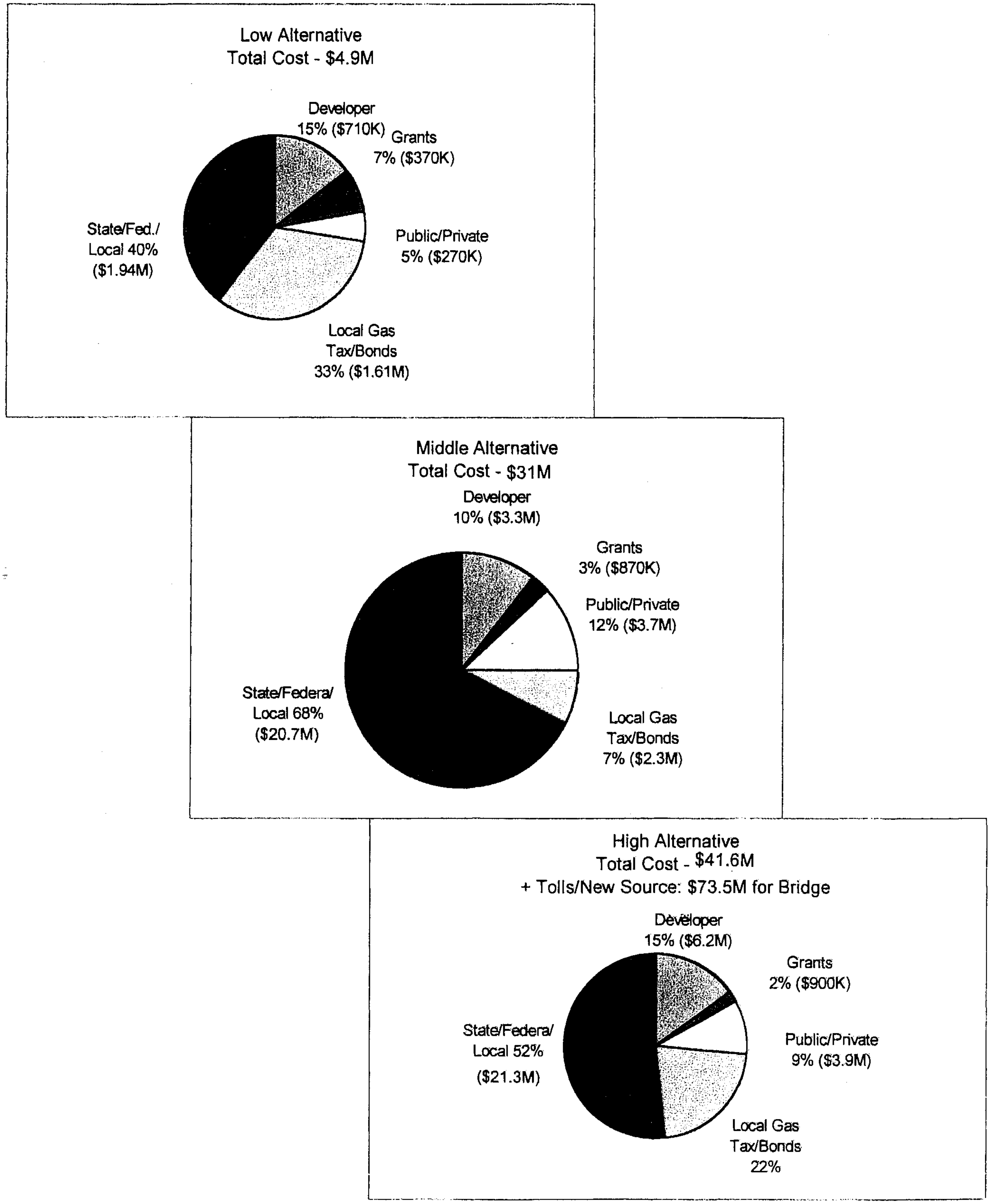
HIGH ALTERNATIVE

	Local Gas Tax/Bonds	Tolls/New Source	Public/Private	Grants/Other Transit	Developers	State/Federal/ Local Share	TOTAL	
0-5 YRS	$752,625	$0	$268,019	$192,500	$708,863	$1,062,345	$2,984,352	
5-10 YRS	$1,354,012	$0	$3,475,103	$175,000	$2,589,700	$2,035,000	$9,628,815	
10-15 YRS	$1,463,306	$73,433,880	$80,406	$500,000	$2,703,309	$7,284,000	$85,464,901	*(w/o Bridge= $12,031,021)*
15-20 YRS	$5,569,200	$0	$147,411	$0	$247,000	$10,811,500	$16,775,111	
Total	$9,139,144	$73,433,880	$3,970,938	$867,500	$6,248,872	$21,192,845	$114,931,178	*(w/o Bridge= $41,497,298)*
20+ YRS	$4,714,325	$0	$20,930,543	$0	$6,030,430	$450,000	$32,125,298	

TOTAL COST COMPARISON

	Low Alternative	Middle Alternative	High Alternative
0-5 YRS	$1,936,597	$2,806,210	$2,984,352
5-10 YRS	$1,618,483	$5,309,930	$9,628,815
10-15 YRS	$695,360	$11,430,241	$85,464,901
15-20 YRS	$660,000	$11,440,000	$16,775,111
Total	$4,910,440	$30,986,381	$114,931,178

Figure 41: Funding Sources



Funding is a more significant issue for the Middle Alternative, which would cost roughly six and one-half times the cost of the Low Alternative. Of the estimated $31 million, 68 percent would be needed from shared funding sources, 12 percent from public/private funds, 10 percent from executions, 7 percent from local moneys, and 3 percent from grants/other transit funding mechanisms. About half of the 5-year increment funding sources would require over $1 million dollars (sometimes multi-millions) for the first 15 years.

Under the High Alternative, funding shortfalls are significant. This alternative would cost more than 23.5 times the cost of the Low Alternative, with the single most expensive component being the second bridge, at just over $73.5 million. Funding sources are presumed to be 52 percent shared, 22 percent local, 15 percent from exactions, 9 percent from public/private funding, and 2 percent from grants/other transit moneys. Local funds will need to increase during every 5-year period to fund the more extensive types of improvements in this alternative.

6.5 Evaluation of the Alternatives

Introduction

The development of the evaluation criteria is discussed in Sections 2.2 to 2.5. These measures of effectiveness were applied to the Low, Medium and High Alternatives. This section documents the performance of each alternative against the evaluation criteria (see Table 24.)

Many evaluation indicators can be quantified with a good degree of precision (i.e., transit travel times or capital cost estimates) while others rely totally on subjective evaluation (i.e., impact on visual quality of areas near a proposed improvement). In selecting a set of evaluation criteria, emphasis was placed on those that could be quantified. Because it was not always possible to use those types of criteria, as in assessing visual and aesthetic impacts, an attempt was made to select measures that can be clearly defined and understood by all involved, and which most effectively show differences between alternatives.

Transportation

Mobility

Average Speed by Functional Class
The travel demand model quantifies average peak hour vehicle speed. The average speed of vehicles on a roadway is an indication of that roadway's ability to serve its function. Higher level facilities should have higher travel speeds. Travel speed is directly influenced by physical design of the roadway and network and by traffic volumes.

Table 24: Measures of Effectiveness Matrix

EVALUATION CRITERIA	1993 BASE	2016 ALTERNATIVES NO-BUILD	LOW		MIDDLE		HIGH	
TRANSPORTATION GOAL								
MOBILITY				*% change from No-Build*		*% change from No-Build*		*% change from No-Build*
Average Speed (mph) by Functional Class								
Principal Arterials	35.6	25.8	28.1	8.9%	38.1	47.5%	37.5	45.3%
Minor Arterials	26.9	26.7	26.8	0.6%	28.3	6.2%	30.7	15.3%
Collectors	25.2	25.2	25.2	0.2%	25.2	0.2%	25.9	2.8%
Locals	22.1	22.1	22.2	0.7%	22.3	1.0%	21.5	-2.4%
Access to Transportation Disadvantaged	-	+/-	+		++		++	
Various Transportation System Users *(Commerical, commuter, residents, recreational)*		+/-	+		++		++	
VEHICLE MILES OF TRAVEL (VMT)				*% change from No-Build*		*% change from No-Build*		*% change from No-Build*
Total VMT (vehicle-miles)	167,934	248,566	246,264	-0.9%	253,706	2.1%	259,974	4.6%
VMT Per Capita (miles/day)	17.4	16.4	16.2	-0.9%	16.7	2.1%	17.1	4.6%
VMT by Functional Class								
Principal Arterials	131,375	181,463	181,568	0.1%	182,100	0.4%	190,482	5.0%
Minor Arterials	13,282	27,217	28,505	4.7%	31,665	16.3%	32,143	18.1%
Collectors	14,951	30,144	25,923	-14.0%	25,343	-15.9%	26,105	-13.4%
Locals	8,324	9,760	10,261	5.1%	12,827	31.4%	11,011	12.8%
VEHICLE HOURS OF TRAVEL (VHT)				*% change from No-Build*		*% change from No-Build*		*% change from No-Build*
Total VHT (vehicle-hours)	5,161	9,874	10,016	1.4%	7,882	-20.2%	7,555	-23.5%
VHT Per Capita (Minutes/day)	32.1	39.0	39.5	1.4%	31.1	-20.2%	29.8	-23.5%
AVAILABILITY OF TRANSIT								
Level of Community-wide Transit Service		+/-	+		+		+	

Table 24: Measures of Effectiveness Matrix

EVALUATION CRITERIA	1993 BASE	2016 ALTERNATIVES NO-BUILD	LOW		MIDDLE		HIGH	
TRANSPORTATION GOAL, continued								
Level of Transit Service for Transportation Disadvantaged		+/-	+		++		++	
Level of Transit Service for Tourist Destinations		+/-	+		+		+	
MAXIMIZE SYSTEM SAFETY								
Addresses Safety Concerns from Analysis & Public Input		+/-	+		+		++	
LEVEL-OF-SERVICE (LOS)				*% change from No-Build*		*% change from No-Build*		*% change from No-Build*
Percentage of Miles in system by LOS by Functional Class								
Principal Arterials								
LOS C or better	23.2%	7.2%	8.2%	1.0%	72.8%	65.6%	93.3%	86.1%
LOS D	44.1%	6.4%	10.1%	3.8%	16.2%	9.8%	1.6%	-4.8%
LOS E	25.7%	15.7%	4.3%	-11.4%	0.0%	-15.7%	5.2%	-10.5%
LOS F	6.6%	70.8%	77.4%	6.7%	10.1%	-60.7%	0.0%	-70.8%
Minor Arterials/Collectors/Locals								
LOS C or better	100.0%	100.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
Intersections								
Highway 101 & 11th Street	C	D	D		D		D	
Highway 101 & Highway 20	E	F	D		D		D	
Highway 101 & Hurbert Street	D	E	D		D		D	
Highway 101 & 32nd Street/Anchor Way	E	F	F		D		D	
Highway 20 & John Moore Drive	D	E/F	E/F		D		D	

Table 24: Measures of Effectiveness Matrix

EVALUATION CRITERIA	1993 BASE	2016 ALTERNATIVES NO-BUILD	LOW		MIDDLE		HIGH	
COMMUNITY GOAL								
ACCESSIBILITY TO DIFFERENT MODES AND TO VARYING LEVELS OF DESTINATIONS								
Level of Access to Neighborhoods **(Pedestrians, bikes, autos, & transit)**		+/-	+		++		++	
Level of Access to Community		+/-	+		++		++	
AVAILABILITY OF TRANSIT								
Level of Community-wide Transit Service		+/-	+		+		+	
Level of Transit Service for Transportation Disadvantaged		+/-	+		++		++	
Level of Transit Service for Tourist Destinations		+/-	+		++		+	
MINIMIZATION OF LAND USE IMPACTS								
Supports Land Use Plans		+/-	Y		Y		Y	
Minimizes Neighborhood Traffic Infiltration				*% change from No-Build*		*% change from No-Build*		*% change from No-Build*
Collectors (% VMT)		12.1%	10.5%	-13.2%	10.0%	-17.6%	10.0%	-17.2%
Locals (% VMT)		3.9%	4.2%	6.1%	5.1%	28.8%	4.2%	7.9%
RESOURCE GOAL								
MINIMIZATION OF ENVIRONMENTAL IMPACTS								
Minimizes Impact on Significant Natural & Cultural Features *(Natural areas, wetlands, historic/cultural resources, schools, parks, & cemeteries)*		+/-	-		-		-	
Minimizes Visual and Aesthetic Impacts		+/-	-		-		-	

Table 24: Measures of Effectiveness Matrix

	1993	2016 ALTERNATIVES						
EVALUATION CRITERIA	**BASE**	**NO-BUILD**	**LOW**		**MIDDLE**		**HIGH**	
ECONOMIC GOAL								
MOBILITY				*% change from No-Build*		*% change from No-Build*		*% change from No-Build*
Average Speed (mph) by Functional Class								
Principal Arterials		25.8	28.1	8.9%	38.1	47.5%	37.5	45.3%
Minor Arterials		26.7	26.8	0.6%	28.3	6.2%	30.7	15.3%
Collectors		25.2	25.2	0.2%	25.2	0.2%	25.9	2.8%
Locals		22.1	22.2	0.7%	22.3	1.0%	21.5	-2.4%
Access to Transportation Disadvantaged		+/-	+		++		++	
Various Transportation System Users *(Commerical, commuter, residents, recreational)*		+/-	+		++		++	
MINIMIZATION OF PUBLIC COSTS								
Capital Costs ($1,000's)	*NA*	*NA*	$4,910		$30,986		$114,931	
Capital Costs ($1,000's) w/o Bridge	*NA*	*NA*	$4,910		$30,986		$41,498	
O&M Costs ($1,000's, Annual)	*NA*	*NA*	$442		$442		$442	
FUNDABILITY								
Revenue Requirements by Funding Category								
Local Funding (Gas Tax, Bonds, etc)	*NA*	*NA*	$1,628		$2,324		$9,139	
Tolls or Other New Funding Source	*NA*	*NA*	-		-		$73,433	
Public or Private Funding (LID's, EID's, fees, PPP)	*NA*	*NA*	$268		$3,743		$3,970	
Grants or Other Transit Funding Source	*NA*	*NA*	$368		$868		$868	
Exactions	*NA*	*NA*	$709		$3,299		$6,249	
Shared Funding (State/Local/Other)	*NA*	*NA*	$1,938		$20,752		$21,192	
Fundability based on Existing Revenue Streams	*NA*	*NA*	+		-		--	

Average speed data for each alternative is shown in Table 24. According to the 1993 travel model, the average speed in mph for principal arterials, minor arterials, collector streets, and local streets is 35.6, 26.9, 25.2 and 22.1, respectively.

Under the No-Build option for 2016, these average speeds degrade to 25.8, 26.7, 25.2 and 22.1 mph, respectively. The increase in travel in 2016 would have its greatest impact on principal arterials (Highways 101 and 20). Some segments on these facilities are currently near capacity. The increase in travel would exceed capacity, thereby increasing congestion and decreasing travel speed on substantial portions of these facilities.

Low: For the Low Alternative, average speed by functional class is 28.1, 26.8, 25.2 and 22.2 mph, respectively. The slight increase in travel speeds on the principal arterials would be the result of signal coordination and access management efforts. Under this scenario, congestion and slower-than-ideal speeds would occur on the principal arterials. The increase in speed on principal arterials would mainly result from signal and geometric improvements on Highway 101 between Highway 20 and the Yaquina Bay Bridge.

Middle: The Middle Alternative would result in significantly higher speeds than the Low Alternative and the No-Build condition, especially on principal arterials. Respective speeds by functional class would be 38.1, 28.3, 25.2 and 22.3 mph. The increase in speeds on principal arterials would result mainly from reduction in traffic demand on Highway 101. This reduction results from the development of the alternative north/south route for local traffic, the widening of Highway 101 and Highway 20 in established areas, and from access management efforts in the Agate Beach area.

High: The High Alternative would also result in significantly higher speeds than the Low and No-Build conditions, especially on principal arterials. Respective speeds by functional class would be 37.5, 30.7, 25.9 and 21.5 mph. Once again, the major increase in travel speeds relative to No-Build would be on the principal arterials, resulting from significant capacity increases in north-south capacity.

Access to Transportation Disadvantaged
Low (+): The Low Alternative would perform better than the No-Build condition because there is more pedestrian, bike, auto and transit mobility for the central areas of the city. There are longer service hours and more service days for transit. This would provide better service for minimum wage, off-hour, and shift workers.

The Middle Alternative performs better than the No-Build condition and slightly better than the Low Alternative because there is better pedestrian, bike, auto, and transit mobility for key areas of the city, including a multi-modal facility for all transit, bus, and taxi service. There would be a few more pedestrian and bicycle facilities providing connections throughout the city than in the Low Alternative. There is increased access to other modes of travel.

The High Alternative would perform better than the No-Build condition and the Low Alternative because there is better pedestrian, bike, auto, and transit mobility for all areas of the city, including a multi-modal facility for all transit, bus, and taxi service.

There would be a network of pedestrian and bicycle facilities providing connections throughout the city.

Various Transportation System Users
Low: (+) The Low Alternative offers additional mobility to all system users (commercial, residential, recreational) with additional pedestrian, bike, auto and transit mobility, especially in the central area of the city. The improved pedestrian and bicycle connections provide an improved network for users. The coordinated signalization along Highway 101 will provide increased mobility through the city. There would be some new street connections that would increase mobility.

Middle: (++) The Middle Alternative performs better than the No-Build condition and slightly better than the Low Alternative for the various system users because it provides for multi-modal connections at a new facility that includes park-and-ride for autos and bikes, and transit interconnections for all modes. Improved auto mobility is provided through the additional capacity of Highway 101, and Highway 20, and by access management improvements in the Agate Beach area. Additional bicycle and pedestrian facility segments over those provided in the Low Alternative also help to improve connectivity for these modes.

High*:* (++) The High Alternative performs better for all system users with additional pedestrian, bike, auto, and transit mobility for all areas of the city. It provides multi-modal connections at a new facility that includes park-and-ride for autos and bikes, and transit interconnections for all modes. Improved auto mobility is provided through the additional capacity of the Yaquina Bay Bridge, new north-south and east-west roadways, other new roadway connections, and access management along segments of Highway 101 through Agate Beach. The expanded pedestrian and bicycle network provides improved north-south and east-west connections for these modes.

