

Highway 131 Transportation Refinement Plan

PREPARED FOR:

**Economic Development Council of Tillamook County
Tillamook County Department of Community Development
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June 2007

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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.

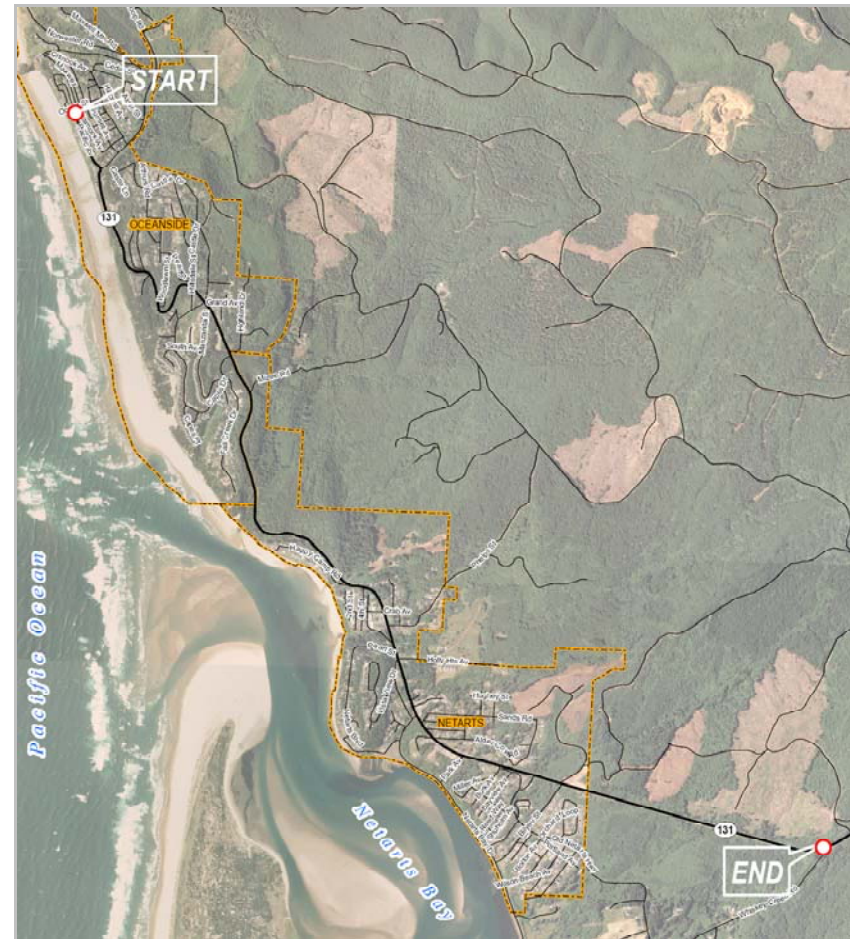


FIGURE 1
Highway 131 Study Area

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

TABLE 1
Goals and Evaluation Criteria

Goals	Evaluation Criteria
Off-Highway Vehicle Circulation Provide opportunities for off-highway vehicle circulation.	<ul style="list-style-type: none"> ● Improves opportunities for off-highway vehicle circulation ◐ Provides no change in opportunities for off-highway vehicle circulation ○ Worsens opportunities for off-highway vehicle circulation
Livability	
Community Preservation 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.	<ul style="list-style-type: none"> ● Creates no impacts to existing businesses and/or residences, or minor impacts that can be mitigated; provides opportunity for redevelopment and/or new development ◐ Creates minor impacts to existing businesses and/or residences that can not be mitigated or major impacts that can be mitigated ○ Creates a major impact to existing businesses and/or residences (e.g. residential or business displacement); does not encourage continued growth of downtown core
Parking Provide appropriate, adequate, and convenient parking for visitors and customers of local businesses.	<ul style="list-style-type: none"> ● 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 ◐ 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 ○ 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
Community Support Provide recommendations that will receive support from the community and elected officials.	<ul style="list-style-type: none"> ● Expected to garner broad and/or strong support from community stakeholders and leaders ◐ Support from community stakeholders and leaders is not expected to be strong, and/or is uncertain. ○ Expected to receive limited or no support from community stakeholders and leaders
Ocean and Bay Access Improve pedestrian access to the ocean and/or Netarts Bay.	<ul style="list-style-type: none"> ● Provides multiple direct pedestrian accesses to the ocean and/or Netarts Bay ◐ Provides one direct pedestrian access to the ocean and/or Netarts Bay ○ Provides no or indirect pedestrian accesses to the ocean and/or Netarts Bay
Multimodal Solutions	
Bicycle and Pedestrian Facilities Provide for an interconnected system of bicycle and pedestrian facilities	<ul style="list-style-type: none"> ● Creates new and/or substantially improves existing bicycle and pedestrian facilities ◐ Creates minor new and/or indirectly improves existing bicycle and pedestrian facilities ○ Does not create new and does not improve existing bicycle and pedestrian facilities

