Rockaway Beach TRANSPORTATION PLAN VOLUME I

PREPARED FOR

City of Rockaway Beach

WITH SUPPORT FROM

Oregon Department of Transportation
Tillamook County

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1 INTRODUCTION

The Rockaway Beach Transportation Plan addresses key issues related to transportation within the City of Rockaway Beach. This plan was led by the City of Rockaway Beach in coordination with the Oregon Department of Transportation (ODOT), Tillamook County, the Port of Tillamook Bay Railroad, and the Department of Land Conservation and Development (DLCD).

The objectives of the Rockaway Beach Transportation Plan are to:

- Improve north-south connectivity to reduce reliance on US 101
- Indentify pedestrian crossing locations and improvements across US 101
- Provide parking areas for visitors
- Provide pedestrian routes to serve residents and the visiting population
- Identify opportunities to improve rail crossings
- Ensure that transportation facilities adequately serve residential and commercial lands

The City of Rockaway Beach is a coastal community located on and bisected by US Highway 101 (US 101) and the Port of Tillamook Bay Railroad which runs parallel to the west side of the highway. The City has a permanent population of 1,375, but peak daily population can reach 5,000 during summer months due to visitors vacationing on the Oregon coast.

The portion of the project study area west of US 101 between the highway and the Pacific Ocean is densely developed with beachfront housing, hotels, and some limited commercial development. The east side of the City outside of the downtown core is mainly residential with some commercial along US 101. The downtown area is generally located between North 6th Avenue and South 7th Avenue. City Hall, the Post Office, and primary city beach access points are clustered in this area.

Due to the linear nature of Rockaway Beach, all traffic accessing the western part of the City must cross the railroad tracks, and there are a number of crossings throughout the study area. Additionally, many of the residents and visitors staying in hotels on the east side of US 101 cross the highway to access the beach. Many of these trips are made on foot across the highway, making the railroad crossings important for both vehicles and pedestrians.

Within the City, development east of US 101 is clustered in three areas: Twin Rocks to the south, central Rockaway Beach between North 6th Avenue and South 7th Avenue, and the area north of Lake Lytle accessed via North 12th Avenue. There are few local street connections between these three areas, and travelers use US 101 for many local trips. The study area, shown in Figure 1, includes US 101 from north of Beach Drive to south of Pansy Street and the City and Urban Growth Boundary (UGB) limits.

FIGURE 1
Study Area
Rockaway Beach Transportation Plan
Rockaway Beach, Oregon

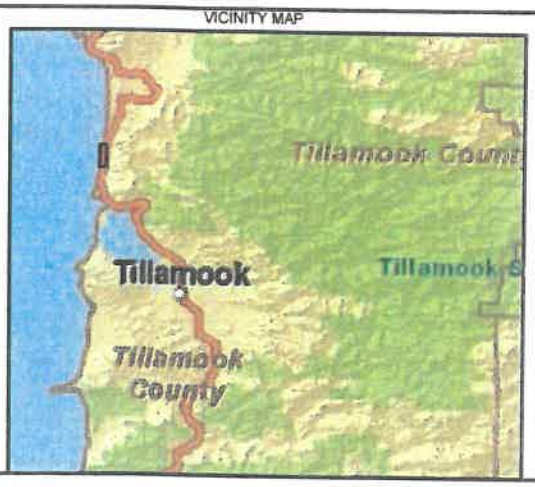
LEGEND
- Other Road
- Local, rural road; city street
- Primary Highway
- Rivers
- Water Bodies
- Rockaway Beach City Limits
- Rockaway Beach Urban Growth Boundary

Source:
State of Oregon UGB boundaries,
Oregon Department of Transportation1996
City Limits - Oregon Department
of Transportation 2007

N

0 1,000 2,000 4,000
Feet

VICINITY MAP



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2 PLANNING PROCESS

This section describes the planning process for the Rockaway Beach Transportation Plan, including public involvement, goals and evaluation criteria, existing and future conditions analysis, and development and evaluation of alternatives.

Public Involvement

Rockaway Beach community members, stakeholders, representatives from the City, County and ODOT provided guidance and policy direction for this plan. The City, ODOT and the County comprised the Project Management Team (PMT) which met throughout the process to guide the development of the Plan. There were two face-to-face meetings with the PMT, a kickoff meeting in July 2009, and a brainstorming alternative session in November 2009. Phone conferences were held to check in when needed throughout the process.

In addition to coordinating with the PMT, technical review meetings were scheduled with a variety of ODOT representatives to identify fatal flaws at two points in the process. The first was after the project team and PMT developed concepts to be considered (January 2010) and the second technical review meeting evaluated draft project recommendations (March 2010). ODOT representatives from roadway design, access management, rail, maintenance, bicycle and pedestrian, and traffic operation divisions participated in the meetings and reviewed proposed projects.

A Project Advisory Committee (PAC) made up of local residents, business owners, and public officials met at key milestones, in October 2009, January 2010, and April 2010 to provide input on the project needs, existing and future conditions, possible transportation improvements, and to recommend project improvements. Table 1 shows the PAC meetings and the associated milestones.

Some PAC members at the April 2010 meeting

TABLE 1
PAC Meeting Points and Milestones

PAC Meeting	Meeting Point	Key Milestone
PAC Meeting #1	Assess Transportation Deficiencies and Needs	Review goals and objectives, project schedule, and methods of public participation Discuss project issues and needs Confirm local concerns and full range of needs are included in the analysis
PAC Meeting #2	Develop Alternatives	Review concepts under consideration, gather feedback Confirm identified concepts adequately address the deficiencies and needs
PAC Meeting #3	Develop Recommendations	Discuss recommendations for the Transportation Plan

Two public open houses were held at the Rockaway Beach Civic Center (February and April of 2010) that allowed substantial input and feedback from the community. The first meeting collected input on the deficiencies and needs, and gathered comments on the concepts under consideration and new ideas to be considered. The final Open House presented the draft project recommendations for public review and comment.

Attendees at Open House #1

Project background information, the project schedule, open house announcements, meeting summaries, and technical materials were all available on a project website (www.rockawaybeachplan.com). Public comments were also collected via email and regular mail. Documentation of the public process is included in Appendix A, Public Involvement.

Existing and Future Conditions Analysis

The first step in the planning process is to determine the current transportation conditions within the study area. The project team collected information on traffic operations, safety issues, and the layout of study intersections. These current conditions were verified with the Project Management Team and the PAC.

Existing and Future Conditions

- All ten study intersections meet ODOT mobility standards both in current (2010) and future (2030) analyses

- The intersection of US 101 and Neah-Kah-Nie Middle and High School westbound queue (the school access) exceeds available storage, meaning that waiting vehicles back up into the school driveway area

Lack of curb and gutter in southbound direction in downtown Rockaway Beach

- Eight of the ten study intersections have eastbound approach queues that extend to or across the Port of Tillamook Bay railway tracks. These are ungated, stop/yield controlled crossings. Queuing extending across the tracks is a minor safety concern due to the infrequency of the railroad usage and the slow speed of the train
- No safety deficiencies were identified based on a review of crash data along US 101 within the study area

Pedestrian Facility Existing Conditions

Pedestrian activity is important to Rockaway Beach: many visitors and tourists drive to the City, park and walk to attractions and commercial areas. There are many pedestrian-specific deficiencies throughout the City:

- The most notable deficiency in the pedestrian environment is the lack of sidewalks throughout parts of the City. Missing sidewalks and curb ramps makes traveling by wheelchair or motorized mobility device challenging
- There are no sidewalks or crossing safety devices on the roads that cross the railroad tracks. Rockaway Beach experiences substantial seasonal variation of pedestrian traffic. On a given day in the summer, a significant portion of motor vehicle traffic traveling US 101 stops in Rockaway Beach, creating many temporary, non-resident pedestrians. The train only operates in the summer, creating a potential conflict between pedestrians and the slow-moving train
- Access to the beach by wheelchair is difficult – only one ADA accessible beach access exists in south Rockaway Beach
- Crossing US 101 can be an impediment to pedestrian travel. Most homes, businesses, and pedestrian trip generators (such as

Washington Street Railroad Crossing

the school, library, bank, post office, transit stop, and civic center) are on the east side of the highway, and the beach and tourist lodging facilities are west of US 101. South 1st and Nehalem Avenues are primary beach accesses and have the most pedestrian use

- Few facilities exist to aid pedestrians getting to higher ground in the event of a tsunami or other emergency situation
- An impediment to north-south pedestrian and bicycle travel is Miller Street at Rock Creek, where Miller Street does not cross the creek. Currently, some pedestrians walk around the creek and onto the railroad tracks to continue on Miller Street north or south of Rock Creek

Bicycle Facility Existing Conditions

Bicycling along US 101 through Rockaway Beach is complicated by the following conditions:

There is an existing prohibition against riding on the sidewalk in downtown

- The lack of a northbound shoulder through downtown Rockaway Beach (South 3rd Avenue to North 3rd Avenue) requires that all northbound bicyclists (both long-distance and local) share the roadway, use the sidewalk (posted as illegal), or use an alternate route. During site visits, bicyclists were observed riding on sidewalks and against traffic. This may indicate the need for education about safe bicycling techniques in addition to improving facilities
- The high number of vehicle access points, both at intersections and at mid-block, requires vigilance on the part of bicyclists and motorists (particularly during the busy summer months) to reduce conflicts between the modes
- Lack of curb and gutter along large stretches of US 101 allows and encourages vehicle parking directly off the paved shoulder - leading to higher levels of gravel and debris in the shoulder bikeway and unpredictable vehicular movements
- Bicycle parking is not provided at most destinations or along commercial streets in Rockaway Beach. Bike racks are available at the schools; however these racks are poorly located and not designed to accepted standards. The shortage of quality bicycle racks in high-demand locations means cyclists secure their bikes to hand rails, street signs, light poles, trees and other objects

- Gravel, glass and other debris are routinely present on the bikeway system, making bicycling difficult at times. This typically occurs when passing motor vehicles blow debris onto the adjacent shoulder
- The lack of roadway treatments designed to encourage and make bicycle use possible (e.g., signing, pavement markings, and traffic calming) is notable. These treatments are a necessary component to facilitate safe, comfortable, and convenient bicycle travel. Rockaway Beach's bikeway system lacks signage to indicate to bicyclists and drivers that bicyclists may be found on the road. There are no wayfinding tools to direct riders to bikeways and to major destinations such as parks, schools, and business districts, or through town to neighboring communities
- Miller Street generally provides excellent north-south connectivity as a parallel route to US 101, however the roadway conditions itself are less than ideal for bicycle travel along parts of the route

Rough chip seal makes bicycling difficult along Miller Street

- The railroad crossings are a barrier for pedestrians, bicycles, and members of the public who use a wheelchair, cane or walker or similar assistance device

Transit Conditions

There is one bus route that travels through Rockaway Beach, and trips into Portland must transfer to another bus in Tillamook. This does not provide any other choices of routes or service for those who use public transit. There are no local circulation routes or direct service into Portland or other major cities in the Willamette Valley.

Roadway Conditions

Based on ODOT criteria, the only roadway deficiencies identified are in relation to shoulder widths. Throughout the City, shoulders are narrower than the state standard, especially north and south of downtown. Within the downtown core, shoulders are a bit wider, but still not to standards in places.

Development and Evaluation of Alternatives

Following the first PAC meeting and before the first public open house, the project team developed alternatives to respond to the project needs, purpose, and goals. This process is documented as Appendix C, Alternatives Development and Evaluation. 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, incorporating input from the project team, and the PAC (October 2009).
2. Revise concepts based on feedback received from the PAC (December 2009 and January 2010) and at the public Open House #1 (February 2010).
3. Evaluate each potential improvement to illustrate how it addresses each project goal (February and March 2010).
4. Present draft alternatives to ODOT, the City of Rockaway Beach, and Tillamook County for review against adopted state and county policies and standards (March 2010) revise draft alternatives to respond to comments.
5. Present draft alternatives to the PAC and the public (April 2010).
6. Finalize recommendations based on feedback from the PAC and the public and create the Rockaway Beach Transportation Plan (May 2010).

Goals and Evaluation Framework

The project goals were described in section one, and from these goals, an evaluation framework was developed based on input from the PAC. The evaluation framework is included in Table 2, and was established to assure that the plan responds to the goals and desires of the community. The draft alternatives were developed to address and were subsequently evaluated by these criteria.

TABLE 2
Alternative Evaluation Criteria

Criterion	*Objective*	*Performance Measure*
Connectivity	Improve street and path connectivity	Out-of-direction travel, access to local and regional destinations
	Create an alternate north-south local street system that provides the opportunity for off-highway local circulation.	Change in trip travel distance along US 101, access to local and regional destinations
	Emergency vehicle reliability and timely access	Emergency response times
	Improve bicycle and pedestrian network	Gaps in the current system between popular origins and destinations
Safety	Reduce potential conflicts between vehicles, and between vehicles and bicyclists and/or pedestrians	Number of potential conflict points Qualitative assessment of safety at railroad crossing intersections
	Ensure that transportation facilities meet current engineering best practices for safety and design.	Facilities meet ODOT, County and City Traffic engineering standards
Mobility/ Accessibility	Transportation system accommodates growth, meets appropriate mobility standards	Volume-to-capacity, (v/c) Travel delay Number, location of, and diversity in parking areas
Environmental Impacts	Minimize impacts to known natural environmental resources	Impacts to acreage of wetlands, encroachment on known fish habitat and impact to identified threatened and endangered species habitat
	Minimize impacts to built environment resources	Number of businesses and residences impacted and severity of impact, number of homes or businesses displaced, ability to appropriately mitigate impacts
Multimodal Solutions	Addresses needs of Bicyclists and Pedestrians	Qualitative assessment of alternative's provision of services to users of all modes. Qualitative assessment of improvements to bicycle and pedestrian facilities, and/or improvements geared toward future transit routes
	Addresses needs of Public transit users	Qualitative assessment of alternative's provision of services to users of all modes. Qualitative assessment of improvements to bicycle and pedestrian facilities, and improvements geared toward future transit routes

3 RECOMMENDATIONS

The Rockaway Beach Transportation Plan recommendations are organized around the project goals. Each recommendation has a short description and planning-level cost estimates. Figures 3-5 at the end of this section show the recommendations.

North South Connectivity Recommendations

The following recommendations provide options to travel north-south through Rockaway Beach without using US 101.

1. Extend Necarney Avenue

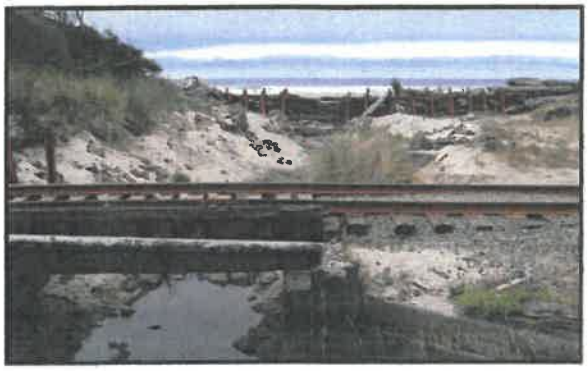
Necarney Avenue parallels US 101 east of the highway. This recommendation extends the street south from near NE 12th Avenue connecting with Timberlake near N 3rd Avenue. Once extended, Necarney Avenue provides an alternate, parallel north-south route to US 101 for all local vehicle trips, bicyclists and pedestrians.

Necarney Avenue in the general vicinity of the recommended extension

2. Improve Miller Street

Miller Street parallels US 101 west of the highway and the Port of Tillamook Bay Railroad. At the south end to S Nehalem Street, it is owned by the Port of Tillamook Bay Railroad and north of Nehalem Street it is owned by the City. This project improves Miller Street by reconstructing the pavement for existing portions of the street to create a smoother surface for local vehicles, bicycles and pedestrians. In addition, it extends Miller Street across three waterways – one at the north leading into Crescent Lake; another at S. Nehalem Avenue; and a third leading into Clear Lake. At the north end, it extends to the Manhattan Beach Wayside as a pedestrian pathway using existing right of way. At the south end of Rockaway Beach, users transition from Miller Street to Pacific Street south of S 6th Avenue, and along Breaker Avenue south of S 7th Avenue to S Minehaha Street. Further connections to the south are be possible via Alder Street south of Minehaha Street.

Unimproved Miller Street



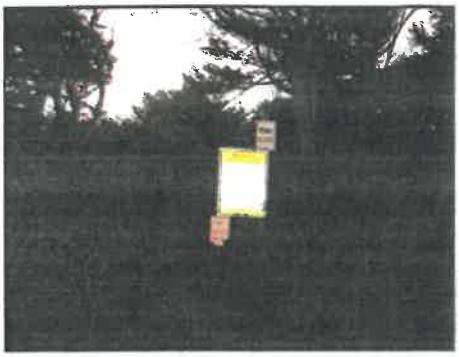
Creek Crossing Location

Improving Miller Street provides a continuous, north-south route for bicyclists and pedestrians throughout Rockaway Beach, from Manhattan Beach at the north end (with pedestrian connections existing between Manhattan Beach and Nedonna Beach) to south of S. Minnehaha, connecting to the Spring Lake Cabins. Because the extensions are for bicycle and pedestrian use only, the finished project serves as a *slow street* of sorts, providing equal access to autos, bicyclists, and pedestrians through existing sections, and as a *bicycle boulevard* via the new creek crossings, serving local and through bicycle and pedestrian trips.

3. Improve Beach Access

This recommendation adds new signage or upgrades existing signage at official beach access points, and improves key pedestrian access points to the beach in difficult areas (where rip rap has been added to prevent erosion). This includes signs at key locations on both the beach and City streets. The goal is to make it easier for visitors to determine their location on the beach related to destinations in the downtown area. Distances in Rockaway Beach are fairly short, and instead of entering and exiting the beach at only one point, this project encourages use of the beach as a scenic north-south travel route, with a guide to show what destinations are associated with beach access points. Possible signs could indicate the library, Flamingo Jim's, or various churches in the city.

Existing N 2nd Avenue Beach Access



Existing N 23rd Avenue Beach Access with sign

4. Construct Recreational Trails Around Lakes

This recommendation consists of trails or boardwalks around Lake Lytle and Crescent Lake north of downtown Rockaway Beach. The trail around Lake Lytle could be between the lake and the highway only or around the entire lake. Both trails could be constructed in phases. The purpose of the recommendation is two-fold:

1. **Improved north-south pedestrian connectivity** – the trail provides a dedicated pedestrian facility off of the highway between N 6th Avenue and N 12th Avenue for Lake Lytle, and between NW 18th Avenue and NW 23rd Avenue for Crescent Lake. The northern segment of Rockaway Beach has fewer destinations and is not recommended for dedicated sidewalks along the highway, and the trails around the lakes provides a facility for pedestrians off of the highway (see recommendation #8).

2. **Recreational benefit** – substantial public input has been received about the importance of safe walking paths for Rockaway Beach residents and visitors. A trail around Lake Lytle and Crescent Lake provides an option for recreational, scenic walks. Removing some of these trips from US 101, or reducing the length of the walk along the highway minimizes safety conflicts between autos and pedestrians walking along the edge of the highway. PAC members and members of the public have noted that trails around the lakes could be an integral part of a recreational loop north-south through the City to provide recreational and exercise opportunities to attract tourists and City residents.

Recreational trail near a lake

Although the primary use of these trails would be for pedestrian use it is also expected that trails could accommodate bicyclists.

Planning level cost estimates for recommendations 1-4 are included in Table 3.

TABLE 3
North South Connectivity Project Cost Estimates

Recommendation	Estimated Cost (2010$) (rounded to the nearest $1,000)
1. Extend Necarney Street	$1,998,000
2. Improve Miller Street	$1,703,000
3. Improve Beach Access	$33,000
4. Construct Recreational Trails Around Lakes	$744,000

Safe Crossings of US 101

The following two recommendations address crossing US 101 for both pedestrians and emergency vehicles.

5. Improve Priority Highway Crossings

This recommendation stripes new crosswalks or restripes existing crosswalks across US 101 at priority crossing locations. These crossings would be coordinated with approval from the State Highway Engineer, and are targeted at high crossing locations connecting pedestrian generators and destinations on either side of the highway. To gain approval from the State Highway Engineer, ODOT requires a pedestrian network to support approved pedestrian crossings on both sides of the highway. A sidewalk leading up to and over the railroad crossing to connect to the pedestrian and bicycle boulevard on Miller Street constitutes an appropriate network connection. The recommended crossings are broken down below from north to south within the City. Crossing warrants will be required from ODOT before recommendations are implemented.

Along with striped crosswalks, a driver education campaign with pamphlets, signage, service announcements, or other strategies to remind drivers that pedestrians crossing the road have priority at any intersection, regardless of whether the intersection has a striped crosswalk would help address safe crossings of US 101. A diagram with the recommended crossings throughout Rockaway Beach is included as Figure 2 (note, purple crossing areas are not recommended for a striped crosswalk at this time).

Striped Crosswalk Example

North Crossings

Recommended crossings in the north part of town include:

US 101 and N 11th Avenue

This is considered a high priority crossing location because of its connection to Lake Lytle's primary access point near 12th Avenue east of the highway, and residential development and hotels on the west. There is also a beach access in the vicinity of N 11th Avenue. This crossing would require a short sidewalk on the east side to connect with N 12th Avenue and the proposed system around Lake Lytle.

Other locations considered in north Rockaway Beach include south of the Neah-Kah-Nie Middle and High School, US 101 and N 19th Avenue, and US 101 and N 6th Avenue. The crossing south of the school is considered because students and school staff cross from the school to the beach or to Manhattan Beach Park. The intersection of US 101 and N 19th Avenue is considered due to pedestrian traffic between hotels on the west side of the highway and the lakes on the east side. US 101 and N 6th Avenue connects residential areas on the east side of US 101 with a beach access on the west. These locations are not recommended for striped crosswalks at this time.

Crossings in Downtown Core

The area between N 6th and S 7th Avenues is a designated Special Transportation Area (STA). The STA designation is given by the Oregon Transportation Commission (OTC) in areas where pedestrian activity is high to illustrate that all users of the transportation system; local autos, through trips, freight, bicyclists, and pedestrians have equal priority. STAs are usually characterized by slow speeds, sidewalks, retail businesses, and high levels of pedestrian activity. This section of Rockaway Beach is considered the downtown core of Rockaway because of its proximity to shopping, restaurants, beach accesses and parking, and the resulting higher pedestrian and bicycle activity. The recommendation includes striped crosswalks at four locations within the downtown core:

- N 3rd Avenue
- S 1st Avenue*
- S 2nd Avenue
- S 3rd Avenue

* Note: The Rockaway Beach Transportation Plan PAC designated S 1st Avenue as the highest priority crossing

This recommendation results in striped crossings roughly every block or every two blocks in the downtown core. Summertime pedestrian activity is sufficiently high to justify the number of striped crossings.

One constraint for this recommendation is that striped crosswalks require pedestrian facilities on both sides of the road. Throughout the downtown core, sidewalks exist or are recommended on the east side of the highway. However, there are constraints on the west side of the highway that would make sidewalks difficult. Furthermore, the recommended improvements to Miller Street make this the most attractive north-south pedestrian treatment on the west side of the highway. Recommendations within the downtown core include a striped crosswalk and a sidewalk or designated pedestrian area from the highway to Miller Street, across the Port of Tillamook Bay railroad tracks. (See Recommendation #10, which recommends railroad crossings that line up with the recommended pedestrian crossings).

Another important crossing within the downtown core is S 4th Avenue due to the residential areas to the east of US 101 and the beach access and other amenities to the west of the highway. This location is not recommended for a striped crosswalk at this time.