Effects on PM Peak Hour Traffic

For the most part, pedestrian and bicycle use in Newport is for recreational purposes. The other main use is by school children. This is true now and is assumed to continue to be the pattern in 2016. It was assumed that the additional pedestrian and bicycle improvements in the Low, Middle or High Alternatives would not result in a significant impact on peak hour auto use. These improvements would increase safety for system users because added connections would allow pedestrians to use the sidewalks without having to walk into the street along some segments as they do now. The same would be true for bicyclists with the added improvements of striping and signing increasing system safety.

Vehicle Miles of Travel (VMT)

Total VMT and VMT Per Capita
Vehicle miles of travel, as a relative measure between alternatives, is an indication of how much demand is being generated for the use of automobiles on the transportation network. With a given population, changes in transportation networks, activity locations, and alternative mode opportunities (e.g., transit, bicycle, pedestrian) will alter the total VMT on the network.

As shown in Table 24, 167,934 daily vehicle-miles were estimated for 1993. VMT for the No-Build 2016 model would be 248,566 vehicle-miles (16.4 miles per day per person), reflecting a large increase in population and employment.

VMT for the 2016 Low, Middle, and High Alternatives would be 246,264, 253,706 and 259,974 vehicle-miles, respectively. These numbers translate to 16.2, 16.7 and 17.1 miles per person per day on the Newport transportation network.

VMT by Functional Class
Table 24 indicates the amount of VMT for each functional class group for each of the alternatives. This table also shows change for each of the future build alternatives relative to the No-Build condition.

Without significant changes to land use patterns, increases in VMT on the network correspond mainly to increases in capacity on existing facilities or development of new roadways. The VMT figures shown in Table 24 correspond to the lists of projects for the respective alternatives. For example, project #54 (new North/South arterial) in the Middle Alternative contributes most of that alternative's 4,400 additional VMT on minor arterials as compared to the No-Build condition. The decreases in collector street VMT in each of the build alternatives results from displacement to new or improved minor and principal arterials.

Total VMT, relative to the No-Build condition, would decrease slightly for the Low Alternative and increase slightly for the Middle and High Alternatives. These increases would be more of a concern to the City of Newport if it were being required to meet state VMT reduction goals. In addition, as a measure of mobility, VMT changes should be considered along with changes in average speed and VHT. The slight increases in VMT for each for the Middle and High Alternatives are outweighed by the improvements to travel speed and travel time.

Vehicle Hours of Travel (VHT)

Total VHT and VHT Per Capita
Comparing VHT between alternatives is a good relative measure of how much time is required for people to reach their destinations. VHT is directly related to VMT and travel speed. Vehicular delay and VHT are high in a transportation network that has inadequate capacity. Therefore, roadway improvement projects can have a significant impact on VHT.

Table 24 shows that Newport would experience about 9,870 VHT (39 minutes per person) on a daily basis under the No-Build condition. VHT for the build alternatives would be 10,106 (39.5 minutes), 7,882 (31.1 minutes) and 7,555 (29.8 minutes) for the Low, Middle and High Alternatives, respectively. The decreased VHT for the Middle and High Alternatives would result mainly from the development of additional roadway capacity.

When compared to the capital costs of each alternative, it is evident that the Middle Alternative clearly provides the most cost-effective results in terms of VHT, VMT and speed as measures of mobility.

<u>*Availability of Transit*</u>

Level of Community-wide Transit Service
(Within the City, so all the alternatives rank the same)
Low: (+) The Low Alternative provides additional service over the No-Build condition with an extension of service hours on weekdays and the addition of service on weekends, additional vehicles, covered bus shelters, and subsidized use of private taxi service when necessary as a back-up.
Middle: (+) The Middle Alternative includes all of the improvements in the Low Alternative, and adds a centrally located multi-modal facility for transit connections, park-and-ride, and dial-a-ride connections to transit.
High: (+) same as the Middle Alternative.

Level of Transit Service for Transportation Disadvantaged
Low: (+) The Low Alternative provides increased service hours and days, and additional vehicles to carry more riders, as well as back-up subsidized taxi service. This would serve minimum wage, off-hour, and shift workers.
Middle: (++) The Middle Alternative provides all of the Low Alternative improvements plus a multi-modal facility for easier connections for all transit service, including intercity connections.
High: (++) Same as the Middle Alternative.

Level of Transit Service for Tourist Destinations
Low: (+) The Low Alternative provides shuttle service to hotels, main tourist attractions and parking. Two vans would be dedicated to this service.
Middle: (+) *The* Middle Alternative includes the Low Alternative improvements plus adds a centrally located multi-modal facility for transit connections.
High: (+) same as the Middle Alternative.

<u>*Effects on PM Peak Hour Traffic*</u>

The amount of transit use in the 2016 PM peak hour was analyzed using ridership numbers for 1994 and projecting ridership for 2016. The 1994 figures were obtained from Norma Duvall of Lincoln County Transit. It was assumed that the number of transit rides in the 22-year period from 1994 to 2016 would triple, based on the tripling of ridership that occurred over a 22-year period from 1972 to 1994.

For 1994 there were 109,000 rides over 260 service days, which resulted in an average of 419 daily rides. For 2016, it was assumed that there would be 327,000 daily rides over 356 service days, which results in 918 daily rides.

Peak hour transit ridership was assumed to be 8.3 percent of the total daily rides, based on similar relationships for traffic characteristics as described in the Highway Capacity Manual. This results in 76 rides in the p.m. peak in 2016. This would be equivalent to two to three vans, depending on the type used.

These numbers apply to the Low, Middle or High Alternative, since the same number of additional vehicles and service hours are assumed for both alternatives.

Maximize System Safety

Addresses Safety Concerns from Analysis & Public Input
Low: (+)
The Low Alternative includes:

- Coordinated signalization through the downtown area that will help to increase the capacity of Highway 101. There will also be some realignment projects to increase the safety at John Moore Road and Naterlin Drive.
- Dedicated bike lane or shared shoulder on local roadway parallel to Highway 101 through the city. This is an important bike route for local bicyclists as well as those using the Oregon Coast Highway Bike Route due to the high speed of vehicles along the Highway 101 corridor and the lack of dedicated bike lanes on certain sections. By traveling on the neighborhood streets through the city, the bicyclists will not have to worry about conflicts with truck and other traffic. Under this alternative, an additional east-west bike route will be provided as well.
- A pedestrian network to serve schools. This will provide continuous sidewalks inside of the 'No Schoobus' zone perimeter and school children will have protected sidewalks to use.

Middle: (+)
The Middle Alternative includes all of the improvements under the Low Alternative plus the following:

- Access management improvements near NE 57th Street will cul-de-sac NE 57th on its western terminus and connect Hazel Court to NE 60th Street where a future signal will be installed. This will allow for fewer direct access points along Highway 101 and increase its capacity. Safety will be improved because of the reduced number of accesses to Highway 101.
- NW 60th Street/Biggs Avenue/NW 55th Avenue improvements will increase the capacity of the roadway to collector standards. Additional sidewalk will also improve the pedestrian connections in the Agate Beach area.
- Big Creek Road (bike facility and sidewalk) will be a dedicated facility to these modes with the removal of all auto traffic once the North/South Arterial is completed to 32nd Street. This will provide additional safety for bicyclists and pedestrians along this north-south route.
- If warranted, new traffic signals at Highway 101/Bay Street and Highway 101/NE 60th Street will provide easier access for motorists to get on to Highway 101.

High: (++)
The High Alternative includes all of the improvements under the Low and Middle Alternatives plus the following:

- Several projects that were identified to address safety issues within the roadway network. Both the 6th and 12th Street realignment will correct the offset across Highway 101. Various access management treatments in the Agate Beach area will improve the level of safety along Highway 101 and on the adjacent neighborhood streets. The additional capacity on the Yaquina Bay Bridge will help to reduce the high number of rear-end crashes at that location.
- An enhanced bicycle network will provide a second east-west bike route through the downtown area and a bike loop around the major tourist attractions in the southern part of the city. Designated bicycle routes are important to bicyclist safety in that

motorists are more aware of bicyclists traveling on these bike routes and will look for them. Some of the bike facilities may consist of a striped bike lane adjacent to the travel lane that will provide bicyclists their own right-of-way, which is safer than a shared travel/bike lane.

An enhanced pedestrian sidewalk network will provide key east-west and north-south connections within the city. The provision of additional continuous sidewalk increases the safety level of pedestrians by providing them with alternatives to the roadway or the shoulder.

Level-of-Service (LOS)

Percentage of Miles in System by LOS by Functional Class during Peak Hour
Using the QRS II travel model, LOS is primarily an indication of how much delay and congestion is present in a given location. Therefore, LOS is directly related to travel speed and VHT, which were discussed above. In Newport, the most significant congestion and worst LOS occurs on the principal arterials.

Table 24 indicates significant congestion on the principal arterials (Highways 101 and 20) for the No-Build condition. The traffic flow on these arterials would improve dramatically under both the Middle and the High Alternatives. In both cases, a significant improvement would be made in the percentage of principal arterial roadway that would be operating at LOS C or better. In terms of cost efficiency, the Middle Alternative would again provide the most improvement relative to capital cost required.

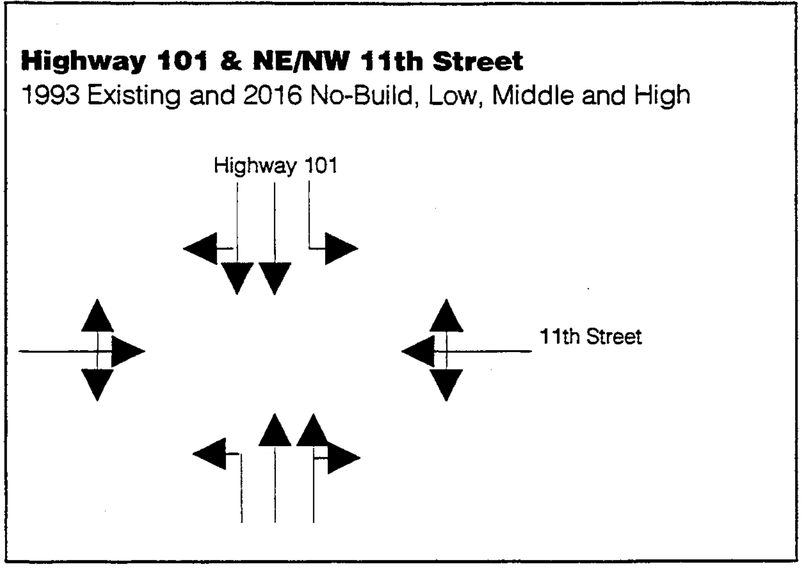
Intersections
Several key intersections were analyzed along the principal arterials within the study area. These included Highway 101 and 11th Street, Highway 101 and Highway 20, Highway 101 and Hurbert Street, Highway 101 and SE 32nd Street/Anchor Way, and Highway 20 and John Moore Drive. Each of these intersections are currently signalized and represent various locations in the south and north regions of the study area. The 1993 existing level of service, as well as the future 2016 No-Build, Low, Middle, and High Alternative conditions were computed using the model SIGCAP. See Table 25 for results.

Table 25: Intersection Level-of-Service

Intersection	**1993 Existing**	**Future 2016**			
		No-Build	**Low**	**Middle**	**High**
Highway 101 & NE/NW 11th Street	C	D	D	D	D
Highway 101 & Highway 20	E	F	D	D	D
Highway 101 & Hurbert Street	D	E	D	D	D
Highway 101 & SE 32nd St./Anchor Way	E	F	F	D	D
Highway 20 & John Moore Drive	D	E/F	E/F	D	D

The following are sketches of each of the intersections as well as descriptions of how the intersection configurations have been modified within each alternative.

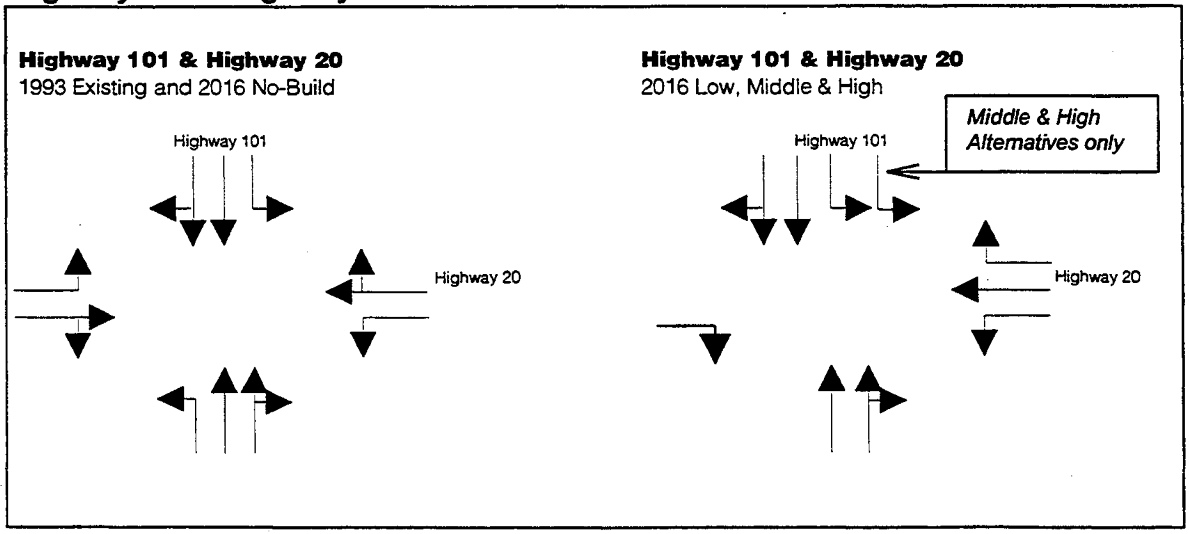
Highway 101 & NE/NW 11th Street



The intersection configuration of Highway 101 and NE/NW 11th Street remains the same in all conditions – 1993 existing and 2016 No-Build, as well as the future 2016 Low, Middle, and High Alternatives. The existing level of service (1993) is LOS C. With the increased traffic volumes by 2016, the No-Build condition would have a LOS D. Since there are no improvement projects in any of the 2016 Alternatives that would affect this intersection, the level of service would remain LOS D.

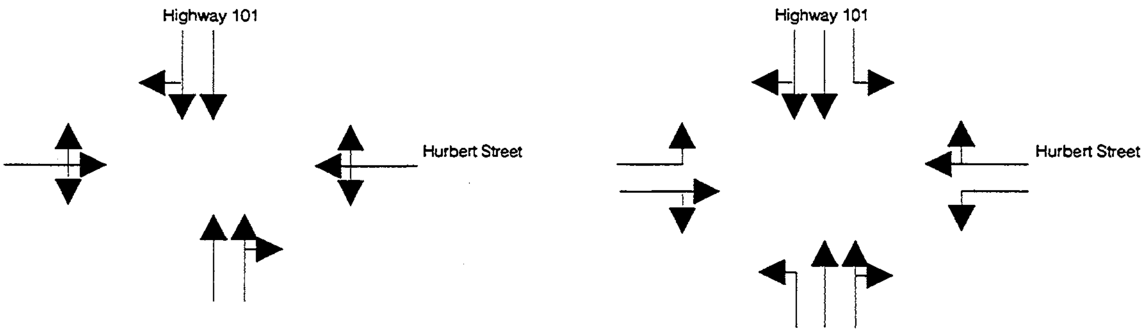
The intersection of Highway 101 and Highway 20 is a key intersection in the heart of downtown Newport. Both the 1993 and 2016 No-Build conditions are represented above. The existing level of service (1993) for this intersection is LOS E. With increased traffic volumes by 2016, the level of service for the No-Build condition would be further degraded to a LOS F.

Highway 101 & Highway 20



In the Low Alternative, an intersection project (#32) would provide signal revisions/improvements to Highway 101 and Highway 20 and would realign E. Olive Street. The project would provide a separate right-turn lane from Highway 20 to northbound Highway 101 and make West Olive right-in right-out only. These improvements would bring the level of service to LOS E. Once Highway 20 is widened to five lanes in the Middle and High Alternatives, a second southbound Highway 101 left turn can be added and the level-of-service would go to LOS D.

Highway 101 & Hurbert Street



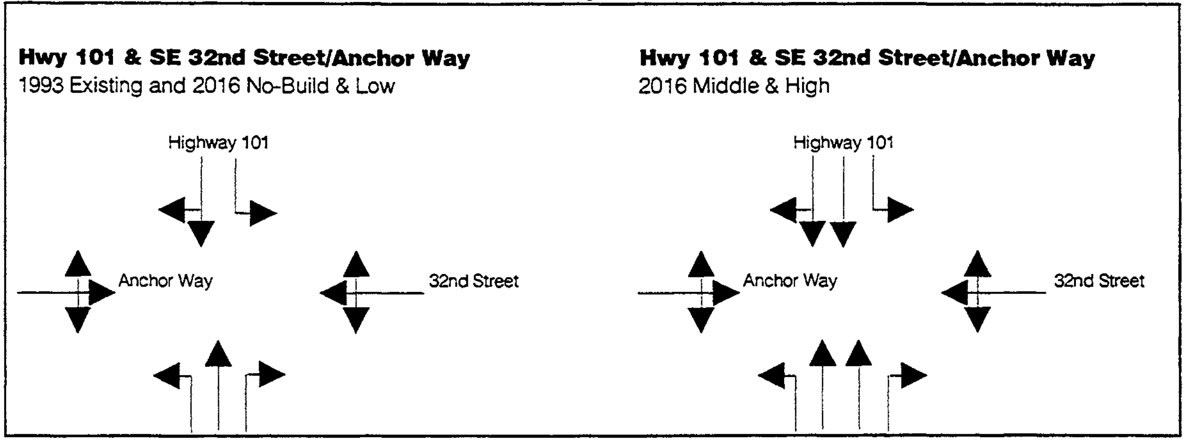
Highway 101 & Hurbert Street
1993 Existing and 2016 No-Build

Highway 101 & Hurbert Street
2016 Low, Middle & High

Hurbert Street intersects Highway 101 in downtown Newport. The existing intersection configuration shown above would operate at LOS D under 1993 conditions. With the increased traffic demand by 2016, this condition worsens to LOS E in the No-Build.

In the Low Alternative, intersection project (#31) would provide signal improvements and left-turn pockets along Hurbert Street and Highway 101. This modification would bring the intersection up to LOS D. The addition of left turn lanes on Highway 101 will result in the loss of parking along some sections of the Highway. Because no other improvements are a part of the Middle and High Alternatives that would impact this intersection, it would remain at LOS D.

