



**Oregon**

Theodore R. Kulongoski, Governor

**Department of Land Conservation and Development**

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[www.lcd.state.or.us](http://www.lcd.state.or.us)



**NOTICE OF ADOPTED AMENDMENT**

03/16/2009

**TO:** Subscribers to Notice of Adopted Plan  
or Land Use Regulation Amendments

**FROM:** Mara Ulloa, Plan Amendment Program Specialist

**SUBJECT:** Tillamook County Plan Amendment  
DLCD File Number 003-07

The Department of Land Conservation and Development (DLCD) received the attached notice of adoption. A Copy of the adopted plan amendment is available for review at the DLCD office in Salem and the local government office.

Appeal Procedures\*

**DLCD ACKNOWLEDGMENT or DEADLINE TO APPEAL:** Friday, March 27, 2009

This amendment was submitted to DLCD for review prior to adoption with less than the required 45-day notice. Pursuant to ORS 197.830(2)(b) only persons who participated in the local government proceedings leading to adoption of the amendment are eligible to appeal this decision to the Land Use Board of Appeals (LUBA).

If you wish to appeal, you must file a notice of intent to appeal with the Land Use Board of Appeals (LUBA) no later than 21 days from the date the decision was mailed to you by the local government. If you have questions, check with the local government to determine the appeal deadline. Copies of the notice of intent to appeal must be served upon the local government and others who received written notice of the final decision from the local government. The notice of intent to appeal must be served and filed in the form and manner prescribed by LUBA, (OAR Chapter 661, Division 10). Please call LUBA at 503-373-1265, if you have questions about appeal procedures.

**\*NOTE:** THE APPEAL DEADLINE IS BASED UPON THE DATE THE DECISION WAS MAILED BY LOCAL GOVERNMENT. A DECISION MAY HAVE BEEN MAILED TO YOU ON A DIFFERENT DATE THAT IT WAS MAILED TO DLCD. AS A RESULT, YOUR APPEAL DEADLINE MAY BE EARLIER THAN THE ABOVE DATE SPECIFIED.

**Cc:** Lisa Phipps, Tillamook County  
Doug White, DLCD Community Services Specialist  
Bob Cortright, DLCD Regional Representative  
Laren Woolley, DLCD Regional Representative

<paa> YA

FORM 2

# DLCD

## Notice of Adoption

THIS FORM **MUST BE MAILED** TO DLCD  
**WITHIN 5 WORKING DAYS AFTER THE FINAL DECISION**  
PER ORS 197.610, OAR CHAPTER 660 - DIVISION 18



Jurisdiction: **Tillamook County**

Local file number: **OA-07-06**

Date of Adoption: **3/4/2009**

Date Mailed: **3/6/2009**

Was a Notice of Proposed Amendment (Form 1) mailed to DLCD? **Yes** Date: unknown- in 2007

Comprehensive Plan Text Amendment

Comprehensive Plan Map Amendment

Land Use Regulation Amendment

Zoning Map Amendment

New Land Use Regulation

Other:

Summarize the adopted amendment. Do not use technical terms. Do not write "See Attached".

Adoption of the Highway 131 Transportation Refinement Plan as it applies to from Whiskey Creek Junction to the terminus in Oceanside.

Does the Adoption differ from proposal? Please select one

Yes, modifications were made to the conceptual plan and appendix F

Plan Map Changed from:

to:

Zone Map Changed from:

to:

Location:

Acres Involved:

Specify Density: Previous:

New:

Applicable statewide planning goals:

1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19

Was an Exception Adopted?  YES  NO

Did DLCD receive a Notice of Proposed Amendment...

45-days prior to first evidentiary hearing?

Yes  No

If no, do the statewide planning goals apply?

Yes  No

If no, did Emergency Circumstances require immediate adoption?

Yes  No

063-07(16155) [15433]

**DLCD file No.** \_\_\_\_\_

Please list all affected State or Federal Agencies, Local Governments or Special Districts:

ODOT; DLCD; NOSD; Oceanside Neighborhood Association; Netarts CPAC

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Local Contact: **Lisa Phipps**

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E-mail Address: **lhipps@co.tillamook.or.us**

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## **ADOPTION SUBMITTAL REQUIREMENTS**

This form **must be mailed** to DLCD **within 5 working days after the final decision**  
per ORS 197.610, OAR Chapter 660 - Division 18.

1. **Send this Form and TWO Complete Copies (documents and maps) of the Adopted Amendment to:**

**ATTENTION: PLAN AMENDMENT SPECIALIST  
DEPARTMENT OF LAND CONSERVATION AND DEVELOPMENT  
635 CAPITOL STREET NE, SUITE 150  
SALEM, OREGON 97301-2540**

2. **Electronic Submittals:** At least **one** hard copy must be sent by mail or in person, but you may also submit an electronic copy, by either email or FTP. You may connect to this address to FTP proposals and adoptions: **webserver.lcd.state.or.us**. To obtain our Username and password for FTP, call Mara Ulloa at 503-373-0050 extension 238, or by emailing **mara.ulloa@state.or.us**.
3. **Please Note:** Adopted materials must be sent to DLCD not later than **FIVE (5) working days** following the date of the final decision on the amendment.
4. Submittal of this Notice of Adoption must include the text of the amendment plus adopted findings and supplementary information.
5. The deadline to appeal will not be extended if you submit this notice of adoption within five working days of the final decision. Appeals to LUBA may be filed within **TWENTY-ONE (21) days** of the date, the Notice of Adoption is sent to DLCD.
6. In addition to sending the Notice of Adoption to DLCD, you must notify persons who participated in the local hearing and requested notice of the final decision.
7. **Need More Copies?** You can now access these forms online at **http://www.lcd.state.or.us/**. Please print on **8-1/2x11 green paper only**. You may also call the DLCD Office at (503) 373-0050; or Fax your request to: (503) 378-5518; or Email your request to **mara.ulloa@state.or.us** - ATTENTION: PLAN AMENDMENT SPECIALIST.

BEFORE THE BOARD OF COMMISSIONERS  
FOR TILLAMOOK COUNTY, OREGON

<b>In the Matter of Adopting the Highway 131 Transportation Refinement Plan.</b>	) ) ) ) ) )	<b>Findings of Fact and Decision</b>  OA-07-06
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This matter came before the Tillamook County Board of Commissioners at the request of the County. The Board of Commissioners, being fully apprised of the representations of the above-named persons and the records and files in this matter, finds as follows:

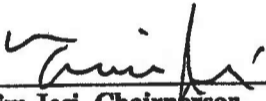

1. The files in this proceeding can be found in the office of the Tillamook County Department of Community Development under Ordinance Amendment OA-07-06.
  
2. The Tillamook County Planning Commission held a public hearing on this request on September 13, 2007. The hearing was noticed in a proper manner according to the requirements of ORS 197 and 215. After reviewing the staff report, testimony, and the record for OA-07-06, the Planning Commission continued the hearing to allow for additional public input. The materials were submitted to the Oceanside Neighborhood Association and the Netarts CPAC for review and comment. The Planning Commission then heard the matter on December 11, 2008. After reviewing the staff report, testimony and record including new testimony received, the Planning Commission asked Staff to incorporate all recommended changes into a single document. On January 8, 2009, Staff presented the changes to the Planning Commission. The Planning Commission found the application met the criteria subject to conditions and unanimously passed a recommendation to the Tillamook County Board of Commissioners to adopt Ordinance Amendment Request OA-07-06.
  
3. The Board opened a de novo public hearing on the Ordinance Amendment Request OA-07-06 on January 28, 2009. The hearing was properly noticed according to the requirements of ORS 197 and 215. The Board closed the hearing to public testimony. After reviewing the Planning Commission's recommendation, the staff report containing findings and conclusions, testimony, and the record and file, the Board found that the four zone change criteria outlined under Tillamook County Land Use Ordinance Article IX had been met. The Board found that the proposed Ordinance Amendment was consistent with the policies of the Tillamook County Comprehensive Plan. The Board adopted the proposed Highway 131 Transportation Refinement Plan and appendices and approved Ordinance Amendment Request OA-07-06, adopted the Findings attached hereto and concluded that the criteria have been met herein.

**NOW THEREFORE, THE BOARD OF COUNTY COMMISSIONERS FOR TILLAMOOK COUNTY, OREGON, ORDERS AS FOLLOWS:**

4. The approval of the Ordinance Amendment OA-07-06 with modifications to the Conceptual Plan to remove the RV parking spaces at the end of Pacific Avenue, that the bike/pedestrian pathway extends the entire length of the community of Netarts, and that increased regulations on the boat ramp be eliminated from the text (Exhibit D).
5. Furthermore, modifications made to Appendix F (Exhibit II) are incorporated with the understanding that the suggested ordinance and policy amendments are in draft form only, and
6. The recommended Lighting Ordinance be removed from Appendix F and dealt with on a county-wide basis.
7. In addition, the Board concurs with the Planning Commission recommendation that when Staff brings the draft ordinances forward, that Staff go back to the minutes of these hearings on this matter to ensure that the concerns raised during this process are captured.

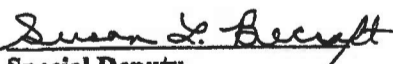
DATED THIS 4th DAY OF March, 2009.

**BOARD OF COUNTY COMMISSIONERS  
FOR TILLAMOOK COUNTY, OREGON**

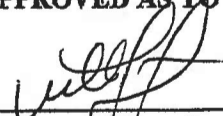
	Aye	Nay	Abstain/Absent
 _____ Tim Josi, Chairperson	✓		1
 _____ Mark Labhart, Vice-Chairperson	✓		1

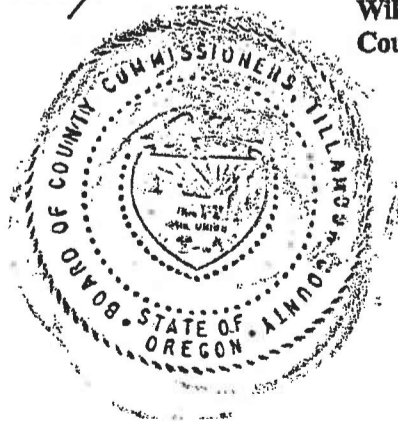
\_\_\_\_\_  
Charles J. Hurliman, Commissioner

ATTEST: Tassi O'Neil,  
County Clerk

  
\_\_\_\_\_  
Susan L. Beckett  
Special Deputy

APPROVED AS TO FORM:

  
\_\_\_\_\_  
William K. Sargent, County  
Counsel

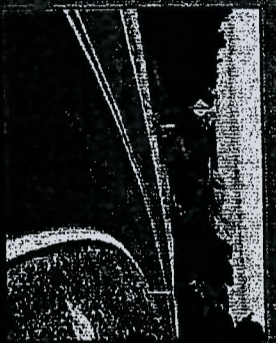


# Highway 331 Transportation Reimbursement Plan

PREPARED FOR:  
Economic Development Council of Tillamook County  
Tillamook County Department of Community Development  
Oregon Department of Transportation

PREPARED BY:  
CH2MHILL

ALTA  
ANGULO  
CONSULTING & ENGINEERING



JUNE 2007

Exhibit I

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**Project Staff**

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**OREGON DEPARTMENT OF TRANSPORTATION**

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David Helton, Project Manager (as of March 2007)

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Jessica Roberts

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David Helton, Oregon Department of Transportation (as of March 2007)  
Bill Holmstrom, Tillamook County Department of Community Development  
Lisa Phipps, Tillamook County Department of Community Development  
Christy Vail, Tillamook County Economic Development Council

**Advisory Committee**

Lori Carpenter, Netarts Citizen Planning Advisory Committee  
Tim Carpenter, Netarts-Oceanside Regional Fire District  
Steve Cham, Netarts Business Owner  
Joanne Jene, Oceanside Neighborhood Association  
Lenora Lawrence, Oceanside Neighborhood Association  
Bruce Lovelin, Tillamook County Planning Commission  
Peter Marvin, Oregon Parks and Recreation Department  
Larry McKinley, Oregon Department of Transportation  
Pat Oakes, Tillamook County Public Works  
Mike Slibsager, Netarts Water District  
Alan Tuckey, Oceanside Water District  
Laren Woolley, Oregon Department of Land Conservation and Development  
Clyde Zeller, Netarts Citizen Planning Advisory Committee



The Highway 131 Transportation Refinement Plan is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by the federal Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and the State of Oregon funds. The contents of this document do not necessarily reflect views or policies of the State of Oregon.

# 1 INTRODUCTION

The Highway 131 Transportation Refinement Plan addresses key transportation issues along Oregon Highway 131 (Highway 131) as it travels through the unincorporated communities of Oceanside and Netarts in western Tillamook County, Oregon (Figure 1). The plan is a refinement of the 2003 *Tillamook County Transportation System Plan* (TSP), which identifies the need for transportation planning on Highway 131 within and between Oceanside and Netarts.

The objectives of the Highway 131 Transportation Refinement Plan are as follows:

- Identify strategies to improve bicycle and pedestrian safety on Highway 131.
- Identify strategies to address parking and circulation in Oceanside and Netarts.
- Identify main street strategies in Oceanside and Netarts to address pedestrian, bicycle, and auto circulation while maintaining the through function of Highway 131.
- Evaluate an Oregon Department of Transportation (ODOT) Special Transportation Area (STA) designation for the community of Oceanside.

The plan was funded by a grant to the Tillamook County Economic Development Council (EDC) from the Oregon Transportation and Growth Management (TGM) Program and in-kind contributions from the EDC and Tillamook County (County). Working with the EDC and the County, the TGM program staff hired the consulting team of CH2M HILL, Alta Planning + Design, and Angelo Planning Group to prepare the plan.



**FIGURE 1**  
**Highway 131 Study Area**

## 2 PLANNING PROCESS

This section summarizes five elements of the project's planning process: project management; public involvement; goals and evaluation criteria; existing and future conditions analysis; and development and evaluation of alternatives.

### **PROJECT MANAGEMENT**

A project management team (PMT) consisting of staff from the EDC, Tillamook County Department of Community Development, and ODOT provided periodic guidance and policy direction for this plan.

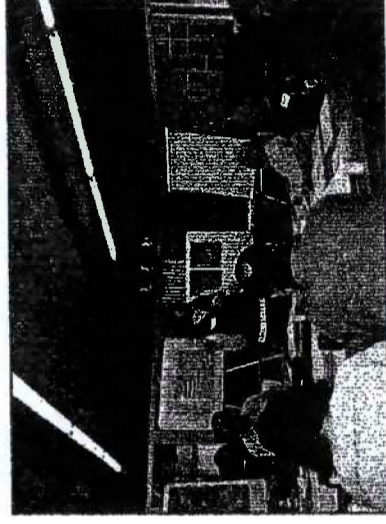
### **PUBLIC INVOLVEMENT**

Oceanside and Netarts community members, stakeholders, and other interested parties actively participated in the development of this plan. An appointed advisory committee (AC) made up of local agency representatives, business owners, and community members met three times (February, April, and May 2007) to provide feedback to the project team at key milestones, including a review of project needs and a discussion of proposed alternatives (Figure 2). Two public workshops (February and April 2007) and presentations to the Netarts Citizen Planning Advisory Committee (CPAC) and Oceanside Neighborhood Association (ONA) (June 2007) allowed for substantial input and feedback from the public. Project background information, schedule, updates, materials, and meeting summaries also were

available on a project Web site hosted by ODOT. Documentation of the public involvement process is included in Appendix A.

### **GOALS AND EVALUATION CRITERIA**

The project team developed draft goals and evaluation criteria for the project based on input from the PMT and stakeholder interviews. The goals and evaluation criteria are provided in Table 1. They establish a framework to assure that the plan responds to the goals and desires of the community. The draft alternatives were developed to address these criteria, and subsequently were evaluated to rate their success in doing so.