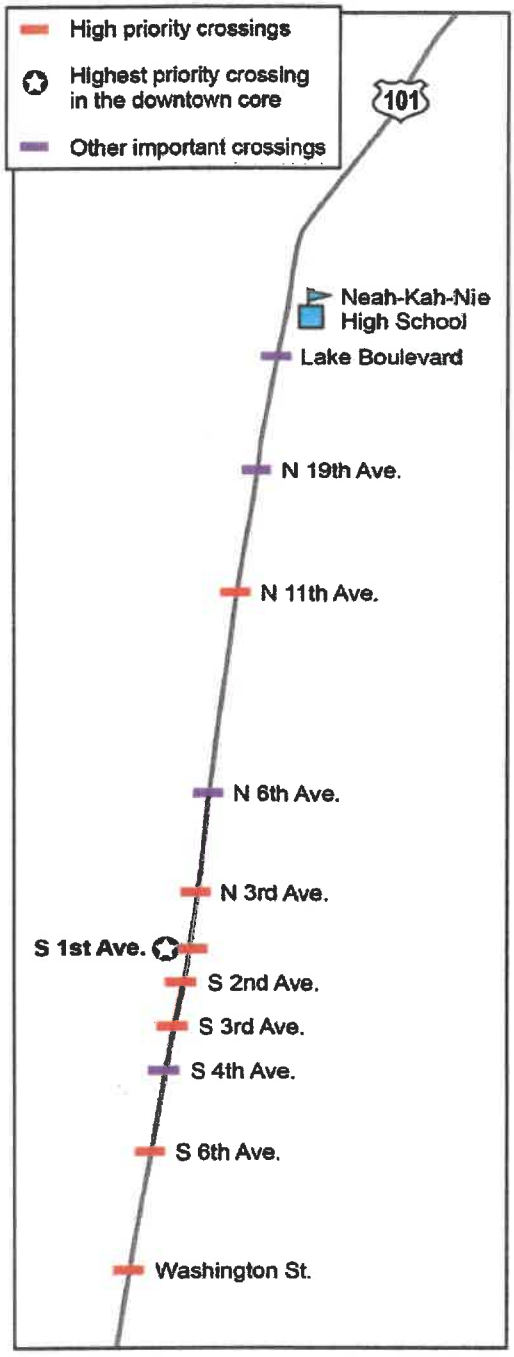


Figure 2: Recommended Highway Crossings

South Crossings

There are two recommended crosswalks in the south part of Rockaway Beach:

- S 6th Avenue
- Washington Street

Both crossings are high-priority because speeds are higher in the southern end of town and both locations connect residents east of the highway with marked beach

accesses on the west side. Additionally, the extension of Miller Street via Pacific Avenue and/or S Breaker Avenue in this section of town provides an excellent north-south pedestrian facility west of the highway. Providing a safe connection for pedestrians would alleviate the need for some to walk along US 101 when travelling to downtown. The Washington Street crossing is also near the only Americans with Disabilities Act (ADA) accessible beach access on South 9th Avenue. These crossings would require a sidewalk on the east side and a sidewalk or other pedestrian facility over the railroad crossing to both S. Pacific Street and S Breaker Avenue that will eventually connect to Miller Street in the central and northern part of the City.

6. Install Signal for Emergency Vehicles

This recommendation would add an emergency-activated traffic signal at S. 3rd Avenue to allow emergency vehicles to turn onto US 101 in the event of an emergency. South 3rd Avenue is the closest street access to the Rockaway Beach Fire Station. The emergency activated signal would not impact traffic along US 101 or on nearby local streets on a regular basis. Instead, the signal would only be used in the event of an emergency that involved a fire truck and/or ambulance. The signal would be activated by a device on the emergency vehicle or in the station that communicates with the signal, which would only turn red during an emergency for traffic on US 101.

This recommendation would decrease emergency response times and allow emergency vehicles to safely enter onto the highway. A special warrant from ODOT would be required before this recommendation is implemented.

Planning level cost estimates for recommendations 5 and 6 are included in Table 4 below.

Example of an Emergency Activated Signal

TABLE 4
Safe Crossings of US 101 Cost Estimates

Recommendation	Estimated Cost (2010$) (rounded to the nearest $1,000)
5. Improve Priority Crossings	$29,000
Sidewalk connection between 11th and 12th for the crossing at the north end	$37,000
6. Install Signal for Emergency Vehicles	
Start Up Costs	$420,000
Annual Operating Costs	$3,000

Improved Parking

Parking recommendations in Rockaway Beach address the need and desire to easily accommodate visitors stopping in the City for both short and long visits. Due to the linear geography of the City, there are several recommended parking areas. Recommendations are organized into six parts, from north to south through the City. Many of the projects include improved paving and striping of existing parking areas, better signage, and better accommodation of Recreational Vehicles (RVs).

7a. Section Line Street

This recommendation formalizes the county parking area near Section Line Street in the Nedonna Beach area including resurfacing and paving. Currently there is a gravel parking area and a sign announcing the Nehalem Bay South Jetty and a path to the beach with ample space for vehicle parking. Weather conditions are a special consideration for this parking area, as it is located directly off of the sand dunes and is vulnerable to wind, rain, and storm damage. However, with proper construction this area, along with trail to the beach could become a secondary ADA beach access point (there is another ADA beach access at S 9th Avenue).

Existing Section Line Parking Lot

7b. Manhattan Beach

This recommendation adds signage along US 101 north and south of the Beach Drive intersection for the Manhattan Beach Parking area. Simple signage could let more visitors know this parking area is available and increase its usage. Once Miller Street improvements are made, signage for the Manhattan Beach Parking area could also encourage parking and a trail/walking path to downtown beaches and shops.

7c. Parking in the Downtown Core

This recommendation extends the existing linear "parking pod" to the north and south by one block each in the vicinity of the wayside. The parking area would be one way with paved, angle parking, similar to the current parking pod. This provides additional parking in the downtown core near shops, restaurants and the beach, where most of the demand for visitor parking currently exists. It should be noted that vehicles often park in these areas illegally now, along the shoulder of the highway. These parking pods are not sufficiently wide or long to accommodate RVs.

Existing Parking in Downtown Rockaway Beach

7d. Pave City Parking Lot

A new City-maintained parking area currently exists behind and north of City Hall. This recommendation implements the current paving and striping plan for the parking area, and adds signage on the highway advertising it as available for use. Due to its location in the downtown core, with proximity to shops, restaurants, and the beach, this parking area could easily accommodate visitor day use. Adequate room also exists to accommodate a small number of RV stalls. Overnight RV parking could be considered by the City in the future.

7e. Zoning Ordinance

A substantial number of vacation homes and seasonal rental homes are located in Rockaway Beach. No requirements currently exist in the Rockaway Beach zoning ordinance regarding parking minimums or maximums. As a result, these rental and seasonal properties often accommodate more visitors and vehicles than available parking. Overflow vehicles are parked in the wayside, other parking lots, or on the street in front of other rental and full-time occupancy homes.

This recommendation revises the City ordinance to establish minimum and maximum parking requirements for vacation homes, to correspond with home occupancy. In addition, it establishes parking maximums to limit the amount of vehicles property owners can advertise for the property. Suggested changes to city ordinances can be found in Appendix E: Plan and Code Amendments.

7f. Proposed Parking Lot at the Nature Preserve Trailhead

A volunteer organization is working to improve a nature trail in the nature preserve property located at the south end of Rockaway Beach, between S 6th Avenue and Washington Street. This recommendation works with the nature preserve

organization to construct a parking lot off of US 101 at the south end of the preserve property for visitors to park while enjoying the trail into the preserve. As described in the section below (sidewalks), this recommendation complements another recommendation to extend the sidewalk on the east side of US 101 to the south, connecting to this parking lot location. This would connect the nature preserve land and parking area with downtown Rockaway Beach.

Planning level cost estimates for the parking recommendations are included in Table 5 below.

TABLE 5
Improved Parking Cost Estimates

Recommendation	Estimated Cost (2010$) (rounded to the nearest $1,000)
7a.Section Line Street	$111,000
7b. Manhattan Beach Signage	$5,000
7c. Parking in the Downtown Core	$609,000
7d. Pave City Parking Lot	$165,000
7e. Zoning Ordinances	N/A
7f. Nature Preserve Parking Lot	$101,000

Pedestrian Connectivity

Continuous sidewalks are recommended in the following locations to address existing pedestrian deficiencies within Rockaway Beach:

8a. Priority 1 – Continuous Sidewalks east of US 101

Continuous and improved sidewalks on the east side of the highway are recommended within the STA, from N 6th to S 7th Avenues to provide a continuous pedestrian route through the downtown core. At priority crossing areas (see Recommendation #5) striped crosswalks across US 101 are recommended with connections to the improved Miller Street north-south connection for a pedestrian route on the west side of the highway. Adequate space for sidewalks on the west side of US 101 in this section does not exist.

8b. Priority 2 – Continuous Sidewalks between S 7th Avenue and Washington Street

Between S 7th Avenue and Washington Street along US 101 a sidewalk is recommended on the east side. This sidewalk connects pedestrians in the downtown core with the nature preserve property and south to the residential area east along Washington Street. A striped crosswalk across US 101 is recommended at Washington Street (see Recommendation #5), providing access to improved Miller Street north-south connection and a public beach access.

East side of US 101 near S 4th Avenue

8c. Connection to Lake Lytle Trail

This connects the recommended recreational trail around Lake Lytle to the recommended sidewalk at N 6th Avenue. The connection could be deferred until the recreational trail is built in the future, or constructed at the same time as the trail. The primary pedestrian connection north of N 6th Avenue is along Miller Street on the west side of US 101.

8d. Potential Pedestrian Connections at the South End

There are two recommendations to provide pedestrian connectivity between the southern residential area near Washington Street and downtown Rockaway Beach (see Figure 5):

a) A pedestrian trail connecting Washington Street to the Nature Preserve trail and connecting the preserve trail to S 6th Avenue. This would allow for a recreational route connecting the neighborhood around Washington Street and downtown with the Nature Preserve trail network. The location of the trail is not determined and subject to an engineering process that will take wetlands, sensitive environmental areas, and other concerns into account. Additionally, coordination would occur with adjacent property owners to minimize disruption and provide privacy.

b) A pedestrian trail east of the Nature Preserve property, extending north in the vicinity of Juniper Street or Island Street to connect the Washington Street neighborhood to downtown, providing an emergency access to higher ground. This is a long-term recommendation.

Planning level cost estimates for pedestrian connectivity recommendations are included in Table 6 below.

TABLE 6
Pedestrian Connectivity Cost Estimates

Recommendation	Estimated Cost (2010$) (rounded to the nearest $1,000)
8a.Priority 1: Continuous Sidewalks on east side of US 101 within the STA (N 6th to S 7th Avenues)	$536,000
8b. Priority 2: Sidewalks on east side of US 101 between S 7th Avenue and Washington Street	$189,000
8c. Lake Lytle Sidewalk to Proposed Trail	$89,000
8d. Pedestrian Connections at the South End	$30,000

Bus Pull-Out Areas

Bus pullouts are short sections of widened roadway at bus stop locations that are sufficiently wide and long for transit vehicles to pull out of the travel lane to serve the bus stop. Providing bus pull-outs would better serve Tillamook County Transportation District and school bus riders along US 101. The pull-outs would allow traffic to safely pass a bus that is picking up and/or dropping off passengers. Pull-out areas would need to be signed for no parking. Recommended bus pull-out locations are:

Example of a Bus Pull-Out

- US 101 & NE 20th Avenue
- US 101 & NE 12th Avenue
- US 101 & Washington Street

Planning level cost estimates for the recommended bus pull-out areas are included in Table 7 below.

TABLE 7
Bus Pull-Out Cost Estimates

Recommendation	Estimated Cost (2010$) (rounded to the nearest $1,000)
9. Create Bus Pull-Out Areas	$123,000

Improve Critical Railroad Crossings

Example of a Rough Railroad Crossing

Following conversations with key stakeholders and the community, this Plan does not recommend railroad crossing closures, but identifies and targets crossings to improve that are important for residents and visitors.

The Oregon Coast Scenic Railroad only runs two trains daily during the summer months, with six trains daily during the August peak tourist month. Additionally, the maximum speed of the trains is 15 mph, and in town when they are slowing to stop at the Rockaway Beach wayside, speeds are closer to 5 mph. The project team and members of the public agreed that the railroad crossings do not present a large safety and operational barrier within the City.

However, improving critical railroad crossing locations will improve safety and circulation for autos, RVs, bicyclists, pedestrians, and wheelchair users, and were supported by the public and the PAC. Once improvements are made, a monitoring process will be adopted to inform future conversations about potential railroad crossing consolidations. Figure 4 provides an overview of this process and the critical crossing locations.

The first step in identifying critical crossings is to create criteria to classify important crossings within Rockaway Beach. The criteria agreed upon by the City and citizen stakeholders are below.

"Critical" crossing locations are those crossings that:

1. Provide emergency access
2. Are highly utilized to access US 101, including being the only access to multiple homes or businesses.
3. Are on an identified tsunami evacuation route
4. Line up with local streets running east/west of US 101
5. Provide best access to a public beach

For the crossings that meet one or more of the above criteria, recommended improvements will include:

- Upgrades to the roadway surface (concrete or new asphalt) to make the crossing smoother

- Level roadway approaches
- Upgrades to signage (if needed)

In addition, critical railroad crossing locations that line up with striped crosswalks across the highway would also include a sidewalk crossing the tracks on one or both sides of the local roadway.

Critical railroad crossing locations identified for improvement are listed below:

- Beach Drive
- N 23rd Avenue
- N 21st Avenue
- N 13th Avenue
- N 11th Avenue
- N 6th Avenue
- N 3rd Avenue
- S 1st Avenue
- S 2nd Avenue
- S 3rd Avenue
- S 6th Avenue
- Washington Street

To improve crossings in an organized manner and determine which (if any) additional crossings should be improved or consolidated, the following process will be followed to allow for a transparent decision making framework.

Steps to improve rail crossings are as follows:

1. Improve "Critical" Crossings

2. Monitor use to see:

a. How well do upgraded crossings work for users?

b. Are unimproved crossings problematic for users?

3. Hold a public process to consider crossing consolidation

a. Discuss with community

b. Discuss with railroad and City

c. Consider criteria listed below for consolidating crossings

If the community, railroad, and City want to consider consolidating crossings, the following criteria will be used to identify appropriate crossings. Consolidation would be considered only if increasing safety to and on the highway becomes an issue.

Consolidation criteria include:

- Alternate crossing locations are located nearby (within two blocks)

- Traffic volumes at the crossings are low and not expected to increase (due to change in land use, etc) in the foreseeable future
- Elevation change and/or sight distance make improvements to the crossing difficult
- The crossing is not required for emergency access

Planning level cost estimates for improving critical railroad crossings are included in Table 8 below.

TABLE 8
Improve Critical Railroad Crossings Cost Estimates

Recommendation	Estimated Cost (2010$) (rounded to the nearest $1,000)
10. Improve Critical Railroad Crossings	$322,000

Improvements at US 101 and Beach Drive

Improvements at Beach Drive include a southbound right-turn lane on US 101 for vehicles turning from the highway into the Nedonna Beach area to allow those vehicles to move out of the southbound travel lane before making a right turn. This recommendation will accommodate existing and future traffic associated with Beach Drive homes, and would accommodate expected traffic to the Manhattan Beach Wayside. A right turn warrant analysis was conducted (see Appendix C for the full analysis) and concluded that the turn lane was warranted due to anticipated future traffic volumes and speeds.

After conversations with the PAC and public, additional intersection improvements include an eastbound right turn lane on Beach Drive for vehicles turning south onto US 101. This recommendation will ensure longer vehicles (i.e. trucks and RVs) and private vehicles towing boats are able to negotiate the right turn without driving off of the roadway or crossing the US 101 center line.

Planning level cost estimates for both recommendations at Beach Drive and US 101 are included in Table 9 below.

TABLE 9
Improve US 101 at Beach Drive Cost Estimates

Recommendation	Estimated Cost (2010$) (rounded to the nearest $1,000)
11. Improve US 101 at Beach Drive	$67,000

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4 IMPLEMENTATION

A variety of local and state funding sources can be explored to help fund the recommendations in this plan. Table 10 provides an overview of possible funding sources for each of the recommendations.

TABLE 10
Potential Funding Sources

Recommendation	Potential Funding Sources	Secondary Funding Sources
1. Extend Necarney Avenue	System Development Charges (SDCs)	Franchise Fee
2. Improve Miller Street	ODOT Bicycle and Pedestrian Program; ODOT Transportation Enhancement (TE); Local Improvement District (LID)	City Budget (local match); Franchise Fee, Levy, Revenue or General Obligation Bond (new)
3. Improve Beach Access	ODOT TE; ODOT Special Transportation Fund (STF); Oregon State Parks Recreational Trails Grant; Rockaway Transient Room Tax; private sponsorship	City Budget (local match)
4. Construct Recreational Trails Around Lakes	Oregon State Parks Recreational Trails Grant; ODOT Bicycle and Pedestrian Program; ODOT TE; ODOT STF; Rockaway Transient Room Tax	City Budget (local match)
5. Improve Priority Highway Crossings	ODOT Bicycle and Pedestrian Program; ODOT TE	Franchise Fee
6. Install Signal for Emergency Vehicles	ODOT Signs, Signals and Illumination Program	
7. Improve Parking	Oregon State Parks Recreational Trails Grant; LID; Rockaway Transient Room Tax	City Budget (local match); Franchise Fee; County Road Fund
8a-c. Pedestrian Connectivity – Priority 1-2 and Connection to Lake Lytle Trail	ODOT STF; ODOT Special City Allotment; ODOT Bicycle and Pedestrian Program; ODOT TE; System Development Charges and Exactions; LID; Rockaway Transient Room Tax	
8d. Pedestrian Connectivity – Pedestrian Connections in the	ODOT TE; Oregon State Parks Recreational Trails Grant	City budget (local match)

TABLE 10
Potential Funding Sources

Recommendation	Potential Funding Sources	Secondary Funding Sources
9. Bus Pull-out Areas	ODOT Modernization Program; Tillamook County Transportation District	
10. Improve Critical Railroad Crossings	ODOT Bicycle and Pedestrian Program; Port of Tillamook Bay; ODOT Railroad Crossing Safety Program; ODOT TE; ODOT STF; ODOT Immediate Opportunity Fund	City budget (local match); Franchise Fee Increase
11. Improvements at US 101 and Beach Drive	ODOT Modernization Program; System Development Charges	Franchise Fee Increase

Other funding sources that could be considered include instituting an Urban Renewal Area and the Federal Emergency Management Act (FEMA) Pre-disaster Mitigation Program. Further research should be conducted to ensure the applicability of these funding sources for the projects recommended in the Rockaway Beach Transportation Plan.

Phasing

It is not expected that funds to construct all the recommended projects included in this plan would be available at the same time or necessarily in the short-term. To address this, the project team worked with City, the PAC, and the public at the last open house to determine which recommendations should be implemented first. Community members and the PAC agreed that the following three recommendations are most critical to the community to implement in the short term (0-5 years):

- Improve and Extend Miller Street (Recommendation #2)
- Improve Priority Highway Crossings (Recommendation #5)
- Extend Necarney Street (Recommendation #1)

Table 11 below illustrates phasing of project recommendations by timeframe (short-term: 0-5 years; medium-term: 5-10 years; long-term: 10-20 years) and implementation champion.

TABLE 11
Phasing and Champions

Recommendation	Phasing	Champion
1. Extend Necarney Avenue	Short-Term	City
2. Improve Miller Street	Short-Term	City/Port of Tillamook Bay
3. Improve Beach Access	Medium-Term	City/ODOT
4. Construct Recreational Trails Around Lakes	Long-Term	City
5. Improve Priority Highway Crossings	Short-Term	ODOT
6. Install Signal for Emergency Vehicles	Medium-Term	ODOT
7. Improve Parking	Medium-Term	County/City (depends on location)
8a-c. Pedestrian Connectivity – Priority 1-2 and Connection to Lake Lytle Trail	Short-Term	ODOT
8d. Pedestrian Connectivity – Pedestrian Connections in the South End	Long-Term	City
9. Bus Pull-out Areas	Medium-Term	Tillamook Bay Transportation District
10. Improve Critical Railroad Crossings	Short-Term	ODOT Rail, Port of Tillamook Bay, City
11. Improvements at US 101 and Beach Drive	Medium Term	ODOT, County

Next Steps

Draft plan and zoning code amendment language to implement the plan is provided in Appendix E, Plan and Code Amendments.

Design and engineering will be needed to construct any recommendation identified in this plan. Design and engineering would occur when improvement concepts are selected for implementation through the state and city capital funding process. There will be opportunities for additional public input on the design of the recommendations.

Rockaway Beach TRANSPORTATION PLAN APPENDIXES VOLUME II

PREPARED FOR

City of Rockaway Beach

WITH SUPPORT FROM

Oregon Department of Transportation
Tillamook County

OCTOBER 2010

APPENDIX A

PUBLIC INVOLVEMENT

Background

This section documents events for the public to be involved throughout the planning process for the Rockaway Beach Transportation Plan. This outreach, which took place between October 2009 and June 2010 include three Public Advisory Committee (PAC) meetings, two technical review meetings with the Oregon Department of Transportation, two Open Houses, two City Council meetings, two Planning Commission meetings, distribution of several press releases, and regular updates to the project website. Table 1 describes the meetings and purpose. Documentation includes agendas, fliers, open house plans, displays, and event summaries.