TABLE 1

Goals and Evaluation Criteria

Goals	Evaluation Criteria
Public Transportation Improve public transit facilities to encourage growth in transit ridership.	<ul style="list-style-type: none"> ● <i>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</i> ● <i>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</i> ○ <i>Provides no improvements, or adversely impacts existing public transit facilities</i>
Cost Provide solutions that are cost-effective to design and construct (based on order-of-magnitude cost estimate).	<ul style="list-style-type: none"> ● <i>Provides a cost effective solution with opportunities for local funding match and opportunities to be built in phases</i> ● <i>Cost effectiveness and/or opportunities for local funding are uncertain, or there are limited opportunities for phasing</i> ○ <i>Alternative is not considered cost effective</i>

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.

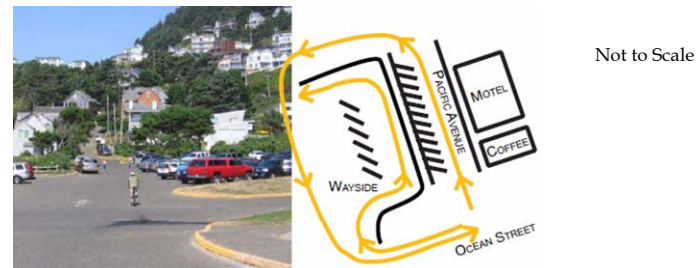


Photo Source: Oceanside Neighborhood Association

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 Meares 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.