**FIGURE 2**  
**Advisory Committee Meeting (February 2007)**

**TABLE 1  
Goals and Evaluation Criteria**

Goals	Evaluation Criteria
<p><b>Highway Mobility</b> Preserve and enhance the through movement function of Highway 131.</p>	<ul style="list-style-type: none"> <li>● Volume/capacity ratio for traffic along Highway 131 is equal to or better than the acceptable OHP mobility standard</li> <li>○ Volume/capacity ratio for traffic along Highway 131 is worse than the acceptable OHP mobility standard</li> </ul>
<p><b>Intersection Mobility</b> Preserve operations at study intersections.</p>	<ul style="list-style-type: none"> <li>● Major and minor movements for each of the three study intersections are equal to or better than the acceptable OHP mobility standard</li> <li>● One study intersection (major or minor movement) is worse than the acceptable OHP mobility standard</li> <li>○ Two or more study intersections (major or minor movement) are worse than the acceptable OHP mobility standard</li> </ul>
<p><b>Vehicular Safety</b> Provide a transportation system that maintains adequate levels of safety for all vehicles, including regional traffic, local traffic, and commercial traffic.</p>	<ul style="list-style-type: none"> <li>● Addresses known safety issues, reduces potential conflicts, and does not add new operational safety concerns</li> <li>● Indirectly addresses, or minimally addresses known safety issues, and does not add new operational safety concerns</li> <li>○ Does not address known safety issues, and/or adds conflict points, or otherwise creates an additional safety problem for vehicles</li> </ul>
<p><b>Pedestrian Safety</b> Provide a transportation system that maintains adequate levels of safety for pedestrians.</p>	<ul style="list-style-type: none"> <li>● Addresses known pedestrian safety issues, reduces potential conflicts, and does not add new pedestrian safety concerns</li> <li>● Does not add new pedestrian safety concerns, does not directly address or minimally addresses known pedestrian safety issues</li> <li>○ Adds conflict points or otherwise creates an additional safety problem for pedestrians</li> </ul>
<p><b>Bicycle Safety</b> Provide a transportation system that maintains adequate levels of safety for bicyclists.</p>	<ul style="list-style-type: none"> <li>● Addresses known bicycle safety issues, reduces potential conflicts, and does not add new bicycle safety concerns</li> <li>● Does not add new bicycle safety concerns, does not directly address or minimally addresses known bicycle safety issues</li> <li>○ Adds conflict points or otherwise creates an additional safety problem for bicyclists</li> </ul>
<p><b>Access Management</b> Meet relevant access spacing policies, or improve access spacing over existing conditions.</p>	<ul style="list-style-type: none"> <li>● Adds no new access points on Highway 131, and includes specific strategies for improving access spacing on Highway 131 to improve compliance with access spacing standards</li> <li>● Adds no new access points on Highway 131, and includes strategies for minor improvements to existing access spacing on Highway 131</li> <li>○ Adds new access points on Highway 131, and/or does not propose strategies to improve access spacing over what exists today</li> </ul>

**TABLE 1  
Goals and Evaluation Criteria**

Goals	Evaluation Criteria
<p><b>Off-Highway Vehicle Circulation</b> Provide opportunities for off-highway vehicle circulation.</p>	<ul style="list-style-type: none"> <li>● Improves opportunities for off-highway vehicle circulation</li> <li>● Provides no change in opportunities for off-highway vehicle circulation</li> <li>○ Worsens opportunities for off-highway vehicle circulation</li> </ul>
<p><b>Community Preservation</b> Minimize impacts to existing residences within the study area, and encourage a strong, vital core of businesses in downtown Netarts, downtown Oceanside, and along Highway 131 within the project area.</p>	<ul style="list-style-type: none"> <li>● Creates no impacts to existing businesses and/or residences, or minor impacts that can be mitigated; provides opportunity for redevelopment and/or new development</li> <li>● Creates minor impacts to existing businesses and/or residences that can not be mitigated or major impacts that can be mitigated</li> <li>○ Creates a major impact to existing businesses and/or residences (e.g. residential or business displacement); does not encourage continued growth of downtown core</li> </ul>
<p><b>Parking</b> Provide appropriate, adequate, and convenient parking for visitors and customers of local businesses.</p>	<ul style="list-style-type: none"> <li>● Adds new on-street or off-street parking spots or substantially improves potential use and safety of existing on-street and off-street parking by defining parking areas</li> <li>● Improves potential use and safety of on-street and off-street parking by defining parking areas, but without significantly changing existing on-street or off-street parking spots</li> <li>○ Reduces the total number of on-street and off-street parking spots and/or does not improve potential use and safety of existing on-street and off-street parking by defining parking areas</li> </ul>
<p><b>Community Support</b> Provide recommendations that will receive support from the community and elected officials.</p>	<ul style="list-style-type: none"> <li>● Expected to garner broad and/or strong support from community stakeholders and leaders</li> <li>● Support from community stakeholders and leaders is not expected to be strong, and/or is uncertain.</li> <li>○ Expected to receive limited or no support from community stakeholders and leaders</li> </ul>
<p><b>Ocean and Bay Access</b> Improve pedestrian access to the ocean and/or Netarts Bay.</p>	<ul style="list-style-type: none"> <li>● Provides multiple direct pedestrian accesses to the ocean and/or Netarts Bay</li> <li>● Provides one direct pedestrian access to the ocean and/or Netarts Bay</li> <li>○ Provides no or indirect pedestrian accesses to the ocean and/or Netarts Bay</li> </ul>
<p><b>Bicycle and Pedestrian Facilities</b> Provide for an interconnected system of bicycle and pedestrian facilities</p>	<ul style="list-style-type: none"> <li>● Creates new and/or substantially improves existing bicycle and pedestrian facilities</li> <li>● Creates minor new and/or indirectly improves existing bicycle and pedestrian facilities</li> <li>○ Does not create new and does not improve existing bicycle and pedestrian facilities</li> </ul>

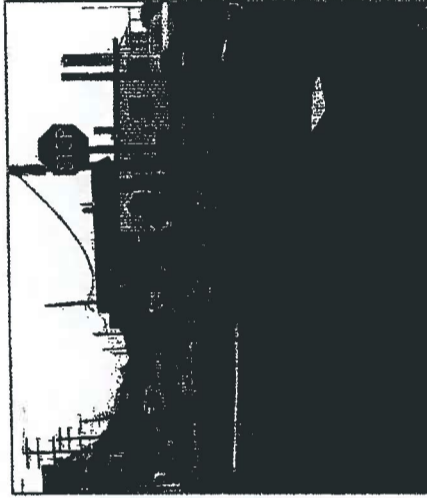
**TABLE 1  
Goals and Evaluation Criteria**

Goals	Evaluation Criteria
<p><b>Public Transportation</b> Improve public transit facilities to encourage growth in transit ridership.</p>	<ul style="list-style-type: none"> <li>● Directly and substantially improves conditions at existing public transit facilities, or provides transit facilities to serve all users of the transit system, including youth, elderly, and physically disabled populations</li> <li>● Provides minor or indirect improvements at existing public transit facilities to serve some users, but provides no improvements to the youth, elderly, and physically disabled populations</li> <li>○ Provides no improvements, or adversely impacts existing public transit facilities</li> </ul>
<p>Provide solutions that are cost-effective to design and construct (based on order-of-magnitude cost estimate).</p>	<ul style="list-style-type: none"> <li>● Provides a cost effective solution with opportunities for local funding match and opportunities to be built in phases</li> <li>● Cost effectiveness and/or opportunities for local funding are uncertain, or there are limited opportunities for phasing</li> <li>○ Alternative is not considered cost effective</li> </ul>

**EXISTING AND FUTURE CONDITIONS REVIEW**

Prior to the first AC meeting, the project team reviewed and documented existing and anticipated future land use and transportation conditions on Highway 131 within and between Oceanside and Netarts (Figure 3). The review was based on existing documents, traffic operations and impacts analysis, and a field review (December 2006) conducted with the assistance of local and county representatives. The existing conditions, constraints, and opportunities review is included in Appendix B. Key findings were as follows:

- Highway 131 is a barrier to bicyclist comfort and safety, due to limited-to-no-shoulder width, curves in the highway between Oceanside and Netarts, perceived high travel speeds, and seasonal high traffic volumes.
- Apart from short sidewalk segments on Pacific Avenue in Oceanside, there are no designated pedestrian facilities in the study area.



**FIGURE 3  
Existing Conditions Field Review**

- There is a high parking demand during the peak summer periods in Oceanside at the Wayside parking lot, and along Pacific Avenue, leading to parking in unofficial or illegal parking areas.

- Traffic congestion within the study area is not of concern for traffic mobility, in current conditions or future scenarios.
- Analysis of crashes in the study area did not identify a specific safety problem, though some areas had more than one reported crash of the same type. Potential safety concerns were also identified.
- Driveway spacing in much of the study area, especially within central areas of Oceanside and Netarts, does not meet standards for a state highway, which affects safety.

The basis of the first AC meeting (February 2007) was to review and discuss existing Highway 131 conditions, and identify issues related to traffic, circulation, access, and safety in the study area.

#### **DEVELOPMENT AND EVALUATION OF ALTERNATIVES**

Following the February AC meeting, the project team developed alternatives to respond to the project needs, purpose, and goals. Key steps in the alternatives development process were as follows:

1. Develop a range of alternatives that seek to meet project goals and evaluation criteria (described in Table 1).
2. Present draft alternatives to ODOT and Tillamook County for review against state and county policies and standards (March 2007); revise draft alternatives as necessary to respond to comments.
3. Evaluate each potential improvement to illustrate how the improvement addresses each project goal. The alternatives evaluation process is documented in Appendix C.
4. Present draft alternatives to AC and the public (April 2007).

5. Modify the preferred alternative to incorporate input and discussion from AC and the public; present again to the AC (May 2007) and to the public (June 2007).

## 3 RECOMMENDATIONS

Highway 131 Transportation Refinement Plan recommendations are organized into three sections: (1) Oceanside Improvement Concepts; (2) Netarts Improvement Concepts; and (3) Corridor Improvement Concepts (recommendations outside the communities of Oceanside and Netarts). Improvement concepts are illustrated in Figure 5 (Oceanside Improvement Concepts), Figure 9 (Netarts Improvement Concepts), and Figure 15 (Corridor Improvement Concepts).

### Oceanside Improvement Concepts

Recommended improvement concepts for Oceanside are described in this section. The numbers before each improvement concept correspond to the numbers illustrated in Figure 5.

**1. Reconfigure Wayside Parking Lot and Modify Pacific Avenue Circulation**  
Travelers visiting Oceanside to access the beach primarily park in the Wayside immediately north of Ocean Street. The Wayside is owned by the Oregon Parks and Recreation Department (OPRD). During the summer peak periods, parking demand exceeds supply. Upon finding no available spaces, some motorists illegally park in the wayside parking lot or on nearby residential streets.

The existing conditions analysis, and comments from the AC and general public, identified the need to expand parking supply at the wayside. Based on AC and general public input, the project team developed a potential reconfiguration of the Wayside to improve parking and circulation in the Wayside parking lot and on Pacific Avenue immediately north of the wayside (see Figure A in Section 5). The design illustrates potential changes in the Wayside to maximize parking. Further coordination with OPRD, Tillamook

County, and the Oceanside community will be needed to determine the exact amount and location of additional parking areas. The following bullets provide a menu of recommendations to improve parking and circulation in the Wayside area.

- **Pacific Avenue Circulation:** Modify the circulation of Pacific Avenue north of the Ocean Street/Maxwell Avenue intersection to a one-way northbound (Figure 4) road and improve the existing pavement. Though left turns would be permitted from Pacific Avenue to Ocean Street, signage at this intersection would direct larger vehicles such as recreational vehicles (RVs) to travel northbound on Pacific Avenue. Pacific Avenue would be designed to accommodate RVs as the road curves to the west toward the beach, and south to the Wayside.

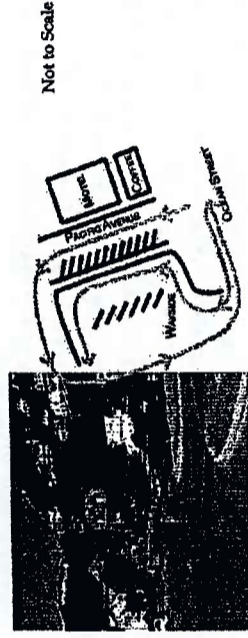


Photo Source: Oceanside Neighborhood Association

**FIGURE 4**  
**Modified Circulation of Wayside and Pacific Avenue**

- **Pacific Avenue Parking:** Implement parking on the west side of Pacific Avenue north of the Ocean Street/Maxwell Avenue intersection. (This parking area is part of the Wayside.) The southern portion of this area could be used as pull-in/pull-out parking for the wayside. The northern section could be configured and designed to accommodate parallel on-street parking for RVs. For the purposes of stormwater management and runoff, logs are recommended instead of traditional curbs to



allow water to infiltrate, and pervious pavement or gravel are recommended instead of pavement.

- **Wayside Parking Lot:** Add a row of parking on the northeast side of the Wayside parking lot (parallel to Pacific Avenue). This row would require the construction of a retaining wall between this new row of parking and the parking spaces along Pacific Avenue.
- **Wayside Circulation:** Change the circulation within the wayside parking lot to one-way counter-clockwise. Vehicles entering the wayside parking lot from Ocean Street would encounter a channelization island directing them to the right, and would continue in a counter-clockwise loop around the parking lot. Vehicles entering the wayside from Pacific Avenue (from the north) would turn south through the parking lot. The angle of the parking stalls would be changed to be consistent with the counter-clockwise channelization of the parking lot.
- **Parking at the Lot Adjacent to the Community Center:** Add parking to the lot adjacent to the Oceanside Community Center (described in more detail in improvement concept 2).

According to OPRD, the Wayside has been identified as an area of potential archeological significance. Any improvements to the wayside would first be subject to an archaeological survey. To the extent that areas of wayside are eligible for improvement, the Community, the County, and OPRD will need to discuss the level of parking and landscaping improvements.

Revenue from parking tickets could be used towards funding or maintaining Oceanside improvements, including the concepts identified in this plan. Additionally, a parking district could be developed for central Oceanside, which would implement a residential parking permit system. Enforcement of the residential

permits by community policing could discourage illegal parking and generate revenue to fund improvements.

**2. Restripe Parking, Define Access Points, and Modify Circulation in the Parking Lot Adjacent to Community Center**

The following measures are recommended for the parking lot adjacent to the Community Center: (1) restripe to add capacity; (2) install curbs to define the driveways; and (3) modify parking lot circulation to one way. Vehicles currently are parking in the center of the parking lot during the peak summer period. Restriping the parking lot would designate the appropriate location for vehicles to park in the center aisle. Striping for compact vehicles would accommodate more vehicles to meet the peak summer period parking demand. It is estimated that restriping the parking lot for compact vehicles and officially adding parking spaces in the center aisle would increase the number of spaces in this parking lot from 15 to 23. A sign should be installed in the reconfigured parking lot to reserve a designated area for the Tillamook County Bookmobile during certain days and times. Curbs should be installed on Pacific Avenue to define the two driveways (entrance and exit), as a way to improve safety within the parking lot. Signage should be installed on Pacific Avenue to designate the appropriate driveway for entering and exiting the parking lot.

**3. Install Directional Signage**

Keeping the "No RV Turnaround" sign and installing signage to direct motorists to Pacific Avenue and central Oceanside are recommended measures at the Pacific Avenue/Cape Mearns Loop Road intersection. This signage acknowledges the limited capability of large vehicles to navigate around central Oceanside. Signage to travel northbound on Pacific Avenue at the Pacific Avenue/Ocean Street/Maxwell Avenue intersection also is recommended. This signage should improve the existing situation of RVs turning around in the Pacific Avenue/Ocean Street/Maxwell Avenue intersection.

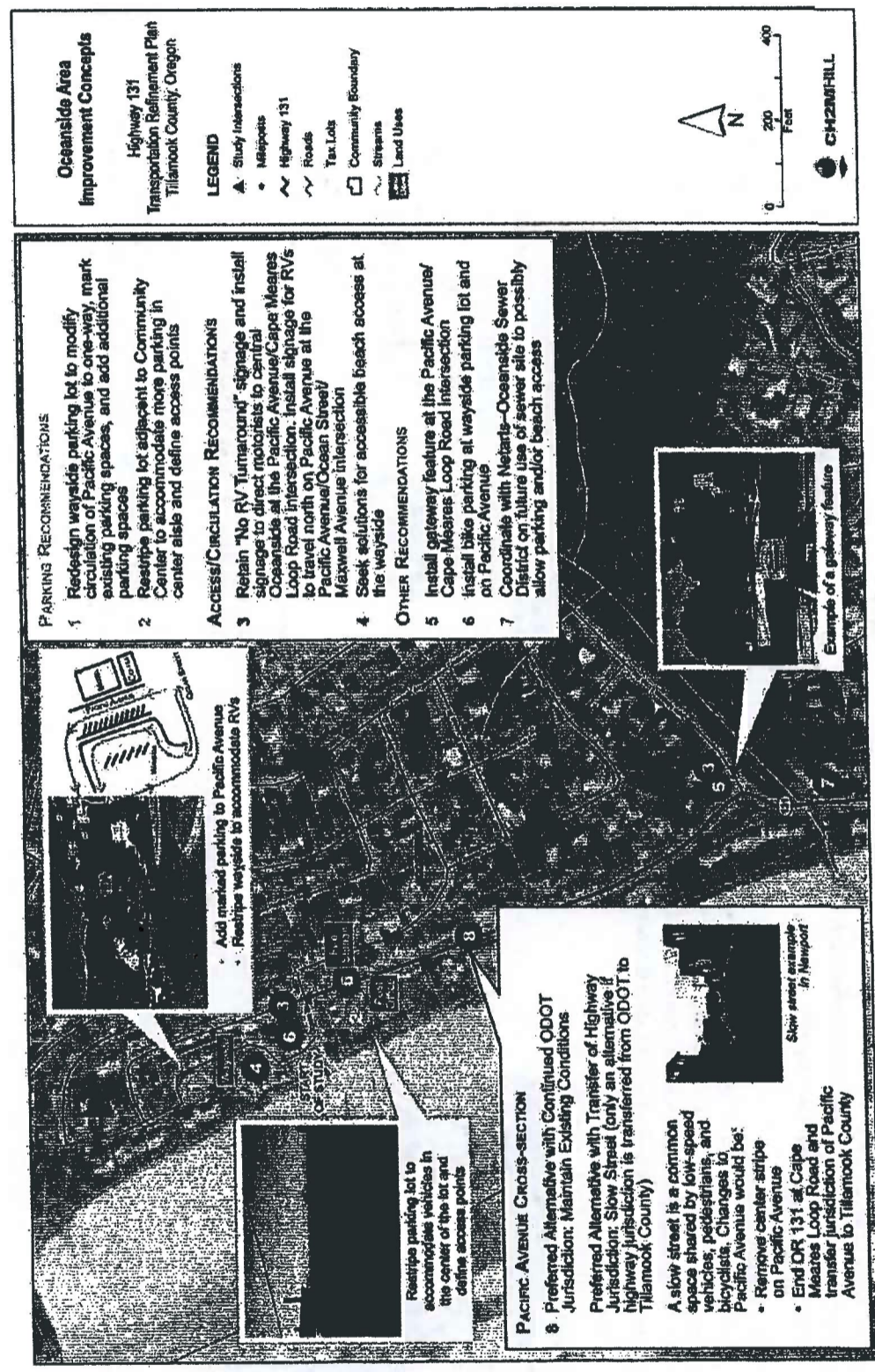


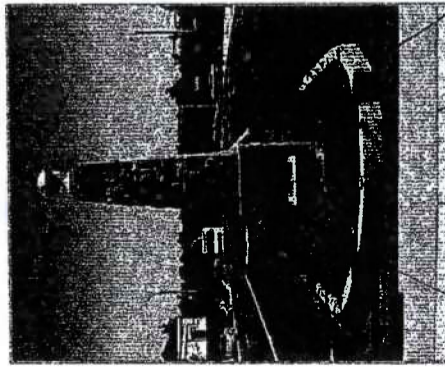
FIGURE 5  
 Oceanside Improvement Concepts

**4. Explore Solutions for Improved Beach Access**

Exploring solutions for improved beach access at the Wayside is recommended. The grade of the existing paved trail to the beach from the Wayside does not meet the Americans with Disability Act (ADA) standards and the trail ends at an area with large rocks. Improved access should be explored to accommodate people with physical disabilities. Accommodation could be provided by revamping the existing beach access to meet ADA requirements, or by creating a new trail from the wayside.