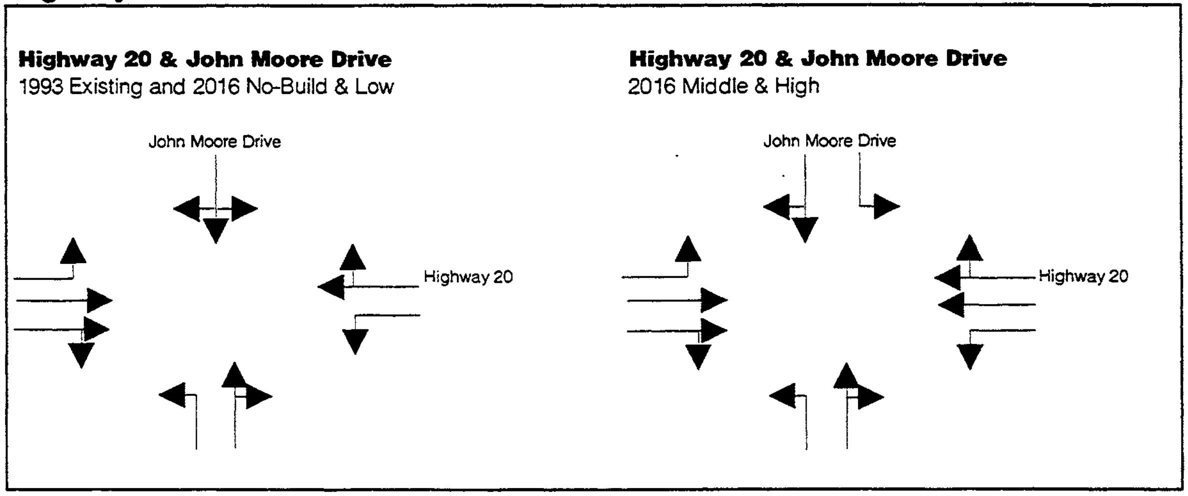
Highway 101 & SE 32nd Street/Anchor Way



The intersection of Highway 101 and SE 32nd Street/Anchor Way is located in the southern part of the city. This intersection is a primary access for many South Beach attractions including the Oregon Coast Aquarium and the Mark Hatfield Marine Science Center. The intersection configuration is shown above. For the 1993 existing condition, it is at LOS E. With the additional traffic demand by 2016, under the No-Build and Low Alternative it would further degrade to a LOS F.

A roadway project (#62) in the Middle Alternative would widen Highway 101 in the vicinity of this intersection, thereby providing an additional through-lane in the north and southbound directions. This improvement would bring it up to an acceptable LOS D. Because there are no additional improvements for this location under the High Alternative, it would remain at LOS D.

Highway 20 & John Moore Drive



The intersection of Highway 20 and John Moore Drive is just east of the downtown area. The existing intersection configuration is shown above. In 1993 the intersection operated at LOS D with a LOS E/F forecast for the No-Build condition. Under the Low Alternative it would continue to be LOS E/F because no improvement projects were added in this vicinity.

Under the Middle Alternative, it improves to LOS D because of roadway project (#70). Project #70 would provide for five lanes of capacity along Highway 20 from John Moore Drive to Highway 101. The defined project also assumes that two westbound and eastbound lanes are provided through the intersection and are transitioned to a 2-lane configuration on Highway 20 just east of the John Moore Drive intersection. In the Middle Alternative intersection configuration, one extra through-lane is added in the east and westbound directions. In the southbound direction of John Moore Drive, a separate left-turn lane would also be required to bring the intersection up to LOS D. It would remain at LOS D for the High Alternative because no other future improvements are made in this vicinity.

Community

<u>*Accessibility to Different Modes, Destinations*</u>

Level of Access to Neighborhoods
Low: (+) The Low Alternative would provide better pedestrian, bike, and auto access to the central neighborhoods of the city. Pedestrian facilities are focused mainly on school access.
Middle: (++) The Middle Alternative would provide slightly better pedestrian, bike, and auto access than the Low Alternative. It includes a few additional bicycle and pedestrian connections to enhance the overall network.
High: (++) The High Alternative would provide better pedestrian, bike, and auto access to more areas of the city. This alternative provides a network for pedestrians and bicyclists, with key east-west and north-south facilities that provide connections to facilities throughout the city.

Level of Access to Community
Low: (+) The Low Alternative would provide better pedestrian, bike, and auto access to the downtown areas of the community. Pedestrian facilities are primarily focused on school access.
Middle: (++) The Middle Alternative would provide slightly better pedestrian, bike, and auto access than the Low Alternative. It includes a few additional bicycle and pedestrian connections to enhance the overall network for the community. There is improved, easier mobility, but it is still primarily focused in the northern part of the city.
High: (++) The High Alternative would provide better pedestrian, bike, and auto access to more areas of the city. This alternative provides a network for pedestrians and bicyclists, with key east-west and north-south facilities that provide connections to facilities throughout the city and link more of the community together.

<u>*Availability of Transit*</u>

Level of Community-wide Transit Service
Low: (+) The Low Alternative provides improved community-wide transit service over the No-Build condition, with additional vehicles, extended service hours, and the addition of weekend service.
Middle: (+) The Middle Alternative includes all of the improvements in the Low Alternative, and adds a centrally located multi-modal facility for transit connections, park-and-ride and dial-a-ride connections to transit.

High: (+) The High Alternative includes the Low Alternative improvements. It also improves community-wide connections through the multi-modal facility that serves as a connecting point for transferring between transit servers.

Level of Transit Service for Transportation Disadvantaged
Low: (+) The Low Alternative provides better transit service than the No-Build condition because it offers longer service hours and adds weekend service for those dependent on transit.
Middle: (++) The Middle Alternative provides all of the Low Alternative improvements plus a multi-modal facility for easier connections for all transit service.
High: (++) The High Alternative offers the same services as the Low Alternative, plus it offers improved connectivity with the addition of a multi-modal facility. This facility will allow drop-off for connecting to transit service, and a central point for transit connections between servers.

Level of Transit Service for Tourist Destinations
Low: (+) Transit service for tourist destinations is improved with the Low Alternative because there is shuttle service to hotels, main tourist attractions and parking. Two vans would be dedicated to this service.
Middle: (++) The Middle Alternative includes the Low Alternative improvements plus adds a centrally located multi-modal facility for transit connections.
High: (++) The High Alternative includes the Low Alternative improvements and adds a centrally located multi-modal facility for transit connections, as well as park-and-ride facilities.

Minimization of Land Use Impacts

Supports Land Use Plans
Low: (Y) The Low Alternative supports the Newport Comprehensive Plan and is consistent with Statewide Goals and the TPR.
Middle: (Y) The Middle Alternative supports the Newport Comprehensive Plan and is consistent with Statewide Goals and the TPR.
High: (Y) The High Alternative supports the Newport Comprehensive Plan and is consistent with Statewide Goals and the TPR.

Minimizes Neighborhood Traffic Infiltration
A significant proportion of vehicular traffic in Newport is non-local traffic. Principal arterials such as Highway 101 and Highway 20 are designed for these trips. Local and collector streets are designed for shorter, lower speed trips. A transportation plan should use reasonable means to provide adequate functional capacity for each appropriate trip type. A balance in the provision of functional roadway facilities will promote safety and limit the number of congested locations in the transportation network.

For the No-Build condition, 12.1 percent of the VMT would occur on the collector streets and 3.9 percent on the local streets. The percent of VMT on collector streets is reduced to 10.5, 10 and 10 percent, respectively, for the Low, Middle and High Alternatives. The percent VMT on local streets increases slightly to 4.2, 4.3 and 4.2 percent, respectively, for the Low, Middle and High Alternatives.

The overall impact of the three alternatives on neighborhood infiltration is positive. The increase in percent of VMT on local streets is outweighed by the decrease in percent of VMT on collector streets. In general, the improvements to minor and principal arterials would improve the flow of traffic enough to attract trips from the collector streets. This is especially evident for the Middle Alternative.

Resources

Minimization of Environmental Impacts

Minimizes Impact on Significant Natural & Cultural Features
Low: (-) The Low Alternative appears to have minimal impact on natural and cultural improvements because of the minimal amount of new construction. The pedestrian and bicycle improvements occur in existing neighborhoods or in already developed areas. The transit improvements do not include capital improvements. The new road connections may involve impacts that would need to be determined through an environmental analysis. Signalization and intersection improvements occur in already developed areas and would likely not have natural resource or cultural impacts.
Middle: (-) The Middle Alternative would have all of the Low Alternative plus additional projects. It would thus have more potential for impacts to the natural environment than the Low Alternative.
High: (-) The High Alternative has the potential for more impact to the natural and cultural environment because of the increased number of new projects. The new north-south pedestrian and bicycle facilities may involve impacts to the natural environment. The new multi-modal transit facility may not create impacts to the natural or cultural environment if it is sited in a developed area. The new north-south roadway could likely have impacts to the natural environment, and the new east-west roadways could likely have impacts as well. Some of the roadway widenings may also have natural resource impacts.

Minimizes Visual and Aesthetic Impacts
Low: (-) The Low Alternative would have fewer visual and aesthetic impacts because of the relatively small number of improvements and the fact that most improvements occur in heavily developed areas. The improvements in this alternative are mostly low key, such as signal coordination, or extension of existing sidewalks or bicycle facilities.
Middle: (-) The Middle Alternative would have additional projects over the Low Alternative and thus would potentially have more visual and aesthetic impacts. There would be a multi-modal transit facility as well as a few new road improvements.
High: (-) The High Alternative would potentially have more visual and aesthetic impacts with the construction of new roadways in relatively undeveloped areas and the construction of new facilities across Yaquina Bay.

Economic

Mobility

Average Speed by Functional Class

The travel demand model quantifies average peak hour vehicle speed. The average speed of vehicles on a roadway is an indication of that roadway's ability to serve its function. Performance of the respective alternatives in regards to average speed was discussed previously as a measure of effectiveness for the goal of transportation. As a measure of effectiveness for the goal of economics, average speed describes how well the transportation system is able to: 1) provide for the movement of goods, services and people; 2) provide circulation to and from Newport's important tourist attractions; and 3) support the economic vitality of local businesses.

Each of the measures for the transportation goal discussed roadway performance without any real connection to where people are traveling to and from. The economic goal attempts to tie roadway performance to the value that individuals and the community place on efficient travel.

The major transportation facilities, from an economics standpoint, are Highway 101 and Highway 20. Many local businesses are located on Highway 101 and Highway 20 and most commercial traffic will use one or both of these facilities in a typical trip. Also, many individuals traveling to local tourist attractions will also use these facilities. Minor arterials, such as Bay Boulevard, Ocean View Drive, and the potential Harney Street extension (Middle and High Alternatives), are also important to the distribution of trips. As discussed above, each of the Low, Middle and High Alternatives would have a positive impact on travel speed. The Middle Alternative provides the best increase in travel speed for the dollar, with a 47.5 percent increase in the average travel speed on principal arterials and a 6.2 percent increase on minor arterials when compared with the No-Build condition.

Access to Transportation Disadvantaged
Low: (+) The Low Alternative provides better mobility for the transportation disadvantaged through increased service hours for transit and the addition of weekend service. This will provide better accessibility for jobs and shopping. It will serve minimum wage, off-hour, and shift workers for local restaurants, hotels, and food processing plants.
Middle: (++) The Middle Alternative provides the same improved mobility as the Low Alternative with the addition of the multi-modal facility, which may increase options for jobs and shopping through ease of connections between transportation servers.
High: (++) Same as the Middle Alternative.

Various Transportation System Users
Low: (+) The Low Alternative provides some increased mobility for auto users with improved street connections in a few locations, and intersection improvements in several locations along Highway 101. Transit users' mobility is improved with additional service hours and days. There are added east-west connections for bicyclists in the central area of the city, and an improved north-south connection. Tourists would have shuttle service to hotels, main tourist attractions, and parking. There would be back-up drivers for high season days.
Middle: (++) *The* Middle Alternative includes all of the improvements in the Low Alternative plus increases transit mobility through a new multi-modal facility that provides a central point for park-and-ride for bikes, autos, and transit connections. This new facility would provide more options for the various transportation users. The new

parking structure will also provide opportunities for tourists and shoppers to park and walk throughout the downtown area of the city.
High: (++) The High Alternative provides increased mobility for all transportation system users by providing an improved transportation network. This alternative provides a better network for pedestrians and bicyclists with more north-south and east-west connections in more areas of the city. There is a new North/South Arterial for increased auto mobility and relief of congestion on Highway 101. Transit mobility is improved with the multi-modal facility that provides a central point for park-and-ride for bikes, autos, and transit connections. The new parking facility will provide improved opportunities for tourists and shoppers to park and walk throughout the city.

Minimization of Public Costs

Capital Costs
Using a relative rating system, at $4.9M the low alternative would receive a positive rating. At $31.4M the middle would receive a negative rating and at $115M the high alternative would receive a double negative rating. The high cost of the Yaquina Bay Bridge accounts for $73.5M of the high alternative costs. Without the bridge, the high and middle alternatives would have a similar rating. The best assessment of these costs is an evaluation of fundability as detailed below.

Fundability

Fundability based on Existing Revenue Streams
Low: (+) the low alternative is the only alternative that could likely be completed within the existing City of Newport revenue streams. The $4.9M cost would require approximately $250K annually over the 20-year planning horizon.
Middle: (-) the middle alternative requires additional funding beyond the existing revenue stream. Of the $31.4M cost, approximately $21M is needed from shared funding sources, $3.3M from exactions, $3.7M from public/private funding and $2.3M from other local funding. Though the funding is outside of the existing revenue sources, elements of the alternative can be completed as funding becomes available in the various categories.
High: (--) the high alternative requires significant additional funding beyond the existing revenue stream. The new bridge accounts for almost 60 percent of the total $115M for this alternative. Though tolling options might provide some revenue, tolling would likely not make up for the shortfall in construction and O&M cost for a new tolled bridge facility. In the absence of a significant change in the federal, state and local funding projects, the high alternative will be extremely difficult to fund.

Transit Evaluation

The Low Alternative includes a number of transit improvements, which are also included in the Middle and High Alternatives. These include supporting the continuation of Lincoln County Transit service, and extending the hours of service on weekdays and adding service on weekends. This would serve a larger population, including minimum wage, off-hour, and shift workers for local businesses. The transit improvements would also include shuttle service to hotels, main tourist attractions (e.g., the Bay Front, beach areas, the Marine Science Center, and the Oregon Coast Aquarium). Two additional vans would be necessary for this service. Other transit improvements proposed include increasing and improving the dial-a-ride service by subsidizing the use of private taxi service when necessary as a back up for dial-a-ride.

The High Alternative would add a centrally located multi-modal transportation facility, which would include intra- and inter-city bus connections, bicycle parking, a park-and-ride lot, offices for cab and limousine dispatch services, Lincoln County Transit, and dial-a-ride connections to bus services.

Ridership Assumptions
In order to model the proposed alternatives, assumptions were made regarding transit ridership in 2016. In the past, ridership tripled between 1972 and 1994, a 22-year period. The assumption was made that ridership would likewise triple over the 20+ years between 1994 and 2016. Based on this assumption, there would be 327,000 rides served by Lincoln County Transit in 2016, over 356 service days, for an average of 918 daily rides. Though this level of growth is an aggressive assumption, part of the intent was to evaluate the impact on peak hour travel if an aggressive transit program was put in place. As detailed below, even with this aggressive transit ridership growth projection, nominal relief in traffic demand would be achieved for the City of Newport.

Peak hour transit ridership was assumed to be 8.3 percent of the total daily rides, based on similar relationships for traffic characteristics as described in the Highway Capacity Manual. This results in 76 rides in the p.m. peak in 2016. This would be equivalent to two to three vans, depending on the type used.

These projections apply to the Low, Middle or High Alternative, since the same number of additional vehicles and service hours are assumed for all three alternatives.

6.6 Selection of a Preferred Alternative

A technical analysis of how each alternative performed in relation to the TSP Evaluation Criteria was prepared by the study team and distributed to the TAC and at the open houses.

This technical analysis was partly based on the transportation modeling done for the study. The QRS II model developed for Newport was used to model the alternatives and provide output on the performance of each alternative on measures such as levels of service and congestion, as discussed in the Section 6.5.

The alternatives and related evaluation were presented to the TAC in May 1996 and at the final open house in June 1996. In addition, comment forms were handed out at the June open house and were turned in there or mailed in later. Consensus was reached by the Management Team, the TAC, and through public responses that the Middle Alternative is the Preferred Alternative for the City of Newport's TSP. The TSP based on the middle alternative as the preferred alternative is documented in the City of Newport Transportation System Plan.

Meeting minutes from the TAC meetings, open house meeting summaries, and copies of comment forms are included in the Appendix A.

APPENDICES

Appendix A	**Public Involvement**
Appendix B	**Levels of Service**
Appendix C	**Intersection Analysis** SIGCAP program output for seven conditions - Hwy 101/Hwy 20 PASSER II-90 program output for two conditions - Hwy 101/Hwy 20 TRANSYT-7F program output for two conditions - Hwy 101/Hwy 20 Signal Warrant Analyses
Appendix D	**Modeling Information** 1993 and 2016 Land Uses by Category (3 pages) Impact of External Trips
Appendix E	**Existing Reports and Information**

Appendix A: Public Involvement

List of Public Involvement Materials

* Summary of Public Involvement Process (copy enclosed)***

* Technical Advisory Committee meetings (copy of notes enclosed)***

- June 15, 1995
- October 5, 1995
- November 29, 1995
- April 30, 1996
- May 30, 1996

* Stakeholder interviews

- 24 stakeholder interviews were conducted and reviewed in June 1995. (list of names, copy of survey, and summary enclosed)***

* Survey

- Included with meeting announcement in water bills (copy of survey and summary enclosed)***

* Open Houses

June 26, 1995

- Advertised in water bill insert with survey (copy enclosed)***
- Response form (copy enclosed)
- Summary of open house (copy enclosed)***

January 11, 1996
- Display ad (fax copy enclosed, tear sheet sent to Mike Shoberg)
- Advertised in water bill insert
- Response form (copy enclosed)
- Summary of open house (copy enclosed)***

June 26, 1996
- Newspaper display ad (tear sheet enclosed)
- Cable access advertisement (copy of text enclosed)
- Public service announcement on radio (copy of text enclosed)
- Mailer to 6,000 residents (copy enclosed)
- Response form (copy enclosed)
- Summary of open house (copy enclosed)***

*	Feature article in News Times

  - prior to each open house (no copy)

*	Mailer
  - Sent to 6,000 households in June 1996 to give background information and advertise June 26, 1996 open house (copy enclosed)

Newport Transportation Plan
Technical Advisory Committee
Newport City Council Chambers
June 15, 1995

Attendees:

- Brent Davis
- Don Lindly
- Glen Fromm
- Steve Williams
- Dave Perry
- Craig Thomas
- Victor Mettle
- Mark Jones
- Steve Gobat
- Steve Powell
- Norma Duval
- Lee Ritzman
- Valarie Payne
- Earl Lightmill
- John de Tar
- Peter Idema
- Paula Calvin
- Jeanne Lawson

The Technical Advisory Committee of the Newport Transportation Systems Plan met to review and comment on the proposed process for the plan development and to discuss key issues.