TABLE 1
Public Meetings and Purpose

Meeting	Date	Purpose
PAC #1	October 13, 2009	Review goals and objectives, project schedule, and methods of public participation Discuss project issues and needs Confirm local concerns and full range of needs are included in the analysis
PAC #2	January 19, 2010	Review concepts under consideration, gather feedback Confirm identified concepts adequately address the deficiencies and needs
PAC #3	April 6, 2010	Discuss preliminary recommendations for Transportation Plan Next steps: Open House #2, implementation plan, and adoption
ODOT Technical Review Meeting #1	January 5, 2010	Present goals, objectives, and schedule for the Plan Discuss preliminary concepts identified to date Identify any fatal flaws before presenting concepts to the community
ODOT Technical Review Meeting #2	March 30, 2010	Present draft recommendations Identify any fatal flaws before presenting recommendations to community and finalizing plan
Open House #1	February 2, 2010	Share project information and goals with Rockaway Beach business owners, property owners, and residents Share information on deficiencies, needs, and potential solutions Solicit feedback on potential improvements
Open House #2	April 20, 2010	Review project information and goals with Rockaway Beach business owners, property owners, and residents Review information on the deficiencies, needs and potential solutions Solicit feedback on project recommendations

PROJECT ADVISORY COMMITTEE MEETING #1

5:30 p.m. Tuesday, October 13, 2009
Rockaway Beach City Hall

Meeting purpose:

- Review the goals and objectives of the project, the project schedule, methods of public participation
- Discuss issues and needs related to the project
- Confirm that identified issues of local concern and full range of needs have been captured in the technical analysis

Time	Item	Action	Presenter
5:30 p.m.	Welcome and introductions • Self introductions • Agenda review		Cliff
5:40 p.m.	Project information • Goals and objectives • Scope and schedule • Methods of public participation	Information	Cliff/Theresa
6:00 p.m.	Present Technical Memo #1 – virtual tour of transportation deficiencies and needs	Information	Theresa/Terra
6:45 p.m.	PAC discussion • Are deficiencies accurate? • Brainstorm improvements • Defining success	Discussion	All
7:25 p.m.	Next steps • Transportation alternatives • Next meeting: January		Terra
7:30 p.m.	Thanks and adjourn		Cliff

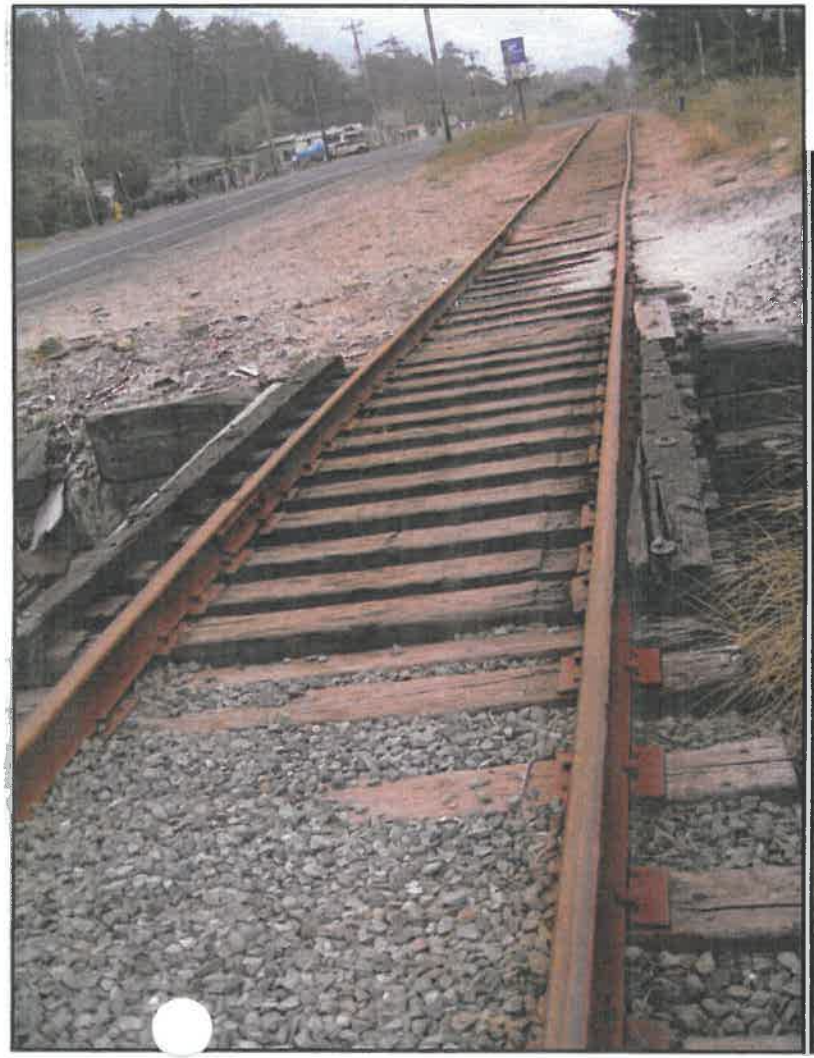
Rockaway Beach Virtual Tour

Objective: Improve North South Connectivity

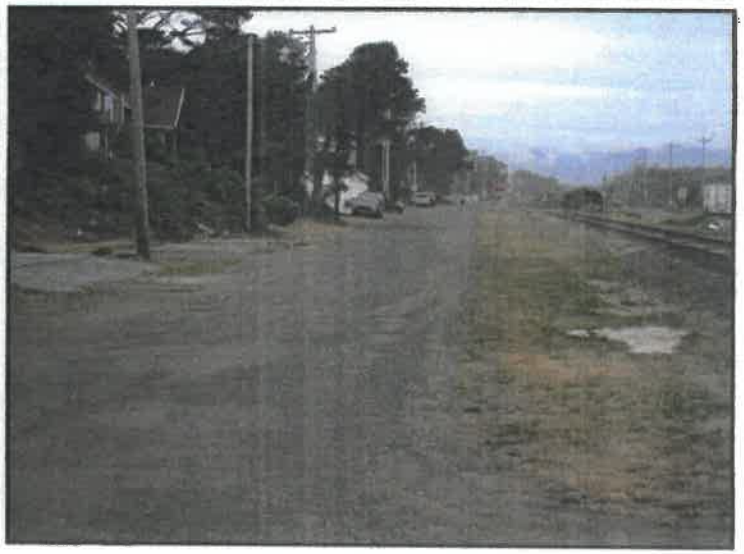
North South Connectivity

- East of US 101
  - Limited connectivity
    - North of NE Lake Boulevard
    - Between NE 12th Avenue and NE 6th Avenue
    - Between SE 6th Avenue and E Washington Street
  - Natural barriers
    - McMillan Creek
    - Spring Creek
    - Lake Lytle
- West of US 101
  - Limited connectivity
    - Between SW 6th Avenue and SW 5th Avenue
    - Between S 1st Street and N 3rd Avenue
    - Between NW 19th Avenue and NW 23rd Avenue
  - Natural barriers
    - Rock Creek
    - Saltair Creek

Miller Street Barriers



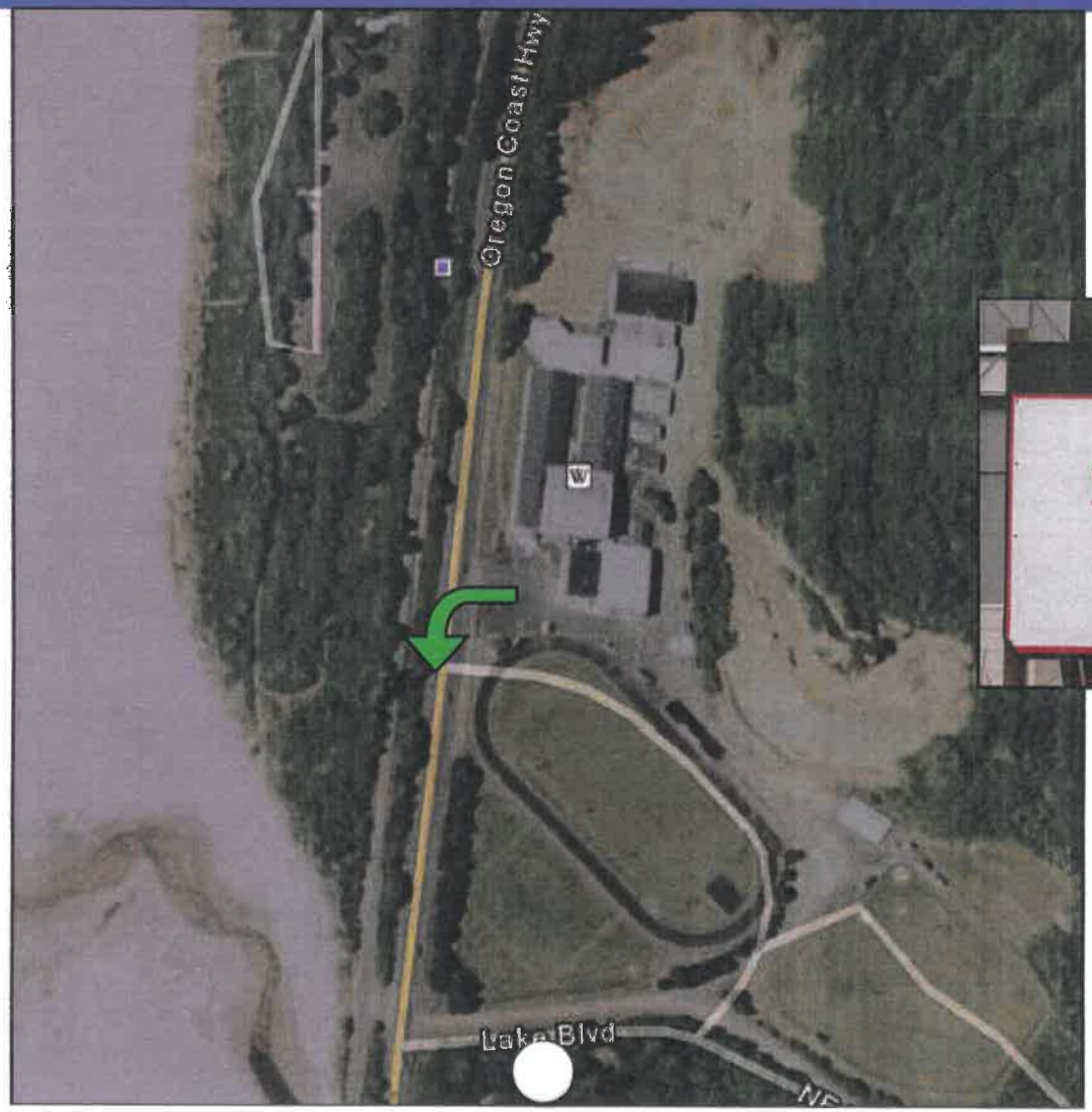
Miller Street



Objective:
Improve Crossings Across US 101

Study Area Intersection
Beach Street

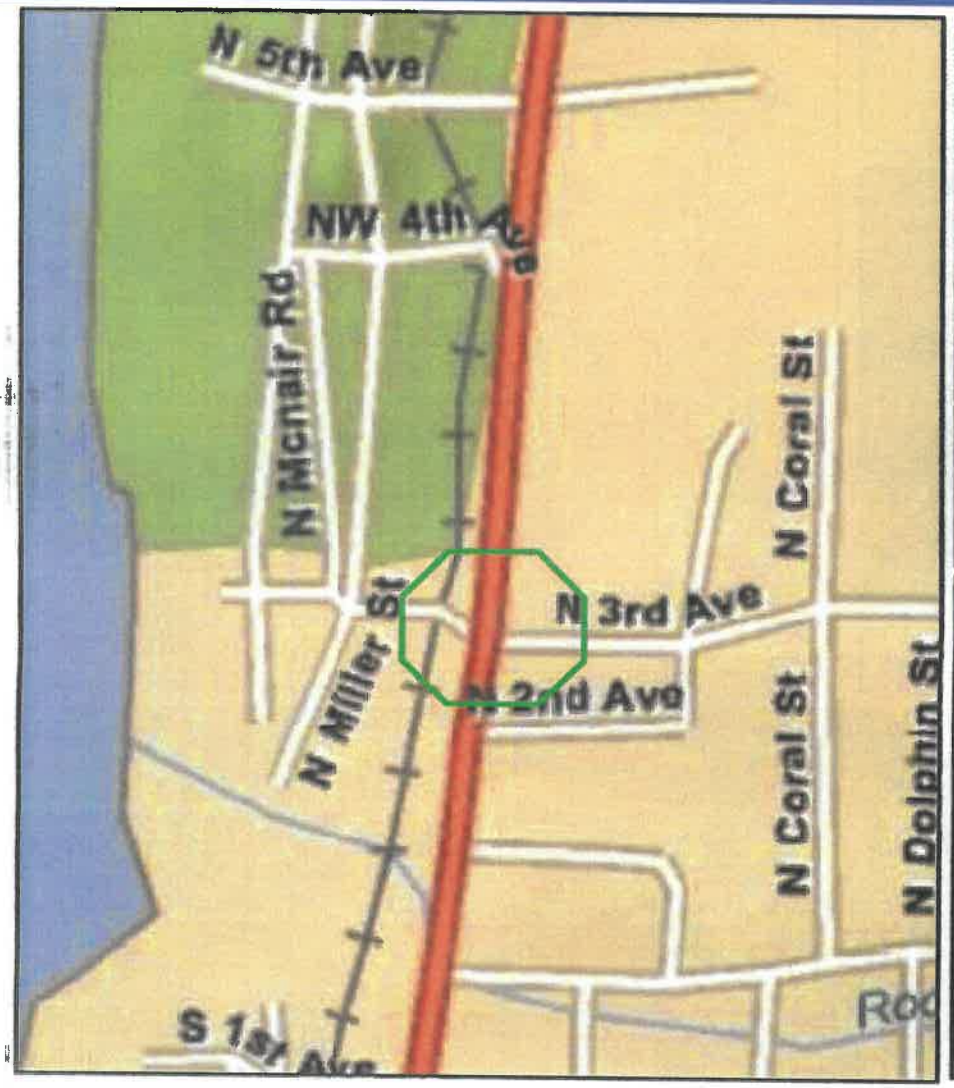
Study Area Intersection
Neah-Kah-Nie High School



Study Area Intersection
Northeast 12th Avenue

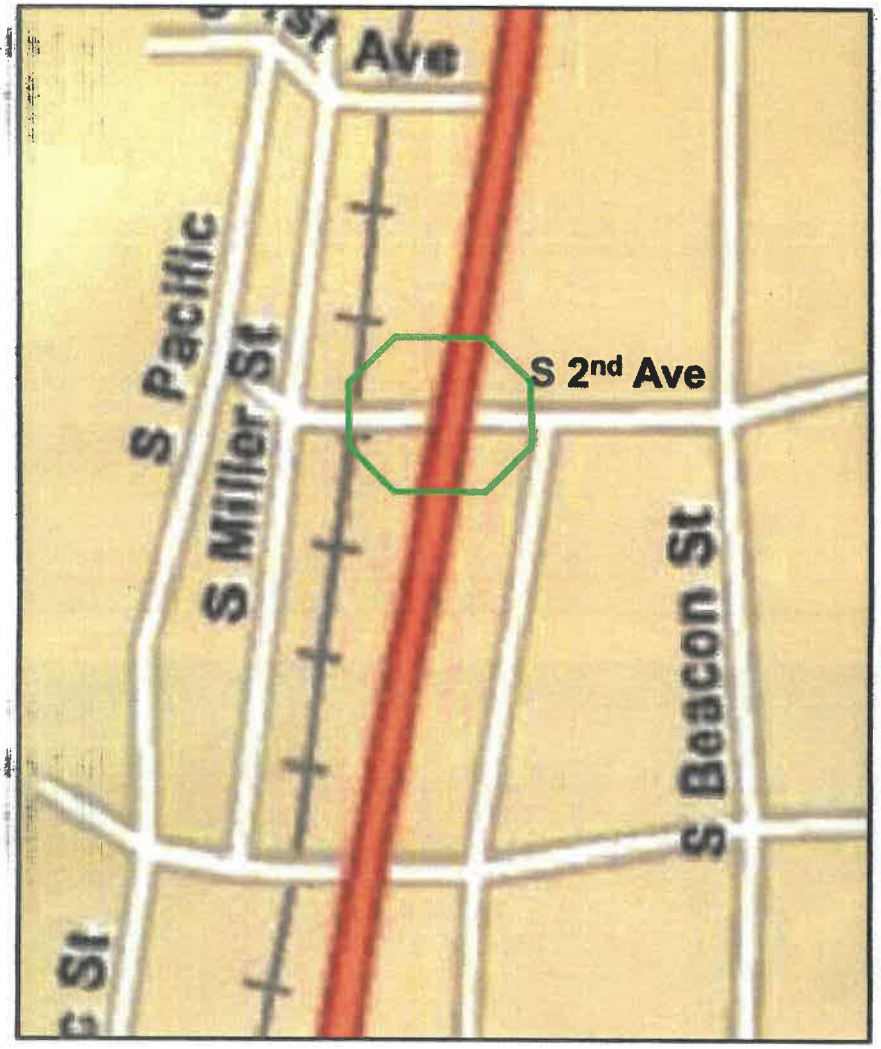
Study Area Intersection
North 6th Avenue

Study Area Intersection
North 3rd Avenue

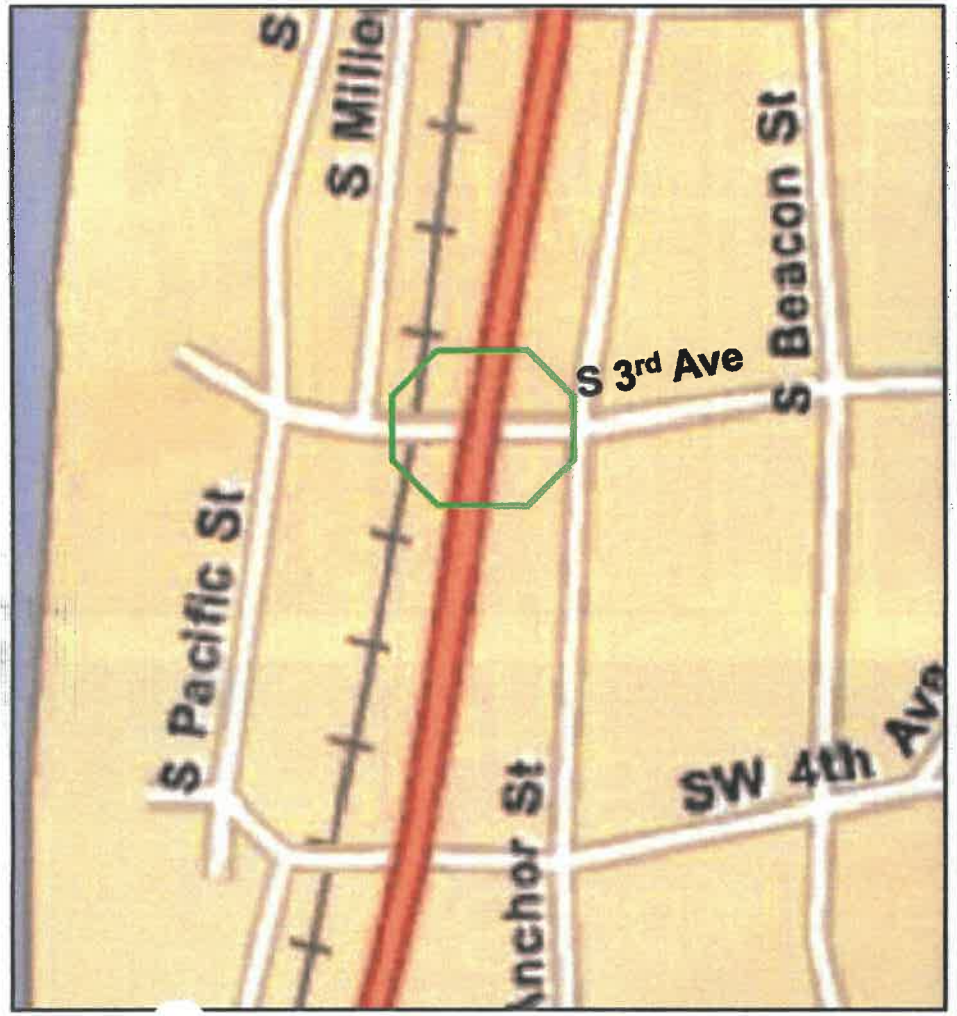


Study Area Intersection
South 1st Avenue

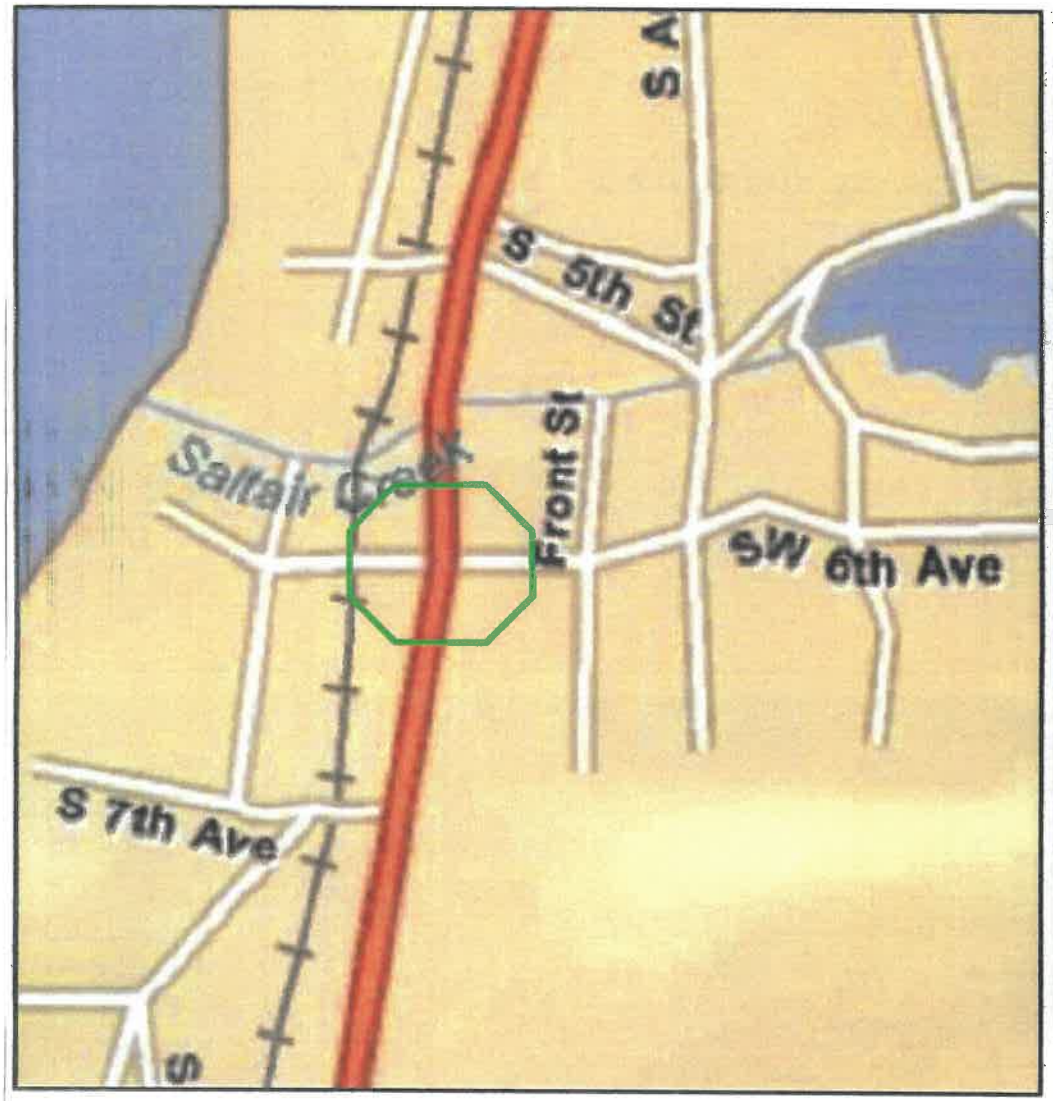
Study Area Intersection
South 2nd Avenue



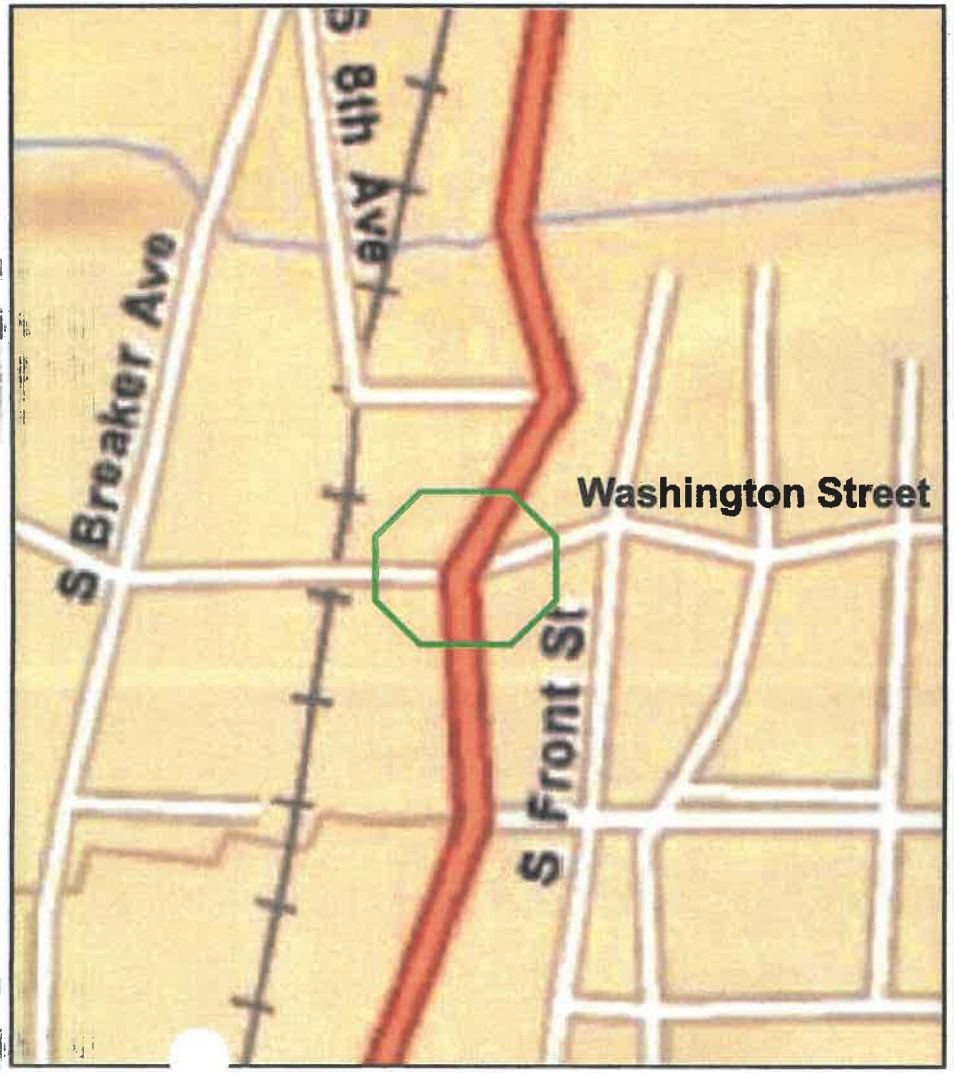
Study Area Intersection
South 3rd Avenue