**5. Install Gateway Feature**

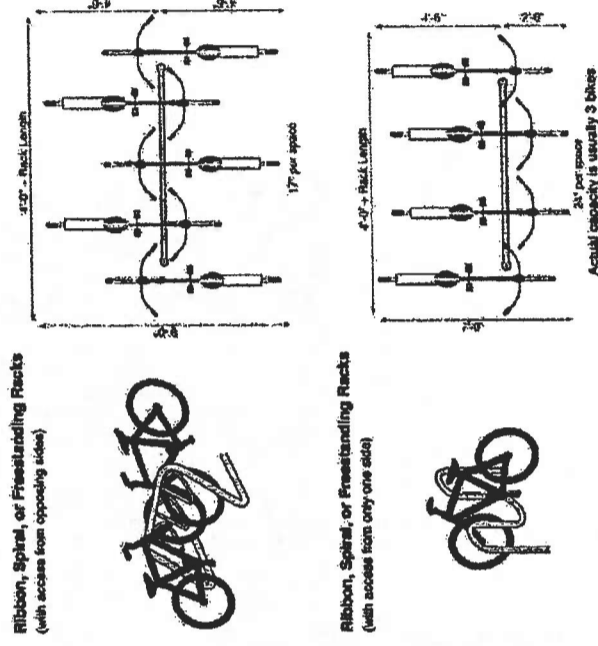
A gateway feature, such as the feature illustrated in Figure 6, is recommended at the Highway 131/Pacific Avenue/Cape Meares Loop Road intersection. This feature would be an important entry point to central Oceanside and would alert motorists that they are entering a community.



**FIGURE 6**  
**Example of a Gateway Feature**

**6. Install Bicycle Parking**

Secure bicycle parking racks currently are unavailable in Oceanside. Bicycle parking is recommended on Pacific Avenue and in the Wayside parking lot to accommodate bicyclists and encourage greater levels of bicyclist activity to and from the Wayside and Pacific Avenue. Some typical bike rack designs are illustrated in Figure 7.



Source: Alta Planning + Design

**FIGURE 7**  
**Typical Bicycle Rack Designs**

**7. Coordinate with Netarts-Oceanside Sewer District**

Coordination among the Oceanside community, Tillamook County, and the Netarts-Oceanside Sewer District is recommended to

Transferring jurisdiction of Pacific Avenue from ODOT would terminate Highway 131 at the Pacific Avenue/Cape Meares Loop Road intersection.

The AC and the public preferred the slow street concept to the traditional concept for Pacific Avenue. Facilitating transfer of ownership for Pacific Avenue is expected to take time and effort beyond the scope of this refinement plan. Therefore, the short-term (zero to 10 years) recommendation for Pacific Avenue is to maintain existing conditions. However, it is also recommended that ODOT, Tillamook County, and the community of Oceanside explore the feasibility of transferring roadway ownership to implement the slow street concept in the long-term (10 to 20 years).

A conceptual design and cost estimate were developed for the slow street concept to assist ODOT and Tillamook County in further exploring this concept. The conceptual design, illustrated in Section 5 (Figure B), assumes a complete redesign of the road from pavement and curb at the north end (50 feet from building face to building face) and pavement and gravel/dirt shoulder at the south end (40 feet from building face to building face) to textual pavers. Right-of-acquisition or easements may be required to maintain the look and feel of the slow street concept from building face to building face along Pacific Avenue. Bollards could be placed as needed along the slow street to channel moving traffic away from parking areas.

The technical team evaluated an STA designation for Pacific Avenue. An STA is an ODOT-designated district in which the need for appropriate local access is balanced with the considerations of highway mobility. The primary highway management objective of an STA is to provide access to community activities, businesses, and residences, and to facilitate safe and convenient pedestrian, bicycle, and transit movement along and across the highway. The technical

address future use of the sewer site. This site, located south of the Pacific Avenue/Cape Meares Loop Road intersection, could be used in the future as a parking lot for beach access via the Percy Simmons Wayside.

**8. Explore the "Slow Street Concept" on Pacific Avenue**

Two alternatives for Pacific Avenue were developed and presented at an AC meeting and at a public workshop. The first alternative was referred to as the "Traditional Concept." The traditional concept would implement on-street parking and sidewalks on Pacific Avenue. The second alternative was referred to as the "Slow Street Concept." A slow street is a common space shared by low-speed vehicles, pedestrians, and bicyclists. Figure 8 illustrates an example of a slow street in Newport, Oregon.



**FIGURE 8  
Example of a Slow Street (Newport, OR)**

Implementing the slow street concept would require removing the center stripe on Pacific Avenue. Because removing the center stripe on Pacific Avenue would be inconsistent with adopted highway standards, jurisdiction of Pacific Avenue would need to be transferred from ODOT to Tillamook County or to a future incorporated Oceanside to implement the slow street concept.

team concluded that Pacific Avenue does not meet the majority of the STA attributes and characteristics (see Appendix D) and that an STA designation would have few advantages for Oceanside.

### **Netarts Improvement Concepts**

The Netarts improvement concepts are organized into four categories: (1) North Commercial Area; (2) North and South Commercial Areas; (3) Netarts Bay Drive Intersection Area; and (4) Marina and Boat Basin. The numbers before each improvement concept correspond to the numbers illustrated in Figure 9.

The Netarts Community Plan identifies two main commercial areas in Netarts:

- South Commercial Area – The south commercial area includes commercial development along Highway 131 in the vicinity of Alder Cove Road and Park Avenue. This southern commercial area also includes the Netarts Bay Marina off Netarts Bay Drive.
- North Commercial Area – The north commercial area is located in the vicinity of Crab Avenue, with commercial development on both sides of Highway 131. The majority of the commercial development is located west of the highway, and is primarily developed with commercial land uses extending from Crab Avenue to Netarts Bay.

Figure 9 illustrates these two commercial areas. Recommended improvements for Netarts are described in this section.

#### **NORTH COMMERCIAL AREA**

1. *Install Pedestrian Improvements in the Vicinity of Crab Avenue*  
Pedestrian safety improvements to cross Highway 131 are recommended in the vicinity of Crab Avenue and the Post Office in the North Commercial Area. Recommended improvements include a raised pedestrian median/pedestrian refuge and a crosswalk. These

pedestrian improvements would improve pedestrian safety between the east and west sides of Highway 131, including to and from the Post Office. The raised pedestrian refuge could also slow vehicle travel speeds. Approval by the State Traffic Engineer would be required before establishing a marked crosswalk at this location. Crosswalks outside of controlled intersections could be installed by ODOT, Tillamook County, or the community of Netarts, but ODOT approval is required and maintenance would be primarily the responsibility of the local jurisdiction.

#### **2. Install Bus Shelters**

Transit shelters are recommended at the two existing Tillamook County Transportation District (TCTD) bus stops between Crab Avenue and the Post Office (one bus stop on each side of the highway) in the North Commercial Area. The shelters would be installed by TCTD. These shelters would provide protection from the weather, provide a safety buffer from Highway 131 traffic, and provide a visual indicator for motorists that potentially could slow vehicle travel speeds when passing the bus stops. TCTD should also consider installing TCTD signage that is consistent with the TCTD bus stop signage throughout Tillamook County. While the bus stops and transit shelters are primarily for public transit use, they also could be used for school buses if desired.

#### **NORTH AND SOUTH COMMERCIAL AREAS**

#### **3. Install Signage to Slow Vehicles**

Signage is recommended to help decrease travel speeds on Highway 131 before the south entrance to the South Commercial Area (north of Burk Avenue) and before the north entrance of the North Commercial Area (immediately north of Crab Avenue). These signs would be located after posted speed changes (the posted speed changes from 45 miles per hour (mph) to 30 mph north of Burk Avenue and from 35 mph to 30 mph north of Crab Avenue).

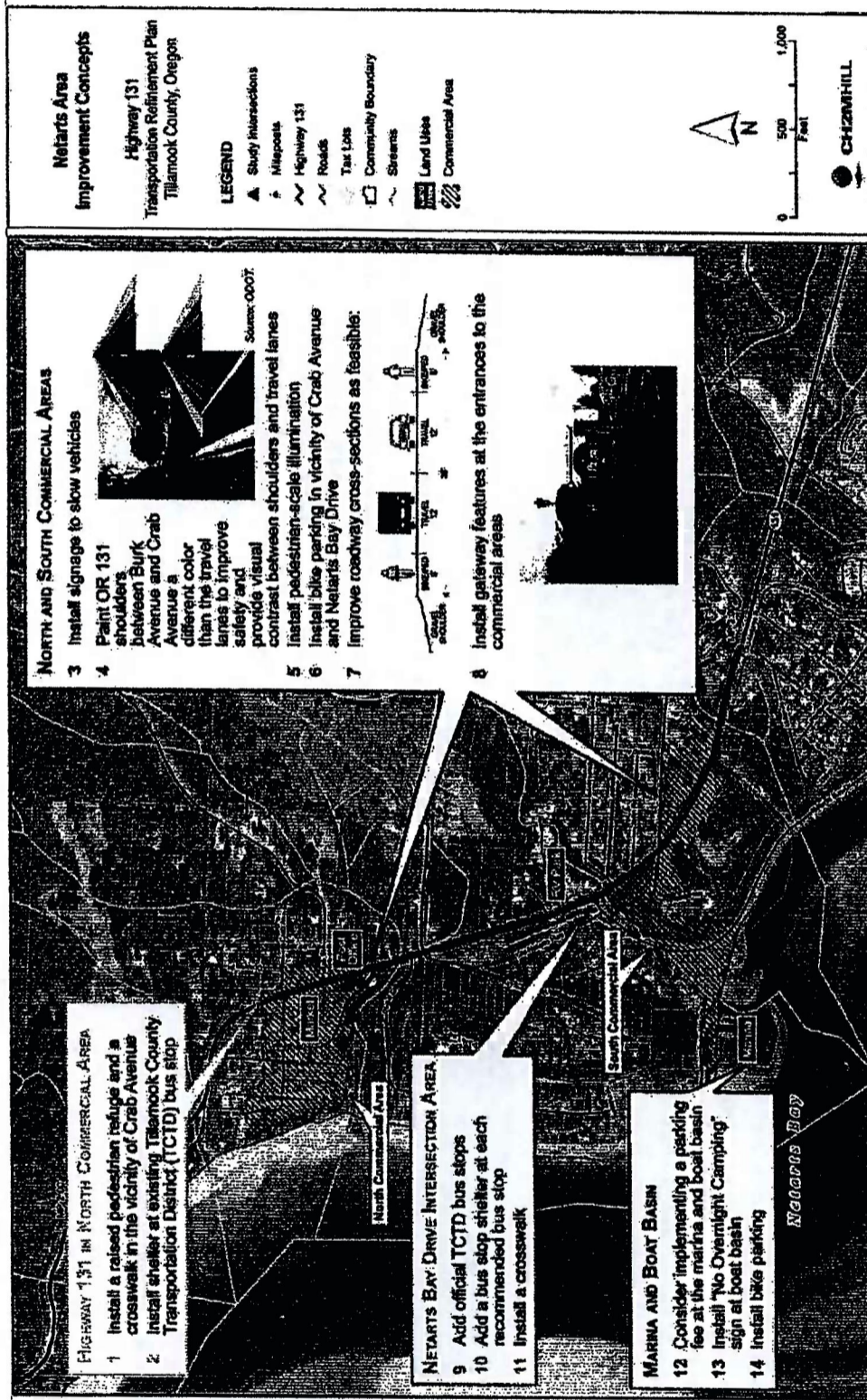
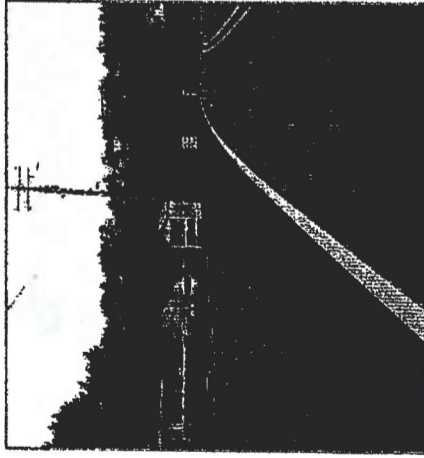


FIGURE 9  
 Netarts Improvement Concepts

**4. Paint Highway 131 Shoulders**

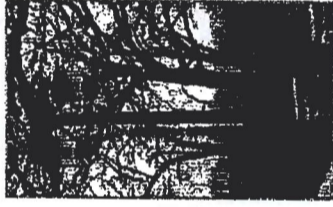
A high-contrast paved shoulder is recommended for both sides of Highway 131 between Burk Avenue and Crab Avenue to slow motorists, provide a visual indicator for motorists that they are entering the Netarts community, and strengthen the visual identity of Netarts. Figure 10 illustrates what a colored shoulder would look like on Highway 131. The high-contrast shoulder also would serve to better delineate the pedestrian/bicycle space as separate from the roadway. The colored shoulder would be separated from the roadway by a white painted stripe and could be marked with symbols indicating it is not a driving or parking lane. A conceptual design of painted shoulders is located in Section 5 (Figure C). Further extension of the high-contrast shoulder to Happy Camp Road should be explored over the long-term to connect with residences and public beach access.



**FIGURE 10**  
**Illustration of Painted Highway Shoulder**

**5. Install Pedestrian-Scale Illumination**

Pedestrian-scale illumination using 8- to 10-foot light posts is recommended along Highway 131 in the North and South Commercial Areas. Figure 11 illustrates a pedestrian-scale illumination. This illumination scale would provide lighting for the shoulder areas, allowing pedestrians to feel safer, while increasing the attractiveness of Netarts. Lighting in Netarts should be consistent with "dark sky"<sup>1</sup> goals to help preserve views of the night sky.



**FIGURE 11**  
**Example of Pedestrian-Scale Illumination**

**6. Install Bicycle Parking**

Bicycle parking should be installed in the North and South Commercial Areas to accommodate bicyclists and encourage more bicyclist activity to and from the commercial areas. Figure 7 illustrates typical bicycle rack designs. Providing bike parking also could reduce the demand for vehicle parking.

<sup>1</sup> The International Dark-Sky Association (IDA) has developed goals and resources to preserve and protect the nighttime environment of dark skies through quality outdoor lighting.

**7. Improve Highway 131 Cross-Section through Netarts**

ODOT right-of-way maps show 60 feet of public right-of-way on Highway 131 through Netarts. Typically, the right-of-way consists of 30 feet on each side of the highway centerline. Although a 60-foot right-of-way is available for roadway improvements, topography, utility poles, and encroaching private property constrain the feasibility of using all 60 feet through Netarts.

Figure 12 illustrates the recommended cross-section for Highway 131 through Netarts. This is a 36-foot-wide cross-section with two 12-foot-wide travel lanes, and a 6-foot-wide shoulder on both sides of the highway for bicyclists and pedestrians.



**FIGURE 12**  
**Recommended Highway 131 Cross-Section in Netarts**

Originally, cross-section improvements were recommended only for the North and South Commercial Area in Netarts. However, after discussion with the community and agency stakeholders, the cross-section was extended to include the portion of Highway 131 as it travels through Netarts between the North and South Commercial Areas. The boundaries of this cross-section would be from Burk Avenue on the south end to Crab Avenue at the north end. Ideally, the cross-section and high-contrast paved shoulder would be extended to Happy Camp Road to serve residents and public beach access, but topographic constraints make this extension challenging.

Highway 131 cross-section improvements would be accompanied by definition of driveways to ensure property access. Access would be provided to all properties. Access details such as driveway locations

and dimensions would be developed through the implementation of cross-section improvements. The following access management opportunities are recommended for consideration:

- Close any approaches where reasonable alternate access from local streets is or can be made available to serve the current or planned use of the property.
- Consolidate approaches where the result provides reasonable access to serve the current or planned use of the property.
- Close or relocate public or private approaches after property redevelopment or road improvements occur, if reasonable alternate access off local streets can be made to serve the planned use of the property.