John deTar discussed the purpose of the planning effort and presented the regulatory background that would affect how the study would be done.

Glen Fromm introduced the steps of the plan developement and the technical basis for the study (modeling, etc.).

Paula Calvin discussed how this plan would coordinate with and build on other plans (Newport Comprehesive Plan and Hwy 101 Corridor Master Plan).

Jeanne Lawson discussed how public input would be gathered for this study (open houses, workshops, Citizen Sounding Board, interviews survey and news media). She also presented the results of opinion leader interviews and the surveys received to date.

The TAC then participated in an issues workshop. Working with key issues identified through the interviews and surveys, the TAC added issues and prioritized them by selecting their top four issues. The full list of issues and the points the issue received are as follows:

Issues:

8	Alternative routes for local traffic
6	Improve Hwy 20
5	Better/more bike and pedestrian facilities
	- connectivity of sidewalks
	- safety of crossings
5	Parking - offstreet opportunities
3	Access management
3	Congestion
3	Better transit
	- shuttle
	- intercity transit
2	Air service
2	Bridge
	- need an alternative for emergencies
	- need an alternative for peak use
1	Bypass
1	Maintaining access to business
1	Water as a route
1	Land development in South Newport
.5	Funding:
	- Find new sources of funding
	- Be realistic in planning for funding
.5	Implement
0	No bypass
0	Aesthetics
0	Covered bus stop shelters
0	Traffic and parking around schools
0	Use existing route as alternate bridge route and scenic loop
0	Disabled access
0	Preserving neighborhoods
0	Park & rides
0	Incorporate ISTEA trail (State Parks)
0	Safety of access to 101 (outlying areas)
0	Commercial traffic
0	Use existing plans
0	Tourism increasing
0	Dislocation of citizens
0	Look long-range (don't be limited by existing funding)
0	Political support
0	Historical preservation/cultural resources
0	Hidden costs
0	Maintenance costs
0	Parking for beach access
0	Citizen involvement

Bin:

- State Parks plan for ISTEA trail linking S. Beach State Park to Aquarium
- Glick study

Newport Transportation Systems Plan
Technical Advisory Committee

October 5, 1995 at 1:00 pm
Naterlin Center, Room 7
469 SW Coast Highway

Attendees:

Paul Teseram
Mike Shoberg
John de Tar
Peter Idema
Dave Perry
Lee Ritzman
Brent Davis
Steve Gobat
Matt Spangler
Jeanne Lawson
Glen Fromm

The Technical Advisory Committee met for the second time to discuss in particular, developing the goals and objectives. These goals and objectives will serve as the criteria to identify, weigh and select alternatives.

The committee discussed the Goals and objectives and made modifications. The adopted Goals and Objectives are attached.

The committee then discussed the range of alternatives - high, low, and no-build. It was suggested that there be a land use alternative.

The team then presented the approach for access management and showed a map with the planning area divided into three types of development. Access management would be approached differently for each type. Comments were as follows:

- There need to be access management goals and objectives
- Remove a reference to other documents and categories -- it should stand alone
- Modify terms: Change the words "established," "redeveloping," and "new development" to "developed" or "developing"
- Look at areas first and then define

- Take the goals and objectives to the next open house
- Restate the goal -- reasons for access management
- In supporting goals, list the tools and be realistic

Newport Transportation Plan
Technical Advisory Committee Meeting
Newport City Council Chambers
November 29, 1995

Attendance

Michael Shoberg	City of Newport	574-0626
Lee Ritzman	City of Newport	574-0620
Steve Williams	OR Parks and Rec	867-3340
Dave Perry	DLCD	373-1180
J Brent Davis	CLPUD	265-3211
Don Lindly	Lincoln Cty	265-4100
John de Tar	ODOT Region 2	986-2653
Valerie Payne	ACT	265-7708
Jeanne Lawson	Jeanne Lawson Assoc	235-5881
Glen Fromm	Parson, Brinkerhoff	

Update - Glen Fromm

[Valerie Payne - need 2 sided handouts]

Revised Model

The committee reviewed the map of the revised modeling results.

- Discussion of why urban area is better LOS than bridge and south
- What it would take to move 2-lane section from LOS F to C?
  4 lanes - 5 intersections

Access Management

Glen presented the revised access management zones (two instead of three) and the goals for each.

- Don - D zone too far in
- Lee - D zone is already subdivided, access to highway is only access. Some cases where standards may not be able to be made.
- Dave P - Facilitate discussion between landowners
- Steve W - Is there a mechanism to require existing developments to do improvements if they expand?
- Lee - Only if they need permit or rezoning
- Steve W - Can we do something more in established areas that have big problems?
- Rename D and E (work with Mike and John)

Evaluation Criteria

Evaluation criteria were developed to measure the alternatives and determine how well they meet the goals and objectives.

- John - not clear what these criteria are for or how they will be used
- Set up goal with criteria on Goals and Objectives
- Dave P - Always go back to Goals and Objectives
- John - Accessibility to different modes - how do you do qualitative comparison
- Glen - consumer reports +/-. No build is neutral
- Glen walked through criteria and explained
- Don Lindly - Criteria come in conflict with each other
- John D - How many classifications of roadway?
- Glen - four, highway separate
- Land use "pattern" - change. Implies existing.
- John D - LOS is just for auto
- Discussion of whether to add quantitative comparison for transit. Work with Norma
- Dave P - Add explanation of each criteria in non-technical terms
- Dec 12 is CAC - send TAC revised version prior to meeting

Draft Alternatives

To "build" alternatives were developed - a low and a high. The high assumes funding would be found for all that is needed.

- Brent - What made difference in high and low
- Glen - Low=safety, TSP & priority
- John D - Have exhibit from PTA to help people understand P2

Low Alternative

- Discussion of B2 - potentially to high?
- Clarification of years in brackets - long than shown for low alternative
- Don - conflict between B2 and SN22
- B2 - Change to say along or parallel to 101
- P2 - concern regarding signal for pedestrians
- I4 - clarify
- I11 - timing consistant? Yes
- I13 - In existing comprehensive plan
- I15 - eliminate
- SN20 - Signal? dealt with in I9 - Combine ? or a & b
- John D - Need to move some to high alternative
- 8a - revisit - one side only? both
- 11a - include
- Triangle intersections - dealt with?
- continuous driveways south of Ferry Slip - examine

High Alternative

- Parking structure
- T1 and T2 should be in low, resolve with Norma
- T2 is in low version
- P1 and B1 seem like ordinance issues - consider breaking into high and low base on arterial and collector
- B1 - Terminology - make sure path is definitely a path
- I1 - more signals? for open house make sure display shows impact
- SN27 - Low?
- SN28 - NE 60th
- SN2 - both sides
- SN8b - same as 8A eliminate one side? Put on Big Crk Rd
- SN8b - eliminate Oceanview Dr
- SN9a - clarify
- SN17 - inaccurate
- SN24 - Don't include yet, change to say resolve capacity issues on Hwy 20
- Identify source? No
- Add project for continuous four lane section north to city limit

What's next

- Citizen Sounding Board - December 12
- Open House - January 11
- TAC - late Feb/March
  alternatives modeled

Newport Transportation Systems Plan
Technical Advisory Committee
Newport City Council Chambers

April 30, 1996

Attendees:

Mike Shoberg and Lee Ritzman, City of Newport
John deTar and Peter Idema, ODOT
Dave Perry, DLCD
Norma Duvall, Lincoln County Transit
Glen Fromm and Lisa Nelson, Parson Brinckerhoff
Jeanne Lawson, Jeanne Lawson Associates

Meeting Dates:

Open House - Thursday, June 20
TAC Meeting - Thursday, May 30 (10:30 AM to 3:00 PM)
CSB Meeting - (week of May 13?)

- Jeanne Lawson reviewed the agenda.

- Glen discussed Project Status.

- The next meeting will focus on Priorities and Funding.

- Jeanne Lawson led the review of Goals and Objectives.

  - The third Community Objective was changed to:
    "Maintain neighborhoods by providing improvements consistent with each neighborhood's character."
  - The third Resources Objective was changed from "Reduce" to "Minimize."

- Glen reviewed High/Low Alternatives
  - John deTar - use consecutive numbering, only one of each number on project list. The symbols are fine.
  - Mike would like to see the legend tailored to only those symbols which are used on each respective map.
  - Lee Ritzman - missing some of the PTA sidewalk projects, including Eads Street.
  - Mike noted that we could potentially delete project 17 (square) because of its low project cost. The City will need to determine which projects they want to leave in the alternatives and ultimately their comprehensive plan.
  - It was noted that project 23 (oval) is not really on-street parking, but rather two surface lots near 7th and 9th Streets. The roadway maps will need to be revised and likewise the description and project cost listed in the matrix. These surface

lots were identified in the Glick Study. Need direction from the City of Newport.

- John deTar and Mike Shoberg - consider rerouting bike path.
- Lee Ritzman - there are sites identified thru Glick study for parking lots - Public/private partnership funding - Urban renewal, businesses, etc. Show as separate project.
- Redefine #23 as moving parking off Hwy 101 to a surface lot.
- #25 - Not "101" it is Avery Street.
- Add costs/description that addresses the access management tools needed along Hwy 101 (e.g. medians).
- Nye - Shared lane? Move bike lane? Parking on one side?
- Should discuss with Norma any other potential locations for the transit circulator, covered bus shelters, and O&M costs for transit.
- Parking facility on Hwy 20 to draw people off before they enter town. Tourists could then be picked up on the transit circulator and taken to the various main attractions. Although it was discussed that tourists are probably less likely to get out of their cars and pay to take a shuttle unless it was for a special event like "Seafood and Wine" when parking is limited.
- Peter asked if it was appropriate to install a signal if warrants were met, or were there other things that could be done instead of installing a signal. Glen responded that the signals identified in the alternatives also help with circulation for locals, access to 101, and platooning of traffic through downtown. Signals would be justified if they met peak hour warrants.
- A left-turn pocket at Hwy 101\68th Street is a potential new project through exactions. It is very high cost project because of the large fill area. Need direction from the City of Newport.
- In the High Alternative, all the projects and structures that are beyond the 20 year time frame should be deleted from the maps.
- Add description of pedestrian and bike path to project (oval) in the High Alternative to serve recreational travel.
- Add the description of project 31 (oval) to the High Alternative. This includes one dedicated road and one dedicated bike path to the beach.
- In project 18 (oval), the right turn on to 101 from the existing loop would be restricted. This is due to the safety issues regarding poor sight distance and the high speeds of vehicles traveling south off the bridge.
- Should define which projects are in conjunction with another.
- Should determine what the cost would be for a two and four-lane bridge that matches the historic character of the existing bridge.
- City should evaluate projects in terms of priority and feasibility. It is possible that more parking structures could be built within the 20 year frame with public/private funding.
- Pedestrian and bike access was discussed near Big Creek Road and the new middle school. There are about 80 acres of development land that would not be served by pedestrian and bike facilities. The grades are very steep and it is not possible to connect with the future Big Creek Road ped/bike facility.
- The evaluation matrix is too technical for the Open House. Should devise

  another method to convey the information.
  - Norma asked how these projects would be funded and whether the projects would be built or funded on an equal basis for each mode.
  - The North-South Bypass should not be referred as listed in the Comp Plan, but rather as Alternative Local Route.

- Discussion of Middle Alternative
  - Project 33 (oval) is not a road project-it is a bike project-should remove from roadway map.
  - Add the Harney Extension to complete the loop of circulation.
  - Add 11th Street sidewalk
  - List Elizabeth Street sidewalk as a separate project in the Low and list sidewalk along 101 between Neff Way and the Bridge as a separate project in the Low.
  - Lee-Middle Alternatives-peds-should include all sidewalk except Oceanview and recreational paths like near Naterlin.
  - John-Leave the bridge in the Middle Alternative, but use tolls to finance. The bridge, with ODOT's cathodic protection, should last almost indefinite period of time-at least 100 years.
  - Lee-Is it possible to add another two lanes to the existing bridge?
  - Is it possible to tear the old bridge down and replace it?
  - Peter-Would be widen 101 if the bridge capacity is not at least four lanes? He also asked whether we can consider widening 101 if the City is not actively making plans to obtain the right-of-way.
  - John-Need to make sure that 101 on the ends work first, then worry about the bridge constraint.
  - Peter-Where is the real need to widen 101-just to the Wolf Tree development or is it really to the southern project limit boundary.

- Recipe for PB Middle Alternative

  - *Achieve a more acceptable LOS for Hwy 101, Hwy20 and Bridge
    - Focus on access management for developing areas
    - Focus on lane improvements for established areas
  - Provide more complete to expanded networks for each mode
    - Street system with local alternative routes
    - Bike and pedestrian
    - Transit

- What people think is important for the Middle Alternative:
  - Mike
    - 32nd Street connection
    - Need better access for west side
    - Better grid for city
    - Political acceptance
    - Cost effective

- Lee
    - Pull things from "High" that are more realistic - achievable
- Dave
    - Cost-effective
    - High impact
    - More pedestrian friendly - improving connectivity of system
- Peter
    - Improve connectivity some areas, like ID Pt. too isolated
- John
    - Agree with others
    - Achievable mobility
      Streets
      Transit
- Norma
    - Connectivity
    - Low achieves a lot of transit
    - Agree with others

The consensus was that the most important things to consider with the Middle alternative are:

- Political acceptance
- Cost-effective
- Realistic-achievable
- Improve connectivity
- Achieve mobility

- John
    - Is new bridge really realistic?

- Peter
    - Clearly tie together the bridge and 5-lane sections of Hwy 101.

- Next meeting is May 30 at 10:30.

- Call attendees to solicit input on evaluation.

Newport Transportation Plan
Technical Advisory Committee Meeting
Newport City Council Chambers
May 30, 1996

Attendees:

Mike Shoberg and Lee Ritzman, City of Newport
John deTar and Peter Idema, ODOT
Dave Perry, DLCD
Norma Duvall, Lincoln County Transit
Glen Fromm and Lisa Nelson, Parson Brincerhoff
Jeanne Lawson, Jeanne Lawson Associates

Meeting Dates:

Review new modeling results - conference call - Friday, June 7 (8AM)
Open House - revised to Wednesday, June 26 (4:30-7:30)

The committee met to review the revised alternatives - low, middle, and high - and the modeling results.

Yaquina Bay Bridge and Tolling

- The new bridge would be parallel to the existing bridge because the numbers could not justify building a new bridge in the alternative corridors.
- The problem of closure of the existing bridge during an emergency is not and will not be addressed as part of the TSP. Evaluation of the second bridge is based on cross bay peak hour demand.
- Tolling the bridge will be a political issue. In Oregon (per the recent election), a 60% approval from the state legislature will be required to institute revenue increases. Where tolls fall in this new legislation is as of yet unclear.
- Tolling will be the only way to fund a new bridge. On handouts, the new bridge should be listed as a "toll bridge", so that citizens do not assume that it will be paid for by the State.
- Additional analysis will be required (not part of TSP) to evaluate feasibility of tolling and expected revenue streams for the bridge.
- Delete the bridge from the Middle Alternative.
- Include the bridge in only the High Alternative with an optional cost for the ornamental package to make the new bridge look as aesthetically pleasing as the

existing bridge.

- When we build the new bridge, it will either be a concrete segmental bridge or it will be an ornamental one.

- In the high alternative, the bridge could be tolled or free - it will depend on funding.

Multi-Modal Facility

- The location of this new multi-modal facility is not yet known. In fact, it may not be located within the Newport City limits at all (for the TSP it will continue to be assumed it will be in the City of Newport).

- Locating it near the airport was discussed, however it would provide more value it were located in a central location where more people and businesses are.

Alternative Development

- The alternatives should be reorganized such that the Middle includes the Low and the High includes the Middle. They each should build on the previous alternative

- Move more of the pedestrian projects to the Middle Alternative (except Oceanview and the other recreational paths like Naterlin).

- LOS F is not acceptable on US 101 and US 20 - need to add the Highway 101 widening projects (77 and 62 oval) to the Middle Alternative

- Should determine how many days each year the July/August peak 30th highest hour occurs (in light of Keiko).

- From remodel

- Structure middle alternative as preferred alternative

- Mixed uses

- Keep low and high alive with alternatives given different circumstances

- Tighten control of access - put median in alternative

- Remove bridge from middle

- The bridge and south Highway 101 improvements go together. It does not make sense to widen 101 south of the bridge if the bridge remains a constraint.

Low Alternative

- Most feasible and most affordable value to system and balance of objectives

Middle Alternative

- Possible with some constraints
- Better balance of the objectives

High Alternative

- Meets objectives - Least feasible given foreseeable constraints

Evaluation Matrix

- The matrix should state the design year is 2016.
- Should know exactly how many miles of each roadway type were added in each of the alternatives.
- Should include the 1993 present day numbers in the matrix for comparison.
- Should add a +/- rating for each of the quantitative criteria (eg. under mobility for average speed) or for the overall criteria (eg. Transportation Goal: mobility, VMT, VHT, availability of transit, safety, and LOS)
- With respect to mobility, there is no change in speed for the collectors and local streets because they are not the congested roadways. If congested, you may see traffic diversion on the local streets and possibly a decrease in speed. There may be a shift from travel on collectors to local streets because we built more local streets.
- Consider adding a pedestrian/bicycle mobility rating to the evaluation matrix.
- Speeds will go down as development occurs, but this is not accounted for in the model. Peter would like the specific assumptions listed (not for public consumption, but so that we will know for the open house). Must keep in mind that the matrix represents order of magnitude comparisons.
- Evaluation matrix needs to reflect an adjustment for the 1.4 miles of climbing lane in the southern part of Highway 101. Probably will not see a reduction in VMT as is currently indicated (No-Build versus the Low).
- Safety - access management may help to eliminate angle accidents that occur on Highway 101.