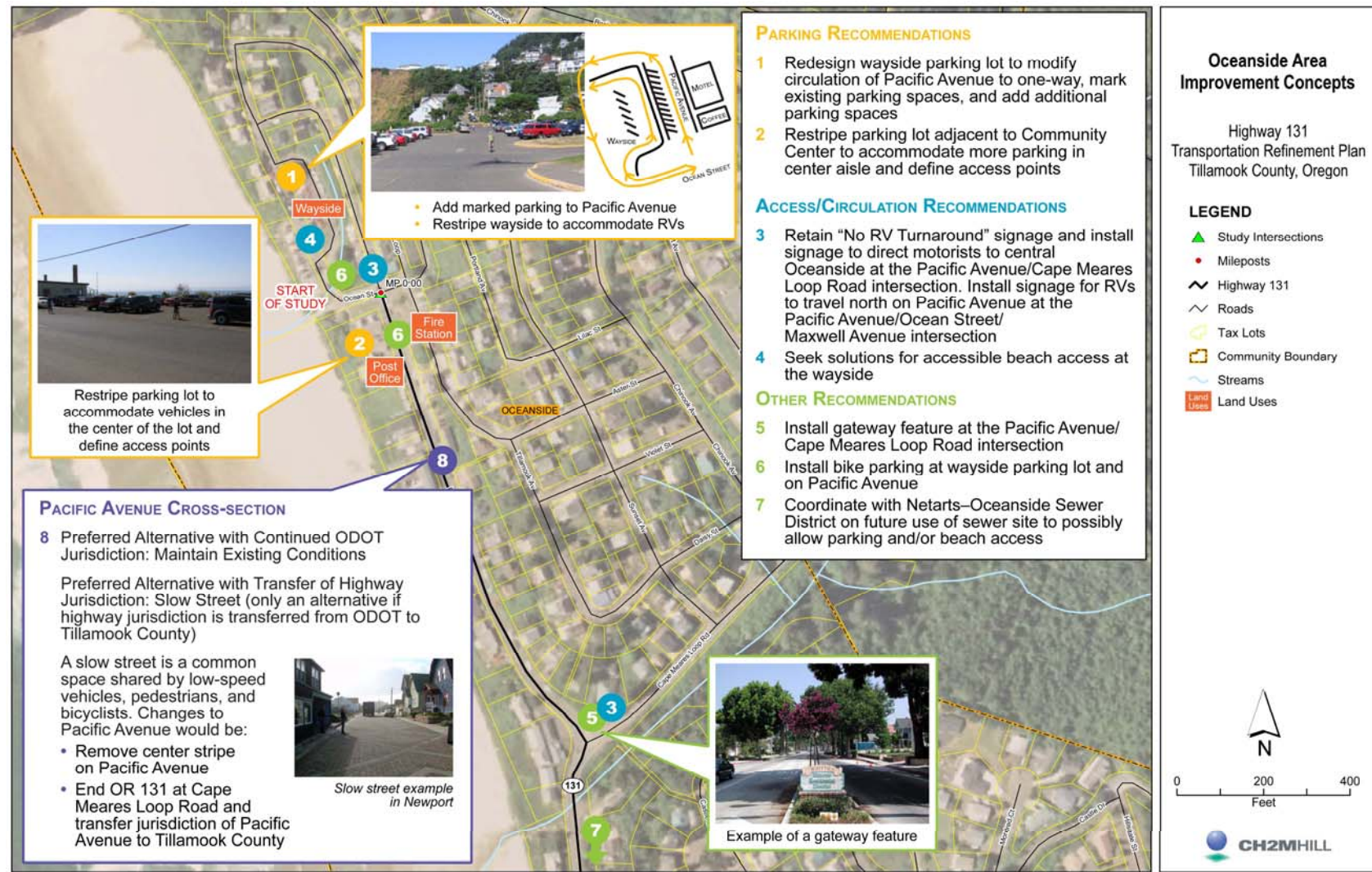


FIGURE 5
Oceanside Improvement Concepts

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.

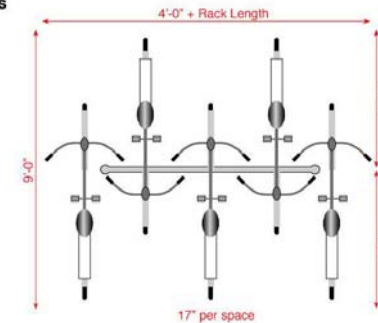


FIGURE 6
Example of a Gateway Feature

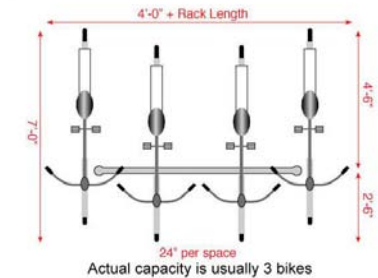
6. Install Bicycle Parking

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.

Ribbon, Spiral, or Freestanding Racks
(with access from opposing sides)



Ribbon, Spiral, or Freestanding Racks
(with access from only one side)



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

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.

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

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).