**8. Install Gateway Features at Entrances to North and South Commercial Areas**

A gateway feature is recommended at the south entrance to the South Commercial Area (north of Burk Avenue) and at the north end of the North Commercial Area (immediately north of Crab Avenue). An example of a gateway feature is illustrated in Figure 13. These features would represent important points of entry to Netarts and would alert motorists that they are entering a community.



**FIGURE 13**  
**Example of a Gateway Feature (Astoria, OR)**



### NETARTS BAY DRIVE INTERSECTION AREA

#### 9. Add TCTD Bus Stop

AC members commented that the Netarts Bay Drive intersection area currently is an unofficial TCTD bus stop that serves residents of the RV park on the east side of Highway 131 at Netarts Bay Drive, and the marina or boat basin. Two official TCTD bus stops (one on each side of Highway 131) are recommended in the vicinity of the Netarts Bay Drive to designate a safe location for passengers to wait for the bus, and for buses to safely load and unload passengers. Official bus stops also could increase bus ridership to the Marina and Netarts Bay. The crosswalk in the vicinity of Netarts Bay Drive (described in improvement concept 12) should be installed before or during the addition of these official bus stops.

#### 10. Install Bus Shelter

Transit shelters are proposed at the two recommended TCTD bus stops (described in improvement concept 9). The shelters would be installed by TCTD. These shelters would provide protection from the weather, provide a safety buffer from US 101 traffic, and provide a visual indicator of the bus stops to motorists, which could potentially slow vehicle travel speeds when passing the bus stops. TCTD should also consider installing new TCTD signage that is consistent with the TCTD bus stop signage throughout Tillamook County. While the bus stops and transit shelters are primarily for public transit use, they also could be used for school buses if desired.

#### 11. Install a Marked Crosswalk

A marked crosswalk in the vicinity of Netarts Bay Drive is recommended to improve pedestrian safety between the RV park and the west side of Highway 131. Approval by the State Traffic Engineer would be required before establishing a marked crosswalk at this location. The crosswalk also would accommodate transit users trying

to access the recommended TCTD bus stops (described in improvement concept 9).

### MARINA AND BOAT BASIN

#### 12. Consider Fee Parking

Tillamook County should consider implementing fee parking in the Marina and boat basin areas to manage high parking demand and limited parking supply during the summer peak period, and as a way to generate revenue. Generated revenue could be used towards funding several improvement concepts in the area, such as signage, bicycle parking, and the bus shelter at Netarts Bay Drive.

#### 13. Install "No Overnight Camping" Signage

Overnight camping is not allowed in the Marina and boat basin areas. However, there is no signage to inform people that overnight camping is illegal. "No Overnight Camping" signs in the area are recommended to inform people officially that overnight camping is not allowed. Enforcement by Tillamook County of the overnight camping ban is also recommended.

#### 14. Install Bicycle Parking

Bicycle parking should be installed at the Marina and boat basin to accommodate bicyclists and encourage more bicyclist activity to and from the Marina and the boat basin. Figure 7 (previous section) illustrates typical bicycle rack designs.

### Corridor Improvement Concepts

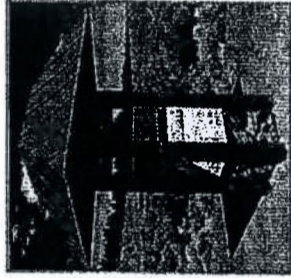
Recommended improvement concepts for the Highway 131 corridor study area (outside Oceanside and Netarts) are described in this section. The numbers before each improvement concept correspond to the numbers illustrated in Figure 15. Recommendations described in this section refer to the study area between Whiskey Creek Road and Ocean Street. However, they are appropriate for sections of

highway outside the study area as well, specifically for the segment between Whiskey Creek Road and the Tillamook River Bridge.

**1. Install Bike Signage and Information Kiosks**

A section of Highway 131 in the study area is part of the Oregon Coast Bike Route, a popular bicycle-touring destination. This section is part of the Three Capes Scenic Bike Route, which is designated as a shared roadway alternate bike route of the Oregon Coast Bike Route. The Three Capes Scenic Loop extends from Bay Ocean Road over the top of Cape Meares and through Oceanside, Netarts, and over the top of Cape Lookout. Bicycle tourists travel primarily in the southbound direction. While the route is designated as a shared roadway route, it is mostly unsigned, with the exception of one Oregon Coast Bike Route sign at the junction of Cape Meares Loop Road and Highway 131, and a similar sign at the junction of Highway 131 and Netarts Bay Road, where the recommended bicycle route leaves Highway 131. Additional signage along the Three Capes Scenic Loop is recommended to alert motorists to expect the presence of bicycles.

Information kiosks also are recommended along the Three Capes Scenic Loop route to provide safety, navigation, scenic, and historical information for bicyclists. Information kiosks would serve as an important avenue to inform bicyclists that narrow shoulder widths occur along the Scenic Loop, and paved areas along the corridor are provided for bicyclists to pull off the road (as described below in improvement concept 2). An example of an information kiosk is illustrated in Figure 14.



**FIGURE 14**  
**Example of an Information Kiosk (near Fort Rock, OR)**

**2. Add or Improve Shoulders Where Feasible**

Shoulders exist along parts of Highway 131 in the study area, but most shoulder widths are substandard (less than 6 feet). Right-of-way and topographic constraints prevent full 6-foot shoulders on both sides of Highway 131 in many locations. For these reasons, Highway 131 shoulder widening is recommended for segments of the study area where it is feasible, to improve vehicular and bicyclist safety. Where 6-foot shoulders are not feasible, improvements should prioritize widening the southbound Highway 131 shoulder (towards Tillamook) because bicyclists travel primarily in that direction to travel with prevailing winds from the northwest, and because ocean views are on the west side of the bike route. Improvements should also prioritize bicycle pullouts on specific portions of Highway 131 (Figure 15).

Where more extensive shoulder widening is not feasible, smaller bicycle pullout areas are recommended. Paved pullouts would provide cyclists with an opportunity to pull over and out of the lane of traffic to let motor vehicles through before proceeding. Pullouts would be most applicable at curves in Highway 131, such as between Netarts and Oceanside, where limited visibility and lack of shoulders are the major concern for bicyclists.

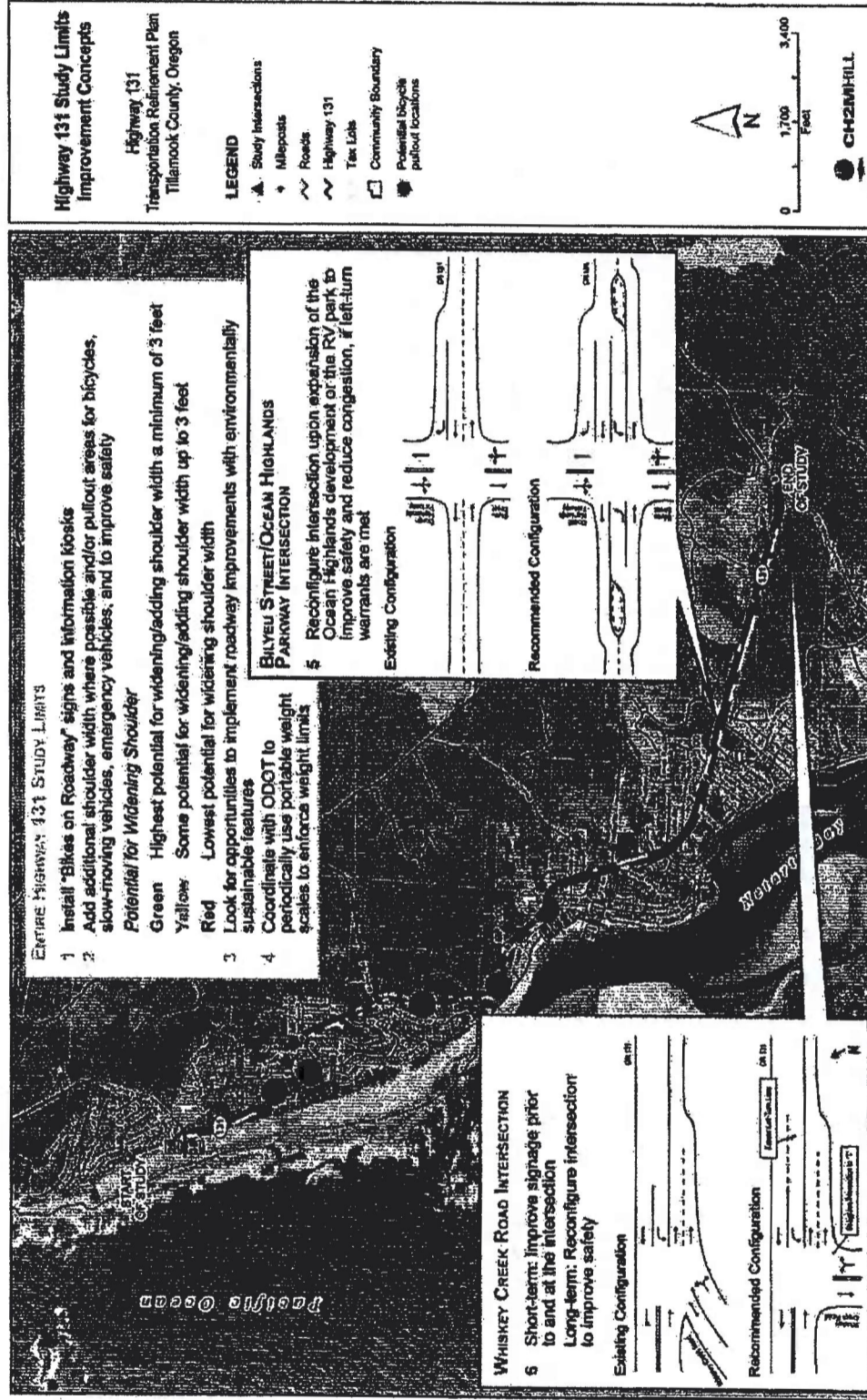


FIGURE 15  
Corridor Improvement Concepts

**3. Explore Opportunities to Implement Sustainable Features**

All roadway improvements, including those identified in this plan, should explore opportunities to implement environmentally sustainable features. For example, new culverts at stream crossings for fish passage could accompany improvements to the Highway 131 cross-section in Netarts.

**4. Coordinate with ODOT to Enforce Weight Limits**

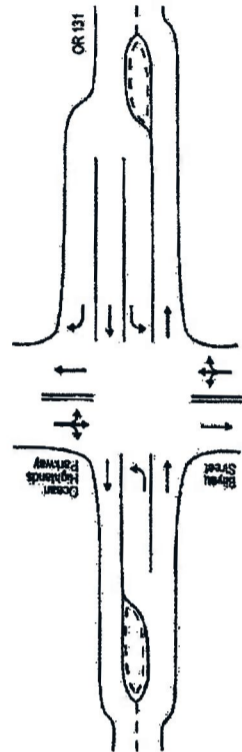
AC and public comments reflected the need for greater weight limit enforcement on Highway 131. Truck load weights are perceived to be higher than the maximum weight allowed, which negatively affects the pavement condition on Highway 131. The periodic use of portable weight scales, which are available from the Oregon Department of Motor Carriers, is recommended. Local community groups, such as the ONA or CPAC, could request the enforcement of using these portable scales on Highway 131. If truck load weights exceed the maximum weight allowed, ODOT could be notified and requested to officially enforce weight limits by citation.

**5. Reconfigure the Bilyeu Street/Ocean Highlands Parkway Intersection**

There is limited sight distance approaching the Bilyeu Street/Ocean Highlands Parkway intersection from the south. RVs and other vehicles trying to turn left at this intersection to reach the RV park need to wait for a gap in oncoming traffic to make the left turn. This creates a congestion and safety issue as traffic queues up behind the turning vehicle. The new Ocean Highlands development east of the highway also generates left-turn movements from southbound Highway 131. Vehicles turning into the development need to wait for a gap in the oncoming traffic to make a turn.

A left-turn lane warrant analysis is recommended upon expansion of the Ocean Highlands development or the RV park off Bilyeu Street. This analysis would analyze traffic conditions at the Bilyeu Street/Ocean Highlands Parkway intersection to identify the need

for a left-turn lane(s) on Highway 131. If the warrant analysis concludes the need for a left-turn lane(s), left turn lanes are recommended on Highway 131 in both directions (Figure 16) to improve safety for eastbound and westbound highway traffic. A conceptual design of the intersection is located in Section 5 (Figure D).



**FIGURE 16**  
**Bilyeu Street/Ocean Highlands Parkway Recommended Configuration**

**6. Install Signage and Reconfigure the Whiskey Creek Road Intersection**  
The Highway 131/Whiskey Creek Road intersection east of Netarts is a skewed "T-intersection." Right-turn movements are permitted from Whiskey Creek Road without stopping at Highway 131. There is a left-turn lane on Highway 131 in the northbound direction, but there is no visibility of this lane until drivers are immediately upon the left-turn lane and the intersection. Although ODOT crash history uncovered no crashes at this location (2001 to 2005), Netarts-Oceanside Regional Fire District crash data indicated 13 crashes between January 2000 and May 2007.

The short-term (0 to 10 years) recommendations to improve safety at this intersection are: (1) improve signage; and (2) extend the Highway 131 left-turn lane. Signage on Highway 131 northbound is recommended to provide advance warning to motorists of the intersection and to provide directions to Netarts, Oceanside, Cape Meares (via Highway 131), and Cape Lookout (via Whiskey Creek

Road). Directional signage is also recommended at the intersection to limit driver confusion. In the southbound direction, signage is recommended to inform vehicles and bicyclists that Whiskey Creek Road merges onto Highway 131 southbound without stopping. Also in the short-term, extending the Highway 131 northbound turn lane beyond the crest of the hill east of the intersection is recommended to allow greater visibility.

The long-term recommendation (10 to 20 years) for this intersection is to reconstruct it to a "T-intersection," as illustrated in Figure 17. Although a right-turn merging lane would permit right turns from Whiskey Creek Road eastbound to Highway 131 southbound without stopping, sight visibility of the Whiskey Creek Road intersection to Highway 131 southbound traffic would improve. Reconstructing the intersection would require right-of-way acquisition and would cut through the existing berm in the northwest quadrant of the intersection. A conceptual design of reconfiguring to a "T-intersection" is located in Section 5 (Figure E).

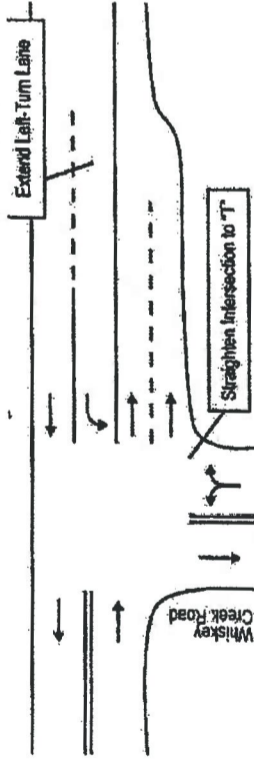


FIGURE 17  
Whiskey Creek Road Long-Term Recommended  
Configuration

## 4 IMPLEMENTATION

### Construction Cost Estimates

Costs to design and construct the various improvement concepts were estimated at a planning level (Table 2). Based on the conceptual design of each concept, a 40 percent contingency has been included in the construction cost estimate to account for potential unknowns typically identified during preliminary and final design. The estimates are in 2007 dollars, and include engineering design fees and right-of-way costs, but do not include potential environmental permitting or utility relocation costs. See Appendix E for more detailed cost estimates of each improvement concept.