Study Area Intersection
South 6th Avenue



Study Area Intersection
Washington Street



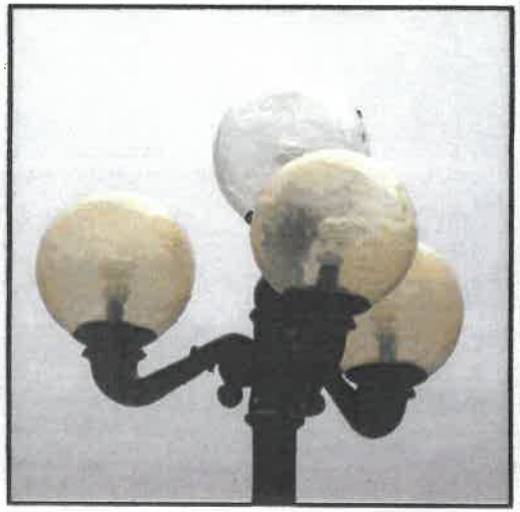
Crossings - Crosswalks

Objective:
Provide Parking Areas for Visitors

Parking Areas for Visitors

Objective:
Provide Safe Pedestrian Routes

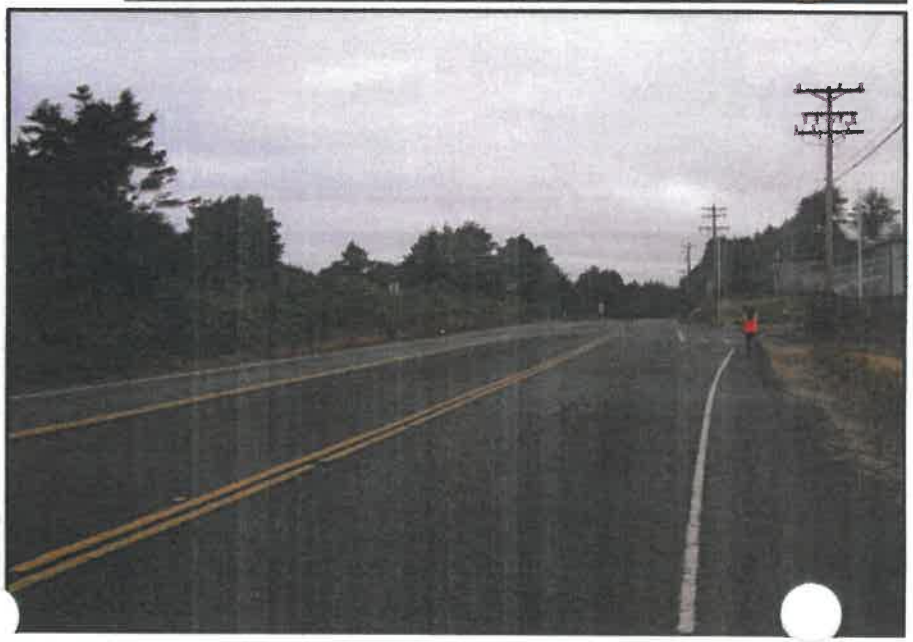
Pedestrian Amenities - Wayside



Pedestrian Amenities – US 101

Sidewalks

Pedestrian Facility Deficiencies

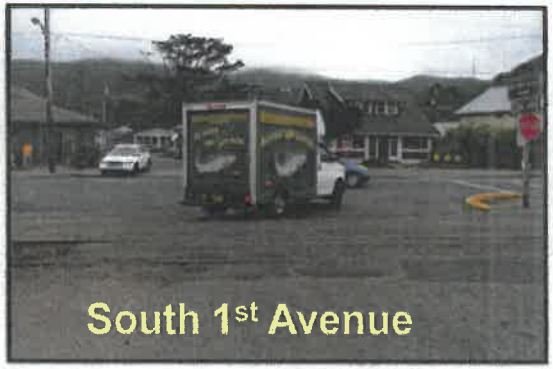


ADA Barriers

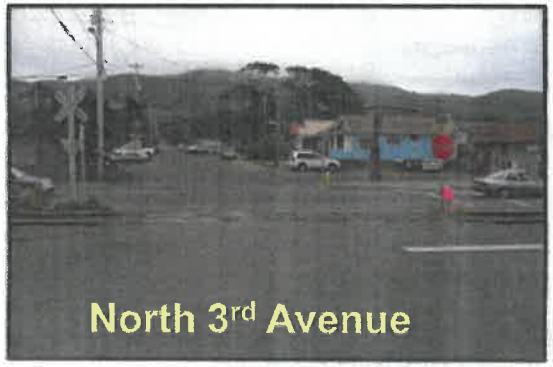
Objective:
Identify Opportunities to Consolidate Rail Crossings

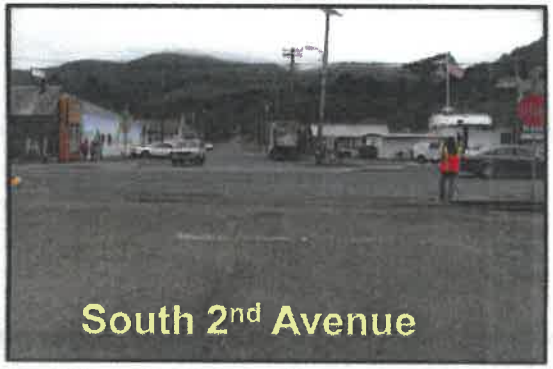
Existing Railroad Crossings


North 6th Avenue


South 1st Avenue

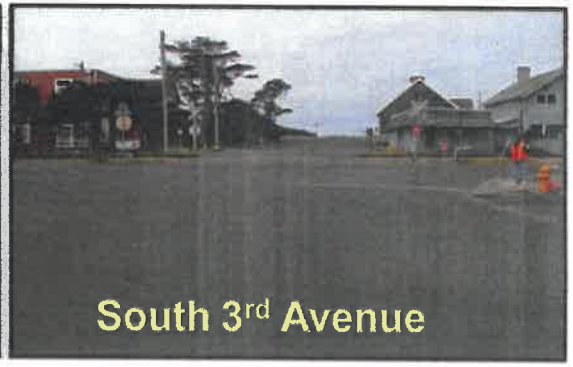

South 6th Avenue


North 3rd Avenue


South 2nd Avenue


Washington Street


Beach Street


South 3rd Avenue

US 101 / Rail Crossings

Objective:
Ensure that US 101 Works for All Users

Bicycle Facilities

Bicycle Issues

Discussion

- Additions
- Revisions
- Ideas

PROJECT ADVISORY COMMITTEE MEETING #1 Summary

Tuesday October 13, 2009
5:30-7:30 p.m.
Rockaway Beach City Hall

Attendees

Committee Members	Shawn Vincent, Public Works Director
Michele Aeder, First Group	Ingrid Weisenbach, ODOT Planning
Josh Balmer , Port of Tillamook Bay RR	David Lanning, ODOT Rail
Clyde Barnhill, Resident	
Betty Baumgart, Resident	**Public**
Bob Dempster, Lions Club	Winnie Mercer
Joe Macca, Yost Grube Hall Architecture	Gerald Tichenor
Bob Olson, Resident	Dr. Richard Huston
Richard Shaw, Neah-Kah-Nie High School	
Cliff Jensen, City Manager	**Consultant Team**
Jay Sennewald, City Planner	Theresa Carr, CH2M HILL
Terri Michel, Administrative Assistant	Terra Lingley, CH2M HILL
Ed Wortman, Police Chief	

Welcome and introductions

Cliff welcomed the group and led a round of introductions. He then provided an overview of the Rockaway Beach Transportation Plan, an effort he sees as providing a "roadmap" for the City in terms of establishing transportation priorities and applying for grants.

Public Comment

Gerry noted that the railroad crossing at 7th Ave needs improvement, along with the crossings at 8th, 9th, 11th, 13th, and 19th Streets, and north of the Post office at 3rd.

Winnie informed the group that the 13th and US101/Miller crossing needs improvement, she would like to keep it open but improve the pavement without heavy rock. She said that people routinely "bottom out" at the railroad crossing.

She also had a comment about boaters washing out their motors in Lake Lytle, and that the city should restrict motor washing out in the area. Will the new pier and tie-up area be the same for kayaks and row boats?

Project information

Theresa talked with the group about the goals and objectives of the Transportation Plan, the project's scope and schedule, and methods of public participation.

Objectives of the project are:

1. Improve north-south connections to reduce reliance on US 101
2. Improve crossings across US 101
3. Provide parking areas for visitors
4. Pedestrian routes to serve residents and visitors
5. Identify opportunities to consolidate railroad crossings
6. Ensure transportation facilities are adequate to serve residential and commercial lands
7. Draft ordinances to implement the plan
8. Identify suitable funding mechanisms to implement the plan

Dr. Huston asked where to take concerns regarding the process or plan?

Theresa answered that concerns can be brought before:

- The PAC
- To the project team via web, email, phone or in person meetings

Present Technical Memo #1

Terra then presented a power point presentation regarding the existing conditions and deficiencies of the study area as a result of the technical work. The presentation was included in member's packets and organized around the project objectives. NOTE: the presentation and Technical Memorandum #1 are available on the project website at www.rockawaybeachplan.com.

Objective: Improve North-South Connections

Terra outlined several north-south connectivity gaps both east and west of US 101. Theresa asked if there were any projects or plans in the works that could address some of these gaps.

Jay stated that there was a subdivision application currently under review near Lake Lytle on the east side of US 101 that has plans to extend Tillamook Avenue south to Timberlake Drive (which would parallel the downtown core).

Objective: Provide Safe Crossing of Intersections with US 101

Terra walked through all 10 of the study area intersections. There was only one intersection with a traffic operation issue in 2030, the southbound lefts from the High School/Middle School parking lot onto US 101. In the future, the demand for space for vehicles to line up to make a southbound left turn from the High School Parking lot exceeds the amount of space currently provided. This will likely only affect the school parking lot.

Betty asked if the demand for left turns out of the High School is based on projected school growth rates. Terra responded that it was based on expected growth in traffic volumes, which is based on an assumption for population and employment growth both within and outside Rockaway Beach.

The group discussed the existing marked crosswalks across US 101 in Rockaway beach. These are not permitted by State Traffic Engineer, and as part of this study the team will look at locations for crossings that are safe and meet the needs of residents and visitors.

David suggested that the team coordinate with ODOT's Local Access Management group to identify access permits to highway.

Ingrid shared findings from studies done on crosswalks at signalized and unsignalized intersections. These studies have found that pedestrians can feel a "false" sense of security that drivers will stop for them at a marked crosswalk at an unsignalized intersection.

Ed stated that in Rockaway, drivers do a pretty good job at stopping for pedestrians in crosswalks. Cliff asked whether the crash analysis uncovered many accidents involving a pedestrian in a crosswalk. Theresa responded that the crash analysis did not uncover many accidents of this kind.

Clyde asked whether the traffic analysis considered delay caused by vehicles turning west (left) from US 101 northbound when a train was passing through Rockaway Beach. Theresa responded that the analysis assumed current train usage which is the short trolley train only. Clyde suggested that the team specify this assumption in the operational analysis section of the memo. There was some talk about left turns on US 101, and it is uncertain at this point if the width of the highway right of way is adequate for left turn lane.

For safe crossings eastward, tsunami evacuation is important.

Objective: Provide Parking Areas for Visitors

There was no discussion around this section of the presentation.

Objective: Provide Pedestrian Routes to Serve Residents and Visitors

There was no discussion around this section of the presentation.

Objective: Identify Opportunities to Consolidate Railroad Crossings

Clyde asked what was assumed for the future of the railroad. Theresa responded that the assumption was the operations would be similar to today, limited tourist route, no future freight service. Currently the tourist train runs from May to Mid-September, and two times a month runs North of Rockaway.

Josh said that there are currently no plans to repair railroad, but also no plans to stop railroad. The Port is currently applying for a discontinuation of use for freight trains. The Port of Tillamook Bay owns the rails and is a Port Commission as well.

There was some discussion about funding to upgrade crossings or finding other funds for the railroad to help run services. There were none identified during the discussion.

Other issues related to the railroad:

> Maintenance funding is slim – monies come from charges to the scenic railroad or from freight that uses the rails, however, there is no freight currently, so there is not a lot of money.

Fiber optic lines run along track, and because of a contract with ACS, the Port must keep railroad in good repair for ACS to check the fiber optic lines.

Cliff noted that the railroad crossings can be dangerous and a safety hazard to bicycles and pedestrians.

David talked about the dangers of queuing on highway to cross railroad as trains use railroad, and the fact that there are two different signs depending on if you are approaching the tracks eastbound or westbound. From the highway, there is a yield, and from the local streets, there is a stop – these are meant to reduce the amount of backup on the highway.

Michele noted that the school buses don't cross railroad – school children cross railroad on foot, and stops are identified ahead of time based on safety, the number of children who will use the stop, and how the stops could be spaced to reduce backups on US 101.

Cliff noted that the majority of railroad crossings are difficult for bike/ped and ADA.

Winnie wanted the group to know that 13th is important (and shouldn't be closed) because is it the first street with beach access south of the rip rap and large rocks.

The group discussed that the current at-grade railroad crossings provide an access for escape routes.

Bob Olson asked what the possibility is for the Nedonna area to get another access to US101. It was noted that an emergency exit onto the highway has been discussed contingent upon future development, but that it is currently cited as an emergency exit only (not entry).

Clyde asked about the queuing on highway left turns when trains in operations. David clarified that freight trains are longer, though the existing tourist train does not take as long to clear the crossings, and it is less of an issue now.

David noted that a few years ago, the state upgraded railroad crossings statewide for safety (signage) using a diagnostic team approach. He also noted that it is really important for tracks to be clear when freight trains are operating due to the length of freight trains and the distance it takes for them to come to a stop. Shorter trains (3 car, 10 mph) can stop much more quickly. According to David, the path forward should be to work with ODOT Access Management to identify which roads are needed, and then discuss railroad crossing consolidation.

Dr. Huston asked if there was a minimum standard for the distance between the railroad and highway for vehicle storage. David noted that there were two different ways to do it, either have the Railroad directly adjacent to the highway, or to have a certain distance between the highway and the railroad to make sure there is enough room for a full sized truck to stop before the highway without stopping on the tracks. However, in Rockaway, there is only 30-40 feet at any crossing, and the set up has been there for a hundred years and is grandfathered in.

Josh noted that the tracks at crossings haven't been maintained as well or up to standard. When the Port gets money, they will be looking to upgrade the tracks to FRA Class 2 standards, which would be ADA accessible.

Gerry noted that Watseco outside study area needs improvement at the paving entrance.

Discussion: Brainstorm Improvements

Jay stated that the crosswalks are of high importance and would like locations to be officially approved through ODOT.

Bob suggested that sidewalks between North 3rd and South 3rd on the west side of the highway were important.

Betty suggested closing Miller Street from S 3rd to N 3rd to cars and keeping it open for bikes and pedestrians.

Cliff suggested that if the railroad decided to cease the tourist train and freight business, the rail alignment would be a good candidate for "rails to trails" for the future, though acknowledged that this would be a future project and would not likely happen soon.

Josh was interested in upgrading the railroad crossings for ADA, and identifying which crossings make sense to focus on.

Joe was interested in looking at lowering speed limits through the area. He noted that the limits jumps as you drive northbound from 30 to 45; though southbound it steps up gradually. He asked why there was a dramatic change and why there was no transition, and how the limits were determined.

Ingrid noted that the speed limits were determined by the roadway engineer based on the design of the roadway, and any changes will need to go through a process within ODOT.

Shawn was interested in developing the north-south connectivity within the City, both east and west of US 101.

An important improvement is at Nedonna Beach – looking at secondary access to US101 for both an emergency access and a secondary access for residents.

Michele would like bus shelters along US101, especially Washington Street. These could be used by public transportation and school children.

Richard informed the group that the High School is an open campus, and that while few students walk to the school, there are staff and some students who do walk. There are also students who go to the beach or off campus for lunch. There are no pedestrian facilities or lights on US 101 for students and staff to cross. There should be a safe place to cross US101.

Additionally, it is not safe for students to walk along US 101. Now there are athletics and after school activities that get out after dark. This project should include consideration of a separated facility, multi use path, or lighting system on US101.

This project should take a system safety approach for railroad crossings, safe alternate, access along tracks, and lighting along the entire 101 corridor.

David suggested taking a system safety approach including crosswalks, access management, and alternative access crossings for the railroad.

Definition of Project Success

Theresa asked PAC members to say what would make this project a success for them.

- Jay - Broad community support

- Ingrid - Guidance to ODOT on community priorities, where to direct funding
- Cliff – A usable document that doesn't sit on the shelf
- Terri - Projects than can be accomplished
- Shawn – Projects that address community concerns
- Michele and Bob D. – A plan that provides a transportation alternative to US101
- Joe – A plan that inspires community support and community spirit, and one that focuses the community on the city and its image (especially aesthetics)
- Clyde – A plan that the Planning Commission can get behind, and one that has sufficient support to implement
- Bob O. – A plan that keeps the group engaged and involves the Nedonna Beach Residents
- Josh – A project that provides an area-wide lasting solution for issues in the City
- David – A plan that enhances system wide safety
- Betty – A plan reflects active community, shows camaraderie
- Richard – A plan that provides an alternative route to US101 and addresses health and safety for all users.

How to Reach Public

Theresa noted that our first open house will be in February to share some of the alternatives that the project team and city staff will be working on. She asked the group for recommendations on reaching out to Rockaway citizens. The following were suggested:

- Email Interested parties
- Provide Food
- Newspaper, Chamber of Commerce/BIG
- Post Fliers or posters at the Post Office and businesses
- Fliers at Restaurants
- Put an announcement in the City's Newsletter
- Water bills (Though Cliff noted that they are now just a postcard and it would be hard to put a flier or note about the open house)
- Questionnaire/announcement to Water
- Special mailing (direct)
- Link on the City's Website
- Local businesses

- Buddy program – have PAC members and other people bring a friend to the meeting
- Let people know how the project would impact them

What time would work best? Friday late afternoon is a good meeting time.

Comments Received After the Meeting

Betty added two goals by email after the meeting:

1. Need Rockaway Beach to become ADA compliant
2. Need a bike path from Twin Rocks to Nedonna, as it would attract people to come stay to use the path.

Next steps

Terra talked about the next phase of the project, which includes coming up with transportation alternatives to address the needs we discussed tonight. The next PAC meeting will be in January 2010, and the group decided to determine via email what date works best for the majority of the group.

Thanks and adjourn

PROJECT ADVISORY COMMITTEE MEETING #2

5:30-7:30 p.m. Tuesday, January 19th, 2010
Rockaway Beach City Hall

Meeting purpose:

- Review concepts under consideration, gather feedback
- Confirm that identified concepts adequately address identified deficiencies and needs

Time	Item	Action	Presenter
5:30 p.m.	Welcome • Introductions (any new participants) • Agenda review		Ingrid
5:35 p.m.	Opportunity for Public Comment		
5:40 p.m.	Project update • Final Technical Memo #1 • Brainstorm concepts • Created concept graphics and draft Technical Memo #2 • Technical Review Meeting (ODOT) January 5, 2010	Information	Theresa
6:00 p.m.	Present Concepts	Discussion	Theresa/Terra
6:45 p.m.	PAC discussion • Are the concepts adequate to address the deficiencies? • What additional concepts should be considered?	Discussion	All
7:25 p.m.	Next steps • Open House February 2nd 5:30- 7:30 p.m. at City Hall • Draft recommendations • Next PAC meeting: April • ODOT technical review March		Terra
7:30 p.m.	Thanks and adjourn		Cliff

Project Objectives

1. Improve North South connectivity to reduce reliance on US 101
2. Identify pedestrian crossing locations and improvements across US 101
3. Provide parking areas for visitors
4. Provide pedestrian routes to serve residents and visitors
5. Identify opportunities to improve and/or consolidate rail crossings
6. Ensure that transportation facilities are adequate to serve residential and commercial lands

Findings to Date

- Most north/south trips within Rockaway Beach take US 101 because there are few alternate routes
- The railroad tracks west of US 101 are close to the highway and present a crossing hazard
- There are few bicycle and pedestrian facilities throughout the City including crossings of US 101
- Railroad crossings and beach accesses are not ADA accessible
- There are few RV parking spaces in the City

PROJECT ADVISORY COMMITTEE MEETING #2 Summary

Tuesday January 19, 2010
5:30-7:30 p.m.
Rockaway Beach City Hall

Attendees

Committee Members	Ed Wortman, Police Chief
Michele Aeder, First Group	Shawn Vincent, Public Works Director
Josh Balmer , Port of Tillamook Bay RR	Ingrid Weisenbach, ODOT Planning
Clyde Barnhill, Resident	David Lanning, ODOT Rail
Betty Baumgart, Resident	
Lynda Holm, Volunteer Firefighter	**Public**
Joe Macca, Yost Grube Hall Architecture	None
Bob Olson, Resident	
Dave Schrom, Tillamook County Public Works	**Consultant Team**
Cliff Jensen, City Manager	Theresa Carr, CH2M HILL
Jay Sennewald, City Planner	Terra Lingley, CH2M HILL
Terri Michel, Administrative Assistant	

Welcome and introductions

Ingrid welcomed the group and led a round of introductions. There was a reminder for members to use the project website and share the website with others who may be interested. The project website is: www.rockawaybeachplan.com.

Public Comment

There were no members of the public in attendance.

Project Update

Theresa walked through what the project team and technical staff accomplished since the last PAC meeting:

- Technical Memo #1, Existing Future Conditions and Deficiencies was finalized and posted to the website
- The Project team got together to brainstorm concepts to address the project deficiencies and needs identified in Technical Memo #1
- The Team created concept graphics and drafted Technical Memo #2: Concepts Under Consideration

- The Concepts Under Consideration were presented to the Oregon Department of Transportation in a Technical Review Meeting to determine if there were any fatal flaws

Present Concepts

Theresa and Terra then presented concepts for consideration in Technical Memo #2, which was organized by project objectives.

Objective 1: Improve north/south connectivity to reduce reliance on US 101.

Concept 1a – Extend Necarney from its current southern location (south of NE Charlotte Street) to a new connection with Timberlake Drive and North 3rd Avenue

Theresa walked through the concept, noting that development could likely pay for part of the road extension and noted the benefits and constraints described in the technical memo. Jay talked a bit about the developer and the future residential development planned for the area from Necarney and North 12th Avenue down to North 6th. Shawn noted that the description using Charlotte Street was incorrect.

Bob asked if the people most affected by this project were involved in the process. Jay noted that the developers have had conversations with the City.

Theresa asked the group what they thought of the concept, and Jay mentioned that the City can't do without it. No one was opposed to the concept.

Concept 1b - Improvements to Miller Street

This concept would make Miller Street continuous for at least bicyclists and pedestrians and would start around N 19th Street south to Washington Street.

Clyde asked if it would be possible to start up at Manhattan Beach to provide even more of a north/south route. More information is needed, including the ownership and width of the POTB railroad in the north section.

Bob asked if improving Miller would defeat the purpose of improvements on the east side. Theresa answered that it would provide another option for visitors and residents who would like to walk or bicycle off of US 101.

Ed noted that this concept could remove bicycles off of downtown streets and could improve safety in the City.

Theresa said that creek crossings were a constraint for both cost and possible environmental impacts, and it could be easier to make creek crossings bicycle and pedestrian only, even though the concept considers possibly allowing autos on the creek crossings. The group agreed that auto crossings could impact adjacent residents and would be more expensive. Many members agreed that Miller creek crossings should be bicycle and pedestrian only.