- Review Hurbert Street traffic volumes. Is the 1993 LOS D reasonable? City staff felt the LOS was viable given that Hurgert has relatively low volumes.

Open House

Purpose

- Help refine alternatives
- Emphasis on finalizing target alternative

Format

- Open house 4:30-7:30
- 15 minute presentations at 5:15 and 6:00 pm
- Response form questions
    - Response to each alternative
    - Other funding sources? toll?
    - Comments on creating the target alternative

Contents

- Public input to date and responsiveness of alternatives
- Compare surveys with developed alternatives to show the public that their comments count. (eg. transit was important, local alternate route, etc.)
- LOS description and diagrams for public
- Alternatives
    - full projects
    - summary description
    - performance by objectives
    - evaluation
    - funding sources
    - What's next - decision process - How input will be used.
    - flip charts for comments?

Next Steps

1. Remodel
2. Set up media briefings
3. Team Meeting June 7 - conference call
4. Publicity
5. Open House June 26
6. Prepare preliminary draft recommendations
7. TAC meeting (get approval from Planning Commission, City Council, Sounding Board
8. Remodel, if necessary
9. Final draft TSP
10. Adoption process
11. Final TSP

INTERVIEW QUESTIONS FOR NEWPORT TRANSPORTATION STUDY

Intro: The City of Newport and the Oregon Department of Transportation are just beginning to work to develop a transportation system plan for the area. The Transportation System Plan will provide a framework for the region's future. It will help to establish road, street, bicycle, transit, freight, and air transportation priorities. The goal is to ensure that the future transportation system matches the community's need.

Interviewer:______________________________ Date:____________________

Name:______________________________ Phone:____________________

Address:____

Organizational Affiliation:______________________________________

1.) What is or has been your interest and/or involvement in transportation and other planning issues in the Newport area? [background to help us understand the context of their perceptions and concerns]

2.) In the best possible world, what would you like to see for the future of transportation in the area? [their preferred future dream]

3.) If no significant changes are made to the current transportation system, what do you see as the most likely future of transportation in the area? Why? [potentially, their future nightmare]

4.) What are your strongest issues, concerns, and recommendations about the current state of transportation in the area? [the now. Probably the specific problems and opportunities that are a basis for their answers to questions 2 and 3]

5.) This effort will be coordinated with the Oregon Coast Highway Corridor Plan. Are you aware of any other planning efforts--transportation or otherwise--with which the Newport transportation planning effort should be coordinated?

6.) Is there any message (suggestion, history, etc.) you would like to send to the planning team as they begin this process? [if possible, focus on how the process is conducted]

7.) Are there other individuals or groups that you suggest the team involve or keep informed? [get names and addresses if possible]

8.) Would you like to be involved in this project through continued discussions, workshops, or presentations to your organization?

Impressions from Interview:______________________________________

____

____

____

Newport Stakeholder Interview Summary

Introduction:
During the month of June 1995, the City of Newport and Jeanne Lawson Associates conducted a series of stakeholder interviews to identify key issues, values and perceptions that need to be considered during the Newport Transportation Systems planning process. A total of 26 interviews were conducted. The stakeholders included: Neighborhood Steering Committee Chairs, business, tourism and development interests, government agencies, environmental and civic advocates, as well as other interests (see List of Stakeholders Interviewed).

The interview questions regarded issues, visions, opportunities and constraints that may arise out of this planning process (refer to Interview Questions).

Observations:
Overall, the interviewees support improvements to the transportation system in the Newport area. Although the stakeholders identified a range of solutions to address existing and future transportation problems, the majority agreed that failing to improve the area's system will increase traffic congestion. The following is a list of observations identified in the interviews. These observations are not listed in priority.

Improve traffic flow through and within Newport.
A number of interests highlighted an alternative route to 101 as essential to improve traffic flow. Some stakeholders suggested roads specifically for local traffic use, while others suggested building through-traffic routes. As part of improving north/south traffic flow, building a new bridge across the bay was recommended with some interviewees viewing the existing bridge as an "obstacle."

Develop an integrated transportation system.
Developing an integrated transportation system was viewed as a solution to reduce auto-reliance as well as serve those unable to drive. Stakeholders mentioned that such a system could include some if not all of the following travel modes: light rail, air service, inter- and intra-city travel, bike and pedestrian facilities. Improving air service was highlighted by stakeholders as essential in improving connections to other areas in Oregon and abroad.

Improve Highway 101 and Highway 20 with safety and capacity improvements.
With hindered traffic flow as an issue for stakeholders, some recommend solutions specific to those corridors, such as access management, highway widening, reducing or eliminating parking along 101, and timing traffic signals. The number of accidents and near-accidents along Highway 20 prompted some interests to recommend safety improvements.

A lack of transportation improvements will mean congestion.

As mentioned earlier, this concern was most frequently expressed by the stakeholders. Some believe that extended travel time and gridlock will lead to a decrease in economic growth. Others focused on the increasing level of frustration of area residents. Emergency response time was another factor to be impacted with continued traffic congestion.

Use an open process to develop the TSP.
Stakeholders urged that this study be inclusive in its planning process and to work hand in hand with the communities. Several interests regard ODOT as an agency known to develop solutions internally with no community input. Engaging the Newport community in discussions and coordinating this effort with other coastal projects and existing plans are seen as vital in developing an workable plan.

Identifying funding may be a challenge.
Although only expressed by a handful of stakeholders, funding was identified as the issue to be focused on early the study. While one stakeholder mentioned that "money is and will be the problem," another explained their frustration with state funds allocated to more metropolitan areas.

Newport Transportation Plan

List of Stakeholders Interviewed

Civic

1 Don Davis - Former City Manager
2 Leslie O'Donnell - Editor-in-Chief - News Time

Neighborhoods

3 Jeff Bertuleit - Nye Beach Neighborhood Steering Committee Chair
4 Mark Estes - Agate Beach Neigh Steering Committee

Schools

5 Steve Powell - Lincoln County School District

Transit and Paratransit

6 Norma Duvall - Lincoln County Transit

Air

7 Nancy Boyer - Asst. City Manager, Airport

Shipping/Fishing

8 John Rayburn - Port of Newport Director
9 Dale Shepardson - Commander Coast Guard
10 Jennie Goblirsch - OSU Extension, former fisherman

Freight Movement

11 Dave Wilson - trucking industry

Business, Tourism and Development

12 Phil Hutchinson - Director, Chamber of Commerce
Richard Beamer - Chair Transportation Committee
Craig Thomas - Economic Development Director

13 Phyllis Bell - Aquarium
14 Will Emory - Wolf Tree Development

Environment

15 Laverne Webber - Director, Hatfield Marine Science Center
16 Fran Recht - Oregon Shores Coastal Coalition

Emergency Services

17 Fire Chief Rowley
Police Chief Rivers
Lincoln County - Mike Moon

Utilities

18 Roland Nuetzman - Central Lincoln PUD

City

19 Sam Sasaki - City Manager
20 Mark Collson - Mayor
21 Lill Patrick - Planning Commission Chair

County

22 Don Lindley - Lincoln County Commissioner

ODOT

23 Ken Hilton - ODOT District 4 or maintenance foreman

Other State & Federal Agencies

24 Steve Gobat - BLM Yaquina Head
25 John Allen - State Parks
26 Dave Perry - DLCD

Important Notice

Dear Customer:

The City of Newport and the Oregon Department of Transportation are beginning a study that will outline how the transportation system should be improved in Newport. Improvements to this system will address car and truck needs as well as other modes of travel — buses, bikes, trains, air travel, and shipping. *Please take 5 minutes now to give us your input.* And come to the open house/ public workshop on June 26th (see below).

Open House/Public Workshop

Newport Transportation Plan
June 26, 1995
Newport Middle School, 311 NE Eads Street in the Multi-purpose Room
6:00 Open House 7:00 Public Workshop
Call Victor Mettle at 265-5331, for more information

1. What do you believe are the main transportation problems or opportunities in the area?

Overall, do you believe traffic congestion in Newport:

☐ is a major problem ☐ is not bad
☐ causes some problems ☐ could increase and still be OK

Are there specific *congestion* trouble spots that should be improved? Where? How?

3. Overall, *in terms of traffic*, do you believe Newport streets are:

☐ very safe ☐ reasonably safe ☐ somewhat unsafe ☐ unsafe

Are there specific *safety* trouble spots or issues? Where? What do you believe should be done?

4. Do you believe public transit service (bus, Dial-A-Ride, etc.) improvements:

☐ are very needed ☐ are somewhat needed ☐ would be wasteful ☐ no opinion

If they are needed, what kind? (check as many as apply)

☐ more service between Newport and the valley (Valley Retriever)
☐ service between Newport and other Coast towns
☐ service within Newport
☐ other (please explain) ____________________

- Harney bypass must have wide shoulders and bike accessibility
- We could really be promoting a "clean" industry through bikes
- Middle is the best value for the $, but we will need a better bridge some day
- Nothing will help N to S flow if a single bridge is a bottleneck. How can the bridge only be in the high cost alternative plan.
- Paid drivers for Dial A Ride - not dependent on volunteer drivers and extended days and hours
- We need a bus system that covers both the west and east side
- We need a new bridge

  There is no alternative to another bridge - we need it now.
- Good presentation -showing. What you get for the money.
- Certain projects are out of place as listed in order and phase.
- * Make a longer slow lane on 101 northbound, to make right turn on Harney Dr.
- I like the sidewalk/bike path plans for Big Creek Rd
- Sidewalks are CRITICAL on NE Eads until bypass/Harney built.
- Well researched and very informative!
- Middle alternative seems most practical in cost and utility. I'm not sure the bridge needs to be addressed as quickly.
- The middle alternative is the best for the money. The city can always upgrade when more funding is available.
- Too much spent on bicycle facilities and lanes. This is not Eugene.
- Should do less small projects and focus on long term solutions such as a bridge from Fogarty St area to Ferry Slip Rd area to link up with a north/south bypass on the east side of town.
- Some sort of public transportation, especially going to the bay front. It is almost impossible to make a left hand turn onto Highway 101 during the summer anyplace.
- Like the middle alternative, parts of high
- Why do we need sidewalks on both sides of the street? Can't people choose to walk down the side with the sidewalk?
- I would like to see the north/south bypass in alternative #1.
- Far too many stop lights thru Newport.
- Don't care for #69[??], #9[??]
- I like to see the years ahead planning and the invitations to the public for review. Openness in government is crucial.
- In general the categories fit well and the projects address most needs
- I can't imagine anyone not favoring the high alternative. But obviously, money is the deciding factor. Bicycle routing seems like a very low cost way to improve transportation. With improved facilities, more people will consider the bicycle to be a viable transportation tool.
- Generally well thought through - I don't believe the actual use of public transport will justify the expense of that portion - but

probably a needed social service more or less. Plan on subsidizing it.

- Seems like an unusually high number of stop lights in town. Are they all really necessary.
- 9th Street should be one way North on #69 to really solve the problem - allowing 101 to be south bound and still maintain parking. Take out Shell, Wendy's and Motel and merge between 2nd and 3rd.
- Bridge should not be parallel to existing - Should come off the bluff west of Yaquina View school and align on Harney bypass which should be high volume and divert Non-Newport Hwy 101 traffic coming into/out of town to/from Hwy 20
- Middle is the best
- Keep traffic signals to a minimum
- Bikes? If they want to insure themselves, license themselves, then these fees can pay for their bike path. If not. NO Way !
- Liked high alternative best
- Offer municipal bonds to cover the cost of the most important projects

3. Any other comments?

- License and registration fees need to be raised to compensate increased road costs. This is more important than a gas tax.
- Get trucks off the roads - Rail!
- I am willing to volunteer time to improve bicycle facilities. How much more cost effective can you get?
- Project #52 - Nye St extension deserves funding priority with existing funds as it will benefit a large segment of the citizens of Newport.
- * Europe and Latin America use "Glorietas" or circles so that traffic can rapidly change directions of travel. I think that under the north end of the Yaquina Bay Bridge would be ideal to develop for this purpose. Would need better signage.
- I think it would be beneficial to create a scenic bypass from Kernville through Siletz through Toledo along Forest Road joining Hwy 101 at Ona Beach, just north of Waldport.
- See #2
- Yaquina Cab Co could provide transit for seniors and disabled persons on a voucher basis at much lower cost than is currently being provided by Lincoln County Transit with less waste and pollution, and with better service and safety.
- Keep people informed. Make people think to the future and sharing what Newport has to offer.
- (pave) Big Creek Road into town similar to forest service one lane roads or grade, compact and oil the gravel road to cut down on dust (summer) and potholes (winter).

- Lack of neighborhood awareness and visual impact
- Public transportation is very important for those who are asked to give up driving and be independent.
- Very professional charts etc.
- Good explanation of funding sources.
- We need a sidewalk on Eads from Sam Case (12th) to NHS/NMS (olive) on the west side too!
- Close Eads around NHS when it combines with NMS (reroute to Coos from Olive to 5th)
- Draw bike lanes lines and encourage foot/bike on Eads (after Harney bypass is in)
- We've had deaths and injuries on Eads with the new middle school. It's time to make this street safe for kids.
- As I commented in Feb, instead of spending the money on building a new bridge over Y Bay why can't there be an "alternative route" using (supposedly) logging roads near Toledo. If the bridge is closed due to high wind, a detour via Toledo should be a viable (granted somewhat inconvenient) alternative. But may be able to save $ in lieu of new bridge?
- More sidewalks
- More parking places city wide
- Newport needs more sidewalks with handicap ramps - one curb at post office is not equipped, 2 curbs on the west side of Coast St north of Nye and 2 on the west side of 101 are not equipped with ramps

4. Were you able to have your questions answered at this Open House?

Yes - 22
  - most of them
  - in that people were accessible to get answers and they usually had answers
  - some

No, if not what were they? - 3
  - 1 with no explanation
  - #57-will this North/South arterial of Harney Drive from US 20 to 36th St also include new housing developments along it?
  - mostly no time frame for Harney St bypass

No response - 10

5. How did you find out about the Open House?

23	Mailer	4	Radio

8	Newspaper Ad	1	TV
5	Newspaper article	2	Word of Mouth

6. Optional: Name, address, phone

   Recorded in separate document.

These were the items that John deTar requested.

- * • More lineage with wider shoulders
- * • More signage to show routes
- * • Make a longer slow lane on 101 northbound, to make right turn on Harney Dr.
- * • Europe and Latin America use "Glorietas" or circles so that traffic can rapidly change directions of travel. I think that under the north end of the Yaquina Bay Bridge would be ideal to develop for this purpose. Would need better signage.
- * • Resident unable to see onto Hwy 101 at 54th because of tall grass

Newport Transportation Systems Plan
Open House
June 26, 1996
Comment Sheet Responses
31 Responses
Summary
Updated July 19, 1996

The key messages from the Comment Sheet Responses were:

- Bus service is a major issue.
  - Providing Dial A Ride service with paid drivers and service
  - Providing hourly service
  - Cover both east and west side
  - Provide service to the Bay Front area
  - Yaquina Cab could provide transit for seniors and disabled on a voucher basis at much lower cost than currently provided by Lincoln County Transit
  - Provide transport to Lincoln City

- Bicycle access and safety is a major issue.
  - Eleven (11) respondents asked for improved bike lanes and access
  - There were additional comments on the need for bike paths on the flip charts
  - A letter from a young person express concern for bikers on Bay Road

- Pedestrian safety and sidewalks were also a concern with emphasis on the need for sidewalks along Eads because of the schools. Finding ways to reduce traffic around the schools on Eads was also a concern.

- A north/south alternative and a new bridge were major issues. About one third of the respondents felt that a new bridge was needed. Several north/south alternatives were proposed with bridges that did not parallel the existing bridge. Many felt it should be the number one priority. Their additional concerns with the bridge include:
  - Will tolls be reduced for area residents?
  - The existing bridge is a "salient feature" of Newport.
  - Need for emergency phones on bridge

- Other:
  - Middle alternative was the one mentioned most
  - Too many traffic signals in Newport
  - Perception by resident near schools that level of congestion on

101 near Hwy 20 intersection is resulting in infiltration of traffic into neighborhood

- Concerns over development overall
- Some people didn't realize the full impact of projects from summary list of projects and were concerned about impacts when they saw complete list

Appendix B: Levels of Service

Appendix B: Level-of-Service Concepts

The concept of Level-of-Service (LOS) is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. Levels-of-Service can be considered in terms of degrees of comfort to motorists. Table B1 describes general characteristics associated with each level.

Table B1
Level-of-Service Characteristics

LOS	Characteristics
A	Free flow conditions. Users are virtually unaffected by the presence of others in the traffic stream. Delay is minimal and level of comfort is excellent. Still in the range of stable flow, but the presence of other users in the traffic stream is noticed.
B	Still in the range of stable flow. The freedom to select desired speed is unaffected, but the freedom to maneuver and intersection delay are slightly hampered. The level of comfort is somewhat less than at LOS A.
C	Still in the range of stable flow, but the operation of individual users and intersection delay is becoming significantly affected by interactions with others. The general level of comfort and convenience declines noticeably.
D	High density, but stable, flow. Speed and freedom to maneuver are severely restricted. The driver experiences poor level of comfort and convenience.
E	Operating conditions at or near capacity. All speeds are low, but relatively uniform. Freedom to move is difficult and delay is high. Comfort and convenience are poor and frustration is high. Operations at this level are unstable because small increases in traffic will likely cause breakdowns. Breakdowns occur when drivers are delayed excessively at intersections (more than 45 seconds at a stop controlled intersection or for more than one signal cycle at a signalized intersection) or street traffic is "stop-and-go."
F	Breakdown conditions occur. The amount of traffic approaching a point in the road or intersection is more than the facility can accommodate.

Source: Highway Capacity Manual Special: Report 209, Transportation Research Board, 1994

Signalized Intersection LOS

LOS levels can be quantitatively determined for roadway or freeway segments and for signalized and unsignalized intersections. Signalized intersection LOS grades can be determined by considering either average delay per-vehicle or by the degree of saturation of an intersection or both. The concept of saturation is similar to the concept of volume-to-capacity. When an intersection, intersection approach or roadway is saturated, it has essentially reached capacity. Table B2 shows the relationship between level-of-service and average stopped delay per vehicle. Table B3 shows the relationships between level-of-service and percent saturation that ODOT has developed for use in their SIGCAP intersection analysis package.