TABLE 2  
Construction Cost Estimates

Project/Element	Estimated Cost (2007 dollars)
1. Reconfigure Wayside Parking Lot and Modify Pacific Avenue Circulation	\$491,000
2. Restripe Parking, Define Access Points, and Modify Circulation in the Parking Lot Adjacent to Community Center	\$7,000
3. Install Directional Signage	\$2,000
4. Explore Solutions for Improved Beach Access	Not Estimated
5. Install Gateway Feature	\$29,250
6. Install Bicycle Parking	\$3,400

TABLE 2  
Construction Cost Estimates

Project/Element	Estimated Cost (2007 dollars)
7. Coordinate with Netarts-Oceanside Sewer District	Not Estimated
8. Explore the "Slow Street Concept" on Pacific Avenue	\$1,385,380
<b>Oceanside Improvements Total Cost</b>	<b>\$1,918,030</b>
1. Install Pedestrian Improvements in the Vicinity of Crab Avenue	\$38,000
2. Install Bus Shelters in North Commercial Area	\$94,000
3. Install Signage to Slow Vehicles at Entrances to North and South Commercial Areas	\$10,000
4. Paint Highway 131 Shoulders	\$262,375
5. Install Pedestrian-Scale Illumination in North and South Commercial Areas	\$227,000
6. Install Bicycle Parking in North and South Commercial Areas	\$1,700
7. Improve Highway 131 Cross-Section through Netarts	\$113,720
8. Install Gateway Features at Entrances to North and South Commercial Areas	\$58,500
9. Add Bus Stops at Netarts Bay Drive	Not Estimated
10. Install Bus Shelter at Netarts Bay Drive	\$94,000
11. Install Marked Crosswalk in Vicinity of Netarts Bay Drive	\$2,500
12. Consider Fee Parking at Marina and Boat Basin	Not Estimated

**TABLE 2  
Construction Cost Estimates**

Project/Element	Estimated Cost (2007 dollars)
13. Install "No Overnight Camping" Signage at Marina and Boat Basin	\$1,500
14. Install Bicycle Parking at Marina and Boat Basin	\$1,100
<b>Netarts Improvements Total Cost</b>	<b>\$904,395</b>
<b>Corridor Improvements</b>	
1. Install Bike Signage and Information Kiosks	\$22,000
2A. Install Bike Pullouts	\$4,950
2B. Add or Improve Shoulder Widths Where Feasible	\$280,000
3. Explore Opportunities to Implement Sustainable Features	Not Estimated
4. Coordinate with ODOT to Enforce Weight Limits	Not Estimated
5. Reconfigure the Bilyeu Street/Ocean Highlands Parkway Intersection	\$798,700
6A. Improve Signage at Whiskey Creek Road	\$2,000
6B. Reconfigure the Whiskey Creek Road Intersection	\$910,200
<b>Corridor Improvements Total Cost</b>	<b>\$2,017,850</b>
<b>TOTAL SUM OF OCEANSIDE, NETARTS, AND CORRIDOR IMPROVEMENTS</b>	<b>\$4,840,275</b>

The total sum of Oceanside improvements is \$1.9 million. The slow street concept represents approximately 70 percent of the total Oceanside cost. Netarts improvement concepts cost approximately \$900,000. Painted shoulders, estimated to have the highest cost for

Netarts improvements, represent approximately 30 percent of the total Netarts cost. Finally, the total sum of Highway 131 corridor improvements is approximately \$2.0 million, although a developer would be expected to pay for a portion of the cost to reconfigure the Highway 131/Bilyeu Street/Ocean Highlands Parkway intersection. The cost to reconfigure the Highway 131/Whiskey Creek Road intersection represents approximately 40 percent of the total cost for corridor improvements.

### Funding

A variety of local, state, and federal funding sources could be explored to improve the transportation system (Appendix F). Most of the federal and state programs are competitive, and involve clear documentation of the project needs, costs, and benefits. Local funding for the projects in this transportation plan would typically come from Tillamook County and/or potential future bond or other local revenues. Other local funding sources might include grants and private funds.

Table 3 summarizes potential public funding sources for the Highway 131 improvement concepts. Some of these funds are restricted to the type of improvements that qualify for assistance. Typically, state and federal funds require projects to comply with current ADA guidelines for accessibility.

### Phasing

It is not expected that the funds to construct all the proposed project components would be available at the same time or necessarily over the short-term. To address this, the project recommendations would be implemented in phases, beginning with any components that are stand-alone and that have an identified funding source.

Some components of the project may be funded by or in association with development or redevelopment of private properties. Sidewalks and related features, for example, often are required to be constructed and paid for by a property owner at the time of property redevelopment. Such funding mechanisms could be instituted through changes to the County development code.

### Construction Engineering

Additional design and engineering will be needed to construct any improvement concept identified in this plan. Design and engineering would occur when improvement concepts are selected for implementation through the State and County capital funding

process. There will be opportunities for additional public input on the design of the improvement concepts.

Projects affecting Highway 131 must conform to ODOT's standards and guidelines for state highways. In addition, some improvements may require ongoing costs for operation or maintenance. A formal agreement between the County and ODOT may be required for such elements. Tillamook County should coordinate with ODOT to ensure that the improvement concepts meet state highway standards and that maintenance agreements are established.

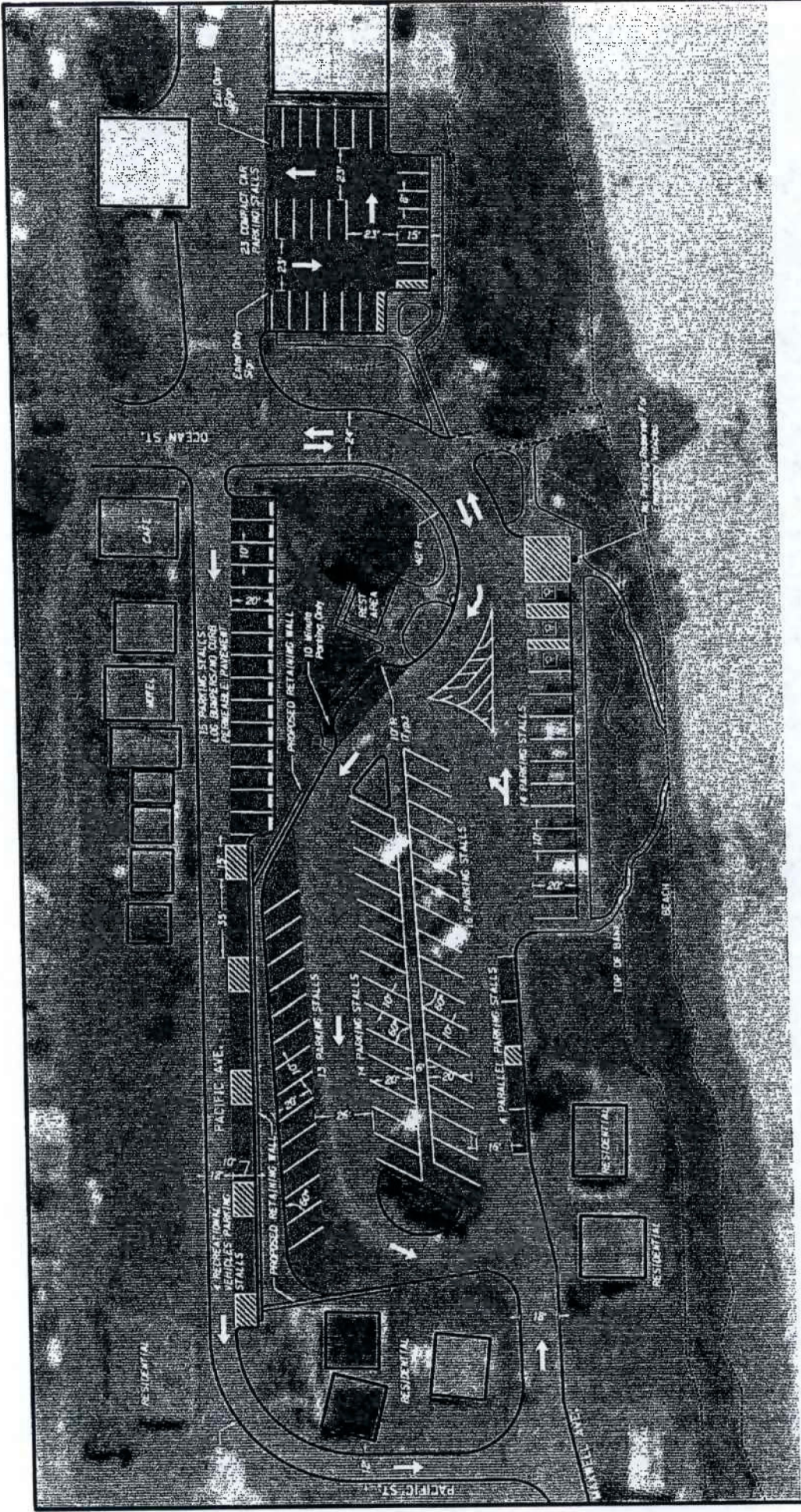
TABLE 3  
Potential Funding Sources

Source	Description	Type(s) of Eligible Project	Funding Cycle
Oregon State Transportation Improvement Program (STIP)	Administered by ODOT. The STIP provides funding for capital improvements on federal, state, county, and city transportation systems. Projects must be regionally significant.	Roadway, public transportation, bicycle, pedestrian, air, freight, bridge	4 years
Transportation Enhancements	Must serve transportation need.	Bicycle and pedestrian	2 years
Oregon Bike/Pedestrian Grants	Administered by ODOT's Pedestrian and Bicycle Program. Must be in public right-of-way.	Bicycle and pedestrian	2 years
System Development Charges (SDCs)	Fees on new construction allocated for parks, streets, and public improvements. Where available, funds can be used for right-of-way acquisition and trail construction.	Roadway, bicycle, pedestrian	Varies
Local/County Bond Measures Approved by Voters	Funds can be used for right-of-way acquisition, engineering, design, and construction.	Roadway, bicycle, pedestrian	Varies
Local Improvement Districts (LIDs)	Districts typically are created by local property owners, imposing a "new tax" to fund improvements. Funds can be used for right-of-way acquisition and construction.	Roadway, bicycle, pedestrian	Varies
State Parks Recreational Trails Fund	Construction funds for trail projects	Off-roadway bicycle and pedestrian	Annual
Parking Fees	Paid parking or parking fees for illegal parking	Varies	Varies



## 5 CONCEPTUAL DESIGN OF SELECT COMPONENTS

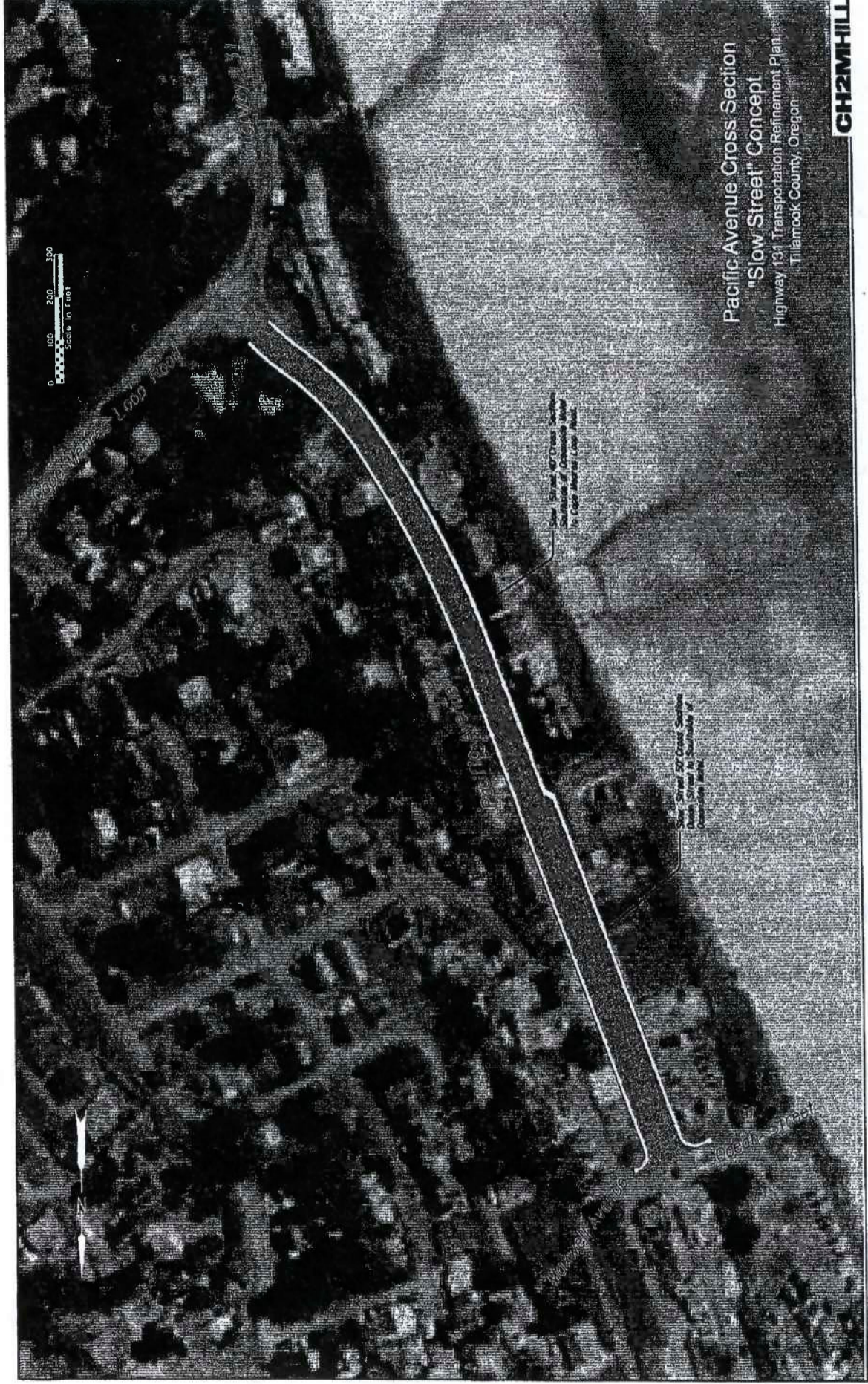
- Figure A Oceanside Beach Wayside
- Figure B Oceanside Slow Street Concept
- Figure C Netarts Painted Shoulders
- Figure D Highway 131/Bilyeu Street/Ocean Highlands Parkway Intersection
- Figure E Highway 131/Whiskey Creek Road Intersection



Notes  
 1. All Improvements Subject To Results  
 Of An Archaeological Survey.  
 2. Shaded Areas Indicate Areas  
 Of Potential Parking.