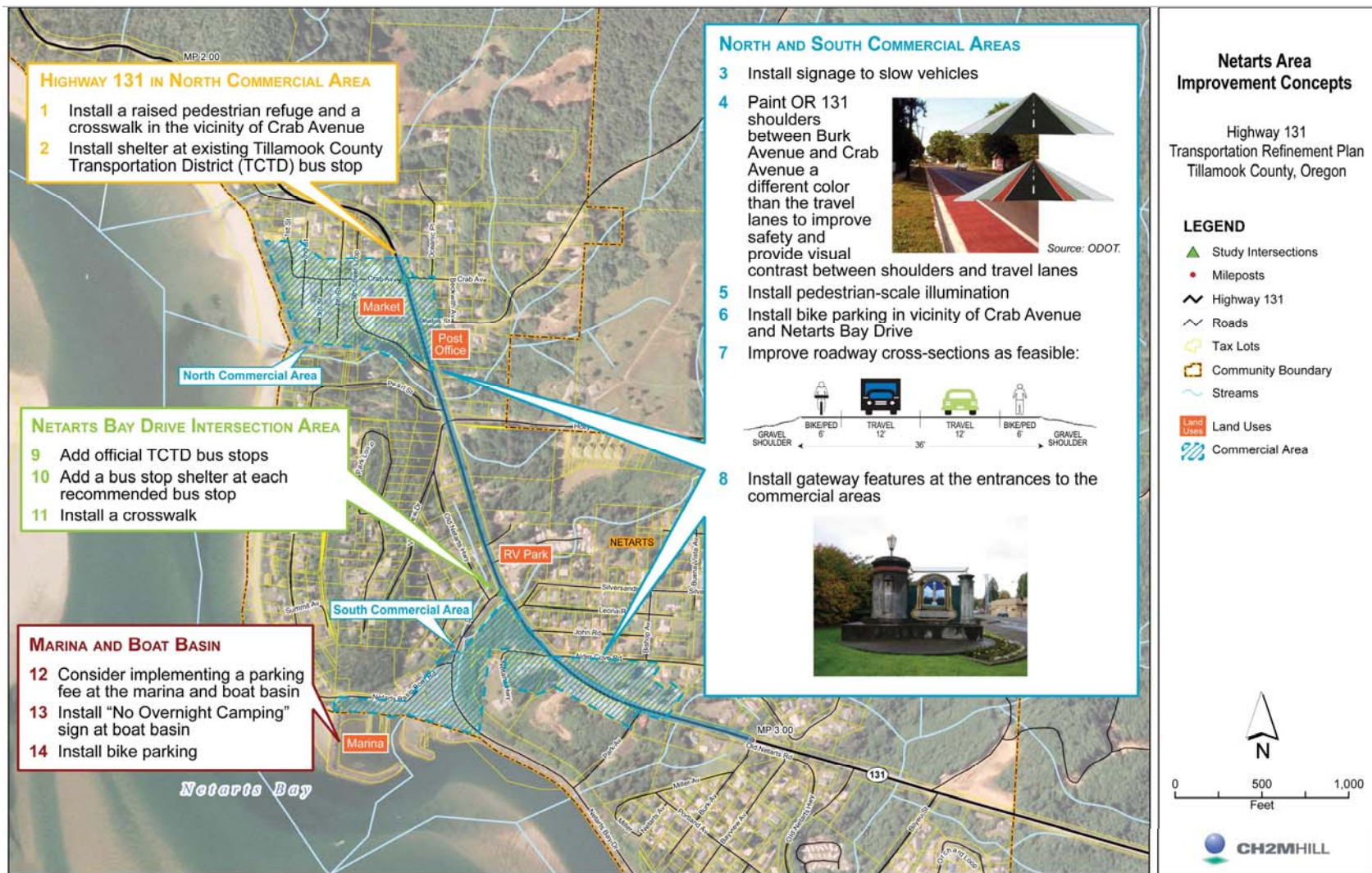


FIGURE 9
Netarts Improvement Concepts

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"¹ 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.

¹ 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.

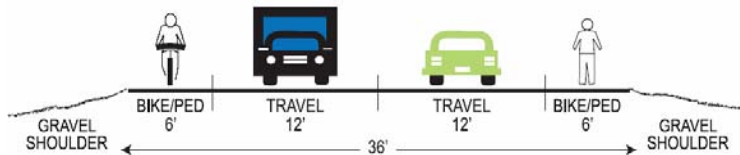


FIGURE 12

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.