Table B2
Intersection Level-of-Service Criteria: Average Vehicle Delay

LOS	Stopped Delay per Vehicle (Seconds)
A	< 5.0
B	5.1 to 15.0
C	15.1 to 25.0
D	25.1 to 40.0
E	40.1 to 60.0
F	> 60.0

Source: Highway Capacity Manual Special: Report 209, Transportation Research Board, 1994

Table B3
SIGCAP Level-of-Service Criteria by Metropolitan Size

Metro Size and Saturation Value (X)				(LOS)
>500,000	100,000-500,000	20,000-100,000	<20,000	Level-of-Service
0.00-0.55	0.00-0.52	0.00-0.50	0.00-0.48	A
0.56-0.66	0.53-0.64	0.51-0.61	0.49-0.59	B
0.67-0.75	0.65-0.73	0.62-0.71	0.60-0.69	C
0.76-0.79	0.74-0.77	0.72-0.75	0.70-0.73	C-D
0.80-0.86	0.78-0.85	0.76-0.84	0.74-0.83	D
0.87-0.90	0.86-0.89	0.85-0.88	0.84-0.87	D-E
0.91-0.97	0.90-0.97	0.89-0.97	0.88-0.97	E
0.98-0.99	0.98-0.99	0.98-0.99	0.98-0.99	E-F
>1.00	>1.00	>1.00	>1.00	F

Appendix C: Intersection Analysis

```
--SIGNALIZED INTERSECTION --SIGCAP-- VERS(05JAN92)    10/16/1996 10:58:39
INTERSECTION: Newport U.S. 101/Highway 20
VOLUMES:      Base 1993 PM
METRO SIZE:   LESS THAN 20,000                ANALYST: Paul Ceserani
FILE NAME:    newbase.phf

  !PHASE !PHASE !PHASE !PHASE !PHASE !PHASE ! C= 205    G=185    Y= 20
  !------!------!------!------!------!------!
  !      !      !      !      !      !      ! ***********************
  !      !      !      !      !      !      ! *                     *
  !      !      !      !      !      !      ! *  SERVICE LEVEL   E  *
  !      !      !      !      !      !      ! *  SATURATION     90% *
  !      !      !      !      !      !      ! *                     *
  !------!------!------!------!------!------! ***********************

         !                APPROACH LANE GEOMETRY                       !
         !     SOUTH          NORTH          WEST           EAST       !
    LANE !  MOVE WIDTH     MOVE WIDTH     MOVE WIDTH     MOVE WIDTH    !
    -----!-------------------------------------------------------------!
      1  !  RT.   12.0     RT.   12.0     RT.   12.0     RT.   12.0    !
      2  !  T..   12.0     T..   12.0     L..   12.0     L..   12.0    !
      3  !  L..   12.0     L..   12.0     ...     .0     ...     .0    !

         !    MOVEMENT VOLUMES     !  MOVE SATURATION !  MOVEMENT LOS  !
   APPR  !    L     T     R    TOT !  L     T     R   !  L    T    R   !
   ------!-------------------------!------------------!----------------!
   SOUTH !   40   792   150    982 !  17%   90%   90% !  A    E    E   !
   NORTH !  239   657    92    988 !  63%   90%   90% !  C    E    E   !
   WEST  !  219   200    44    463 !  81%   66%   66% !  D    C    C   !
   EAST  !  249    92   255    596 !  90%   90%   90% !  E    E    E   !

APPR! TRKS!   !X-WLK!PEDS?  YES!   !             PHASING                 !
----!-----!   !-----!----------!   !-------------------------------------!
  S ! 5.0%!   !  S  !   60 FT  !   !                                     !
  N ! 5.0%!   !  N  !   60 FT  !   !N/S-DIRECTION SEPARATION       (C-4)!
  W ! 5.0%!   !  W  !   36 FT  !   !E/W-TURN PHASE W/O OVERLAP     (C-2)!
  E ! 5.0%!   !  E  !   36 FT  !   !                                     !

              !          APPROACH V/C VALUES               !
       MOVE   !  SOUTH      NORTH      WEST       EAST     !
       -------!--------------------------------------------!
       PEDS   !  .070       .070       .096       .096     !
       TR     !  .262       .208       .136       .193     !
       R      !  .083       .051       .024       .142     !
       T      !  .220       .183       .111       .051     !
       L      !  .023       .137       .126       .143     !

   N-S V/C=.470   E-W V/C=.336   TOTAL AMBER=.098   MINIMUM V/C=.029

         ! LEG VOLUME !             ! TIME AVAIL (SECS)!  MOVE STORAGE !
   LEG   ! AT LOS C   !      APPR   !  L     T     R   !  L    T    R  !
   ------!------------!      ------!------------------!---------------!
   SOUTH !   1493     !      SOUTH ! 60.1  60.1  60.1  !  81  948    0 !
   NORTH !   1742     !      NORTH ! 47.8  47.8  47.8  ! 522  818    0 !
   WEST  !    531     !      WEST  ! 32.9  44.3  44.3  ! 524  545    0 !
   EAST  !    916     !      EAST  ! 32.9  44.3  44.3  ! 595  775    0 !
```

```
--SIGNALIZED INTERSECTION --SIGCAP-- VERS(05JAN92)   10/16/1996 10:59:29
INTERSECTION: Newport U.S. 101/Highway 20
VOLUMES:      base 2016 pm
METRO SIZE:   LESS THAN 20,000                  ANALYST: Paul Ceserani
FILE NAME:    base16.phf

  !PHASE !PHASE !PHASE !PHASE !PHASE !PHASE ! C= 126    G=110    Y= 16
  !------!------!------!------!------!------!
  !      !      !      !      !      !      ! ***********************
  !      !      !      !      !      !      ! *                     *
  !      !      !      !      !      !      ! *  SERVICE LEVEL   F  *
  !      !      !      !      !      !      ! *  SATURATION    115% *
  !      !      !      !      !      !      ! *                     *
  !------!------!------!------!------!------! ***********************

        !               APPROACH LANE GEOMETRY                     !
        !    SOUTH          NORTH          WEST           EAST     !
   LANE !  MOVE WIDTH     MOVE WIDTH     MOVE WIDTH     MOVE WIDTH !
   -----!----------------------------------------------------------!
     1  !  RT.   12.0     RT.   12.0     RT.   12.0     RT.   12.0 !
     2  !  T..   12.0     T..   12.0     L..   12.0     L..   12.0 !
     3  !  L..   12.0     L..   12.0     ...     .0     ...     .0 !

        !   MOVEMENT VOLUMES     !  MOVE SATURATION !  MOVEMENT LOS !
  APPR  !    L     T     R   TOT !   L     T     R  !  L    T    R  !
  ------!------------------------!------------------!---------------!
  SOUTH !   64  1008   200  1272 !  24%  115%  115% !  A    F    F  !
  NORTH !  310   870   115  1295 !  79%  115%  115% !  D    F    F  !
  WEST  !  244   240    49   533 ! 115%   86%   86% !  F   D-E  D-E !
  EAST  !  323   146   338   807 ! 115%  115%  115% !  F    F    F  !

APPR! TRKS!    !X-WLK!PEDS?  YES!    !             PHASING               !
----!-----!    !-----!----------!    !-----------------------------------!
  S ! 5.0%!    !  S  !   60 FT  !    !                                   !
  N ! 5.0%!    !  N  !   60 FT  !    !N/S-DIRECTION SEPARATION     (C-4)!
  W ! 5.0%!    !  W  !   36 FT  !    !E/W-TURN PHASE WITH OVERLAP  (C-3)!
  E ! 5.0%!    !  E  !   36 FT  !    !                                   !

               !           APPROACH V/C VALUES           !
       MOVE    !  SOUTH      NORTH      WEST       EAST  !
       --------!-----------------------------------------!
       PEDS    !  .148       .148       .204       .204  !
       TR      !  .336       .274       .161       .269  !
       R       !  .111       .064       .027       .188  !
       T       !  .280       .242       .133       .081  !
       L       !  .037       .178       .140       .186  !

   N-S V/C=.609   E-W V/C=.409   TOTAL AMBER=.127   MINIMUM V/C=.048

        ! LEG VOLUME !              ! TIME AVAIL (SECS)!  MOVE STORAGE !
   LEG  !  AT LOS C  !       APPR   !  L     T     R   !  L     T    R !
   -----!------------!       ------!------------------!---------------!
   SOUTH !    1464   !       SOUTH ! 36.2  36.2  36.2 !STORAGE LENGTHS!
   NORTH !    1681   !       NORTH ! 29.6  29.6  29.6 !NOT RELIABLE AT!
   WEST  !     500   !       WEST  ! 15.1  24.1  24.1 !THIS LEVEL OF  !
   EAST  !     907   !       EAST  ! 20.1  29.0  29.0 !SERVICE        !
```

```
--SIGNALIZED INTERSECTION --SIGCAP-- VERS(05JAN92)   10/16/1996 11: 0:33
INTERSECTION: Newport U.S. 101/Highway 20
VOLUMES:      base 2016 pm
METRO SIZE:   LESS THAN 20,000                  ANALYST: Paul Ceserani
FILE NAME:    rirooliv.phf

  !PHASE !PHASE !PHASE !PHASE !PHASE !PHASE ! C= 150    G=138    Y= 12
  !------!------!------!------!------!------!
  !      !      !      !      !      !      ! ***********************
  !      !      !      !      !      !      ! *                     *
  !      !      !      !      !      !      ! *  SERVICE LEVEL  D-E *
  !      !      !      !      !      !      ! *  SATURATION     87% *
  !      !      !      !      !      !      ! *                     *
  !------!------!------!------!------!------! ***********************

      !                  APPROACH LANE GEOMETRY                      !
      !     SOUTH          NORTH          WEST           EAST        !
 LANE !  MOVE WIDTH     MOVE WIDTH     MOVE WIDTH     MOVE WIDTH     !
 -----!----------------------------------------------------------------!
   1  !  RT.    12.0    RT.    12.0    R..    12.0    R..    12.0    !
   2  !  T..    12.0    T..    12.0    ...      .0    L..    12.0    !
   3  !  L..    12.0    L..    12.0    ...      .0    L..    12.0    !

      !   MOVEMENT VOLUMES      !  MOVE SATURATION !  MOVEMENT LOS !
 APPR !    L      T     R   TOT !   L      T     R !  L    T    R  !
 ------!------------------------!-----------------!---------------!
 SOUTH !    0  1220   120  1340 !   0%    87%   87% ! ...  D-E  D-E !
 NORTH !  340   870   115  1325 !  87%    66%   66% ! D-E   C    C  !
 WEST  !    0     0   149   149 !   0%     0%   87% ! ...  ...  D-E !
 EAST  !  360     0   370   730 !  65%     0%   87% !  C   ...  D-E !

APPR! TRKS!    !X-WLK!PEDS?  YES!    !             PHASING               !
----!-----!    !-----!----------!    !-----------------------------------!
  S ! 5.0%!    !  S  !   60 FT  !    !                                   !
  N ! 5.0%!    !  N  !   60 FT  !    !N/S-TURN PHASE WITH OVERLAP  (C-3)!
  W ! 5.0%!    !  W  !   36 FT  !    !E/W-DIRECTION SEPARATION     (C-4)!
  E ! 5.0%!    !  E  !   36 FT  !    !                                   !

              !         APPROACH V/C VALUES              !
      MOVE    !  SOUTH     NORTH      WEST       EAST    !
      -------!------------------------------------------!
      PEDS    !  .092      .092       .126       .126    !
      TR      !  .372      .274       .000       .000    !
      R       !  .067      .064       .083       .206    !
      R  -ADJ!  .000      .000       .064       .159    !
      T       !  .339      .242       .000       .000    !
      L       !  .000      .195       .000       .115    !

 N-S V/C=.568   E-W V/C=.223   TOTAL AMBER=.080   MINIMUM V/C=.040

       ! LEG VOLUME !            ! TIME AVAIL (SECS)!  MOVE STORAGE !
 LEG   !  AT LOS C  !       APPR !  L      T      R !  L     T    R !
 ------!------------!       ------!-----------------!---------------!
 SOUTH !    2201    !       SOUTH !   .0   65.0  65.0 !   0   791    0 !
 NORTH !    2360    !       NORTH ! 34.1   65.0  65.0 ! 547   582    0 !
 WEST  !     214    !       WEST  !   .0     .0  45.3 !   0     0  217 !
 EAST  !     963    !       EAST  ! 27.7     .0  61.9 ! 306     0  453 !
```

```
--SIGNALIZED INTERSECTION --SIGCAP-- VERS(05JAN92)   10/16/1996 11: 1: 3
INTERSECTION: Newport U.S. 101/Highway 20
VOLUMES:      proposed 2016 pm
METRO SIZE:   LESS THAN 20,000                  ANALYST: Paul Ceserani
FILE NAME:    cfirst.sig

    !PHASE !PHASE !PHASE !PHASE !PHASE !PHASE ! C= 126    G=118    Y=  8
    !------!------!------!------!------!------!
    !      !      !      !      !      !      ! ***********************
    !      !      !      !      !      !      ! *                     *
    !      !      !      !      !      !      ! *  SERVICE LEVEL  C-D *
    !      !      !      !      !      !      ! *  SATURATION      70% *
    !      !      !      !      !      !      ! *                     *
    !------!------!------!------!------!------! ***********************

          !               APPROACH LANE GEOMETRY                        !
          !     SOUTH          NORTH          WEST           EAST       !
   LANE   !  MOVE WIDTH     MOVE WIDTH     MOVE WIDTH     MOVE WIDTH    !
   -------!-------------------------------------------------------------!
     1    !  T..   12.0     T..   12.0     ...     .0     R..   12.0    !
     2    !  T..   12.0     T..   12.0     ...     .0     L..   12.0    !

          !  MOVEMENT VOLUMES     ! MOVE SATURATION ! MOVEMENT LOS !
  APPR    !   L     T     R   TOT !  L     T     R  !  L    T    R  !
  --------!-----------------------!-----------------!---------------!
  SOUTH   !   0  1244     0  1244 !  0%   68%    0% ! ...   C   ... !
  NORTH   !   0  1295     0  1295 !  0%   70%    0% ! ...  C-D  ... !
  WEST    !   0     0     0     0 !  0%    0%    0% ! ...  ...  ... !
  EAST    ! 490     0   370   860 ! 70%    0%   53% ! C-D  ...   B  !

APPR! TRKS!    !X-WLK!PEDS?  YES!    !            PHASING                 !
----!-----!    !-----!----------!    !------------------------------------!
  S ! 5.0%!    !  S  !   60 FT  !    !                                    !
  N ! 5.0%!    !  N  !   60 FT  !    !N/S-NO SEPARATE TURN PHASE   (C-1)!
  W !  .0%!    !  W  !   36 FT  !    !E/W-DIRECTION SEPARATION     (C-4)!
  E ! 5.0%!    !  E  !   36 FT  !    !                                    !

            !            APPROACH V/C VALUES                !
     MOVE   !  SOUTH      NORTH      WEST        EAST       !
     -------!-------------------------------------------!
     PEDS   !  .087       .087       .120        .120       !
     R      !  .000       .000       .000        .206       !
     T      !  .346       .360       .000        .000       !
     L      !  .000       .000       .000        .282       !

  N-S V/C=.360   E-W V/C=.282   TOTAL AMBER=.063   MINIMUM V/C=.048

         ! LEG VOLUME !           ! TIME AVAIL (SECS)! MOVE STORAGE !
  LEG    !  AT LOS C  !    APPR   !  L     T     R   !  L    T    R !
  -------!------------!    -------!------------------!--------------!
  SOUTH  !    3101    !    SOUTH  !   .0  66.2    .0 !   0  517    0 !
  NORTH  !    2978    !    NORTH  !   .0  66.2    .0 !   0  538    0 !
  WEST   !       0    !    WEST   !   .0    .0    .0 !   0    0    0 !
  EAST   !     881    !    EAST   ! 51.8    .0  51.8 ! 505    0  381 !
```

```
(ART.SUMY)                    Couplet With First Street
                                    PASSER II-90
                     MULTIPHASE ARTERIAL PROGRESSION PROGRAM       VERSION 2.0

                     **** BEST PROGRESSION SOLUTION SUMMARY ****
101/20         Highway 101                  DISTRICT    02/ 1/96    RUN NO.  1

            CYCLE LENGTH   = 90 SECS       (MAXIMIN CYCLE = 100 SECS)
            EFFICIENCY     =   .40         (GREAT PROGRESSION)
            ATTAINABILITY  =   .84         (FINE-TUNING NEEDED)

            BAND A         = 36 SECS      AVERAGE SPEED   =  25 MPH
            BAND B         = 35 SECS      AVERAGE SPEED   =  25 MPH

      NOTE: ARTERIAL PROGRESSION EVALUATION CRITERIA
            -----------------------------------------------
            EFFICIENCY     0.00 - 0.12 - "POOR PROGRESSION"
                           0.13 - 0.24 - "FAIR PROGRESSION"
                           0.25 - 0.36 - "GOOD PROGRESSION"
                           0.37 - 1.00 - "GREAT PROGRESSION"

            ATTAINABILITY 1.00 - 0.99 - "INCREASE MIN THRU PHASE"
                           0.99 - 0.70 - "FINE-TUNING NEEDED"
                           0.69 - 0.00 - "MAJOR CHANGES NEEDED"
```

```
(ART.MOE)
                               PASSER II-90
                 MULTIPHASE ARTERIAL PROGRESSION PROGRAM       VERSION 2.0

                       EFFICIENCY VERSUS CYCLE LENGTH
                       ------------------------------
                           CYCLE         CUMULATIVE
                           LENGTH        EFFICIENCY
                        ------------    -------------
                             75              .35
                             80              .37
                             85              .39
                             90              .40
                             95              .40
                            100              .40
                            105              .40
                            110              .40
                            115              .40
                            120              .40
```

```
(ART.SUMY)                      Couplet With Second Street
                                      PASSER II-90
                   MULTIPHASE ARTERIAL PROGRESSION PROGRAM        VERSION 2.0

                   **** BEST PROGRESSION SOLUTION SUMMARY ****
101/20       Highway 101                      DISTRICT    02/ 1/96    RUN NO.  1

          CYCLE LENGTH   = 90 SECS      (MAXIMIN CYCLE = 100 SECS)
          EFFICIENCY     =   .40        (GREAT PROGRESSION)
          ATTAINABILITY  =   .84        (FINE-TUNING NEEDED)

          BAND A         = 36 SECS      AVERAGE SPEED  =  25 MPH
          BAND B         = 35 SECS      AVERAGE SPEED  =  25 MPH

    NOTE: ARTERIAL PROGRESSION EVALUATION CRITERIA
          ------------------------------------------------------
          EFFICIENCY     0.00 - 0.12 - "POOR PROGRESSION"
                         0.13 - 0.24 - "FAIR PROGRESSION"
                         0.25 - 0.36 - "GOOD PROGRESSION"
                         0.37 - 1.00 - "GREAT PROGRESSION"

          ATTAINABILITY 1.00 - 0.99 - "INCREASE MIN THRU PHASE"
                         0.99 - 0.70 - "FINE-TUNING NEEDED"
                         0.69 - 0.00 - "MAJOR CHANGES NEEDED"
```

```
(ART.MOE)
                           PASSER II-90
              MULTIPHASE ARTERIAL PROGRESSION PROGRAM       VERSION 2.0

                  EFFICIENCY VERSUS CYCLE LENGTH
                  ------------------------------
                     CYCLE          CUMULATIVE
                     LENGTH         EFFICIENCY
                   ------------    -------------
                        75              .35
                        80              .37
                        85              .39
                        90              .40
                        95              .40
                       100              .40
                       105              .40
                       110              .40
                       115              .40
                       120              .40
```

```
******************************************************************************
*                                                                            *
* Release  7.2                (TRANSYT-7F)                 February 1994     *
*                                                                            *
*                     TRAFFIC SIGNAL SYSTEM OPTIMIZATION                     *
*                                                                            *
*                                 PROGRAM                                    *
*                                                                            *
* Sponsored by:                                               Developed by: *
*                                                                            *
* U.S. Department of Transportation                     University of Florida *
* Federal Highway Administration             Transportation Research Center *
*                                                                            *
*           Software Maintenance and User Support Furnished by:              *
*          Center for Microcomputers in Transportation (McTrans)             *
*          Transportation Research Center, University of Florida             *
*              512 Weil Hall, Gainesville, FL 32611-6585 USA                 *
*                             (904) 392-0378                                 *
*                                                                            *
*                   TRANSYT/7 (C) British Crown Copyright.                   *
*          TRANSYT-7F Copyright 1980-1994, University of Florida.            *
*                           All Rights Reserved.                             *
*                                                                            *
******************************************************************************

Date of Run:  2/ 1/96  Start Time of Run:    9:51:10  Data File: COUPLET.TIN

 ----------------------------------------------------
  N P U T   D A T A   R E P O R T   F O R   R U N   1
 ----------------------------------------------------


FIELDS:
  1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16
--- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
Highway 101       101/20           CASE NUMBER   1.
  1   75  130    5    0    0    3    3   -1    1    1   60    0    0    0    0

>>> 106 +++ WARNING + THE SEC/STEPS FACTOR IN FIELD 6 IS TOO SMALL FOR CYCLE
                      LENGTHS ABOVE  60 SECONDS. IT WILL BE INCREASED TO
                      ALLOW A MAXIMUM OF 60 STEPS/CYCLE.

---   7 --- NOTE - A STOP PENALTY OF '-1' WILL RESULT IN AUTOMATIC
                  CALCULATION OF THE PI TO MINIMIZE FUEL CONSUMPTION.
                  LINK SPECIFIC DELAY OR STOP WEIGHTS ON CARD
                  TYPE 37 & 38 WILL STILL BE APPLIED, HOWEVER.
  2    1    2    3    4    5    6    0    0    0    0    0    0    0    0    0
```

```
Highway 101       101/20          CASE NUMBER   1.
CYCLE:   75 Seconds,    60 Steps

<PERFORMANCE WITH OPTIMAL SETTINGS>

MOVEMENT/           TOTAL  TRAVEL TIME   TOTAL   AVG.    UNIFORM   MAX BACK   FUEL
NODE NOS.   V/C    TRAVEL  TOTAL  AVG.   DELAY   DELAY    STOPS    OF QUEUE   CONS.
            (%)    (v-mi) (v-hr)(sec/v) (v-hr) (sec/v)  NO.  (%)  EST.CAP.   (gal)
------------------------------------------------------------------------------
   101     : 72    28.60   3.29   9.5    2.14     6.2  237.( 19)  10      12   3.8
   103     : 75    61.16   7.94  22.1    5.48    15.2  914.( 71)  21>    16C  10.2
   108     : 86     9.13   5.07  37.3    4.71    34.6  424.( 87)   9>     3C   5.5
   112     : 72     6.90   2.82  27.4    2.54    24.7  298.( 80)   7>     3C   3.3

NODE     1: 86   105.79  19.12         14.87    15.7 1873.( 55)               22.76

   201     : 93   180.45  14.15  42.4    6.89    20.7  315.( 26)  11      51  14.4
   202     : 52     9.62   1.08  60.8     .69    39.1   63.( 99)   1      25   1.2
   203     : 81    32.97   5.66  14.2    4.33    10.9  642.( 45)  14>    12I   7.1
   204     : 76     7.13   4.53  52.7    4.25    49.3  311.(100)   6       6   4.6
   205     : 84     5.39   3.82  47.6    3.60    44.9  260.( 90)   6>     3C   3.9
   206     : 75     4.55   2.60  38.3    2.42    35.6  215.( 88)   5>     3C   2.8

NODE     2: 93   240.10  31.84         22.18    22.6 1806.( 51)               33.92
------------------------------------------------------------------------------
```

```
Highway 101        101/20            CASE NUMBER   1.
CYCLE:   75 Seconds,   60 Steps

MOVEMENT/             TOTAL  TRAVEL TIME    TOTAL    AVG.    UNIFORM   MAX BACK   FUEL
NODE NOS.   V/C     TRAVEL  TOTAL  AVG.    DELAY   DELAY     STOPS    OF QUEUE   CONS.
            (%)     (v-mi)  (v-hr)(sec/v)  (v-hr)  (sec/v)  NO.  (%)  EST.CAP.   (gal)
-------------------------------------------------------------------------------------
   501      : 58   257.54   12.48   41.4    2.12     7.0   651.( 60)  15     80   15.6
   502      : 12     3.56     .32   77.1     .18    42.7    13.( 86)   0     40     .3
   503      : 55   293.93   13.37   44.6    1.55     5.2   541.( 50)  14     92   16.4
   504      : 27    16.33    1.29   77.3     .63    37.9    47.( 78)   1     46    1.4
   505     P: 19      .43     .19   29.1     .17    26.4    19.( 82)   0      3     .3
   506     S:  8      .34     .12   24.7     .11    22.0    13.( 74) 505   505S     .2
   507     P: 58     1.86    1.00   35.9     .92    33.2    87.( 87)   2      3    1.3
   508     S:  8      .47     .17   24.7     .15    22.0    18.( 74) 507   507S     .2

NODE       5: 58   574.46   28.94           5.83     8.7 1389.( 58)                35.77

   601      : 55    30.58    4.05   13.6    2.82     9.5   581.( 54)  13>    10C    5.6
   602      : 16      .57     .20   35.3     .17    31.2    18.( 89)   0      5     .3
   603      : 51   246.86   10.54   36.5     .61     2.1   169.( 16)   6     80   12.2
   604      : 18     9.49     .84   75.5     .46    41.1    36.( 91)   1     40     .9
   605     P: 34      .88     .41   31.3     .37    28.6    40.( 84)   1      3     .6
   606     S:  7      .28     .11   26.8     .10    24.1    12.( 79) 605   605S     .2
   607     P: 60     1.90    1.06   37.5     .99    34.8    90.( 88)   2      3    1.4
   608     S:  4      .19     .07   26.2     .07    23.5     8.( 75) 607   607S     .1

NODE       6: 60   290.75   17.28           5.58     8.6   953.( 41)                21.22
-------------------------------------------------------------------------------------

All MOEs are in units per hour.
```

```
Highway 101      101/20           CASE NUMBER   1.
CYCLE:   75 Seconds,    60 Steps

<ROUTE SUMMARY REPORT>

Highway 101      101/20           THE DOWN DIRECTION IS SOUTH BOUND.

MOVEMENT/           TOTAL   TRAVEL TIME    TOTAL   AVG.     UNIFORM   MAX BACK   FUEL
NODE NOS.   V/C    TRAVEL   TOTAL  AVG.    DELAY   DELAY     STOPS    OF QUEUE   CONS
            (%)    (v-mi)  (v-hr)(sec/v)  (v-hr)  (sec/v)   NO.  (%)  EST.CAP.   (gal)
-----------------------------------------------------------------------------------
   103    : 75    61.16    7.94  22.1     5.48    15.2   914.( 71)  21>    16C 10.2
   203    : 81    32.97    5.66  14.2     4.33    10.9   642.( 45)  14>    12I  7.1
   303    : 56   161.65   11.09  37.1     4.58    15.3   664.( 62)  14      51  13.2
   403    : 61   150.84    9.04  32.6     2.97    10.7   461.( 46)  15      51  10.7
   503    : 55   293.93   13.37  44.6     1.55     5.2   541.( 50)  14      92  16.4
   603    : 51   246.86   10.54  36.5      .61     2.1   169.( 16)   6      80  12.2

Forward:    81   947.41   57.64   187    19.53    10.2 3391.( 49)  SPD=16.4   69.88

   101    : 72    28.60    3.29   9.5     2.14     6.2   237.( 19)  10      12   3.8
   201    : 93   180.45   14.15  42.4     6.89    20.7   315.( 26)  11      51  14.4
   301    : 59   160.81   13.15  44.5     6.68    22.6   938.( 88)  20      51  15.7
   401    : 73   306.18   15.81  50.6     3.49    11.2   519.( 46)  15      92  18.3
   501    : 58   257.54   12.48  41.4     2.12     7.0   651.( 60)  15      80  15.6
   601    : 55    30.58    4.05  13.6     2.82     9.5   581.( 54)  13>    10C   5.6

 everse:    93   964.16   62.92   202    24.13    12.8 3242.( 48)  SPD=15.3   73

-----------------------------------------------------------------------------------
All MOEs are in units per hour.


   ROUTE PERFORMANCE
   -----------------
                                         ROUTE
PERFORMANCE MEASURES    UNITS           TOTALS
-------------------------------------------------
Total Travel            veh-mi/hr         1912
Total Travel Time       veh-hr/hr          121
Avg. Travel Time        sec/veh            195
Total Uniform Delay     veh-hr/hr           36
Total Random Delay      veh-hr/hr            8
Total Delay             veh-hr/hr           44
Average Delay           sec/veh           11.5
Passenger Delay         pax-hr/hr           52
Stops: Total            veh/hr            6633
       Percentage       %                   48
System Speed            mph               15.9
Fuel Consumption        gal/hr             143
Operating Cost          $/hr               656
Disutility Index        DI                  62
 ------------------------------------------------

Performance Index (PI):  Disutility Index (DI):
Disutility Index         Excess Fuel Consumption
```

```
Highway 101        101/20           CASE NUMBER   1.


                   ------------------------------------
                   CYCLE EVALUATION SUMMARY PERFORMANCE
                   ------------------------------------

  CYCLE    STEP    AVERAGE   PERCENT     FUEL       DISUTILITY  NUMBER   PERFORMANCE
 LENGTH    SIZE     DELAY     STOPS   CONSUMPTION     INDEX   SATURATED    INDEX
  (sec)  (steps)  (sec/veh)    (%)     (gal/hr)                 LINKS
-------------------------------------------------------------------------------------

    75      25     14.71       55       181.6         85.3        0      85.2756

    80      27     14.79       54       181.2         84.9        0      84.9320

    85      28     15.05       54       182.0         85.7        0      85.6960

    90      30     15.52       51       181.5         85.2        0      85.1572

    95      32     15.83       49       181.6         85.3        0      85.3081

   100      33     15.95       49       181.6         85.3        0      85.2581

   105      35     16.39       49       183.5         87.2        0      87.1876

   110      37     16.63       49       184.1         87.7        0      87.7197

   115      38     16.92       49       185.4         89.1        0      89.0526

   120      40     17.07       48       185.3         88.9        0      88.9146

   125      42     17.50       46       185.2         88.9        0      88.8684

   130      43     18.03       48       188.1         91.7        0      91.7358

-------------------------------------------------------------------------------------


     BEST CYCLE LENGTH =  80 SEC.   CYCLE SENSITIVITY =   2.5 %

--- 80 --- NOTE - TRANSYT-7F OPTIMIZES THE SYSTEM USING THE BEST
                  CYCLE LENGTH AND HILL-CLIMB STEP SIZES AS
                  INDICATED BY CARD TYPE 52.
```

```
TRANSYT-7F:                                                             Page 8

Highway 101       101/20            CASE NUMBER    1.
CYCLE:   80 Seconds,    60 Steps

MOVEMENT/           TOTAL   TRAVEL TIME   TOTAL    AVG.    UNIFORM    MAX BACK     FUEL
NODE NOS.   V/C   TRAVEL   TOTAL   AVG.   DELAY   DELAY     STOPS    OF QUEUE     CONS.
            (%)   (v-mi)  (v-hr)(sec/v)  (v-hr)  (sec/v)   NO.  (%)  EST.CAP.     (gal)
-------------------------------------------------------------------------------------
   301      : 52  160.81    9.61   32.5    3.14    10.6   858.( 81)   20     51   12.8
   302      :  9    1.51     .16   57.2     .10    35.3     7.( 66)    0     26     .2
   303      : 51  161.65    8.91   29.9    2.41     8.1   381.( 35)    9     51   10.5
   304      : 17    5.26     .46   47.8     .25    26.0    33.( 94)    1     25     .5
   305     P: 29     .75     .38   33.8     .35    31.1    34.( 86)    1      3     .5
   306     S:  4     .19     .08   29.0     .07    26.3     8.( 79)  305   305S     .1
   307     P: 29     .75     .38   33.8     .35    31.1    34.( 86)    1      3     .5
   308     S:  4     .19     .08   29.0     .07    26.3     8.( 79)  307   307S     .1

NODE       3: 52  331.09   20.06            6.74   10.6  1363.( 60)                25.30

   401      : 75  306.18   16.47   52.7    4.16    13.3   875.( 78)   21     92   20.2
   402      : 43   13.34    1.25   91.8     .71    52.4    46.( 94)    1     46    1.3
   403      : 63  150.84    8.75   31.5    2.68     9.6   534.( 53)   14     51   10.8
   404      : 41   12.99    1.39   58.2     .87    36.4    78.( 91)    2     26    1.5
   405     P: 76    3.45    2.06   40.1    1.92    37.4   156.( 84)   4>     3C    2.2
   406     S: 28    1.85     .62   22.4     .54    19.7    72.( 73)  405   405S     .9
   407     P: 63    2.89    1.34   31.1    1.22    28.4   125.( 80)    3      3    1.5
   408     S: 24    1.42     .45   21.4     .39    18.7    52.( 69)  407   407S     .7

 DE        4: 76  492.94   32.33           12.49   16.2  1938.( 70)                39
-------------------------------------------------------------------------------------
```

```
Highway 101      101/20            CASE NUMBER   1.
CYCLE:   80 Seconds,   60 Steps


   SYSTEM-WIDE PERFORMANCE: ALL NODES
   ----------------------------------
                                          SYSTEM
PERFORMANCE MEASURES   UNITS              TOTALS
------------------------------------------------
Total Travel           veh-mi/hr          2108
Total Travel Time      veh-hr/hr           154
Total Uniform Delay    veh-hr/hr            57
Total Random Delay     veh-hr/hr            12
Total Delay            veh-hr/hr            69
Average Delay          sec/veh            14.8
Passenger Delay        pax-hr/hr            83
Stops: Total           veh/hr             9139
       Percentage      %                    55
System Speed           mph                13.7
Fuel Consumption       gal/hr              181
Operating Cost         $/hr               1086
Average PROS           PROS               35.8
Performance Index      DI                 85.1
------------------------------------------------

Performance Index (PI):  Disutility Index (DI):
Disutility Index         Excess Fuel Consumption

 o. of Simulations = 183, Links =  3224  Elapsed Time =    25.4 sec.
```