Concept 1c – Use of Beach

This concept acknowledges that the use of the beach is subject to weather, tide, and darkness constraints. Committee members suggested adding signs on the beach to let those on the beach know where they are in relation to City Streets, as well as marking beach access points.

Concept 1d – Recreational Trails around Lakes

This concept requires quite a bit more information on the development constraints adjacent to the lake, and Goal 5 habitat. There is currently a 25 foot riparian vegetation setback in effect around Lake Lytle, and any project needs to recognize the need to maintain riparian vegetation. There was a suggestion to somehow connect a trail from Manhattan Beach to a trail around the lake. This could be similar to the wetlands tour near the 170th MAX stop in Portland; this could be used as an example. The group was interested in looking at both the function of the trail as both a transportation connection and a recreational amenity.

Concept 1e – Upgraded Connection between Lake Boulevard and the Middle and High School.

This concept would provide an alternate route for students and school staff who live in RB to access residences on the east side of US 101 without getting on the highway. There were some concerns with this concept as it is outside of the City limits, and the majority of students do not live in Rockaway Beach. There were other concerns about potential speeds on an alternate route.

Concept 1f – New Street – Juniper Extension

This would extend Juniper Street north to connect to South 6th Avenue.

Jay noted that there are wetlands in the nature preserve. Bob suggested that it would be a good way to tour the wetlands on foot. Terri added that it would be a good connection for bicyclists and pedestrians, but maybe not autos.

Ingrid was interested in the connection for the possibility of getting kids off of the highway.

Shawn said that currently there are no other alternatives for those who live on Washington to get out of the neighborhood. US 101 is their only option. This alternative could improve safety and convenience in the event of an emergency.

Objective 2: Improved Pedestrian Crossings on US 101.

Terra started the conversation with reminding the group that all intersections with US 101 in Rockaway Beach are legal crosswalks, regardless if they are striped. The recommendations for this section are meant to focus on those crossings that should be restriped and applications submitted to ODOT for permitting. The concepts are divided into three groups: North, central and south crossings with special concentration on those crossings considered "high priority".

Concept 2a – North Crossings

There are three crossings in the north:

- US 101 & South of Neah-Kah-Nie School (High Priority)

The group agreed that this was a high priority crossing. Four concepts were presented for a crossing a bit south of the main entrance to the school: a pedestrian island, a Rapid Rectangular Flashing Beacon (RRFB), a High-Intensity Activated Crosswalk (HAWK), and an overpass.

One member asked if an undercrossing would be possible – in the rainy season it would be difficult to keep an undercrossing from flooding.

A new pedestrian crossing of the railroad would require approval from ODOT rail and POTB for new crossing.

Most members agreed that an overcrossing would be expensive, and the crossing numbers do not support an overcrossing.

One issue with the other three crossing alternatives is the high speed of US 101 at this location.

- US 101 & NE 12 Avenue

This is not identified as a high priority crossing, but would serve the pedestrians moving between the beach and Lake Lytle. The committee members agreed that this crossing should be on 11th due to the lesser grade, and the location of the hotel. However, moving the crossing to 11th requires walking north on Highway 101 for one block.

- US 101 & NE 6th Avenue

There were no comments specific to the 6th Avenue crossing.

General comments for the north crossings include the consideration for minimizing out of direction travel, and the need to make sure that there are facilities on the other side of US 101, which is an ODOT requirement for permitting the crosswalk.

There were concerns with the speeds at the north end of town. They are relatively high – 45 mph. The City could request a n ODOT speed zone study to see if the speed limit needs to be changed. Joe pointed out that there is a transition zone south of town, but none for the north, where it jumps from 30 mph around N 5th to 45 north of 5th.

One member asked if the Necarney extension was built and traffic shifted from US 101, would it help to get more crosswalks approved on US 101. The issue with the crosswalks is not the volume of traffic, it is the availability of pedestrian facilities on the west side of the highway – this applies to all pedestrian crossings in the study area.

Crossings in Downtown Core

There are three crossings being considered for the downtown core, because there are pedestrian generators on both sides of the highway and this is where most of the volume is. The idea in the downtown core is to reduce the amount of crossings as they are currently every intersection, and sometimes two to an intersection. The memo notes three high priority crossings:

- US 101 and N 3rd Avenue
- US 101 and S 1st Avenue
- US 101 and S 3rd Avenue

However, on the figure, the three crossings are shown at N 3rd, S 1st and S 2nd Avenues. The committee members felt strongly that all four (N 3rd, S 1st, S 2nd and S 3rd) should be considered high priority crossings in the downtown core.

When asked to pick one crossing that would be targeted first for funding and upgrading, the committee picked S 1st as the most critical if the railroad crossing is also improved.

With the four crossings in the downtown core, this is still reducing the number of marked crossings.

Crossings in the South

- US 101 and S 6th Avenue
- US 101 and Washington Street (High Priority)

Community members agreed with these two crossings.

Objective 5: Identify Opportunities to Improve and/or Consolidate Railroad Crossings

Due to time constraints, Theresa then jumped to the Railroad crossings objective to make sure the group had adequate time to discuss.

Theresa started with identifying what a "Critical" railroad Crossing would be:

- Provide emergency vehicle access
- The crossing is the only access for the area
- The crossing is heavily used
- The crossing connects a tsunami route
- The crossing provides the best access to US 101 and east-west streets east of US 101
- The crossing provides the best access to the Beach

The Committee noted that N 11th Avenue intersects both Miller Street and Pacific Avenue and provides access to the hotel. However, the crossing at 11th is steep. On N 13th Avenue, trucks have a hard time turning with the street layout.

The committee was not in favor of moving the critical crossing from N 13th Avenue to N 11th Avenue. The majority voted to designate both crossings as critical.

The Committee also agreed that the railroad crossing at N 9th was not critical.

Josh also talked about the future plans of the railroad - there was a possibility of a company using the rails as training for future engineers, however, that will not happen in the near future, maybe 2-5 years if at all.

POTB has applied for a discontinuance of use, meaning that there will not be any freight along the railroad. The discontinuance will probably be granted in March. This does not mean that the Railroad is abandoning the line; they can always apply for a reinstatement of use sometime down the line, however, that would require a large amount of money to rehabilitate the tracks.

Comments Received After the Meeting

None received.

Next steps

Terra talked about the upcoming Open House on February 2nd, and encouraged members to attend and "bring a buddy".

After the open house, the project team will take all the comments on concepts and any additional concepts suggested and start to evaluate concepts for inclusion in the final plan. The next PAC meeting will be to review and provide feedback on the recommendations.

Since not all of the concepts were discussed at this meeting, Theresa requested comments on Technical Memo #2 by January 29th.

The next PAC meeting will be at the End of March or beginning of April.

Thanks and adjourn

PAC MEETING #3

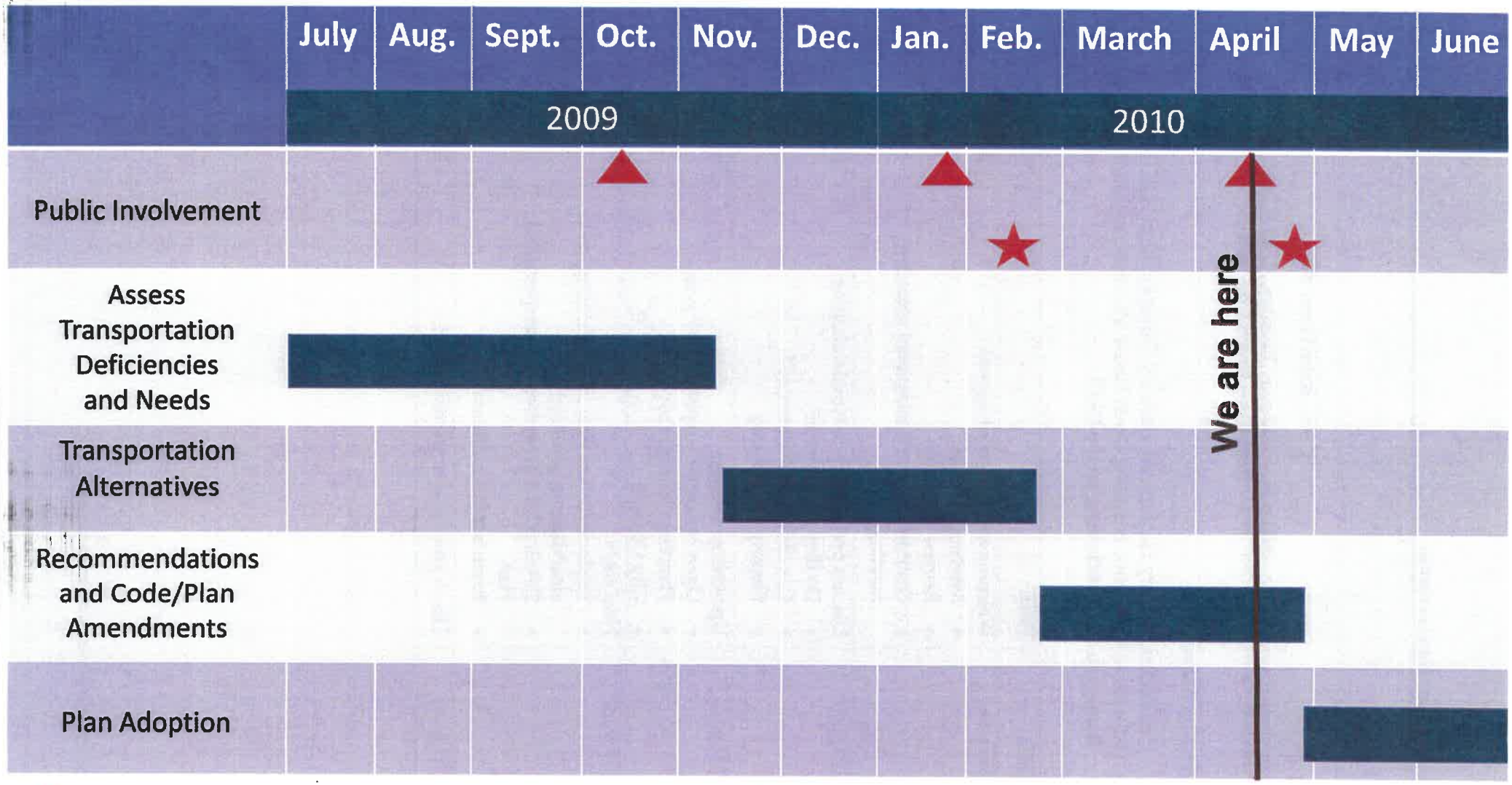
5:00 p.m. - 7:30 p.m. Tuesday, April 6, 2010
Rockaway Beach City Hall

Meeting purpose:

- Discuss preliminary recommendations for Transportation Plan
- Talk about next steps, including Open House #2, implementation plan, and adoption
- Thank you for participating on the PAC!

Time	Item	Presenter
5:00 p.m.	Welcome and review of agenda • Meeting purpose • Review of agenda • Overview of work completed since last meeting	Cliff
5:20 p.m.	Discuss preliminary recommendations • Do they make sense? • Can they be implemented? • Phasing and priority	Theresa/Terra
7:00 p.m.	Upcoming Meetings • Open House #2 - April 20th 5-7 p.m. • Planning Commission • City Council	Theresa
7:15 p.m.	Next steps • Implementation plan (costs, funding, code amendments, phasing) • Develop Rockaway Beach Transportation Plan • Begin adoption discussions	Theresa
7:25 p.m.	Thank you for your participation!	Cliff

Rockaway Beach Transportation Plan Schedule



PROJECT ADVISORY COMMITTEE MEETING #3 Summary

Tuesday April 6, 2010
5:00-7:30 p.m.
Rockaway Beach City Hall

Attendees

Committee Members	Ed Wortman, Police Chief
Michele Aeder, First Group	Shawn Vincent, Public Works Director
Josh Balmer , Port of Tillamook Bay RR	Steve Jacobson, ODOT Planning
Clyde Barnhill, Resident	
Betty Baumgart, Resident	**Public**
Sandy Hemenway, Tillamook County Transit	None
Bob Olson, Resident	
Jay Sennewald, City Planner	**Consultant Team**
Terri Michel, Administrative Assistant	Theresa Carr, CH2M HILL
	Terra Lingley, CH2M HILL

Welcome and introductions

Terri welcomed the group and led a round of introductions, and talked about the work done between this meeting and the previous meeting.

Theresa then introduced the new project manager taking over from Ingrid, who has moved to California to take a new job. Steve Jacobson is her replacement.

Public Comment

There were no members of the public in attendance.

Discuss Preliminary Recommendations

Theresa and Terra walked through the preliminary recommendations with the group, asking if they made sense, and talking about the ability to implement.

North-South Connections

Betty asked how far around the trails recommendation 4 would be for the recreational loop. Terra mentioned that signage and distance information would be included with any project, but that the project team would check into the distance.

A trail around Lake Lytle would be approximately 1.5 miles, and a trail around Crescent Lake would be about 0.7 miles.

There was another question about the distance from the Lake Lytle Trail to US 101, and the recommendation for the trail on the west side of Lake Lytle is to either add it adjacent to US 101, or have it a bit off of the highway, closer to the lake.

One member of the committee asked about phasing the recreational trail and other improvements as funding, and ease of implementation are discovered. There is a city-owned parcel to the south of Lake Lytle that could be the starting place or a phase I for the overall trails around the lakes recommendation.

Safe Crossings of US 101

Theresa talked about the pedestrian crossing of US 101 near the High and Middle Schools. She brought up two issues that came out of the ODOT technical meeting:

1. In order to allow users to cross the highway and the railroad at that location, a crossing permit would need to be applied for through ODOT rail, and part of the conversation with ODOT rail would be looking to close a different railroad crossing in return for opening a new crossing.

2. In a school zone with the flashing yellow lights, ODOT has concerns with other flashing facilities within the zone – the option could either not include the flashing notice, or the school zone could be removed – though it was noted that removing the school zone would be difficult if not impossible.

There was quite a bit of discussion if a crossing was actually needed there. The school zone requires vehicles to slow to 20 mph during the times when students are coming and going from school.

Shawn raised a concern that we would be adding a crossing that would not be used or especially necessary, and would have to trade off by closing a different railroad crossing elsewhere in town.

There was other discussion about the purpose this crossing could serve – originally it was conceived to both help those crossing between the school and the beach, but also could serve as a connection for a loop to Lake Boulevard for recreational walkers/bikers.

Theresa then asked the group if it made sense to change the school crossing from a high-priority crossing to a "other important pedestrian crossing location" to be implemented as a second-level priority after higher priority crossing locations were constructed. With one abstention, the committee voted unanimously to change the crossing importance.

For the downtown core, Shawn noted that the crossing at 4th Street was highly used by visitors and transient tourists from the RV Park at the end of 4th to access the beach, and by the residents off of 4th to access the liquor store. He suggested adding another. This crossing was not one of the study areas, so the project team does not have pedestrian counts at that intersection. South 4th is not one of the railroad crossings to be improved, but it was an easy connection for those on the west side of town, as it was difficult for people to make the Miller/Pacific jog to access the improved railroad crossings. He noted that S 4th Street is important for emergency access. This location was also added as an "other important crossing location."

Improved Parking

Terra talked about improving (paving and formalizing) the lot at Section Line at the north of town. Clyde asked if the improvements would consider drainage. And improvements would consider water and drainage when making improvements.

For the Nature Preserve, the project has added a recommendation to help the group gather funding for trails and a parking lot. Terra said that this was to have it in an adopted plan, making it easier to pursue funding at a later date. Terri noted that the Nature Preserve committee did not submit for a grant this go-round to build the parking lot off of US 101 north of Washington Street.

Pedestrian Connectivity

Theresa led a discussion on the pedestrian priorities. The PAC was in agreement with the priorities, including the installation of continuous sidewalk on the east side of the highway with no sidewalk on the west side of the highway within the Special Transportation Area (with the desire to bring pedestrians over to Miller Street). Theresa spent some time discussing the pedestrian connectivity options at the south end. Theresa walked through the four concepts at the south end, adjacent to and within the Nature Preserve area, all attendees agreed that a sidewalk to Washington Street connecting to Downtown was a good idea, along with the foot paths through the preserve and the emergency route at the end of Washington Street.

Betty noted that the one time she went up there for a tsunami drill, it was pretty lonely, so it would be nice to have a connection from east Washington via Juniper to downtown.

Terri noted that from this point forward, the land should be referred to as the "Nature Preserve."

Bus Pull-Out Areas

One attendee asked about the rationale for the northern bus stop near North 19th Street. Terra noted that the exact location could be flexible and determined during the design phase.

Improve Critical Railroad Crossings

There was little discussion on this topic as none of the recommendations have changed since the last PAC meeting and open house.

Right Turn Lane at Beach Street

Theresa said that this was a new project based on a request from ODOT due to the projected build-out of the Nedonna Beach area.

Clyde noted that there were other problems with the intersection that the southbound right turn lane would not address. These are:

1. There are a number of short-term rentals in Nedonna that produce much more traffic than the traffic generation assumptions used– the analysis could have underestimated trips to/from Nedonna. Terra noted that the trip generation used a combination of both single family homes and recreational homes to determine the amount of traffic.
2. At Beach street, the turning radius for a right onto southbound US 101 is too tight for a vehicle pulling a trailer. To make the turn vehicles need to pull partially into oncoming traffic to not cut the turn too tight.
3. The northbound left onto US 101 needs more storage on Beach Street.

Clyde requested that the recommendation should be reworded to say "Improve intersection of Beach Street and US 101."

Both Bob and Clyde also noted that the creek layer on the map improperly places McMillan creek on the road.

Shawn mentioned that moving the intersection of Beach Street and US 101 would address some of the issues that Clyde brought up.

The group agreed that the consultant team should consider the need to include additional improvements at this intersection based on comments from Clyde and Shawn.

Phasing and Priority

The next part of the meeting focused on which improvements were the most important and which should be implemented first. Members were asked to place three green dots on the map next to the recommendations that were the most important, and three yellow dots next to the recommendations that should be implemented first. Theresa suggested that these were not the same thing – there may be a very important improvement that is too complicated or expensive to try and implement first. The group then discussed those recommendations that got more than three stickers of either yellow or green. The results of the overall tally are in the table below.

Table: Overall Tally for Phasing and Priority

Recommendation	High Priority	Short Term
1. Extend Necarney Avenue	5	2
2. Improve Miller Street	9	6
3. Improve Beach Access	1	1
4. Construct Recreational Trails around lakes	1	4
5. Improve Priority Highway Crossings	0	9
6. Install Signal for Emergency Vehicles	3	0
7a. Section Line Street Parking	0	0
7b. Manhattan Beach Parking signage	0	0
7c. Extend Parking in Downtown Core	0	3
7d. Pave City Parking Lot	3	1
7e. Zoning ordinance (City-wide)	0	0
7f. Nature Conservancy Parking Lot	0	2
8a. Priority 1 Continuous Sidewalks within the STA	4	1
8b. Priority 2 Sidewalk on the East Side of US 101 between South 6th and Washington	2	0
8c. Lake Lytle Trail	0	0
8d. Pedestrian Connections at the South End	1	1
9. Create bus pull-outs	1	0
10. Improve Critical Railroad Crossings	0	0
11. Southbound right turn lane at Beach Street	0	0

The Most Important Recommendations (High Priority)

Extend Necarney Avenue received five green dots – those that supported the recommendation noted that it was a good north-south connection that is important for the City

Improve Miller Street was the most popular with nine green dots. Supporters noted that it would affect the most people, provide north south connectivity, could be a way to get more tourist money into the city as an attractive amenity, and could put Rockaway Beach on the map.

Install Emergency Signal received three green dots, and supporters liked the fact that it would aid emergency response, especially in busy summer months.

Pave City parking lot also received three green dots; again this was cited as a way to accommodate tourists.

Sidewalks in the Special Transportation Area (STA) received four green dots, and supporters noted that sidewalks were "always good", especially for children and the elderly who live or visit Rockaway Beach.

Recommendations to do First (Short Term)

Improve Miller received six yellow dots, and supporters of implementing this project first noted that it would create an environment to set the stage for the railroad crossings, and would bring in tourists, who bring in revenue for the city to do other improvements. Terri noted that the health benefits and exercise draw of improving Miller make it attractive to do first.

Construct Recreational trails around lakes received four yellow dots – supporters said that they would be a beautiful recreational amenity for the city, but Jay and Terri noted that it could possibly be harder to implement as the land around the lakes is 99 percent private ownership, and negotiations would have to be reached with land owners to allow the trails to be built.

Improve priority highway crossings received the most yellow dots (nine). Those who voted to do this first said that it was financially feasible, and would be a good example project to get other projects started and create momentum to make other improvements in the City.

Parking in the Downtown core received three votes, and supporters noted that there was a need for more parking in town.

Comments Received After the Meeting

None received.

Next steps

Terra talked about the upcoming Open House on April 20th, and encouraged members to attend and "bring a buddy."

After the open house, the project team will finalize the recommendations and start drafting the final plan for adoption by the City Council and Planning Commission.

This is the last PAC meeting – Theresa thanked all members present, and the group took a photo.

Thanks and adjourn

Open House Materials

Rockaway Beach Transportation Plan Open House #1 Plan

TO: Ingrid Weisenbach, ODOT

FROM: Terra Lingley, CH2M HILL

COPIES: Theresa Carr, CH2M HILL

DATE: January 7, 2010

The Rockaway Beach Transportation Plan Project will host an Open House on Tuesday, February 2nd, 2010 from 5:30-7:30 p.m. at the City of Rockaway Beach City Hall.
The purpose of this Open House is to introduce the community to the purpose and goals of the project, present the work done to date, and present and solicit feedback on potential transportation alternatives.

Open House #1: Presentation of Transportation Alternatives

- Share project information and goals with both business and residential owners and residents in the study area
- Share information on the deficiencies, needs and alternative solutions to deficiencies and needs.
- Solicit feedback on potential improvements along US 101 and throughout Rockaway Beach

Public input will be collected through a written comment form, individual discussions with attendees, and comment boards displayed throughout the room.

Workshop format

The workshop format will allow attendees to comment on project needs and suggest potential solutions for problems along US 101 and throughout Rockaway Beach. Maps will be provided to allow people to write on sticky notes and identify areas with problems and solutions to address known issues.

Results of the technical analysis will be displayed, and attendees will be asked to add their own understanding of the issues along the study area.

Concepts under consideration will also be displayed, allowing attendees to add their own solutions or comment on the displayed concepts.

Workshop Advertising

In order to get the word out and make sure those who live and work in the project area attend, a variety of entities will spread information about the project.