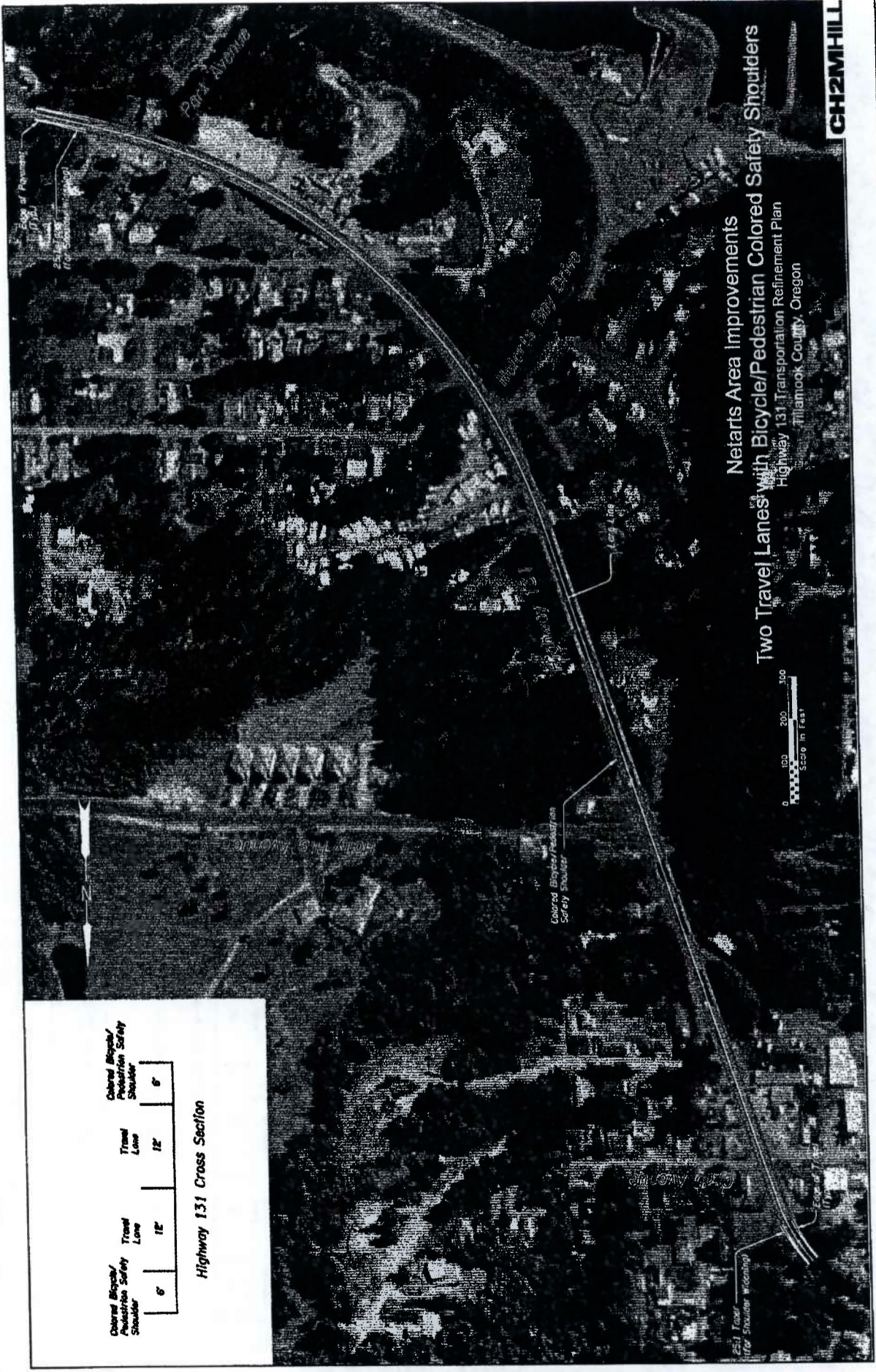
# OCEANSIDE WAYSIDE

oceanside\_proposed1.dwg

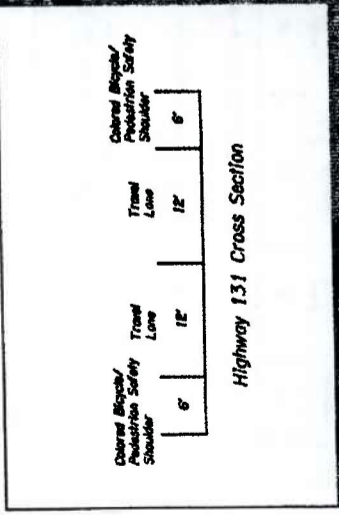


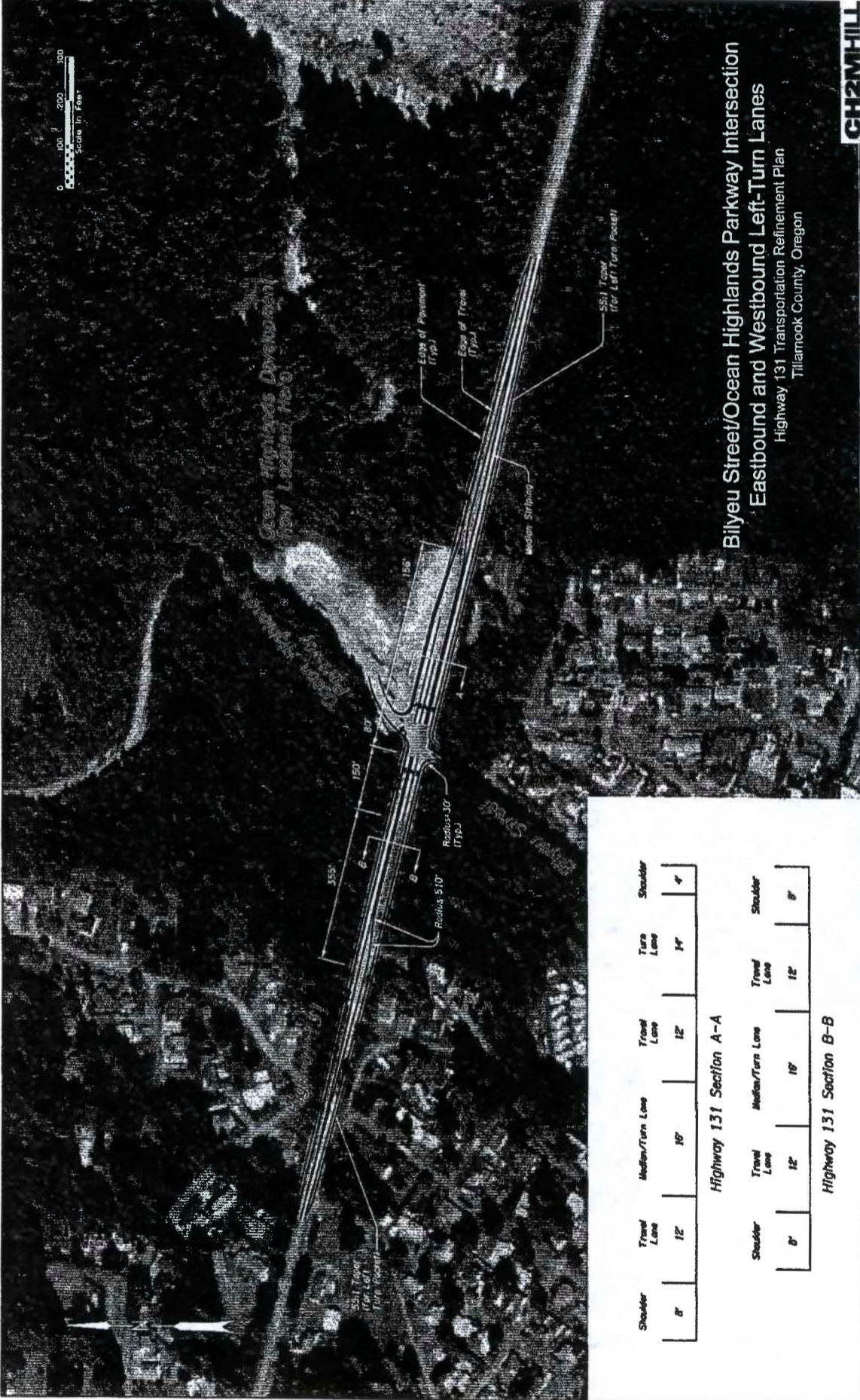
Pacific Avenue Cross Section  
"Slow Street" Concept  
Highway 131 Transportation Refinement Plan  
Tillamook County, Oregon

CH2MHILL



Netarts Area Improvements  
 Two Travel Lanes with Bicycle/Pedestrian Colored Safety Shoulders  
 Highway 131 Transportation Refinement Plan  
 Tillamook County, Oregon





**Bilyeu Street/Ocean Highlands Parkway Intersection  
Eastbound and Westbound Left-Turn Lanes**  
Highway 131 Transportation Refinement Plan  
Tillamook County, Oregon

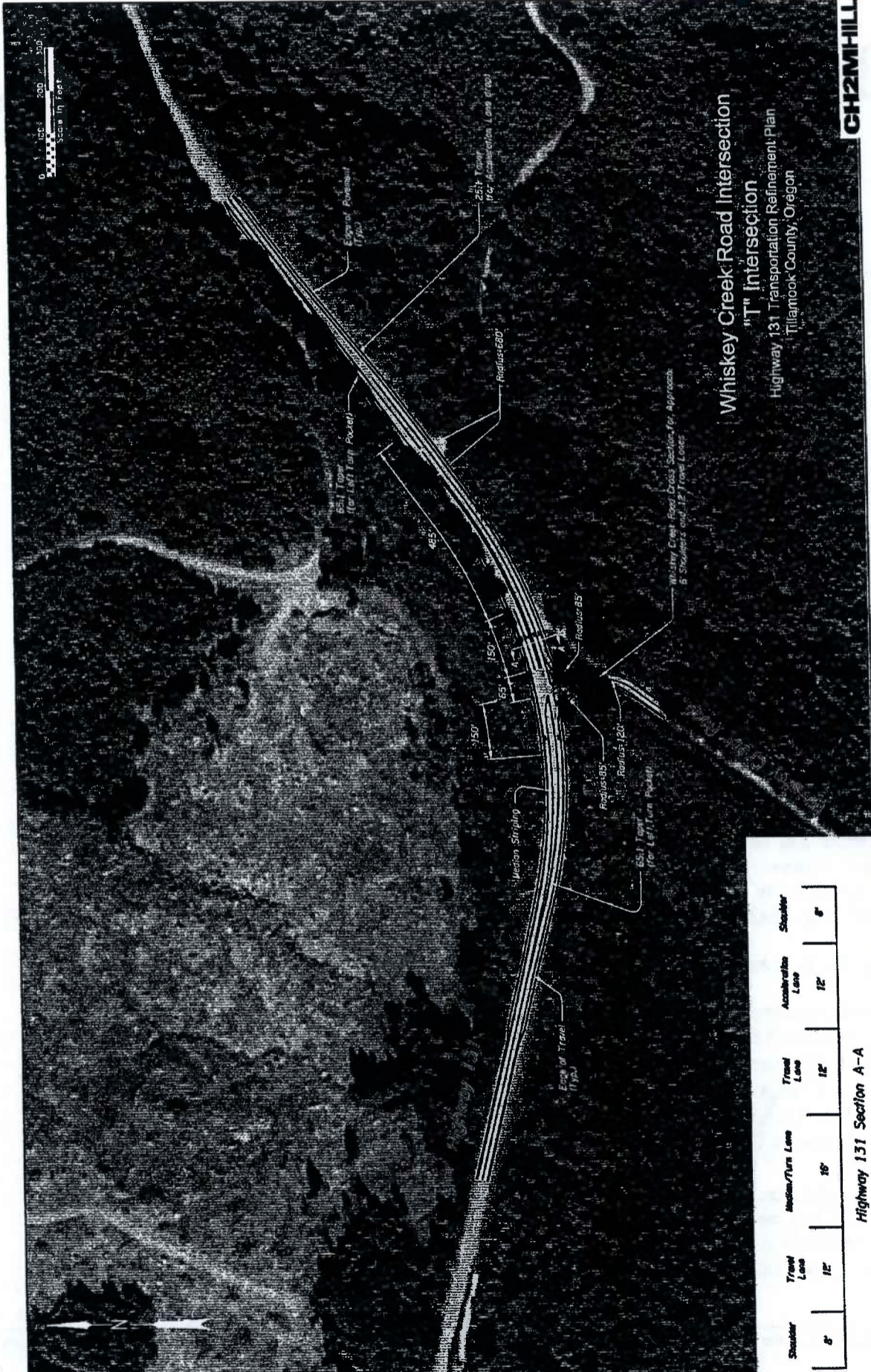
**CH2MHILL**

Shoulder	Travel Lane	Median/Turn Lane	Travel Lane	Turn Lane	Shoulder
8'	12'	16'	12'	14'	4'

Highway 131 Section A-A

Shoulder	Travel Lane	Median/Turn Lane	Travel Lane	Shoulder
8'	12'	16'	12'	8'

Highway 131 Section B-B



**Whiskey Creek Road Intersection**  
**"T" Intersection**  
 Highway 131 Transportation Refinement Plan  
 Tillamook County, Oregon

**CH2MHILL**

Highway 131 Section A-A

Shoulder	Travel Lane	Median/Turn Lane	Travel Lane	Acceleration Lane	Shoulder
6'	12'	18'	12'	12'	6'

# Technical Memorandum

Date: June 22, 2007

To: Highway 131 Project Management Team

cc: Tim Burkhardt and Theresa Carr, CH2M Hill

From: Shayna Rehberg, Angelo Planning Group

Re: Technical Memorandum 8.1: Highway 131 Refinement Plan Draft Plan and Code Amendments

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## Introduction

This memorandum addresses Tasks 8.1 and 8.2 and Consultant Deliverable 8.A of the project scope of work. This memorandum presents proposed revisions to Tillamook County planning documents in order to implement the transportation improvements recommended in the Highway 131 Transportation Refinement Plan (TRP) as well as community livability objectives and other stated objectives of the TRP. The recommended improvements are described in detail in Technical Memorandum 5.

The objectives of the TRP include improving bicycle and pedestrian safety on Highway 131; addressing parking and auto, bicyclist, and pedestrian circulation in the communities of Oceanside and Netarts, acknowledging the role of the highway as a main street through these communities, and evaluating the benefits of applying for designation of a Special Transportation Area (STA) in Oceanside. The projects included in the Preferred Alternative are consistent with these objectives. The amendments recommended in this memo reflect the proposed projects and TRP objectives. Because of similar objectives between the two projects, including an overarching objective to preserve and improve community livability, some of the amendments presented in this memorandum are similar to amendments proposed in association with the Cloverdale Transportation Refinement Plan.

The adopted planning documents being proposed for amendment include Tillamook County's:

- Comprehensive Plan;
- Transportation System Plan;
- Oceanside Community Plan;
- Netarts Community Plan;
- Land Use Ordinance; and
- Land Division Ordinance.

The proposed amendments will be indicated as underlined text for new language and ~~strike-through~~ text for deleted language. Some of the proposed amendments are defined in relationship to the functional classification of the adjacent roadway. The County's functional classification system consists of Arterials, Collectors, and Local Streets, in descending order. State roads have a higher functional classification than



County roads, and state roads classified as State Highways, Regional Highways, and District Highways are found within the County.

**Tillamook County Comprehensive Plan**

Additional policies addressing safety, multimodal travel on the County's highways, and highways that serve as the main street of County communities will support the projects that are proposed in the TRP Preferred Alternative as well as TRP and general livability objectives. These policies are proposed in the Land Use and Transportation Elements of the County's Comprehensive Plan.

**LAND USE (GOAL 2)**

**POLICIES**

f. Tillamook County acknowledges that highways serve as the main street in some County communities. The County shall continue to provide coordination for ways to enhance these roads as main streets and hubs of the communities, including applying to the State for special highway designations where relevant, while meeting State highway standards.

**TRANSPORTATION (GOAL 12)**

**1. GENERAL TRANSPORTATION POLICIES**

g. The County will pursue measures as staff and funding allows that improve safety for all modes using the road network, with a focus on projects that reduce conflict between bicycles and autos and increase safety for all modes.

i. The County will continue to pursue innovative and traditional methods for reducing traffic speeds through its communities where appropriate, including painted shoulders, curb extensions, and median treatments.

k. The County shall require new development and major remodeling under certain conditions to provide Traffic Impact Studies as part of development application review. Major remodeling is defined as projects where trip generation is estimated to increase by at least 50 trips daily (ADT) or 25 trips per peak hour. Peak hour is the hour of the day with the most traffic, usually during morning and evening commute times.

l. Applicants for new development and major remodeling shall be responsible for the portion of transportation improvements attributed to their use, as identified in the traffic impact study. The approval of development applications may include conditions that require the applicant to provide or contribute to transportation improvements.

m. Given community support, the County understands that transportation facilities play a role in defining community identity and character. The County shall support transportation and transportation-related projects, such as gateway features, that positively influence or reinforce community identity and character.

n. The County shall consider mitigating the negative effects of motor vehicle access and parking in popular and high traffic areas by supporting development of private off-street parking and parking underground or internal to development through a variety of means, including time limited parking.

**2.5 Pedestrian and Bicycle Facilities**





b. The County will not support or authorize the establishment of the State's Coast Highway Bike Route along county roads until State or other funds are provided to improve those roads to meet safe bike route standards.

~~d. The County acknowledges the growth of bicycling as an alternate form of travel, recreation and tourism within the County and will seek funding and other means of supporting its safety and growth.~~

~~e. Bicycle and pedestrian pathways should connect community activity centers, rural communities, parks and schools, and should be separate from roadways whenever possible, including separate bike lanes in the roadway right-of-way. Bicycle pathways between communities must should be developed as on-road facilities, either as separate bike lanes in the roadway right-of-way or in wide shoulders in the roadway right-of-way.~~

~~f. The County shall improve multi-modal access in the County, particularly popular destinations, by seeking funding for transportation projects that support and balance different modes of transportation, including projects that create or increase bicycle access and parking.~~

~~g. The County shall consider mitigating the negative effects of motor vehicle access and parking in popular and high-traffic areas by increasing regulation of access and parking through a variety of means, including time limited and fee parking.~~

The TRP proposes a few specific revisions to access in the study area. The primary examples are associated with more clearly defined parking and more parking spaces in Oceanside, and the TRP proposes the possible additions of eastbound and westbound left-turn lanes on Highway 131 at Ocean Highlands Parkway and Bilyeu Street. In addition, considering the reductions to the posted speed limit and relocating the speed limit sign to the east side of the crest of the hill may result in more immediate positive impacts. -Even with few access projects proposed in the TRP, it is recommended that access management policies be updated to support greater compliance with access management standards, namely on state highways, and to more generally support other projects proposed in the TRP.

These access management policies can be simplified and generalized for all access in the County instead of dividing them between "developed sections" and "undeveloped sections" as they are currently categorized in the code language. Access management policies are included as part of the Transportation Element of the Comprehensive Plan (Section 2.4). More general policies related to the impacts of development on transportation facilities are addressed in part in the access management section below as well as later in this report in proposed amendments to development review requirements in the Land Use Ordinance and Land Division Ordinance.

#### **2.4 Access Management Policies**

##### General Access Management Policy

The County shall apply appropriate access and road approach management and spacing standards through the County's Road Approach Ordinance to enhance traffic operation and safety on County roads. The access spacing standards apply to traffic signals, intersections, private driveways, and non-traversable median openings. The standards shall be applied to new street construction, reconstruction of existing streets, and new street access associated with development.

The County shall manage access so that safety is maintained or improved, the needs of development and the community are met, and the functionality of roadways is preserved.



The following policies are applicable to any major arterial-collector roadway within Tillamook County. Policies are divided into the following two categories:

~~1. Existing Development Sections~~

~~2. Existing Undeveloped Sections~~

~~2.41 Existing Developed Sections~~

~~The following policies apply to developed sections of major arterial-collector roadways:~~

- ~~1. Driveways along the arterial should be relocated to a local street or consolidated removed to the maximum extent possible whenever possible.~~
- ~~2. As a condition of any permit, if land use changes, or a building business is substantially improved majorly remodeled "substantially changed," driveway access and internal parking may be reevaluated and/or modified to be consistent with the access management policies, the County Land Use Ordinance and Land Division Ordinance.~~
- ~~3. The County shall continue with plan and site reviews, including the requirement for an impact analysis indicating the impact of the new development on roadways.~~
- ~~4. Developers of undeveloped land parcels shall pay the portion their fair share of traffic-oriented improvements that can be attributed to their proposed developments as required.~~
- ~~5. The County shall design vehicular access and circulation so that roads will be able to accommodate the needs of development and serve their transportation function. In the event that private developers will be constructing new roads, the developer will be responsible for addressing this standard.~~

~~2.42 Existing Undeveloped Sections~~

~~The following policies apply to the undeveloped sections major arterial-collector roadways in Tillamook County:~~

- ~~16. Access to new commercial areas shall be primarily from major cross streets when feasible.~~
- ~~17. Minimum desirable distance between major access cross streets shall be 2,000 feet. The 2,000 feet minimum spacing distance is based upon the potential need of signalization and coordinating vehicle speeds for signal progression.~~
- ~~18. Develop standard four-way intersections instead of "T" intersections close together. The County shall determine a minimum desirable distance between offset "T" intersections. The minimum desirable distance is based upon two offset intersections requiring left turn vehicle storage between intersections.~~
- ~~9. Discourage or prohibit the creation of mid-block driveways and encourage or require new driveways on local streets, off of the arterial-collector where feasible.~~
- ~~10. Sheltered left-turn lanes may be required where warranted and listed in the County's Transportation System Plan or Refinement Plans.~~
- ~~11. Create limited access intersections where limited access can significantly increase the safety and efficient circulation of the intersection.~~
- ~~4. The appropriate County staff shall continue with plan and site reviews, including the requirement for an impact analysis indicating the impact of the new development on the roadways.~~

~~General Access Management Policy~~

~~The County shall apply appropriate access and road approach management and spacing standards as part of its Road Approach Ordinance to enhance traffic operation and safety on County roads. The access spacing standards apply to traffic signals, intersections, private driveways, and non-traversable median openings. The standards shall be applied to new street construction, reconstruction of existing streets, and new street access associated with development.~~



#### **Tillamook County Transportation System Plan**

The TRP is intended to be adopted by reference into the County's Transportation System Plan (TSP), effectively adding the projects in the TRP to those listed in the TSP. However, the projects from the TRP will need to be added to the County's Capital Improvement Plan (CIP) list by County staff as funding becomes available for their construction. The following projects are recommended for categorization as higher priority projects in the TSP list in order to target and prioritize funding for them.