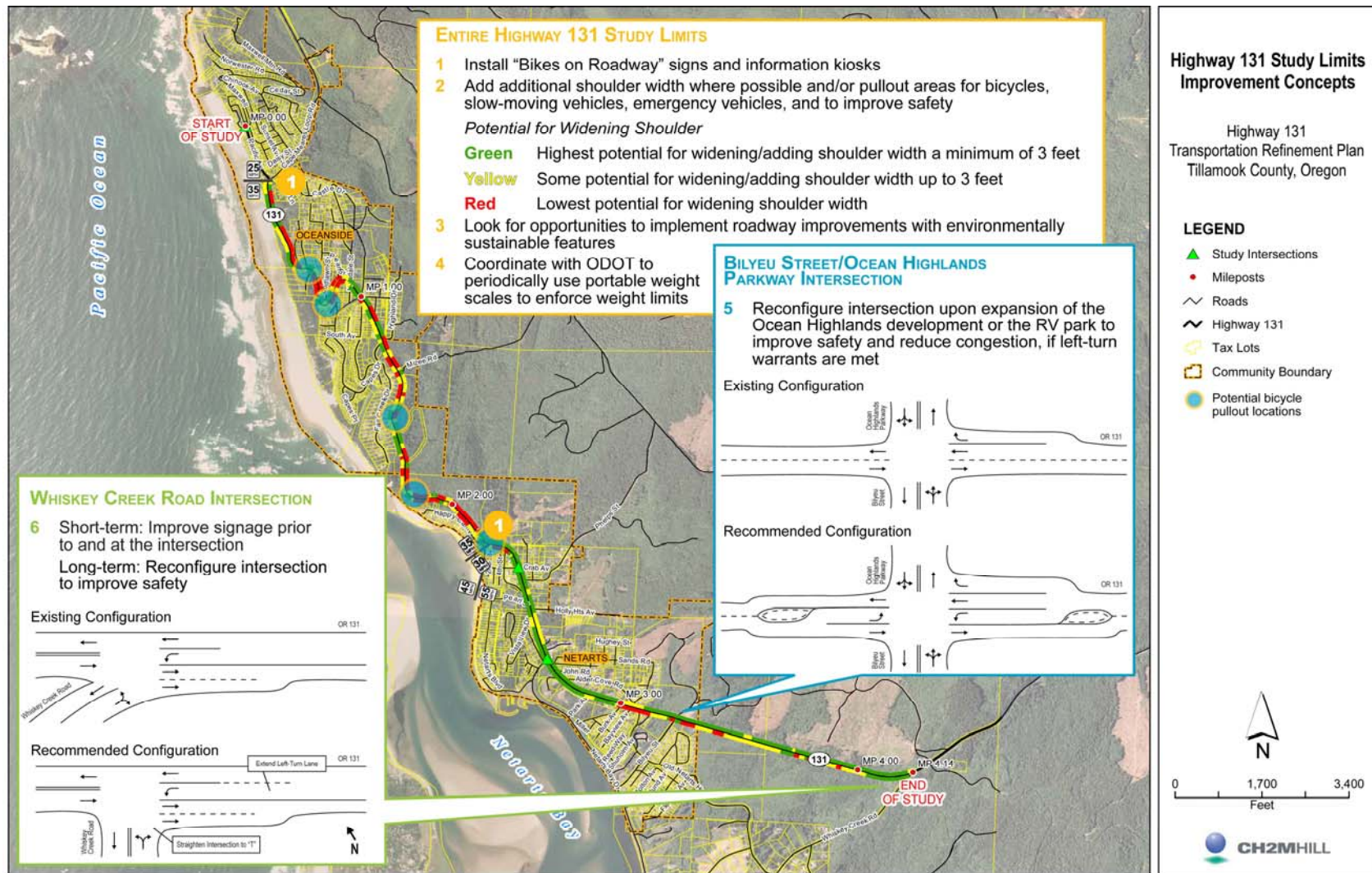


FIGURE 15
Corridor Improvement Concepts

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).

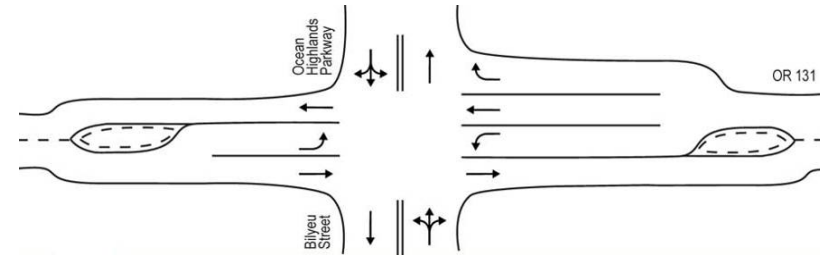


FIGURE 16

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).

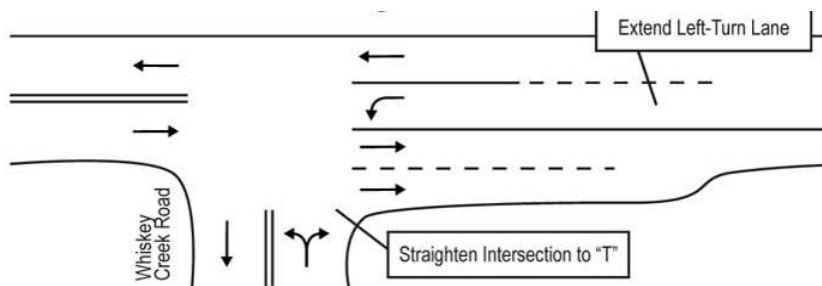


FIGURE 17

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)
Oceanside Improvement Concepts	
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
Oceanside Improvements Total Cost	\$1,918,030
Netarts Improvement Concepts	
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
Netarts Improvements Total Cost	\$904,395
Corridor Improvement Concepts	
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
Corridor Improvements Total Cost	\$2,017,850
TOTAL SUM OF OCEANSIDE, NETARTS, AND CORRIDOR IMPROVEMENTS	\$4,840,275

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.