To notify the public of the meeting the project team will:

Issue a press release	By 1/15/10
Update the project web page	By 1/15/10
Liaison with community members to spread the word	By 1/15/10
Notify the Chamber of Commerce	By 1/15/10
Notify the Newspaper	By 1/15/10
Create a flier to be posted at community gathering places	By 1/15/10
Coordinate with the City to have the meeting on the website, and flier posted in public areas	By 1/15/10
Email the interested parties list	By 1/15/10
Notify PAC members and ask them to bring a friend to the meeting	By 1/15/10

Displays/Materials:

Station 1: Sign-in and welcome	
- Welcome Poster	Will be finished by 1/12/10
- Sign in sheets	Will be finished by 1/12/10
- Name tags	Will be finished by 1/12/10
- Purpose of Tonight's Meeting	Will be finished by 1/12/10
Station 2: Project Background	
- Project Background	Will be finished by 1/12/10
- Schedule	Done
- Study area map with streets, city limits, and UBG	Done
- Project goals	Done
- Who is involved?	Will be finished by 1/12/10
Station 3: Existing Needs and deficiencies	
- Map with existing needs and deficiencies	Will be finished by 1/12/10
Station 4: Potential Solutions	
- Figure 1 North	Done
- Figure 2 South	Done
- Figure 3 Railroad	Done
Station 5 Comments and refreshments	

- Next Steps	Will be finished by 1/12/10
- Comment forms	Will be finished by 1/12/10
- Flip charts around the room for attendees to add comments.	Done

Staffing

Ingrid Weisenbach – ODOT

David Lanning – ODOT

Teresa Carr - CH2M HILL

Terra Lingley – CH2M HILL

Tegan Houghton – CH2M HILL

Mike Tressider – Alta Planning +Design

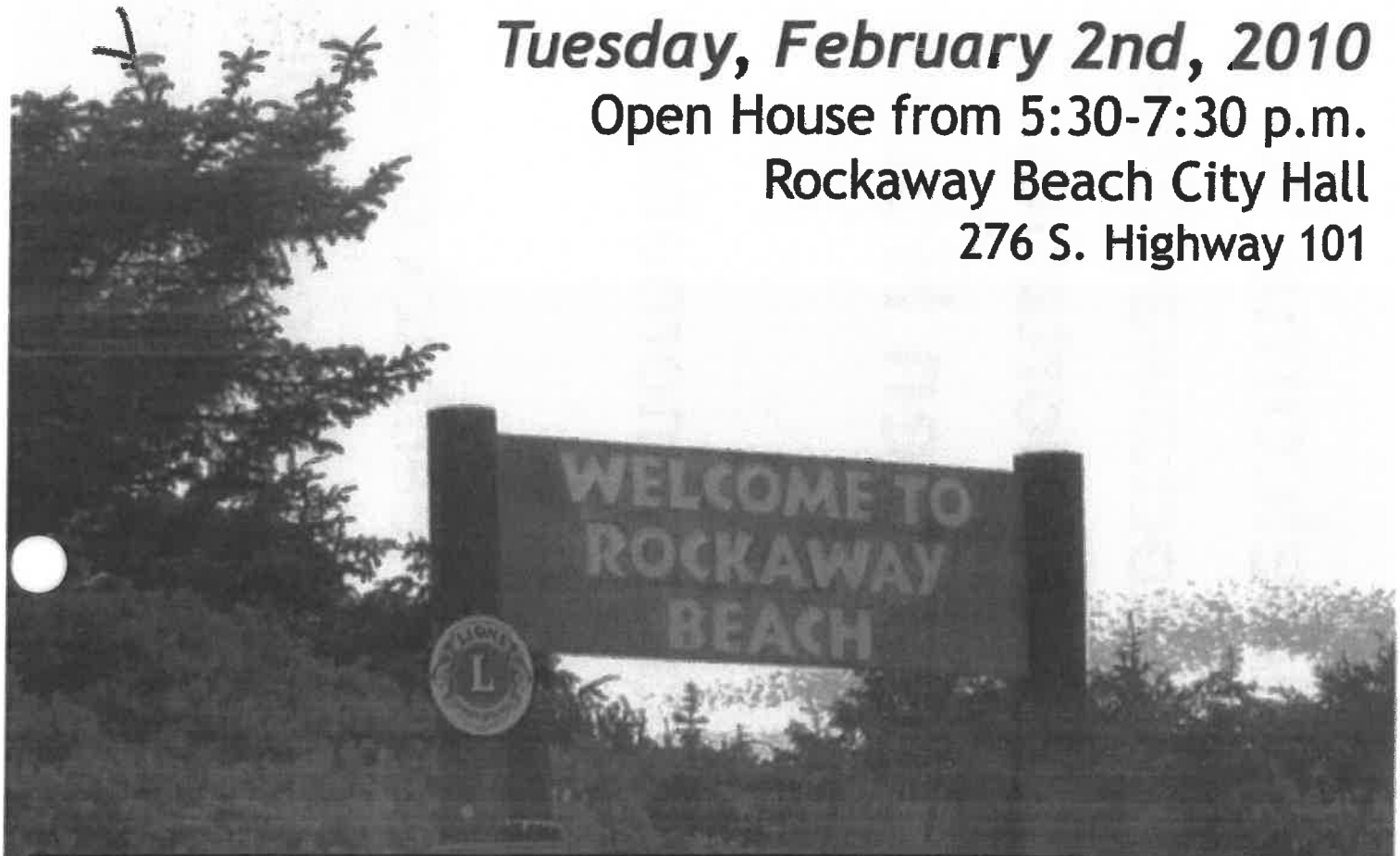
Cliff Jensen – City of Rockaway Beach

Terri Michel - City of Rockaway Beach

Jay Sennewald - City of Rockaway Beach

Rockaway Beach Transportation Plan

Public Open House



Tuesday, February 2nd, 2010

Open House from 5:30-7:30 p.m.
Rockaway Beach City Hall
276 S. Highway 101

Goals of the workshop:

- Learn about the project
- Discuss project needs
- Give feedback on preliminary ideas to address needs and goals

Get involved!
Visit the website to learn more about the plan.
www.rockawaybeachplan.com

Welcome to the
Rockaway Beach
Transportation Plan
Open House

Please take a moment to:

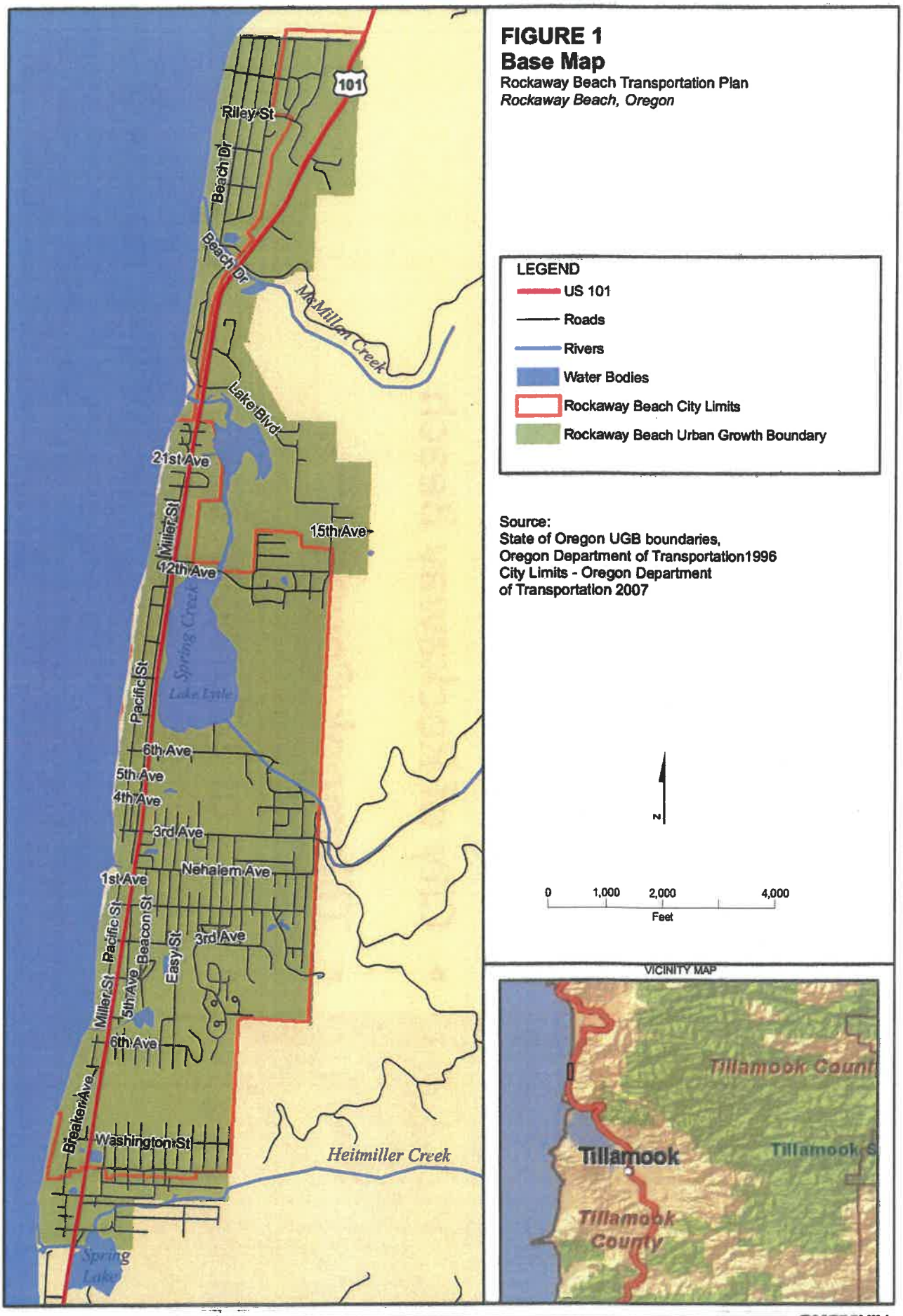
- Sign in
- Provide feedback on the concepts under consideration
- Fill out a comment form

Tonight We Will:

- Discuss the project's purpose and goals
- Present completed work
- Ask for your feedback on the improvement ideas along US 101 and throughout Rockaway Beach
  - What do you like?
  - What other things should we consider?

Project Background

- The Rockaway Beach Transportation Plan is a long range (20-year) planning effort
- The project's purpose is to identify needed transportation improvements along US 101 and throughout Rockaway Beach to address:
  - **Safety** at US 101 intersections
  - **Connectivity** (north/south and east/west) from the highway
  - **Mobility** throughout Rockaway Beach for all users including autos, freight, bicyclists, and pedestrians



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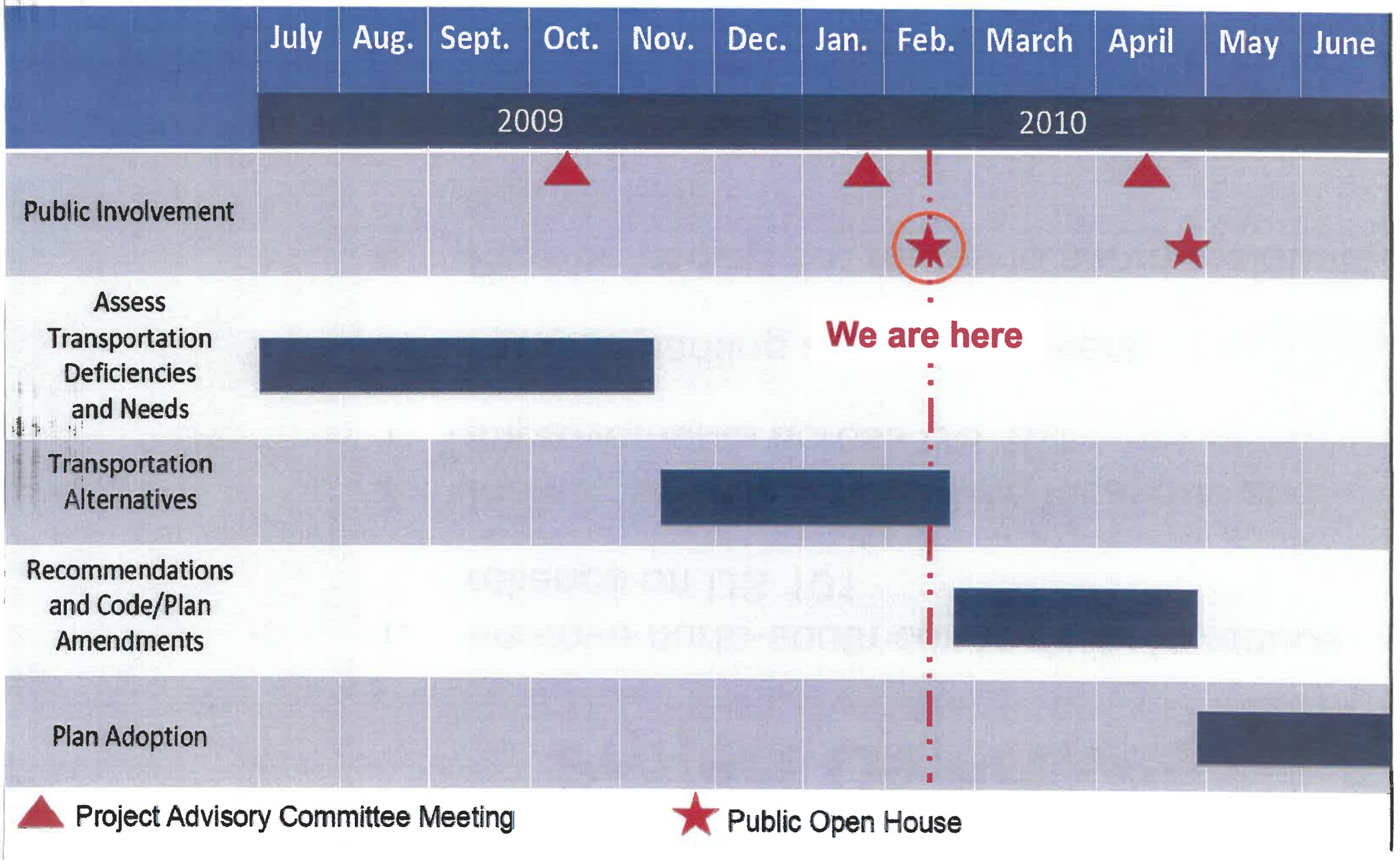
CH2MHILL

Who is involved?

- The Oregon Department of Transportation
  - Highway Division
  - Rail Division
- City of Rockaway Beach
- Tillamook County
- Port of Tillamook Bay
- Oregon Department of Land Conservation and Development
- The Rockaway Beach Community

Schedule


July
Aug.
Sept.
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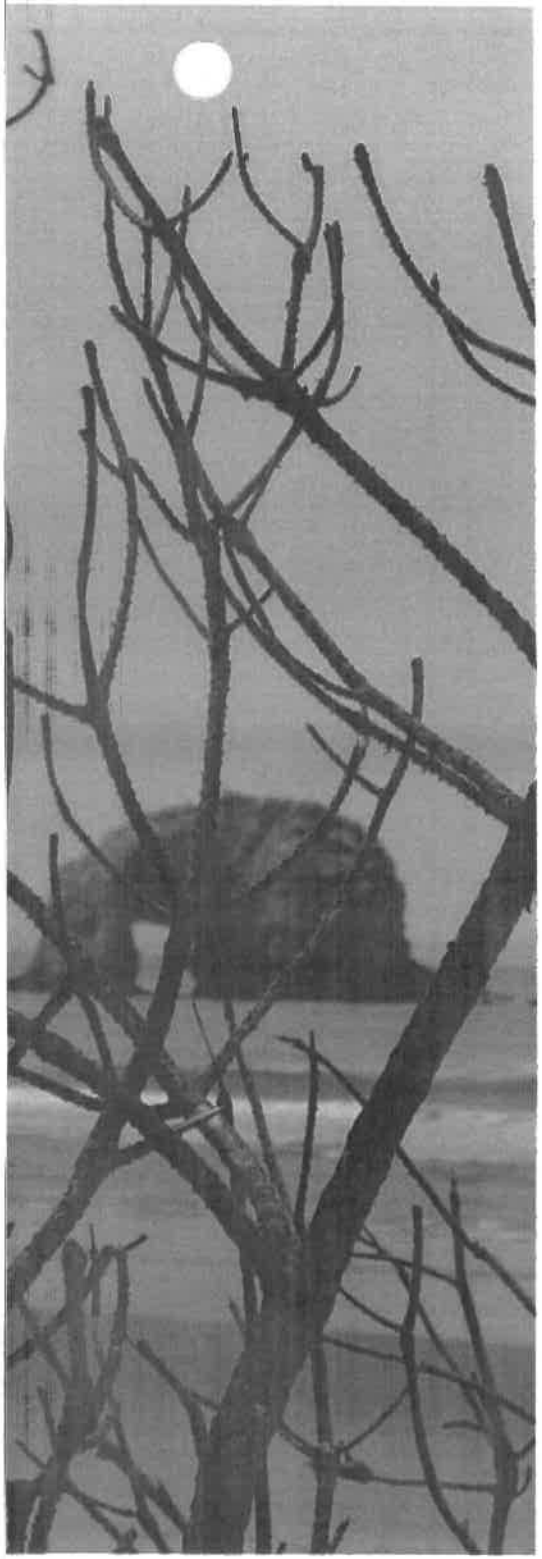
Public Involvement
Assess Transportation Deficiencies and Needs
We are here
Transportation Alternatives
Recommendations and Code/Plan Amendments
Plan Adoption
Project Advisory Committee Meeting
Public Open House

Project Objectives

1. Improve north-south connectivity to reduce reliance on US 101
2. Identify pedestrian crossing locations and improvements across US 101
3. Provide parking areas for visitors
4. Provide pedestrian routes to serve residents and visitors
5. Identify opportunities to improve and/or consolidate rail crossings
6. Ensure that transportation facilities are adequate to serve residential and commercial lands



Findings to Date

- Most north-south trips within Rockaway Beach take US 101 because there are **few alternate routes**
- The **railroad tracks** west of US 101 are close to the highway and present a crossing hazard
- There are **few bicycle and pedestrian facilities** throughout the City, including crossings of US 101
- Railroad crossings and beach accesses are **not ADA accessible** (Not accessible for everyone)
- There are **few RV parking spaces** in the City

Potential Improvement Concepts

- This section shows concepts that will address project objectives and needs
- Please **review these concepts and answer these questions:**
  - Which will **work better** than the others?
  - What could **stop or make it hard** for the team to implement these ideas?
  - What **other concepts** should we be looking at?

Next Steps

- **February/March** - With your input from tonight, the team will develop and refine the concepts
- **March/April** - Evaluate concepts and prepare draft recommendations
- **April** - Hold another Community Open House
- **May/June** - Prepare the Rockaway Beach Transportation Plan
- **June** - City Council and Planning Commission Adoption and more opportunities for you to get involved

Rockaway Beach Deficiencies and Needs

Objective 1: Improve North-South Connectivity

North-South Connectivity

West of US 101:

Limited Connectivity

- Between SW 6th and SW 5th Avenues
- Between S 1st and N 3rd Avenues
- Between NW 19th and NW 23rd Avenues

Natural Barriers

- Rock Creek
- Saltair Creek

East of US 101:

Limited Connectivity

- North of NE Lake Boulevard
- Between NE 12th and NE 6th Avenues
- Between SE 6th Avenue and E Washington Street

Natural Barriers

- McMillan Creek
- Spring Creek
- Lake Lytle

Miller Street

Provides north-south connectivity

- Miller Street **does not cross** Rock Creek or Saltair Creek
- **Pedestrians** cross the creeks on Railroad tracks or the shoulder of US 101
- **Could be repaved** in parts for a smooth surface for bicyclists

Objective 2: Improve Pedestrian Crossings on US 101

Study Area Intersections

Beach Street, School, and N 12th Avenue

Beach Street

- Only gated railroad crossing in Rockaway
- Railroad crossing is relatively smooth

High and Middle School

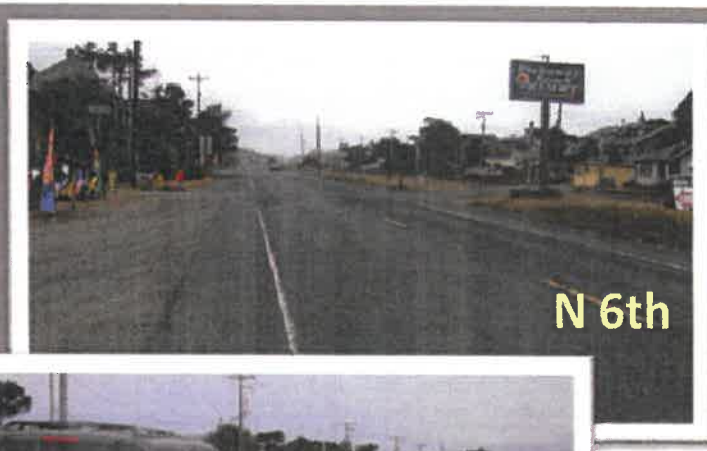
- Cars will line up beyond the 101 from the parking available space to turn left on US lot
- No pedestrian facilities (crosswalk or sidewalk)
- 45 mph speed limit

N 12th Avenue

- No Crosswalk
- Primary Access to Lake Lytle
- 45 mph speed limit

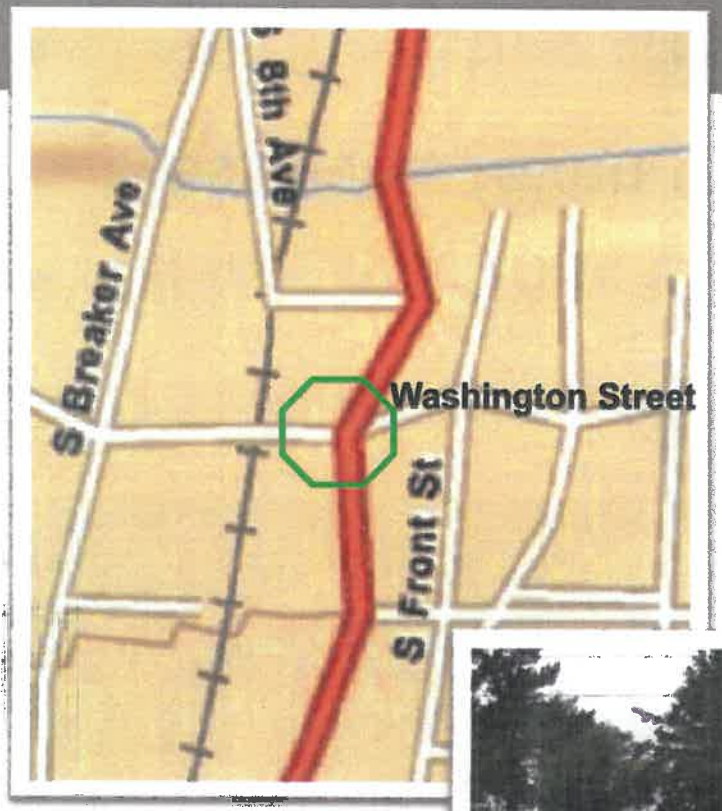
Study Area Intersections
Central Rockaway

- N 6th Avenue to S 6th Avenue
- All intersections are within the Special Transportation Area (STA)
- STA balances local access with highway mobility, strives for a pleasant pedestrian environment, and orients buildings to the street

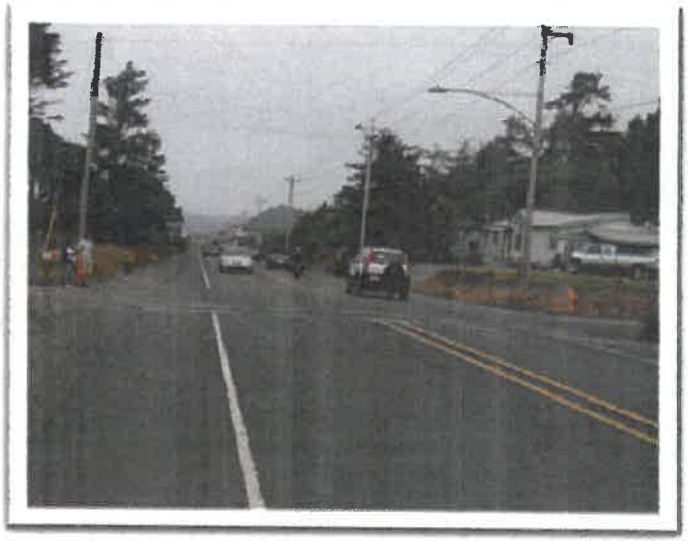


Study Area Intersections

Washington Street



- Crosswalk on the south side of the intersection
- Posted speed – 40 mph speed limit



Crossings - Crosswalks

- All intersections with US 101 in Rockaway Beach are legal crosswalks (even unstriped)
- The 15 existing striped crosswalks on US 101 do not currently have ODOT Traffic Engineer approval
- Future striped crosswalks would need ODOT approval

Objective:
Provide Parking Areas for Visitors

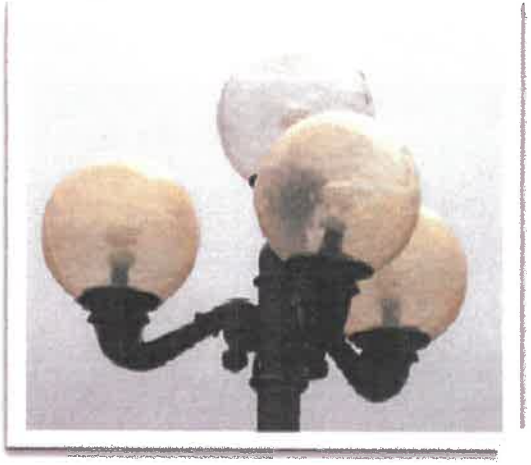
Parking Areas for Visitors

- Limited Parking areas to access beach
- Few spaces to park RVs
- Highway, Miller Street and Railroad provide turning challenges for RVs