OREGON DEPARTMENT OF TRANSPORTATION

TRANSPORTATION DEVELOPMENT BRANCH

Systems Studies Unit

PRELIMINARY TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: HIGHWAY 101

Minor Street: NE 73RD

County: LINCOLN

City: NEWPORT

PRELIMINARY SIGNAL WARRANT VOLUMES

Number of approach lanes		ADT on major street approaching from both directions		ADT on minor street highest approaching volume	
MAJOR STREET	MINOR STREET	percent of standard warrant		percent of standard warrant	
		100	70	100	70
WARRANT 1: Minumum Vehicular Traffic					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 2: Interruption of Continuous Traffic					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

5.65% of the above ADT volumes is equal to the MUTCD vehicles per hour (vph)

check one	
☐	100 percent of standard warrants used
☑	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population of less than 10,000

PRELIMINARY SIGNAL WARRANT CALCULATIONS

Year: 2016

Alternative: PREFERRED

	Street	Number of lanes	Warrant volumes	Approach volumes	Warrant met?
Warrant #1	Major	1	6,200	20,800	YES
	Minor	1	1,850	1,100	NO
Warrant #2	Major	1	9,300	20,800	YES
	Minor	1	950	1,100	YES

Analyst & Date: JPL 5.16.97

Reviewer & Date:

OREGON DEPARTMENT OF TRANSPORTATION

TRANSPORTATION DEVELOPMENT BRANCH

Systems Studies Unit

PRELIMINARY TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: HIGHWAY 101

Minor Street: NE 52ND

County: LINCOLN

City: NEWPORT

PRELIMINARY SIGNAL WARRANT VOLUMES

Number of approach lanes		ADT on major street approaching from both directions		ADT on minor street highest approaching volume	
		percent of standard warrant		*percent of standard warrant*	
MAJOR STREET	MINOR STREET	100	70	100	70
WARRANT 1: Minumum Vehicular Traffic					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 2: Interruption of Continuous Traffic					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

5.65% of the above ADT volumes is equal to the MUTCD vehicles per hour (vph)

check one

☐ 100 percent of standard warrants used

☑ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population of less than 10,000

PRELIMINARY SIGNAL WARRANT CALCULATIONS

Year: 2016

Alternative: PREFERRED

	Street	Number of lanes	Warrant volumes	Approach volumes	Warrant met?
Warrant #1	Major	2	7,400	27,150	YES
	Minor	1	1,850	1,130	NO
Warrant #2	Major	2	11,100	27,150	YES
	Minor	1	950	1,130	YES

Analyst & Date: JPL 5.16.97

Reviewer & Date:

OREGON DEPARTMENT OF TRANSPORTATION

TRANSPORTATION DEVELOPMENT BRANCH

Systems Studies Unit

PRELIMINARY TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: Highway 101

Minor Street: Bay St.