Projects recommended for addition to the TSP project list include the following:

1. Improved signage at Whiskey Creek Road intersection on Hwy 131 (short-term).
2. Realignment of Whiskey Creek Road intersection on Hwy 131 (long-term). (State/Intersection)
3. Creation of continuous six-foot bicycle/pedestrian safety shoulder through the entire length of Netarts as defined by the Community Boundary Netarts from south of Park Avenue to north of Crab Avenue. (County Road Segment)
4. Installation of bicycle pullout areas and safety shoulders where possible between Netarts and Oceanside. (State Road Segment)
5. Construction of crosswalks in Netarts at Crab Avenue, at the Post Office, and at Netarts Bay Drive. (State/Intersection)
6. Installation of pedestrian-scale lighting on Hwy 131 in Netarts. Community design standards may be established to guide the design, location and type of lighting.
7. Installation of transit shelters at TCID stops.
8. Addition of "Bikes on Roadway" signage near Cape Meares Loop Road and Netarts Bay Drive.
9. Installation of visitor and bicycle information kiosks at key locations on the Three Capes Loop.
10. Installation of pedestrian pathway and crosswalk on Highway 131 connecting a parking area (former sewage treatment plant) to commercial Oceanside.
11. Bicycle parking. A rack capable of securing 10 bicycles shall be provided in the Park Oceanside Zone.

More detail for these projects, except in items 10 and 11 above, is included in Technical Memorandum 5, which describes the evaluation of the projects and development of the Preferred Alternative. Typically, project design details are not yet developed at this stage and project descriptions are kept general in the TSP and CIP list in order to allow for flexibility in implementation.

#### **Oceanside Community Plan**

Policies can be augmented in the Oceanside Community Plan in order to better support the projects that are proposed in the TRP Preferred Alternative. ~~Specifically, policies aimed at seeking transportation funding, especially funding alternatives, and defining the role transportation facilities have in creating or reinforcing community identity and character should be added to the Oceanside Community Plan.~~

The proposed amendment to Policy 4 (Community Character) is also proposed for addition to countywide transportation policies. If the amendment is adopted into the County's



Transportation Element, there would not be the need to repeat its adoption into the Oceanside Community Plan or other community plans.

**Policy 2. Transportation**

2.X Local streets are to be kept narrow, unless it is determined to be necessary for public safety that a wider street be required. The additional width shall be the minimum required to assure public ingress and egress.

2.5 The County will explore additional means, such as road maintenance districts, for funding transportation improvements, subject to staffing and resource availability.

**Policy 4. Community Character**

4.19 The County understands that transportation facilities play a role in defining community identity and character. The County shall support transportation and transportation-related projects, such as gateway features, that positively influence or reinforce community identity and character in Oceanside.

4.2X The County supports pedestrian pathways that meander through the community because they define Oceanside's village character.

**Netarts Community Plan**

Similar to Oceanside, policies can be added to the Netarts Community Plan in order to better support the projects that are proposed in the TRP Preferred Alternative. These policies are based on the following objectives:

- defining distinct areas of Netarts;
- clarifying the types of streets envisioned in the community;
- calming traffic as it travels on Highway 131 through the community;
- improving multi-modal access to Netarts Bay; and
- increasing regulation of parking at the bay.

Amendments recommended for Policy 4 (Community Character) have also been generalized and proposed for addition to the transportation policies in the County's Comprehensive Plan.

**Policy 1. Community Form**

1.4 The County recognizes two distinct commercial districts in the community of Netarts – the North Commercial Area (bounded by Crab Avenue to the north and 5<sup>th</sup> Avenue Loop to the south) and South Commercial Area (bounded by Netarts Bay Drive to the north and Park Avenue to the south). The County will support projects that strengthen the identity of these two districts and connections between them.

1.5 The County shall help strengthen the connection between the parts of Netarts east and west of Highway 131 by supporting projects that improve the safety of crossing Highway 131 by vehicle, foot, or bicycle.

**Policy 2. Transportation Element**

2.1 Local Streets are to be kept narrow and without sidewalks, unless it is determined to be necessary for public safety that a wider street be required. The additional width shall be the minimum



required to assure public ingress and egress. The County shall support the state's construction or improvement of a continuous bicycle/pedestrian safety shoulder on the highway in Netarts.

**Policy 4. Community Character**

4.18 The County shall improve multi-modal access to Netarts Bay by seeking funding for transportation projects that support and balance different modes of transportation, including projects that create or increase bicycle access and parking but only after bike pathway construction and related infrastructure is completed.

4.19 The County shall consider mitigating the negative effects of motor vehicle access and parking in the Netarts Bay area by increasing regulation of access and parking through a variety of means, including time-limited and fee parking.

**Tillamook County Land Use Ordinance**

The long-term success of transportation improvements depends in large part on the regulation of adjacent land use and development. The recommended amendments to the County's Land Use Ordinance are intended to support the transportation projects proposed in the TRP and to improve safety and community vitality, particularly in commercial areas of Oceanside and Netarts. The existing zoning districts found in the study area include the following:

- Netarts Neighborhood Commercial (NT-C1) zone
- Netarts Medium Density Urban Residential (NT-R2) zone
- Netarts High Density Urban Residential (NT-R3) zone
- Netarts Residential Manufactured Dwelling (NTRMD) zone
- Oceanside Commercial (COS) zone
- Oceanside Residential (ROS) zone
- Oceanside Park (POS) zone.

Existing regulations pertaining to land uses, building sizes, and building location already provide a basis for a pedestrian environment in commercial zones that can be attractive to residents and visitors. The amendments proposed below are intended to enhance community identity and the pedestrian environment by addressing maximum building setbacks, "streetscape" elements, signs, parking, and gateway features. Gateway features, if to be a permitted use in the County, will need to be defined in the County's code; the definition below is a proposed definition. The text following the gateway definition includes code amendments proposed either for incorporation into Netarts' and Oceanside's commercial zones (NT-C1 and COS zones) or for application as a community-specific or general community overlay zone.

SECTION 1.030: DEFINITIONS

(A) GENERALLY USED DEFINITIONS

GATEWAY OR GATEWAY FEATURES: Structures or landscaping that signify the entrances into a community and help strengthen community identity. Gateway and gateway features include, but are not limited to, arches, banners, signs, columns, sculptures or statues, and landscaping.



**SECTION 3.348: NETARTS NEIGHBORHOOD COMMERCIAL ZONE (NT-C1) (The Netarts CPAC recommends that this entire section be deleted)**

(4) STANDARDS: Land divisions and development in the NT-C1 zone shall conform to the following standards, unless more restrictive supplemental regulations apply:

~~(c) For commercial or combined commercial-residential structures, structures shall be set back either a maximum of 10 feet from the adjacent roadway with the highest functional classification or setback at least 3 feet or as required in Section 3.348 (4) (b). Exceptions can be made and a greater front yard setback may be approved if the setback area incorporates plazas, arcades, outdoor café space, benches, street furniture, public art, kiosks, or additional landscaping.~~

~~(j) New construction or major remodeling shall provide the following streetscape elements in the area between the building and the street: weather protection, seating, street trees, trash can, and human-scale lighting (as defined in subsection ii). Projects in the public right-of-way must be coordinated with the roadway authority.~~

~~(i) Major remodeling is defined as projects where traffic generation is estimated to increase by at least 50 trips daily (ADT) or 25 trips per peak hour. Peak hour is the hour of the day with the most traffic, usually during morning and evening commute times.~~

~~(ii) Lighting shall be provided at building entrances, pathways and other pedestrian areas, and be lit to two-foot candles with human-scale lighting (e.g., wall mounted, sidewalk lamps, bollards, landscape up lighting, etc.). Alternative lighting to meet the intent of these provisions may be approved through development review~~

~~(iii) Weather protection shall consist of awnings, canopies overhangs, arcades, or similar features that cover at least the building entrance but are encouraged to cover the entire front building facade.~~

~~(k) Parking shall be prohibited between the front of the building and the adjacent road. Parking shall be located to the rear or the side of the building.~~

~~(l) The main entrance of buildings shall be oriented toward the adjacent roadway with the highest functional classification whenever possible.~~

~~(m) Clear pedestrian access shall be provided to the main entrance of buildings and between the building and parking. (The Netarts CPAC believes this is addressed by the ADA standards)~~

**SECTION 3.312 COMMERCIAL OCEANSIDE (COS) ZONE**

(4) STANDARDS: Land divisions and development in the COS zone shall conform to the following standards, unless more restrictive supplemental regulations apply:

~~(c) For commercial or combined commercial-residential structures, structures shall be set back either a maximum of 10 feet from the adjacent roadway with the highest functional classification or setback at least 3 feet or as required in Section (4) (b) of this section. Exceptions can be made and a greater front yard setback may be approved if the setback area incorporates plazas, arcades, outdoor café space, benches, street furniture, public art, kiosks, or additional landscaping.~~

~~(j) New construction or major remodeling shall provide the following streetscape elements in the area between the building and the street: weather protection, seating, street trees, trash can, and human-scale lighting (as defined in subsection ii). Projects in the public right-of-way must be coordinated with the roadway authority.~~

~~(i) Major remodeling is defined as projects where traffic generation is estimated to increase by at least 50 trips daily (ADT) or 25 trips per peak hour. Peak hour is the hour of the day with the most traffic, usually during morning and evening commute times.~~

~~(ii) Lighting shall be provided at building entrances, pathways and other pedestrian areas, and be lit to two foot candles with human scale lighting (e.g., wall mounted, sidewalk lamps,~~



- ~~bollards, landscape up lighting, etc.). Alternative lighting to meet the intent of these provisions may be approved through development review~~
- ~~(iii) Weather protection shall consist of awnings, canopies overhangs, arcades, or similar features that cover at least the building entrance but are encouraged to cover the entire front building facade.~~
- ~~(k) Parking shall be prohibited between the front of the building and the adjacent road. Parking shall be located to the rear or the side of the building.~~
- ~~(l) The main entrance of buildings shall be oriented toward Highway 131 or its continuation thereof, the adjacent roadway with the highest functional classification.~~
- ~~(m) Clear pedestrian access shall be provided to the main entrance of buildings and between the building and parking.~~

A minor modification to Oceanside's Park (POS) Zone will help clarify the wayside and other parking as allowed uses within the POS zone. Given the existing state ownership of the wayside, state standards apply and are referred to in the proposed code amendment below.

#### **SECTION 3.314 PARK OCEANSIDE (POS) ZONE**

(2) USES PERMITTED OUTRIGHT: In the POS zone, the following uses are permitted outright, subject to all applicable supplementary regulations contained in the ordinance:

(c) Parking. Refer to Oregon Parks and Recreation Department (OPRD) and Tillamook County Public Works for standards.

Some code amendments are recommended for application throughout the entire area of both the Netarts and Oceanside communities. Instead of repeating code language in each zone of each community, it is recommended that an overlay zone be created for each community in order to address new allowed uses, bicycle parking, outdoor lighting, and any other regulations that the County finds appropriate and that are meant to apply community-wide. ~~The new permitted uses and bicycle parking requirements are directly related to improvements being proposed in the TRP Preferred Alternative. The outdoor lighting requirements are less directly related to these improvements but complement them and reflect wishes of the County and ODOT to limit light pollution in these communities.~~

~~Alternatives to adopting the following standards as new Netarts and Oceanside Overlay Zones include:~~

- ~~• Adopting the standards into individual zones found in Netarts and Oceanside;~~
- ~~• Adopting the standards as a "Rural Community Overlay Zone" that is applied to Netarts, Oceanside, and similar communities in Tillamook County where appropriate;~~
- ~~• Softening the language from standards to guidelines for bicycle parking and/or outdoor lighting. If language is shifted from standards to guidelines, moving the guidelines from the Development Code to the Comprehensive Plan or individual Community Plans;~~
- ~~• Some combination of the options above, i.e. keeping some of the language as standards either in an overlay zone or in the individual community zones and changing some of the standards to guidelines and incorporating those into the County Comprehensive Plan or Netarts and Oceanside Community Plans.~~



**SECTION 3.XXX Netarts/Oceanside Overlay (NO/CO) Zone**

(1) PUPOSE: The Netarts/Oceanside Zone provides standards that apply to the entire area of the Netarts and Oceanside communities. The standards are intended to support development of transportation options that help preserve and promote the community's small town and rural atmosphere in each community.

(2) USES PERMITTED OUTRIGHT: In the Netarts/Oceanside Overlay Zone, the following uses and their accessory uses are permitted outright, in addition to those uses permitted in the underlying zone.

(a) Transit stops and shelters.

(3) USES PERMITTED CONDITIONALLY: In the Netarts/Oceanside Overlay Zone, the following uses and their accessory uses are permitted subject to the provisions of Article 6 and the requirements of all applicable supplementary regulations contained in this ordinance, in addition to those permitted in the underlying zone:

(a) Gateway signs adjacent to highway or in median as may be allowed by the State.

~~The following proposed code language relates to bicycle parking. The Netarts and Oceanside Community Plans already provide general policies supporting and encouraging the use of different modes of transportation within the communities. The proposed code language blends the parking land use categories found in the County's existing off-street parking code with space requirements generalized from 2<sup>nd</sup> Edition of the State's Transportation Growth Management (TGM) Model Development Code for Small Cities. Similar to the implementation options described above, the code language can be adopted either as requirements in a new community overlay zone or as part of the off-street parking requirements in the County's Land Use Ordinance (Section 4.030). Alternately, the language can be modified to guidelines and adopted for countywide application into the Transportation Element of the County's Comprehensive Plan or for more limited application into the Netarts and Oceanside Community Plans.~~

**(4) STANDARDS**

~~(a) These standards apply in addition to the standards of the underlying zone.~~

~~(b) Bicycle Parking. Section 3.XXX (5)(g) implements subsection 0045 of the Transportation Planning Rule (OAR 660-12), which requires bicycle parking. Requirements for types of building and uses not specifically listed herein shall be determined by the Department based upon the requirements for comparable uses either listed below or active elsewhere in the county. These standards shall only apply or be implemented after the bike pathways and associated infrastructure detailed in the Transportation System Plan and Community Plan are completed.~~

~~(i) Minimum Required Bicycle Parking Spaces. Uses shall provide bicycle parking spaces as follows. In cases where two standards are presented, the higher applicable standard shall apply.~~

~~(A) RESIDENTIAL: One space per 4 multi-family units. (Not required for single family dwelling units.)~~

~~(B) BOARDING, LODGING, OR ROOMING HOUSE: One space per 8 group living bedrooms.~~

~~(C) MOTEL, HOTEL OR GROUP COTTAGES: Two spaces or one space per 20 rooms.~~

~~(D) SCHOOLS: Two spaces per classroom or as otherwise determined through conditional use review.~~

~~(E) PARKS: Eight spaces or as otherwise determined through conditional use review.~~

~~(F) CHURCH, CLUB, OR SIMILAR PLACE OF ASSEMBLY: Two spaces or one space per 5,000 square feet of net building floor area.~~





- ~~(G) COMMUNITY SERVICES: Two spaces or one space per every 10,000 square feet of floor area.~~
- ~~(H) DANCE HALL OR SKATING RINK: Four spaces or one space for every 5,000 square feet of floor area.~~
- ~~(I) BOWLING ALLEY: One space for each lane.~~
- ~~(J) EATING AND DRINKING ESTABLISHMENT: Two spaces or one space per 10,000 square feet of floor area.~~
- ~~(K) SERVICE OR REPAIR SHOP, RETAIL STORE HANDLING BULKY MERCHANDISE SUCH AS AUTOMOBILES AND FURNITURE: Two spaces or one space per 10,000 square feet of floor area.~~
- ~~(M) BANK, OFFICE: Two spaces or one space per 10,000 square feet of floor area.~~
- ~~(N) RETAIL STORES OR MEDICAL OR DENTAL CLINIC: Two spaces or one space per 10,000 square feet of floor area.~~
- ~~(O) WAREHOUSE, STORAGE AND WHOLESALE BUSINESS: Two spaces or one space per 15,000 square feet of floor area.~~
- ~~(P) MANUFACTURING ESTABLISHMENT: Two spaces or one space per 15,000 square feet of floor area.~~
- ~~(ii) Exemptions: This Section does not apply to single family and two family housing (attached, detached, or manufactured housing), home occupations, agriculture and livestock uses.~~
- ~~(iii) Location and Design: Bicycle parking should be no farther from the main building entrance than the distance to the closest vehicle space, or 50 feet, whichever is less. Bicycle parking should be incorporated whenever possible into building design or, when allowed within a public right of way, should be coordinated with the design of street furniture, as applicable.~~
- ~~(iv) Visibility and Security: Bicycle parking for customers and visitors of a use shall be visible from street sidewalks or building entrances, so that it provides sufficient security from theft and damage.~~
- ~~(v) Options for Storage: Long term bicycle parking requirements for multiple family uses and employee parking can be met by providing a bicycle storage room, bicycle lockers, racks, or other secure storage space inside or outside of the building.~~
- ~~(vi) Lighting: For security, bicycle parking shall be at least as well lit as vehicle parking.~~
- ~~(vii) Reserved Areas: Areas set aside for bicycle parking shall be clearly marked and reserved for bicycle parking only.~~
- ~~(viii) Hazards: Bicycle parking shall not impede or create a hazard to pedestrians. Parking areas shall be located so as to not conflict with vision clearance standards.~~

**The proposed lighting ordinance has been removed from the TRP Staff recommends the following modification: Outdoor lighting standards should be considered on a county-wide basis. Such standards would complement improvements resulting from the TRP, address general livability objectives, and respond to County and ODOT wishes to address light pollution in coastal communities.**

~~The code amendments proposed below address outdoor lighting. These amendments are less directly related to improvements included in the TRP Preferred Alternative but they complement the improvements, address general community livability objectives, and respond to County and ODOT wishes to address light pollution in coastal communities.~~

~~These proposed outdoor lighting standards are modeled after Chapter 15.10 (Outdoor Lighting Control) of Deschutes County's Development Code. The tables referred to in the code are included in this memorandum as Appendix A. While this proposed code language is a modified version of the Deschutes County model, the County may choose to further reduce or modify the language. One case in which the~~



County may choose to expand the following standards is in making provisions for enforcement of the standards, in particular defining violation of the standards and any associated penalties.