Objective:
Provide Safe Pedestrian Routes

Pedestrian Amenities Wayside

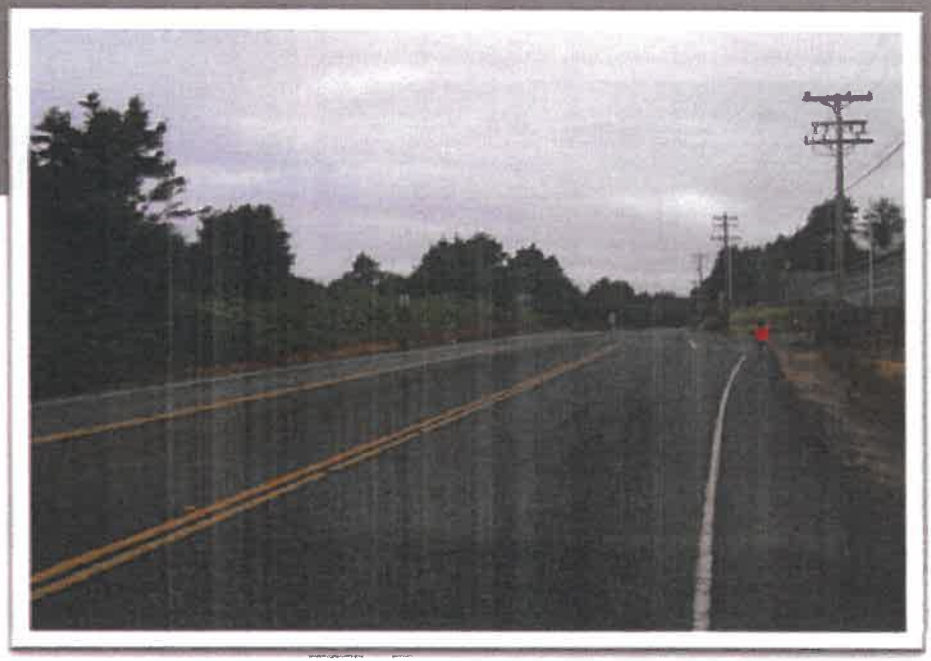
Amenities encourage people to walk near the Wayside



Sidewalks

- Sidewalk widths vary throughout
- Barriers exist on some sidewalks
- Sidewalks are only on the east side of US 101
- Sidewalks on sections of Miller Street

Pedestrian Facility Deficiencies

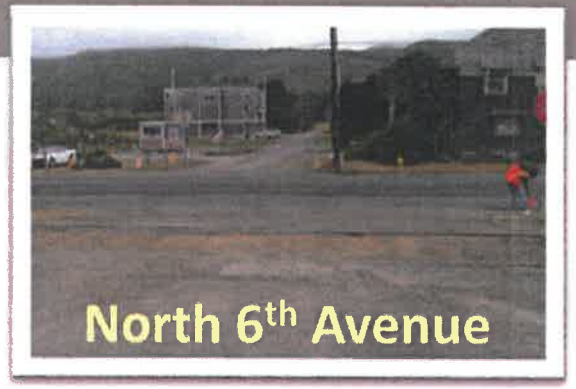


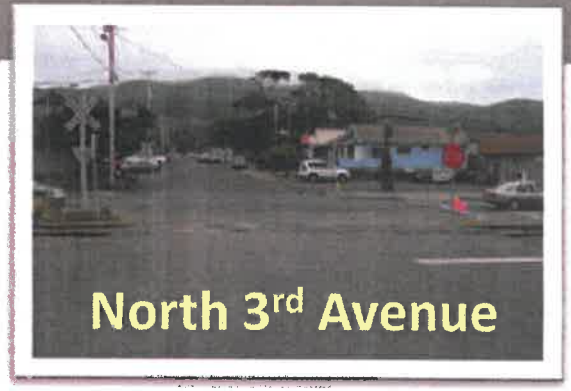
- No sidewalks near the High and Middle schools
- No sidewalks on west side of US 101 – pedestrians use shoulder
- Few ADA beach accesses
- Most railroad crossings are too rough for ADA crossings

Objective:
Identify Opportunities to Consolidate Rail Crossings

Existing Railroad Crossings

8 study area intersections
will have traffic backed up over the railroad crossings in 2030:





US 101/Rail Crossings

19 crossings total

Objective:
Ensure that US 101 Works for All Users

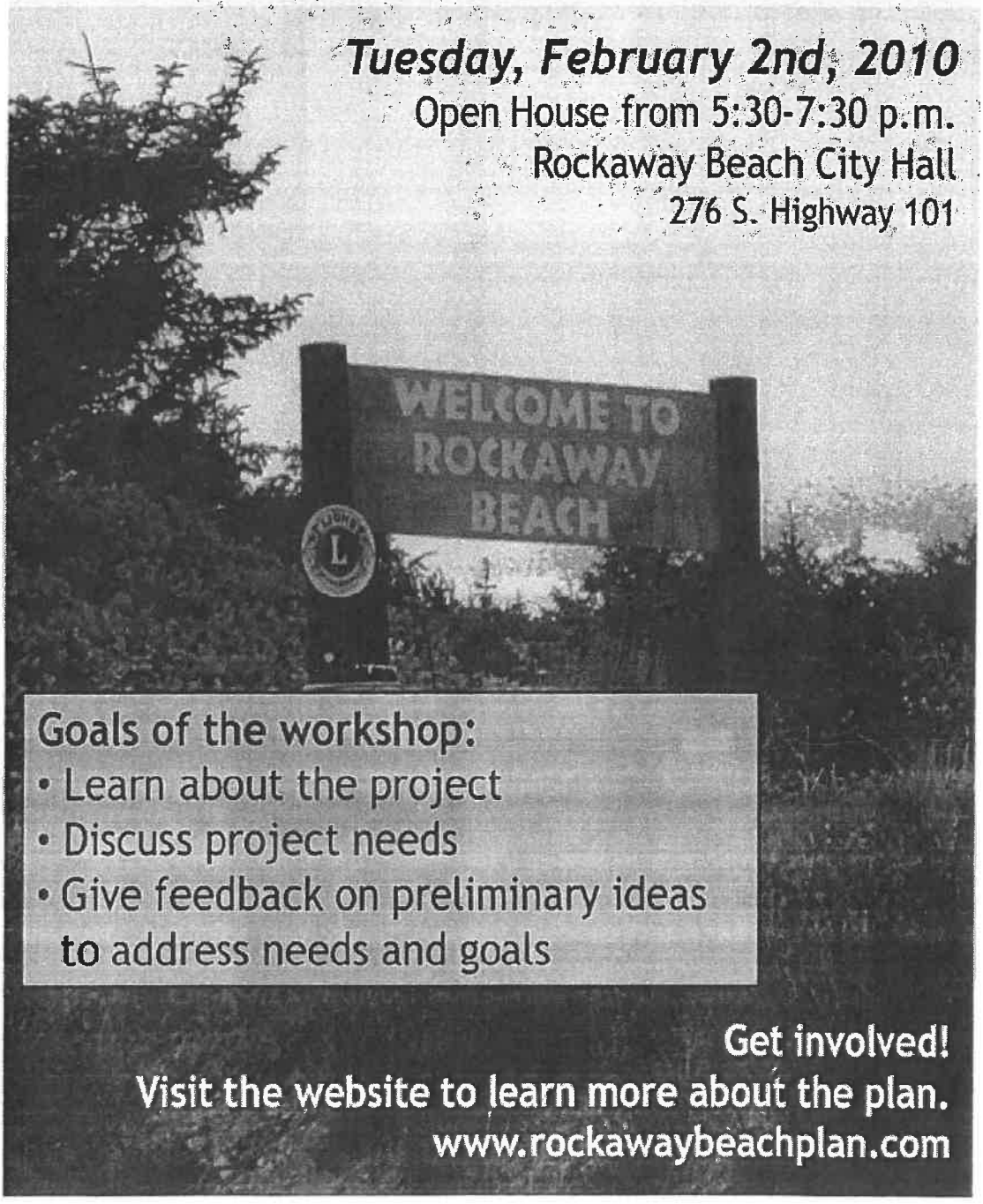
Bicycle Issues

No east shoulder through downtown means some northbound cyclists illegally use the sidewalk

Vehicles park on the shoulder

Rockaway Beach Transportation Plan

Public Open House



Tuesday, February 2nd, 2010

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  - Connectivity (north/south and east/west) from the highway

  - Mobility throughout Rockaway Beach for all users including autos, freight, bicyclists, and pedestrians

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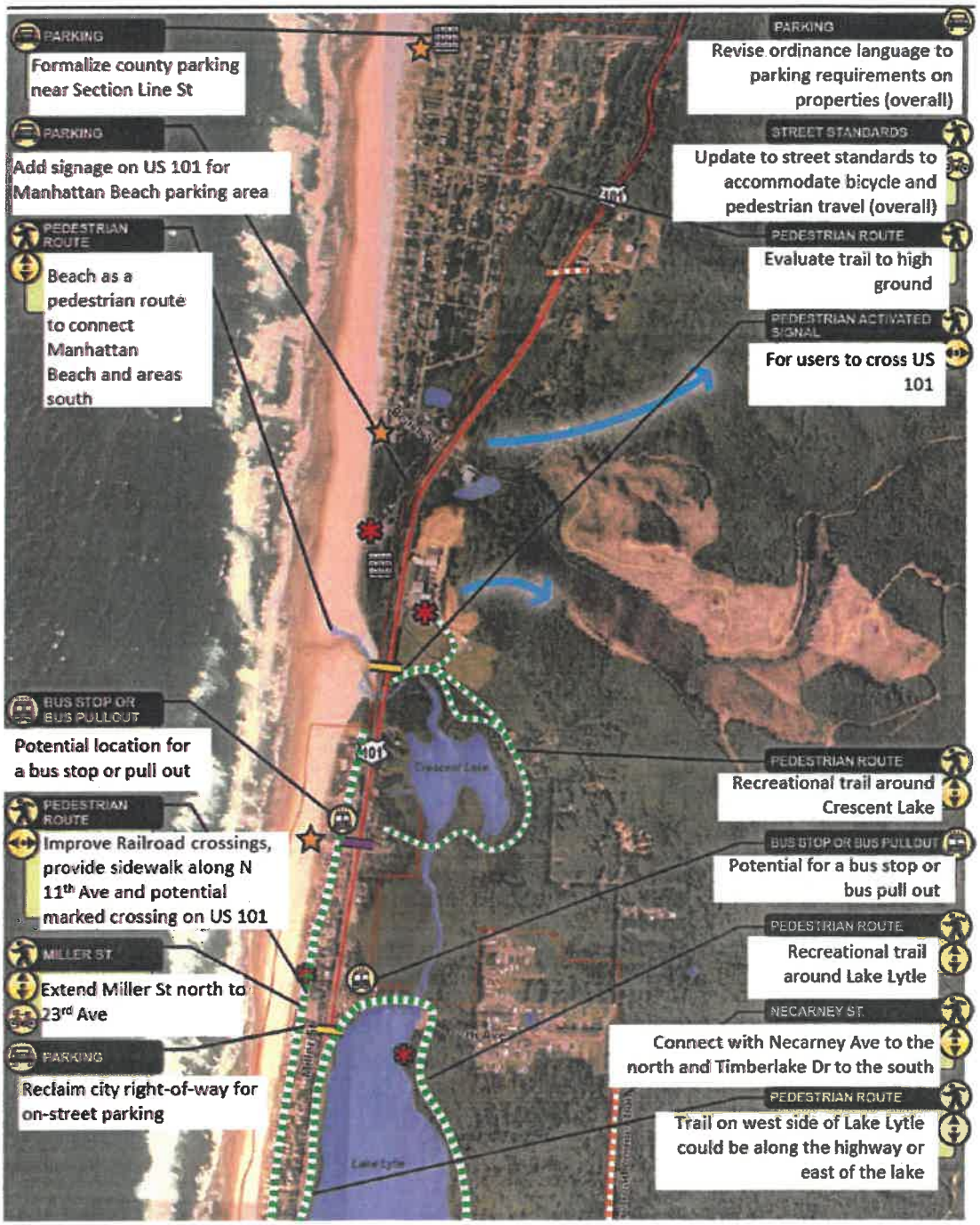
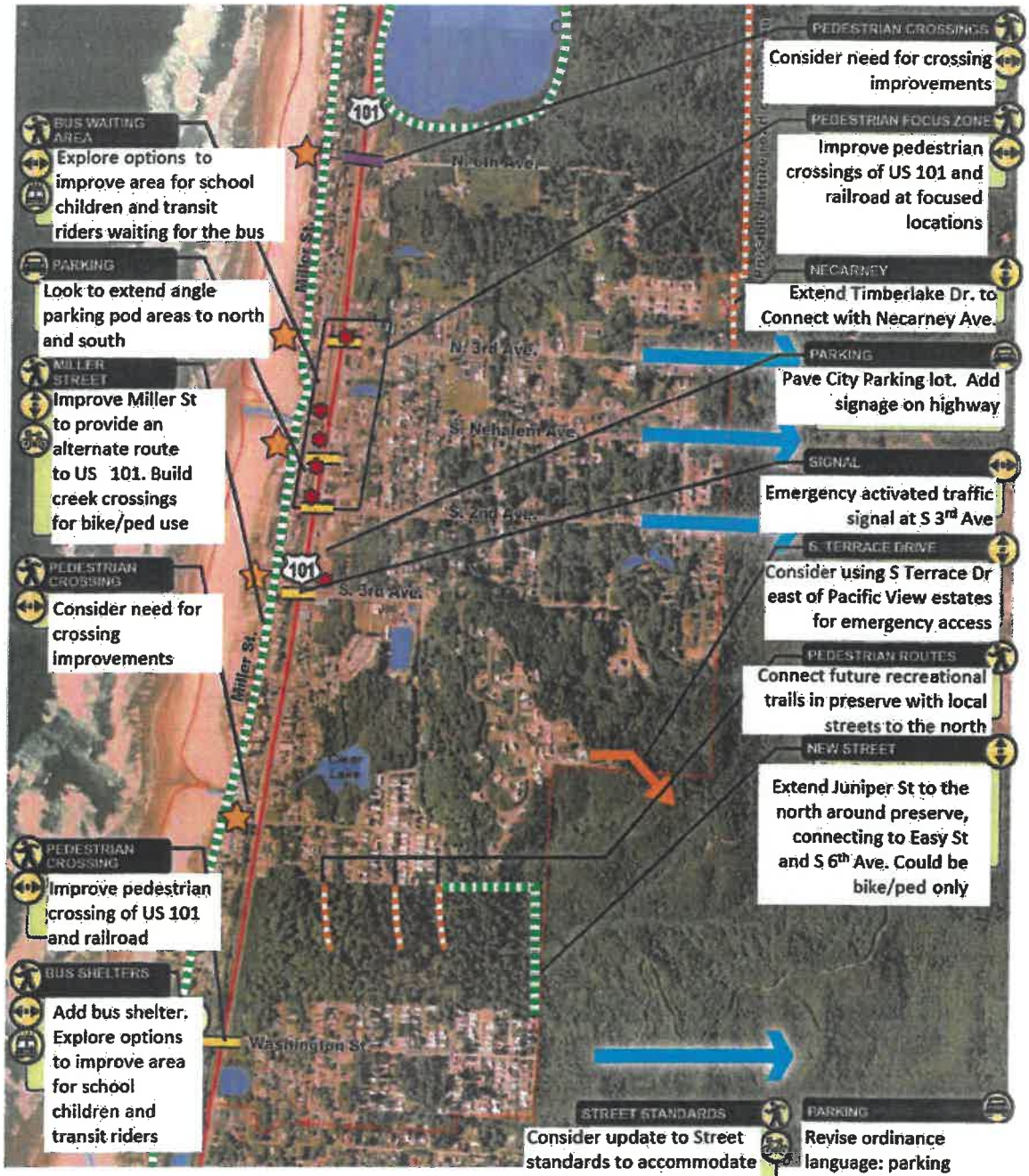
Potential Improvement Concepts





LEGEND

- Pedestrian Routes
- Possible future road
- Existing Tsunami route
- High-priority pedestrian street crossing
- Other important pedestrian crossing location
- US Highway 101
- City Limits
- Signed Beach Access
- Traffic Generators

Project Goals

- Parking
- Pedestrian Route
- Bicycle Route
- North/South Connectivity
- Improved Pedestrian Crossings
- Bus Stop or Bus Pullout

Existing Resources

- School
- Parking area

Process to Improve and/or Consolidate Railroad Crossings

STEP 1 - IMPROVE "CRITICAL" CROSSINGS

a. Prioritize the critical crossings

b. Identify improvements needed for critical crossings to be adequately smooth for:
   - cars
   - bicycles
   - wheelchairs

STEP 2 - MONITOR USE

a. How well do upgraded crossings work for users?

b. Are unimproved crossings problematic for users?

STEP 3 - HOLD A PUBLIC PROCESS TO CONSIDER CROSSING CONSOLIDATION

a. Discuss with community.

b. Discuss with railroads and City.

c. Consider criteria listed below for consolidating crossings.

Next Steps

February/March - With your input from tonight, the team will develop and refine the concepts

March/April - Evaluate concepts and prepare draft recommendations

April - Hold another **Community Open House**

May/June - Prepare the **Rockaway Beach Transportation Plan**

June - City Council and **Planning Commission** Adoption and more opportunities for you to get involved

For more information:

All material presented tonight will be available on our website at **www.rockawaybeachplan.com**. Please visit our site for more information about the project and to read work products completed to date.

You can also give us a call or send us a letter with specific questions or comments at:

Oregon Department of Transportation
c/o Ingrid Weisenbach, Area Planner
350 W Marine Drive
Astoria, OR 97103
(503) 325-5281

Thank you. We look forward to your comments and participation in the next Open House in Spring!

Comment Form

Rockaway Beach Transportation Plan
Open House #1 – February 2, 2010

Welcome! Tonight's meeting is designed to:

1. Communicate the project purpose and goals
2. Solicit feedback on potential multimodal transportation improvements throughout Rockaway Beach and along US 101

Name: _____ Affiliation (if applicable): _____

Address: _____ City/State/Zip: _____

Email: _____

Would you like to be added to the project mailing list? ☐ Yes ☐ No

How did you hear about this meeting?

☐ Newspaper ☐ Project Flier ☐ Project Website ☐ Word of Mouth ☐ Other

(please describe): _____

Please tell us a little about yourself:

Do you live in: ☐ Rockaway Beach full-time? ☐ Elsewhere in Tillamook County?
☐ Part time in Rockaway Beach? ☐ Other? _____

We've presented project deficiencies and needs tonight. Are there additional transportation needs or deficiencies that you see in Rockaway Beach?

_____

_____

_____

We've presented concepts for consideration to improve transportation along US 101 and throughout Rockaway Beach: What do you think about these concepts? Do you have any other suggestions for concepts to consider for the goals on the following page?

PLEASE TURN OVER

(1) To improve north-south connectivity:

(2) To improve pedestrian crossings on US 101:

(3) To improve and/or consolidate railroad crossings:

(4) To provide parking for residents and visitors:

(5) To provide pedestrian routes to serve residents and visiting population:

(6) To ensure that transportation facilities are adequate to serve future growth:

Please add any other comments here:

Thank you for your feedback. Please fill out this comment form and give it to a staff member, put it in the comment box, or mail to:

Ingrid Weisenbach, ODOT Region 2,
350 W Marine Drive
Astoria, OR 97103

Open House #1 Summary

Tuesday, February 2, 2010
5:30-7:30 p.m.
Rockaway Beach City Hall

The purpose of this open house was to introduce the community to the purpose and goals of the project, present the work done to date, and present and solicit feedback on transportation concepts being considered. Approximately 40 people attended the meeting.

The format of the open house was an informal drop-in, with project boards and information displayed around the Rockaway Beach City Hall. This format allowed attendees to circulate around the room talking one-on-one with City, ODOT, and County staff as well as members of the consultant team about the concepts under consideration. The displays were organized into five stations:

- ***Station 1: Welcome and sign in*** – a staff person at this station explained the format of the open house to attendees and asked them to take a handout consisting of copies of main display materials from the open house.

- ***Station 2: Project Overview*** – boards at this station included a project overview, goals, study area, project schedule, and who is involved.

- ***Station 3: Existing and Future Conditions and Deficiencies*** – this station contained an overview display board describing project needs, and a looped PowerPoint presentation displaying needs by project objective.

- ***Station 4: Concepts being Considered*** – this station contained three boards showing concepts under consideration and a looped video clips showing different pedestrian activated crosswalk types.

- ***Station 5: Next Steps*** – this station described how comments received from the public would be used by the project team in evaluating concepts and recommending improvements.

Most of those that filled out a comment form were full-time Rockaway Beach residents, and most had heard of the meeting via word of mouth, had seen a flier, or had heard an announcement from the local radio station.

The following pages summarize comments gathered from comment sheets submitted at the meeting, conversations with meeting attendees, and comments written on flip charts during the open house.

Question 1: Additional Deficiencies and Needs not captured in the Displays

Attendees were asked to add any transportation needs or deficiencies they see in Rockaway Beach. Comments included noting that there are no sidewalks and bike pathways to the High School north of town, nor is there a bicycle or pedestrian trail on the west side of the highway. Another respondent noted that there are few bus stops for public transportation. One person wrote that it is difficult to go south from the east side of town, and a couple of people wrote that there is an issue with log trucks using engine brakes in the south end of town which creates a noise nuisance. Another comment suggested that the speed limit needs to be reduced further south (past Washington Street) than it currently is signed at S 7th Avenue as drivers speed through the southern end of town.

One attendee suggested bringing the concepts to the Planning Commission for their input.

Objective 1: Improve North-South Connectivity

Comments on improving north-south connectivity within Rockaway Beach included quite a bit of support for a north-south pedestrian and bicycle pathway either on the east side of US 101 or the west. One person mentioned that there were few suggestions for improving connectivity for autos, and that more through streets off of US 101 were needed.

Another attendee suggested reconfiguring streets in downtown to make them one way south from S 6th Avenue to N 3rd Avenue.

One person suggested that the north-south connectivity concepts were not critical, as few people walk long distances in Rockaway Beach, and that it would be a large investment for bicycles alone. There were two comments on the importance of prioritizing investment and the needs for the city. One person suggesting improving existing roads to create an informal bypass to US 101, and another person was concerned that north-south connectivity could bisect current neighborhoods.

One person had a concern about the Lake Boulevard, NE 22nd Avenue and Tillamook Avenue connection and suggested that the turn is quite sharp, with a steep drop-off on the south side. It is hard for emergency vehicles to maneuver, and the commenter suggested not including it in the plan.

Objective 2: Improve Pedestrian Crossings on US 101

One attendee suggested that a slow street could be created in downtown to slow traffic (NOTE this is a project concept under consideration for Miller Street). Another person wanted to see the north-south bicycle and pedestrian facility on Miller Street connected somehow to the High School, which would require some sort of crossing on US 101. Most people were in favor of marked crossings with smooth walkways, and a few attendees commented that they liked the idea of blinking lights or other increased visibility (different colored or stamped pavement or brick, cobblestone) improvements for pedestrian crossings. Others pointed out that safety is very important, and that some crossings (S 6th in particular are dangerous because of vehicles speeding in the 30 mph zone. Two attendees suggested that a pedestrian overcrossing be considered. An attendee suggested that the intersection of N 19th Avenue was used quite a bit, and should be considered for improvement.