County: Lincoln

City: Newport

PRELIMINARY SIGNAL WARRANT VOLUMES

Number of approach lanes		ADT on major street approaching from both directions percent of standard warrant		ADT on minor street highest approaching volume percent of standard warrant	
MAJOR STREET	MINOR STREET	100	70	100	70
WARRANT 1: Minumum Vehicular Traffic					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 2: Interruption of Continuous Traffic					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

5.65% of the above ADT volumes is equal to the MUTCD vehicles per hour (vph)

check one

☑ 100 percent of standard warrants used

☐ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population of less than 10,000

PRELIMINARY SIGNAL WARRANT CALCULATIONS

Year: 2016

Alternative: Preferred

	Street	Number of lanes	Warrant volumes	Approach volumes	Warrant met?
Warrant #1	Major	2	10,600	26,530	Yes
	Minor	1	2,650	1,100	[✓ NO]
Warrant #2	Major	2	15,900	26,530	Yes
	Minor	1	1,350	1,100	[✓ NO]

Analyst & Date: JRL 5.16.97

Reviewer & Date:

SIGWARNT.XLS
Rev 8/14/95

OREGON DEPARTMENT OF TRANSPORTATION

TRANSPORTATION DEVELOPMENT BRANCH

Systems Studies Unit

PRELIMINARY TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: HIGHWAY 101

Minor Street: ABBEY ST.

County: LINCOLN

City: NEWPORT

PRELIMINARY SIGNAL WARRANT VOLUMES

Number of approach lanes		ADT on major street approaching from both directions percent of standard warrant		ADT on minor street highest approaching volume percent of standard warrant	
MAJOR STREET	MINOR STREET	100	70	100	70
WARRANT 1: Minumum Vehicular Traffic					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 2: Interruption of Continuous Traffic					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

5.65% of the above ADT volumes is equal to the MUTCD vehicles per hour (vph)

check one

☑ 100 percent of standard warrants used

☐ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population of less than 10,000

PRELIMINARY SIGNAL WARRANT CALCULATIONS

Year: 2016

Alternative: PREFERRED

	Street	Number of lanes	Warrant volumes	Approach volumes	Warrant met?
Warrant #1	Major	2	10,600	26,280	YES
	Minor	1	2650	1,500	NO
Warrant #2	Major	2	15,900	26,280	YES
	Minor	1	1,350	1,500	YES

Analyst & Date: JPC 5.16.97

Reviewer & Date:

Appendix D: Modeling Information

Table 1 1993 and 2016 Land Uses by Category*

1993									
TAZ	**SF**	**RV**	**MF**	**IDEM**	**RTEM**	**SEM**	**EDEM**	**GOVT**	**AGEM**
11	44	0	0	0	0	2	0	12	0
12	252	0	64	7	0	17	0	0	0
13	121	0	60	0	0	7	0	0	0
14	30	0	6	0	5	5	0	0	0
15	72	0	45	0	11	15	0	0	0
16	6	0	65	0	0	0	0	0	0
17	182	0	60	0	0	0	0	0	0
18	58	0	3	0	247	262	0	3	0
19	82	0	0	13	0	0	0	0	0
20	104	0	4	0	183	73	0	0	0
21	87	0	12	1	58	38	46	0	0
22	9	0	0	0	0	0	0	0	0
23	9	0	0	0	0	0	0	0	0
24	69	0	0	4	51	45	0	3	2
25	272	0	252	1	11	18	0	7	1
26	69	0	67	2	196	173	0	80	4
27	231	0	85	0	0	0	72	0	2
28	131	0	0	2	0	0	55	86	2
29	4	0	0	1	8	43	0	17	0
30	43	0	3	40	4	12	0	0	1
31	11	0	0	0	0	0	0	0	0
32	178	0	213	0	9	137	0	40	6
33	3	0	6	0	116	120	0	479	0
34	71	0	28	10	40	129	0	67	6
35	3	0	10	0	74	95	0	44	7
36	167	0	82	187	95	26	45	2	4
37	171	0	200	32	34	43	0	20	2
38	20	0	0	0	0	0	0	0	0
39	94	0	105	250	144	90	0	186	4
40	77	0	12	0	25	87	0	0	0
41	0	0	0	10	2	0	0	3	0
42	23	0	26	5	13	0	0	0	0
43	16	0	0	73	36	70	0	100	0
44	2	0	0	23	5	3	0	6	0
45	78	0	0	79	5	0	0	0	0
46	8	0	0	0	0	0	0	0	0
47	9	0	0	0	0	0	0	0	0
48	115	0	0	0	0	0	0	0	0
49	1	0	0	0	0	3	0	10	0
50	28	0	0	0	2	0	0	0	0
51	35	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0
53	59	0	0	0	0	0	0	0	0
54	26	0	0	0	0	0	0	0	0
55	91	0	84	4	32	54	0	19	4

Table 1 1993 and 2016 Land Uses by Category (continued)

2016									
TAZ	**SF units**	**RV spaces**	**MF units**	**IDEM**	**RTEM**	**SEM**	**EDEM**	**GOVT**	**AGEM**
11	94	0	0	44	20	37	0	22	0
12	282	0	114	11	10	32	0	0	0
13	188	0	160	0	25	22	0	0	0
14	40	0	6	0	15	5	0	25	0
15	192	0	95	0	61	35	40	0	0
16	86	0	125	0	0	25	0	0	0
17	192	0	90	0	0	0	0	0	0
18	73	0	3	0	257	277	0	3	0
19	102	0	0	13	0	0	0	0	0
20	114	0	21	0	193	88	0	0	0
21	137	0	12	1	58	58	46	0	0
22	19	0	0	0	0	0	0	0	24
23	9	0	50	0	0	0	0	0	0
24	74	0	20	4	76	70	0	3	2
25	287	0	272	1	11	43	0	7	1
26	69	0	97	2	216	183	0	130	4
27	241	0	100	0	0	0	72	0	2
28	281	0	15	2	0	0	115	136	2
29	4	0	10	1	8	53	0	32	0
30	43	0	3	40	29	37	0	25	1
31	61	0	0	0	0	0	0	0	0
32	188	0	238	0	19	187	0	65	6
33	3	0	6	0	116	145	13	609	0
34	71	0	28	10	65	154	0	117	6
35	3	0	10	0	74	120	0	144	7
36	187	0	97	187	95	76	45	27	4
37	371	0	230	132	34	68	0	20	2
38	70	0	0	0	0	0	0	0	0
39	104	0	130	250	149	140	0	186	4
40	77	0	22	0	25	112	0	20	0
41	0	0	0	10	63	25	0	18	0
42	123	0	101	5	163	10	0	0	0
43	26	0	75	88	186	129	0	125	0
44	2	0	0	73	30	28	0	21	0
45	108	0	75	154	30	25	0	10	0
46	58	0	25	0	30	10	0	0	0
47	9	0	0	100	15	25	0	0	0
48	140	0	0	0	0	0	0	0	0
49	1	0	0	0	15	3	0	35	0
50	48	0	0	0	2	0	0	0	0
51	41	0	0	0	0	0	0	0	0
52	59	0	0	0	0	0	0	0	0
53	26	0	0	0	0	0	0	0	0
54	26	0	0	0	0	0	0	0	0
55	106	0	94	4	47	129	0	19	4

* SF units = single family housing units
RV Spaces = recreational vehicle spaces
MF units = multi-family housing units
IDEM = industrial employment
RTEM = retail employment
SEM = service employment
EDEM = educational employment
GOVT = government employment
AGEM = agricultural employment

Table 1 1993 and 2016 Land Uses by Category (continued)

Increases in Population and Employment from 1993 to 2016						
	1993		2016		Increase	
TAZ	**Population**	**Employment**	**Population**	**Employment**	**Population**	**Employment**
11	44	14	94	123	50	109
12	316	24	396	53	80	29
13	181	7	348	47	167	40
14	36	10	46	45	10	35
15	117	26	287	136	170	110
16	71	0	211	25	140	25
17	242	0	282	0	40	0
18	61	512	76	537	15	25
19	82	13	102	13	20	0
20	108	256	135	281	27	25
21	99	143	149	163	50	20
22	9	0	19	24	10	24
23	9	0	59	0	50	0
24	69	105	94	155	25	50
25	524	38	559	63	35	25
26	136	455	166	535	30	80
27	316	74	341	74	25	0
28	131	145	296	255	165	110
29	4	69	14	94	10	25
30	46	57	46	132	0	75
31	11	0	61	0	50	0
32	391	192	426	277	35	85
33	9	715	9	883	0	168
34	99	252	99	352	0	100
35	13	220	13	345	0	125
36	249	359	284	434	35	75
37	371	131	601	256	230	125
38	20	0	70	0	50	0
39	199	674	234	729	35	55
40	89	112	99	157	10	45
41	0	15	0	116	0	101
42	49	18	224	178	175	160
43	16	279	101	528	85	249
44	2	37	2	152	0	115
45	78	84	183	219	105	135
46	8	0	83	40	75	40
47	9	0	9	140	0	140
48	115	0	140	0	25	0
49	1	13	1	53	0	40
50	28	2	48	2	20	0
51	35	0	41	0	6	0
52	0	0	0	0	0	0
53	59	0	59	0	0	0
54	26	0	26	0	0	0
55	175	113	200	203	25	90

Impacts of External Trips

One type of external trips is through trips. Through trips pass entirely through the network (external-external) and do not have a corresponding opposite trip. Through trips are manually assigned to specific facilities on the network before the model is actually run.

The four external stations contain trip production and attraction information by trip purpose. These trips are the internal-to-external trips referred to in the report. They are trips that either originate outside of Newport destined for Newport or trips that originate in Newport with outside destinations. These internal-external trips each have a corresponding paired trip that has an exact opposite origin and destination. An example of an internal-external trip is a person living in Waldport that works in Newport. This person drives into the Newport network in the morning (external-internal trip) and leaves the network at night (corresponding internal-external trip). When the model is run, each internal-external trip production is matched to a corresponding attraction location. Trips can be produced internally attracted externally and produced externally attracted internally. The model assigns trips between origins and destinations to the most appropriate roadways within Newport. These trips compete with internal trips for roadway capacity.

The majority of external trips are produced or attracted at the external stations on Highway 101 and Highway 20. The recreational and seasonal character of Newport enhances the role that external trips play on Newport transportation system performance. Increases in external trips in the summer and growth in external trips between 1993 and 2016 create increased travel demand on Newport roadways, primarily Highway 101 and Highway 20. This increased demand effectively decreases roadway capacity available for internal trips. Within the model, increased volume on a facility decreases travel time, making alternative routes (side-streets) preferable to additional traffic.

Appendix E: Existing Reports and Information

The following reports and information sources were used in preparing this report.

- Oregon Coast Highway Corridor Plan - Research and Inventory Report, Volume 4 - Transportation, July 1993, Parsons Brinckerhoff Quade & Douglas, Inc., et al.
- Newport Municipal Airport Master Plan - Final Report, July 1991, Foresite Group, Inc.
- Public Facilities Plan for the City of Newport, Oregon, 1990, CH2M HILL.
- Proposed Oregon Coast Highway Corridor Master Plan, January 1995, Parsons Brinckerhoff Quade & Douglas, Inc., et al.
- City of Newport Transportation Plan, "A Roadway and Traffic Safety Management Plan," January 1981, Transportation Planning and Management, Inc.
- City of Newport Transportation Plan Update, March 1989, CH2M HILL and Kittelson & Associates.
- Lincoln County Transit Plan, October 1993, Lincoln County Transportation Planning Committee & Oregon Cascade West Council of Governments.
- City of Newport Comprehensive Plan, 1990-2010, adopted October 7, 1991.
- City of Newport Bicycle and Pedestrian Facilities on State Highways Map.
- 1994 Mileage Report.
- Newport Peninsula Urban Design Plan, Process Summary, July 1994, Demuth Glick Consultants, Ltd.
- Oregon Transportation Plan, 1992, ODOT
- Oregon Highway Plan, 1991, ODOT

Appendix F: 1989 Transportation Plan Update – Intersection & Roadway Improvement Projects

1989 TSP Update - Recommended Intersection Projects [a]

Project #	Project Name	Type of Improvement	Estimated Cost 1989 $[b]	Proposed Year of Construction
Priority A (1988-1992)				
1	U.S. 20 at U.S. 101	Alt. A – Restrict east and west through movements on U.S. 20 (East Olive) and on West Olive	$6,000	N/A
		Alt. B – Provide left turn phasing on U.S. 20 (East Olive) and West Olive	37,000	N/A
2	U.S. 101 at SW Angle	Close SW 2nd between SW Angle and U.S. 101. Signal installation and channelization	105,000	1989
3	U.S. 20 at SE Avery	Providing signing and channelization	5,000	1989
4	John Moore Road at SE Bay Boulevard	Provide realignment and channelization	21,500	1989
5	NE 20th at Crestview	Provide realignment and channelization	6,000	1989
6	SW Canyon at SW Fall	Provide realignment and channelization	2,000	1989
7	U.S. 101 at SE 1st and South Cape	Provide island and channelization	3,000	1990
8	U.S. 101 at SW Minnie and SW 9th	Provide signing and channelization	6,000	1990
9	SW Hurbert at SW 2nd	Provide channelization	1,500	1990
10	SW Lee at SW 2nd and SW Nye	Provide realignment and channelization	2,000	1990
11	U.S. 101 at SW Fall and Frontage Road	Change traffic flow to one-way north on Frontage Road and extend island	1,500	1990
11A	U.S. 101 at SW Abbey	Signal installation	105,000	1991
12	Naterlin at U.S. 101 (Yaquina Bay Bridge)	Provide realignment and channelization	18,000	1991
13	U.S. 101 at NE 36th Street	When PUD is implemented, improve NE 36th to collector standards and improve sight distance onto U.S. 101	--	--

14	South 35th at U.S. 101 and Ferry Slip Road (South Beach), Ferry Slip Road between U.S. 101 and South 35th	Construct South 35th between U.S. 101 and Ferry Slip Road to Collector Standards. Realign and modify Ferry Slip Road connection to Ferry Slip Road connection to U.S. 101. Install signal at U.S. 101 and South 35th when development requires	105,000	–

[a] Projects not listed in 1981 plan were provided by the City.

[b] Costs of projects listed in 1981 plan updated to 1989 dollars using ENR Construction Cost Index — costs of new projects provided by City.

1989 TSP Update - Recommended Street Network Projects [a]

Project #	Project Name	Type of Improvement	Estimated Cost 1989 $[b]	Proposed Year of Construction
Priority A (1988-1992)				
1	John Moore Road between Bay Boulevard and U.S. 20	Reconstruct to arterial standards; 44-foot pavement section with curb and gutter, storm drainage, sidewalks both sides, and traffic control. Provide passing lane (climbing lane), i.e., 3 lanes: 2 northbound and 1 southbound	$ 435,000	1989
2	SW Bay Boulevard between Bay Street and Fall Street	Provide a detailed access management and parking study to improve traffic safety and movement	7,000	1989
3	NE Eads Street between NE 4th and NE 7th	Construct 5-foot sidewalks on the west side of NE Eads Street	9,000	1990
4	U.S. 20 between Moore Road and U.S. 101	Construct 5-foot sidewalks on the south side of Highway 20	38,000	1989
5	SW Neff and SW Alder between U.S. 101 and SW 2nd	Reconstruct to collector standards; 40-foot pavement section with curb and gutter, storm drainage, and traffic control	110,000	1990
6	U.S. 101 at Agate Beach	Speed limit considerations, intersection realignments, channelization, signing, and sight distance improvements	N/A	1990
7	U.S. 101 between Alder and Yaquina Bay Bridge	Phase out on-street parking and provide continuous left turn refuge	25,000	1990
8	NW 27th between Ocean View and U.S. 101	Construct to collector standards	100,000	1990
9	Edenview between Ocean View and NW 20th	Widen to 40-foot pavement section with curb and gutter, storm drainage, and traffic control	110,000	1991
10	NW Spring Street between 8th Street and 6th Street at Coast	Construct to collector standards	60,000	1992

Project #	Project Name	Type of Improvement	Estimated Cost 1989 $[b]	Proposed Year of Construction
11	Idaho Point Road between 35th Street and end	Construct to collector standards	537,000	1992
Priority B (1993-2000)				
12	NE 7th Street between 7th Drive and Newport Heights Road	Construct to collector standards	100,000 100,000	1993
13	NE 3rd Street between NE Eads and N. E. Harney	Reconstruct to local standards; 36-foot pavement section with curb gutter, storm drainage, and traffic control	$50,000 50,000	1994
14	NW Nye Street extension to Ocean View	Construct to collector standards; 40-foot pavement section with curb and gutter, storm drainage, and traffic control (maximum grade of 15%)	100,000	1995
15	N-S Bypass, Phase I between U.S. 20 and NE 32nd	Construct to arterial standards; 44-foot pavement section with curb and gutter, storm drainage, and traffic control	1,400,000	1995
16	NW 60th/North Avenue/55th Street	Construct to collector standards	39,000	1995
17	South Beach Industrial Access Roads	Construct to arterial standards	2,000,000	1996
18	N-S Bypass, Phase 2 between Phase 1 and NE 60th Street	Construct to arterial standards	1,800,000	1998
19	Port Bypass between U.S. 20 and Yaquina Bay Road	Provide right-of-way for arterial; construct 24-foot paved road with 8-foot shoulders	3,400,000	2000
20	South Beach Bypass	Construct to arterial standards	3,300,000	2000
Priority C (2001-2010)				
21	N-S Bypass, Phase 3 between Phase 2 and U.S. 101	Construct to arterial standards	1,200,000	2003

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[a] Projects not listed in 1981 plan were provided by the City.

[b] Costs of projects listed in 1981 plan updated to 1989 dollars using ENR Construction Cost Index — costs of new projects provided by City.