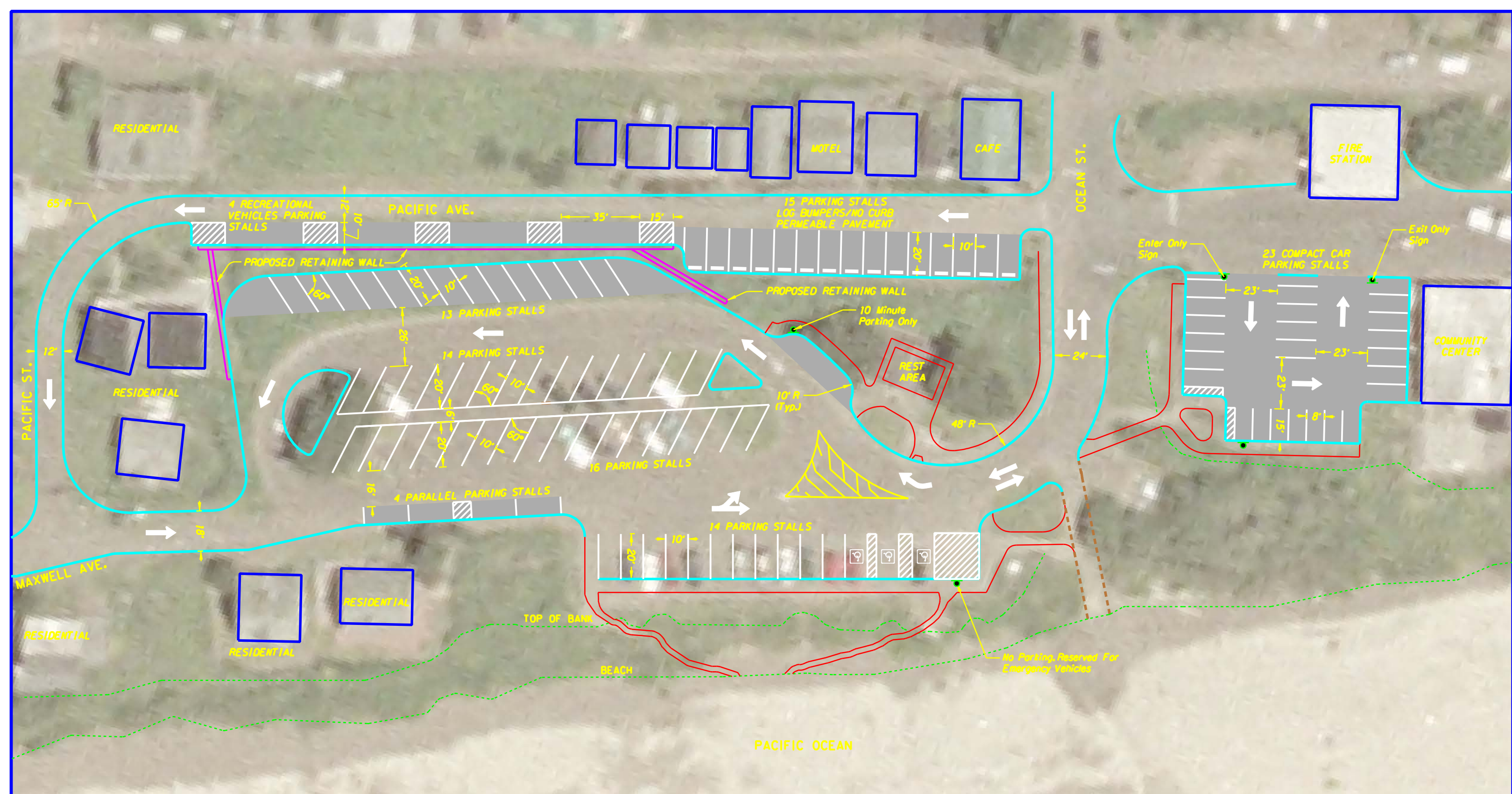
Projects affecting Highway 131 must conform to ODOT's standards and guidelines for state highways. In addition, some improvements may require ongoing costs for operation or maintenance. A formal agreement between the County and ODOT may be required for such elements. Tillamook County should coordinate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

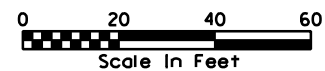
5 CONCEPTUAL DESIGN OF SELECT COMPONENTS

- 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



OCEANSIDE WAYSIDE

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





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

Colored Bicycle/ Pedestrian Safety Shoulder	Travel Lane	Travel Lane	Colored Bicycle/ Pedestrian Safety Shoulder
6'	12'	12'	6'

Highway 131 Cross Section



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