(6) Outdoor Lighting Standards

- (a) Purpose. The purpose of establishing lighting standards is to affirm the right to illuminate residential, commercial, public and street areas with lighting fixtures appropriate to the need while limiting illumination in a way that confines light to the property from which it is generated and preserves views and a dark night sky.
- (b) Conformance with applicable codes. All outdoor electrically powered illuminating devices shall be installed in conformance with the provisions of this code, the building code, the electrical code, and the sign code of the jurisdiction. The following standards do not pre-empt applicable state codes.
- (c) Approved materials and methods of construction, installation, or operation. These standards are not intended to prevent the use of any design, material, or method of installation or operation not specifically prescribed by this code, provided any such alternate has been approved. The building official may approve any such proposed alternate that provides an equivalent alternative design that does not exceed 1800 lumens nor project light off site of the subject lot or parcel.
- (d) Definitions:
  - (i) Outdoor light fixtures. Outdoor artificial illuminating devices, outdoor fixtures, lamps and other similar devices, permanently installed or portable, used for flood lighting, general illumination or advertisement. Such devices shall include, but are not limited to, search, spot and flood lights for:
    - (A) Buildings and structures;
    - (B) Recreational areas;
    - (C) Parking lot lighting;
    - (D) Landscape lighting;
    - (E) Billboards and other signs (advertising or other);
    - (F) Street lighting;
    - (G) Product display area lighting;
    - (H) Building overhangs and open canopies;
    - (I) Holiday lighting.
  - (ii) Shielding. Provided for a lighting fixture by design of such fixture or by an externally applied device such as a shroud or hood of metal, wood or painted glass that does not allow transmission of light.
  - (iii) Fully shielded. Outdoor light fixtures shielded or constructed so that light rays emitted by the fixture are projected below the horizontal plane.
  - (iv) Partially shielded. Shielding so that the edge of the shield is at or below the centerline of the light source or lamp so as to limit light emission above the horizontal plane to 10 percent or less.
  - (v) Directed shielding. Shielding by design or external application that directs light downward and limits direct line of sight of a fixture's lamp to the property upon which the fixture is installed.
  - (vi) Unshielded. Light fixtures lacking any means to restrict the emitted light to below the horizontal plane.
  - (vii) High intensity discharge lamp sources. High pressure sodium, mercury vapor, metal halide, low pressure sodium, and other similar lamps.
  - (viii) Luminous tube lighting. Gas-filled tubing which, when subjected to high voltage, becomes luminescent in a color characteristic of the particular gas used, e.g. neon, argon, etc.
- (e) Applicability. Except as exempted by these standards, as of the date of adoption, the installation of outdoor lighting fixtures in the community of Netarts/Oceanside shall be subject to the provisions of this ordinance.



- ~~(f) Shielding. All nonexempt outdoor lighting fixtures shall have shielding as required by the tables set forth in Section/Subsection XX.XXX. [Note: See Appendix A for lighting control tables.]~~
- ~~(g) Prohibitions:~~
- ~~(i) Laser Source Light. The use of laser source light or any similar high intensity light for outdoor advertising or entertainment, when projected above the horizontal is prohibited.~~
- ~~(ii) Searchlights. The operation of searchlights for advertising purposes is prohibited between eleven o'clock P.M. and sunrise the following morning.~~
- ~~(iii) Recreational Facilities. No outdoor recreational facility, public or private, shall be illuminated after eleven o'clock P.M. except to conclude a specific recreational or sporting event or any other similar activity conducted at or in the facility which was in progress under such illumination prior to eleven o'clock P.M., except that any outdoor recreational facility, public or private, which is illuminated with outdoor lighting fixtures conforming to this code may operate any time with such illumination.~~
- ~~(h) Externally lighted outdoor advertising signs, billboards:~~
- ~~(i) All externally lighted advertising signs and billboards will be illuminated by one of the following manners:~~
- ~~(A) Top mounted fixtures in which case such fixtures will conform to the shielding requirements as set forth in Subsection (f) Shielding.~~
- ~~(B) Bottom mounted fixtures in which case such fixtures shall be shielded either by application of external device or manufactured in such a way that upward and side directed light is confined to an area within four inches of the outermost surface of the sign's top and sides. Shielding will be constructed in such a manner that no reflective surface of the lighting fixture will extend past the limit of the shielding in the vertical plane when viewed from directly above. (See typical drawings Table 1 and Table 2.) [Note: Tables 1 and 2 are located in Appendix A.]~~
- ~~(i) Exemptions:~~
- ~~(i) Nonconformance:~~
- ~~(A) All other outdoor light fixtures lawfully installed prior to and operable on the effective date of the requirements codified in this ordinance are exempt from all such requirements except those explicitly prohibited by these standards or as follows:~~
- ~~(1) All replacement of outdoor lighting fixtures, as of the date of adoption, shall be subject to the provisions of this ordinance.~~
- ~~(2) Until a date six years after the date of adoption of this code, [INSERT DATE].~~
- ~~(ii) Airport operations lighting and aircraft navigational beacons as established by the Federal Aviation Administration are permanently exempt from these provisions. All other airport outdoor lighting must conform to the intent of this ordinance.~~
- ~~(iii) Correctional Institutions. Exterior lighting for County correctional institutions shall be shielded high pressure sodium except at the immediate entry area, in which case other lighting may be used that conforms to the intent of this ordinance.~~
- ~~(iv) Lights used for holiday decorations for no more than 45 days are exempt from the requirements of this ordinance.~~
- ~~(v) Carnivals and Fairs that require the use of temporary outdoor lighting fixtures are exempt except that permanent installations at dedicated sites must conform to the requirements of this ordinance.~~
- ~~(vi) Historical areas as designated by proper authority are exempt from the requirements of this ordinance. Use of the minimum illumination necessary to maintain public safety is encouraged.~~
- ~~(vii) Motion detector lights that operate automatically for periods of less than 20 minutes.~~
- ~~(viii) U.S. flags displayed by top mounted lighting on a 24 hours basis.~~
- ~~(ix) Internally lighted advertising signs.~~
- ~~(x) Temporary exemptions to these provision(s) five days per calendar year.~~



- ~~(xi) Television or movie film productions are exempt except that permanent installations at dedicated sites must conform to the requirements of this ordinance.~~
- ~~(xii) Customary agricultural practices are exempt except that permanent installations at dedicated sites must conform to the requirements of this ordinance.~~
- ~~(xiii) Construction necessary for an allowed use are exempt except that permanent installations at dedicated sites must conform to the requirements of this ordinance.~~
- ~~(i) Code requirement tables for shielding. See attached Table 1, 2 and 3. [Note: tables are included in Appendix A.]~~

Netarts-Oceanside Rural Fire Protection District Code

Lighting: Street-Road-Area

1. In accordance with the provisions of ORS 487.450, the Board of Directors of the Netarts-Oceanside Rural Fire Protection District as the managing body for street lighting in Netarts and Oceanside, has established the following policy:
  - A. Lighting will be provided as approved by the Board of Directors, when establishment of same meets the needs of the citizens within the lighting district. Placement will include, but is not limited to, the following:
    - i. Overhead Street and Road Lighting
      - Intersections: At each major street where it intersects a state highway within the district, and at intersections of recorded streets within the District.
      - Fire Hydrants: Overhead lights will be installed at each fire hydrant location in the District that is not satisfactorily illuminated by existing street/road lighting.
      - Areas that may represent a safety hazard to firefighters: Overhead lighting will be provide to those areas under the purview of the Fire Chief, after s/he has inspected the area or areas in question.
2. In the development of a new residential land partition, subdivision, planned unit development, multi-family development, commercial development, industrial development, and reconstruction or expansion of such developments, the developer will be responsible for supplying and installing light poles and any underground wiring conduit pursuant to he Tillamook Public Utilities District and/or Oregon State electrical code standards and requirements at the above locations.
3. The Netarts-Oceanside Fire District encourages International Dark-Sky friendly lighting. All overhead lights will be a fully shielded luminary fixture.

**Tillamook County Land Use and Land Division Ordinance**

Consistent with the TRP, the existing ordinance already has provisions for allowing public streets through subdivisions when needed for connectivity, aligning and spacing intersections properly and safely within the surrounding street network, and providing pedestrian accessways. Therefore, further amendments regarding connectivity and accessibility are not proposed at this time.

In order to preserve and improve the safety and functionality of Highway 131 in the study area and the livability in Oceanside and Netarts, it is recommended that Traffic Impact Studies (TISs) be required as part of site design review under specified conditions. In addition, amendments to the Land Division Ordinance should allow the County to require developers to provide or contribute to the funding of



transportation improvements that are shown to be needed as a result of the proposed development. The County's existing Planned Development (PD) Overlay and Land Division Ordinance currently requires the applicant to demonstrate that the street network is sufficient to support traffic that is projected to be generated by the proposed development. Further, the existing access management subsection of the Transportation Element in the County's Comprehensive Plan policies includes the following language:

3. *The County shall continue with plan and site reviews, including the requirement for an impact analysis indicating the impact of the new development on roadways.*
4. *Developers of undeveloped land parcels shall pay their fair share of traffic-oriented improvements as required.*

Based on these concepts, the following language is proposed for inclusion in the County's development review standards.<sup>1</sup>

Traffic Impact Study (TIS).

- (1) Purpose. The purpose of this section of the code is to implement Section 660-012-0045 (2)(e) of the State Transportation Planning Rule (TPR) that requires the County to adopt a process to apply conditions to development proposals in order to minimize adverse impacts to and protect transportation facilities. This section establishes the standards for when a proposal must be reviewed for potential traffic impacts; when a Traffic Impact Study must be submitted with a development application in order to determine whether conditions are needed to minimize impacts to and protect transportation facilities; what must be in a Traffic Impact Study; and who is qualified to prepare the Study.
- (2) Definitions.
  - (a) Peak Hour. The hour of the day with the most traffic, usually during morning and evening commute times.
- (3) Applicability. A Traffic Impact Study is required to be submitted to the County with a land use application, when the following conditions apply:
  - (a) The development application involves one or more of the following actions:
    - (i) A change in zoning or a plan amendment designation; or
    - (ii) Any proposed development or land use action that ODOT states may have operational or safety concerns along a state highway, ~~along a state highway,~~ including impacts to traffic volumes, level-of-service, mobility, design standards, and access management policies; or
    - (iii) The development shall cause one or more of the following effects, which can be determined by field counts, site observation, traffic impact analysis or study, field measurements, crash history, Institute of Transportation Engineers Trip Generation manual; and information and studies provided by the local reviewing jurisdiction and/or ODOT:
      - (A) An increase in site traffic volume generation by at least 50 trips daily (ADT) or 25 trips per peak hour; or
      - (B) The location of the access driveway does not meet the access spacing standard of the roadway on which the driveway is located.
- (4) Traffic Impact Study Requirements.
  - (a) Preparation. A Traffic Impact Study shall be prepared by a professional engineer in accordance with OAR 734-051-180.

<sup>1</sup> This language is modeled after amendments to Jefferson County ordinances that were proposed in making TPR compliance findings for a 2006 TSP update.



- (b) Transportation Planning Rule Compliance. The Traffic Impact Study must comply with the standards of the Transportation Planning Rule (OAR 660-012).
- (c) Pre-application Conference. The applicant will meet with Tillamook County Community Development and Public Works prior to submitting an application that requires a Traffic Impact Study. This meeting will determine the required elements of the TIS and the level of analysis expected.
- (5) Approval Criteria.
- (a) Criteria. When a Traffic Impact Study is required, approval of the development proposal requires satisfaction of the following criteria:
- (i) The Traffic Impact Study was prepared by a professional engineer in accordance with OAR 734-051-180; and
  - (ii) If the proposed development shall cause one or more of the effects in Subsection (3), above, the Traffic Impact Study shall include mitigation measures that meet County's mobility standards and are satisfactory to the County Engineer, and ODOT when applicable; and
  - (iii) The proposed site design and traffic and circulation design and facilities, for all transportation modes, including any mitigation measures, are designed to:
    - (A) Have the least negative impact on all applicable transportation facilities; and
    - (B) Accommodate and encourage non-motor vehicular modes of transportation to the extent practicable; and
    - (C) Make the most efficient use of land and public facilities as practicable; and
    - (D) Provide the most direct, safe and convenient routes practicable between on-site destinations, and between on-site and off-site destinations; and
    - (E) Otherwise comply with applicable requirements of the Tillamook County Code.
- (6) Conditions of Approval. The County may deny, approve, or approve the proposal with appropriate conditions.
- (a) Dedication of land for streets, transit facilities, sidewalks, bikeways, paths, or accessways shall be required where the existing transportation system will be impacted by or is inadequate to handle the additional burden caused by the proposed use.
  - (b) Improvements such as paving, curbing, installation or contribution to traffic signals, construction of sidewalks, bikeways, accessways, paths, or streets that serve the proposed use where the existing transportation system may be burdened by the proposed use may be required.

#### **Next Steps**

This memo has been prepared for review by the Project Management Team. Following their review, these proposed amendments will be presented at a series of Project Advisory Committee meetings and a public open house. Comments from these meetings will be used to revise the proposed amendments for the final draft of the TRP. At this point the Highway 131 TRP will be considered for adoption. Adoption of the TRP will not automatically result in adoption of the proposed code amendments in this technical memorandum. These proposed code changes must be considered and adopted by the Tillamook County Board of Commissioners as part of a separate procedure.



**Appendix A- Outdoor Lighting Standards, Tables 1, 2 and 3**

Code Requirements for Shielding

All outdoor lighting fixtures (except street lighting) will be shielded in conformance with Table 1 included in this section.  
 Street lighting will be shielded in conformance with Table 3 included in this section.

**Table 1: Outdoor Lighting Fixtures  
 (Except for Street Lighting)**

**WATTAGE - SEE SECTION 1 BELOW**

Lamp Type	25	30	35	40	50	60	75	100	110 OR MORE
LOW PRESSURE SODIUM	UNSHIELDED	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD
HIGH PRESSURE SODIUM	UNSHIELDED	UNSHIELDED	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD
METAL HALIDE	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED
FLUORESCENT	UNSHIELDED	UNSHIELDED	UNSHIELDED	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD
QUARTZ	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD	DIRECTED SHIELD
TUNGSTEN HALOGEN	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED
MERCURY VAPOR	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED
INCANDESCENT	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED	UNSHIELDED

1. For the purpose of this section wattage ratings for lamp types will be for either a single lamp source or multiple lamp sources when installed in a cluster.
2. Lamp types not listed in the table may be approved for use by the building official providing installation of these lamps conforms to the human limits established in this section.
3. Glass tubes filled with argon, neon or krypton do not require shielding.



**Table 2. Typical Lamp Values for Various Lamp Wattages\***

WATTAGE	LOW PRESSURE SODIUM	HIGH PRESSURE SODIUM	METAL HALIDE	FLUORESCENT	QUARTZ	MERCURY VAPOR	INCANDESCENT
9							
18							
35	4,725	2,250					
40		4,000		3,750			4,000
50							4,000
55	7,925						
60							
70		5,800	5,500			2,800	
75							
90	14,400						
100		9,500	8,000			4,300	
110				6,400			
150		16,000					2,850
175			14,000			5,600	
200		22,000					4,910
250		27,500	20,500			12,100	
300							6,560
400		50,000	36,000			22,500	
500							10,850

\* Taken from data supplied by Portland General Electric - Energy Resource Center





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MAILING LABEL