Objective 3: Improve and/or Consolidate Railroad Crossings

One attendee commented that they supported the idea of concentrating on a few crossings to improve to save money. Two people mentioned the importance of the Wayside (S 1st Avenue) as a crossing to improve, and an additional two liked the idea of cleaning up critical crossings. Another attendee suggested that the police department should help identify critical crossings to improve, along with N 3rd Avenue and the Wayside (NOTE the Police Department is an active participant on the PMT and has helped identify critical crossing locations). One person thought that there wasn't a need to improve crossings since they are already too high and irregular to be ADA compliant and serve cyclists and strollers, and another suggested that since the railroad does not want to cross the crossings, the reason for closing crossings no longer exists.

Objective 4: Provide Parking for Residents and Visitors

Attendees liked the idea of extending parking between S 2nd and S 3rd between US 101 and the railroad. Members of the Nature Preserve Board noted that they are planning on constructing a parking area near the nature preserve for visitors and residents to access the paths. There was a suggestion to add this parking area to the Rockaway Beach Transportation Plan as a concept.

Other attendees noted that recreational vehicles especially should have a good location to park, and signage throughout needs to be upgraded so visitors know where to park, especially for beach accesses. Another person suggested adding more signage for lots east of the highway. One person suggested purchasing a vacant lot at US 101 and S 6th for visitor parking. In response to the concept of looking at the City's ordinance and code for parking, one person was concerned with parking minimums and maximums and the variety of housing found in Rockaway Beach, and suggested that determining the number of cars allowed per lot should be considered carefully.

Objective 5: Provide Pedestrian Routes to Serve Residents and Visitors

Many respondents liked the idea of using Miller Street as a pedestrian route, and one person suggested adding sidewalks along Miller. Those who commented on routes around the lakes were split over whether it was a good idea to have a path or not. One person also suggested adding sidewalks or painted stripes on the main side streets for pedestrians, and suggested that N 3rd, S 3rd, and S 6th Avenues would be good candidates for pedestrian facilities. Another commenter suggested that a sidewalk be suggested on the east side of the highway that links to the park entrance. Two people commented that pedestrian routes were not that important, as the population is older and many residents do not walk as much, and visitors mainly walk along US 101 or the beach. Another suggested that sidewalks and bike paths should run the length of the project (and City) boundaries. The Post Office was mentioned as a large pedestrian trip generator, and suggested that more residents that live close by would walk if there were sidewalks on the side streets.

One person suggested reviewing police records and/or interviewing officers to see where complaints are made, and where citations/warnings are issued to determine where improvements are needed.

Objective 6: Ensure Transportation Facilities are Adequate to Serve Future Growth

One person commented that the bus turnout concept was great, but that they would need to be 40 feet long at minimum. Another attendee asked about the need for bus shelters at the north and south ends of Rockaway.

One person wanted to see traffic signals in town, at S 2nd Avenue and N 3rd Avenue to allow residents to turn onto US 101, and provide safe crossings for pedestrians; however, another comment suggested that no traffic signals be added in Rockaway Beach.

There were two comments regarding street upgrades, one addressed the pavement on side streets, and the other suggested adding sidewalks and curbs for the city on Miller and Pacific Streets.

One comment suggested that the concepts are too general, and specific projects should be recommended, another comment suggested that the concepts presented were short term, and didn't consider how things could change in the future regarding the possibility of changing locations of businesses and facilities. Another person suggested that the larger coastal highway system should be included, especially since Rockaway Beach is no longer a self-sufficient town (without a drug and hardware store). This commenter suggested that a trip survey be conducted to determine how many trips occur within the city limits.

Additional Comments

A couple of attendees asked about the prioritization of the improvements presented. (NOTE prioritization will be done once recommendations are made.) Another attendee suggested that priorities should be: identify railroad crossings to improve, pedestrian and bicycle path west of US 101, and parking areas for visitors and RVs. Another noted that more information is needed, especially on statistics for how much pedestrian and bicycle traffic exists within Rockaway.

There were a few comments about the nature preserve: one person wrote that the deed is restrictive to "scientific, educational and aesthetic purposes", and the project should contact the Chairman of the Nature Preserve Board to confirm. Another person asked that the pedestrian paths concept from the north of the Nature Preserve be removed. Another comment asked the project team to check into the City owned right-of-way on Juniper Street, as the City may have vacated the right-of-way. Additionally, one person was concerned with overall environmental and wildlife impacts and one person noted that maintaining access to water was important. Another person wrote that the Nature Preserve is a swamp and is flooded most of the year, making a potential pedestrian route difficult.

One person was concerned with the current placement of the library signage. Another noted that the pedestrian crossing by the school might not be necessary, as the 20 mph signs slow traffic down enough to enable pedestrians to cross during school hours. One person suggested looking into federal funding for a slow street in Rockaway.

Two people commented that the project was going smoothly and complimented the work done to date, and one person asked why the people on the water and sewer email list weren't emailed with a notice of the meeting.

One person suggested cleaning, mowing, cutting brush and trees near the railroad crossings and beautifying them would improve the City, and another asked that the grass clippings not be blown into creeks and waterways.

One person wrote that moderating traffic moving southbound on US 101 by adding a passing lane or a slow traffic pull-out would help improve traffic flow.

Rockaway Beach Transportation Plan Open House #2 Plan

TO:	Rockaway Beach Transportation Plan Project Management Team
FROM:	Terra Lingley, CH2M HILL
COPIES:	Theresa Carr, CH2M HILL
DATE:	April 2, 2010

The Rockaway Beach Transportation Plan Project will host the second Open House on Tuesday, April 20th, 2010 from 5:00-7:00 p.m. at the City of Rockaway Beach City Hall. The purpose of this Open House is to review the project recommendations, explaining how these recommendations reflect public input and technical review of earlier proposals.

Open House #2: Presentation of Project Recommendations

- Review project information and goals with both business and residential owners and residents in the study area
- Review information on the deficiencies, needs and alternative solutions to deficiencies and needs.
- Solicit feedback on project recommendations along US 101 and throughout Rockaway Beach

Public input will be collected through a written comment form, individual discussions with attendees, and comment boards displayed throughout the room.

Workshop format

The workshop format will allow attendees to comment on recommended projects and provide feedback to the City and project team.

One presentation will be given at 5:15 p.m. to inform attendees about the project recommendations, and how they address the goals and need identified within the project area. A question and answer session will follow. The remainder of the open house time will be devoted to reviewing the project recommendations and commenting.

5:00-5:15 p.m.	Welcome, time for attendees to sign in and get refreshments
5:15-5:40 p.m.	Presentation on project recommendations
5:40-6:00 p.m.	Question and answers
6:00-7:00 p.m.	Open House, attendees can circulate and view displays, talk to project team individually

Workshop Advertising

In order to get the word out and make sure those who live and work in the project area attend, a variety of entities will spread information about the project.

To notify the public of the meeting the project team will:

Issue a press release	By 4/9/10
Update the project web page	By 4/13/10
Liaison with community members to spread the word	By 4/6/10
Notify the Chamber of Commerce	By 4/9/10
Notify the Newspaper	By 4/9/10
Create a flier to be posted at community gathering places	By 4/9/10
Coordinate with the City to have the meeting on the website, and flier posted in public areas	By 4/9/10
Email the interested parties list	By 4/9/10
Notify PAC members and ask them to bring a friend to the meeting	By 4/6/10

Displays/Materials:

Station 1: Sign-in and welcome	
- Welcome Poster	Will be finished by 4/9/10
- Sign in sheets	Will be finished by 4/9/10
- Name tags	Will be finished by 4/9/10
- Purpose of Tonight's Meeting	Will be finished by 4/9/10
Station 2: Project Background	
- Project Background	Will be finished by 4/9/10
- Schedule	Done
- Study area map with streets, city limits, and UBG	Done
- Project goals	Done
- Who is involved?	Done
Station 3: Existing Needs and deficiencies	
- Map with existing needs and deficiencies	Done

Station 4, Recommended Projects	
- Figure 1 City wide	Done
- Figure 2 Railroad	Done
- Figure 3 Pedestrian connections at the south end	Done
Station 5 Comments and refreshments	
- Next Steps	Will be finished by 4/9/10
- Comment forms	Will be finished by 4/9/10
- Flip charts around the room for attendees to add comments.	Done

Staffing

Theresa Carr - CH2M HILL

Terra Lingley – CH2M HILL

Tegan Houghton – CH2M HILL

Cliff Jensen – City of Rockaway Beach

Terri Michel - City of Rockaway Beach

Jay Sennewald - City of Rockaway Beach

Shawn Vincent – City of Rockaway Beach

Dave Schrom – Tillamook County

Welcome to the
Rockaway Beach
Transportation Plan
Open House

There will be a short presentation and question and answer session at 5:15

Please take a moment to:

- Sign in
- Provide feedback on draft recommendations
- Fill out a comment form

Tonight We Will:

- Ask for your feedback on the recommendations along US 101 and throughout Rockaway Beach
  - What projects are the most important?
  - What projects should be completed first?
- Discuss implementation of recommendations
- Review previous work

Project Background

- The Rockaway Beach Transportation Plan is a long range (20-year) planning effort
- The project's purpose is to identify needed transportation improvements along US 101 and throughout Rockaway Beach to address:
  - **Safety** at US 101 intersections
  - **Connectivity** (north/south and east/west) on local streets
  - **Mobility** throughout Rockaway Beach for all users including autos, freight, bicyclists, and pedestrians

FIGURE 1
Base Map

Rockaway Beach Transportation Plan
Rockaway Beach, Oregon

LEGEND

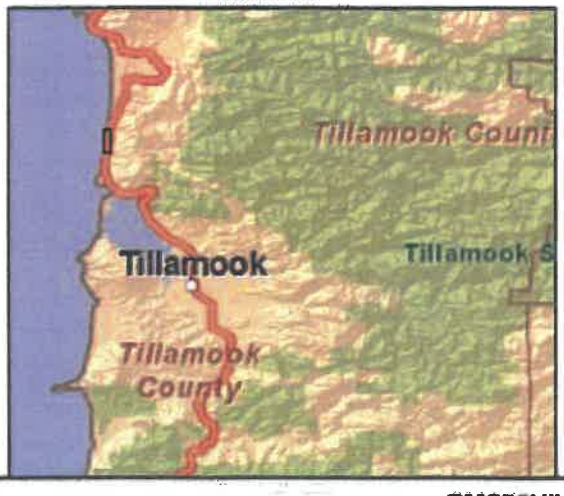
- Other Road
- Local, rural road; city street
- Primary Highway
- Rivers
- Water Bodies
- Rockaway Beach City Limits
- Rockaway Beach Urban Growth Boundary

Source:
State of Oregon UGB boundaries,
Oregon Department of Transportation1996
City Limits - Oregon Department
of Transportation 2007

N

0 1,000 2,000 4,000
Feet

VICINITY MAP



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CH2MHILL

Who is involved?

- City of Rockaway Beach
- The Oregon Department of Transportation
  - Highway Division
  - Rail Division
- Tillamook County
- Port of Tillamook Bay
- The Rockaway Beach Community

Schedule


2009
2010
Public Involvement
We are Here
Deficiencies and Needs
Create Alternatives
Recommendations
Develop and Adopt Plan
Project Advisory Committee Meeting
Public Open House

Project Objectives

1. Improve north-south connectivity to reduce reliance on US 101
2. Identify pedestrian crossing locations and improvements across US 101
3. Provide parking areas for visitors
4. Provide pedestrian routes to serve residents and visitors
5. Identify opportunities to improve and/or consolidate rail crossings
6. Ensure that transportation facilities are adequate to serve residential and commercial lands

Key Findings

- Most north-south trips within Rockaway Beach take US 101 because there are **few alternate routes**
- The **railroad tracks** west of US 101 are close to the highway and present a crossing hazard
- There are **few bicycle and pedestrian facilities** throughout the City, including crossings of US 101
- Railroad crossings and beach accesses are **not ADA accessible** (Not accessible for everyone)
- There are **few RV parking spaces** in the City

Evaluation Framework

Criterion	Objective
Connectivity	- Improve street and path connectivity - Create local north-south streets, providing opportunities for travel off US 101 - Emergency vehicle reliability and quick access - Bicycle and Pedestrian Network
Safety	- Reduce potential conflicts between vehicles, and between vehicles and bicyclists and/or pedestrians - Ensure transportation facilities meet current engineering best practices for safety and design
Mobility/ Accessibility	- Accommodate growth, meet appropriate system mobility standards
Environmental Impacts	- Minimize impacts to known natural resources - Minimize impacts to built resources
Multi-modal solutions	- Address bicyclist and pedestrian needs - Address public transit user needs

Draft Recommendations

- This section shows recommendations to will address project objectives and needs
- Draft recommendations were evaluated using the Evaluation Framework
- Please **review these recommendations and answer these questions:**
  - Which are the **most important** recommendations?
  - Which recommendations should be **implemented first**?
  - Do you **disagree** with any of the recommendations?

North-South Connections

1. **EXTEND NECARNEY AVE.**
   Extend Necarney Ave. to the south to connect with Timberlake Drive.
2. **IMPROVE MILLER ST.**
   Improve Miller Street as a bicycle boulevard from Manhattan Beach at the north to S. Minehaha Street at the south.
3. **IMPROVE BEACH ACCESS** ★
   Improve signage and pedestrian access at beach to designated accesses.
4. **CONSTRUCT RECREATIONAL TRAILS AROUND LAKES**
   Build a trail around Lake Lytle and Cresent Lake for pedestrian and bicycle use.

Safe Crossings of US 101

5. **IMPROVE PRIORITY HIGHWAY CROSSINGS**
   Stripe crosswalks across US 101 at priority crossing locations (dependant on approval by State Highway Engineer).
6. **INSTALL SIGNAL FOR EMERGENCY VEHICLES**
   Install emergency activated traffic signal at South 3rd Avenue.

Improved Parking

7. Improve existing parking areas to make them easier to use for visitors, including better signage and accomodating RVs.
   - 7a **Section Line St.** Formalize and repave county parking lot near Section Line Street.
   - 7b **Manhattan Beach** Add signage along US 101 for Manhattan Beach parking area.
   - 7c **Downtown Core** Look to extend existing angle parking pad north and south.
   - 7d **Pave City Parking Lot** Consider allowing RVs to park overnight. Add signage to US 101.
   - 7e **Zoning Ordinance (Overall)** Revise language to add parking minimums and maximums to vacation rental properties.
   - 7f **Nature Conservancy Parking Lot** Coordinate with the nature conservancy to develop parking near the nature trail.

Pedestrian Connectivity

8. **IMPROVEMENTS TO CONNECT PEDESTRIANS THROUGHOUT ROCKAWAY BEACH**
   - 8a **Priority 1** Continuous sidewalks on east side of US 101 within the Special Transportation Area (STA).
   - 8b **Priority 2** Construct sidewalk on east side of Highway between S 6th Ave. and Washington St.
   - 8c **Lake Lytle Trail** Connect with Lake Lytle trail by extending sidewalk on east side of US 101 between N 6th Ave. and Lake Lytle trail.
   - 8d **Pedestrian Connections at South End** See Figure 3

Bus Pull-Out Areas

9. **CREATE BUS PULL-OUT AREAS**
   Create bus pull-out areas at Tillamook County Transportation District stops to allow buses to pull out of traffic. Mark pull-outs for no parking.

Improve Critical Railroad Crossings

10. See Figure 2

Beach Street Improvements

11. Add southbound right turn lane on US 101 at Beach St.

LEGEND

- Pedestrian/Bicycle Routes
- Proposed road extension
- US Highway 101
- City Limits
- Beach access (3)
- High-priority pedestrian street crossing (5)
- Other important pedestrian crossing location
- Parking area (7)
- Bus pull-out areas (9)

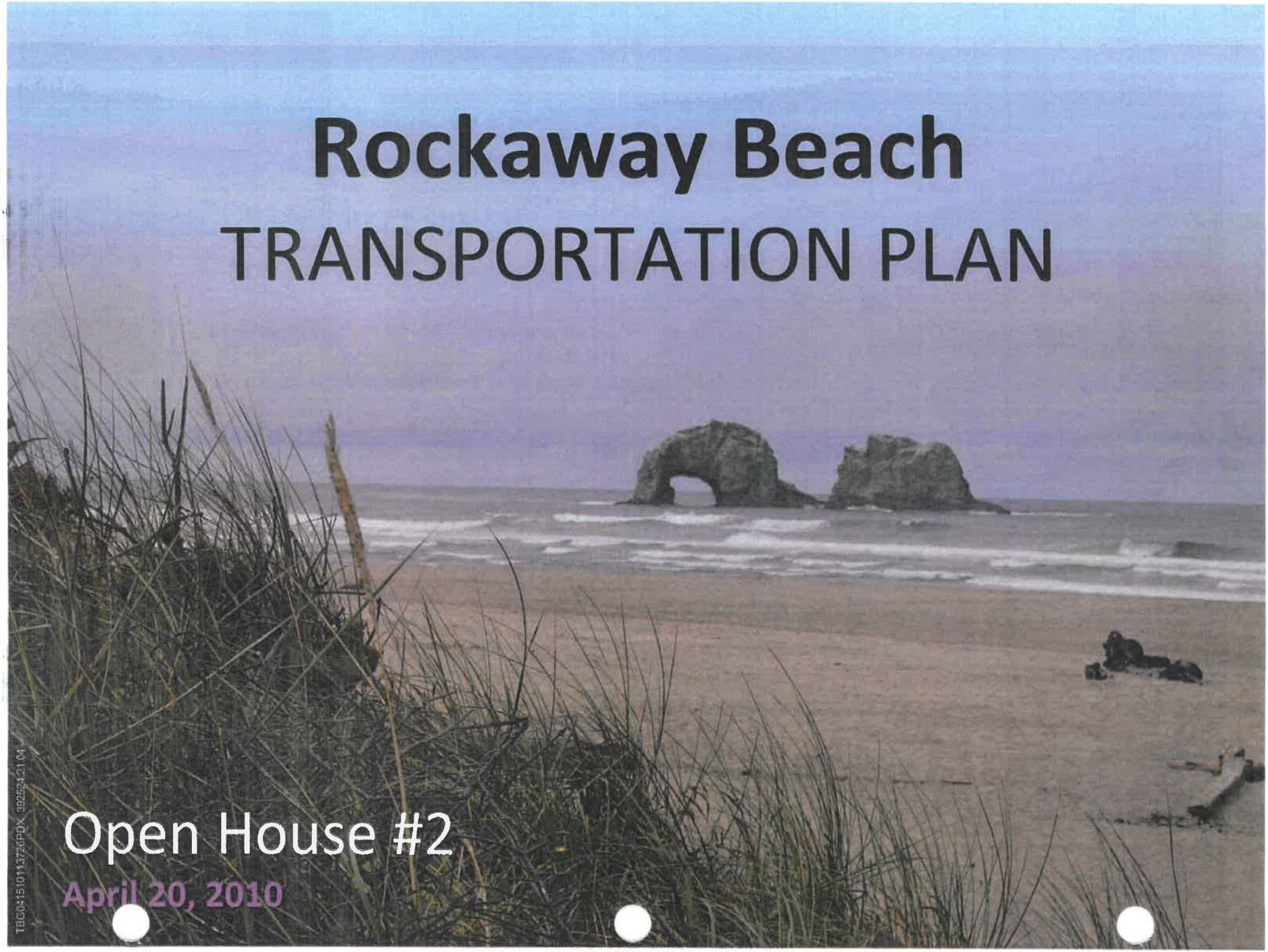
FIGURE 1

Draft Project Recommendations

ROCKAWAY BEACH TRANSPORTATION PLAN

Next Steps

- **May/June** - Prepare the Rockaway Beach Transportation Plan
- **June** - City Council and Planning Commission Adoption and more opportunities for you to get involved


Rockaway Beach
TRANSPORTATION PLAN
Open House #2
April 20, 2010
TBG04151011372GPDX 39253.4 21.04

Outline of Presentation

1. Project objectives
2. Overview of draft recommendations
3. Questions

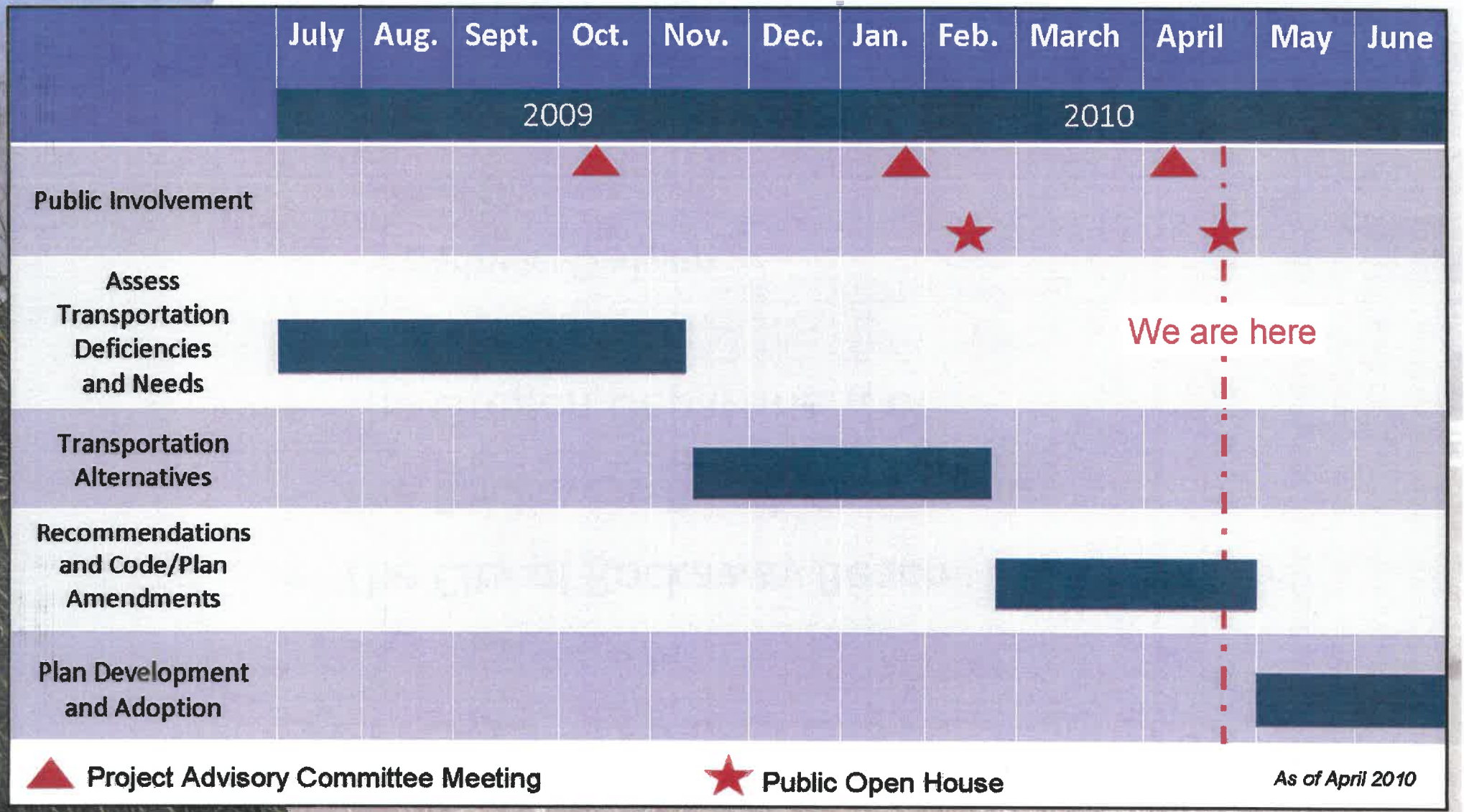
Project Objectives

1. Improve north-south connectivity
2. Identify pedestrian crossing locations and improvements across US 101
3. Provide parking areas for visitors
4. Provide pedestrian routes
5. Identify opportunities to improve and/or consolidate rail crossings
6. Ensure that transportation facilities are adequate to serve residential and commercial lands

Who is Involved?

- The City of Rockaway Beach
- The Rockaway Beach Community
- The Oregon Department of Transportation
  - Highway Division
  - Rail Division
- Tillamook County
- Port of Tillamook Bay Railroad
- Oregon Department of Land Conservation and Development

Project Timeline



Draft Recommendations

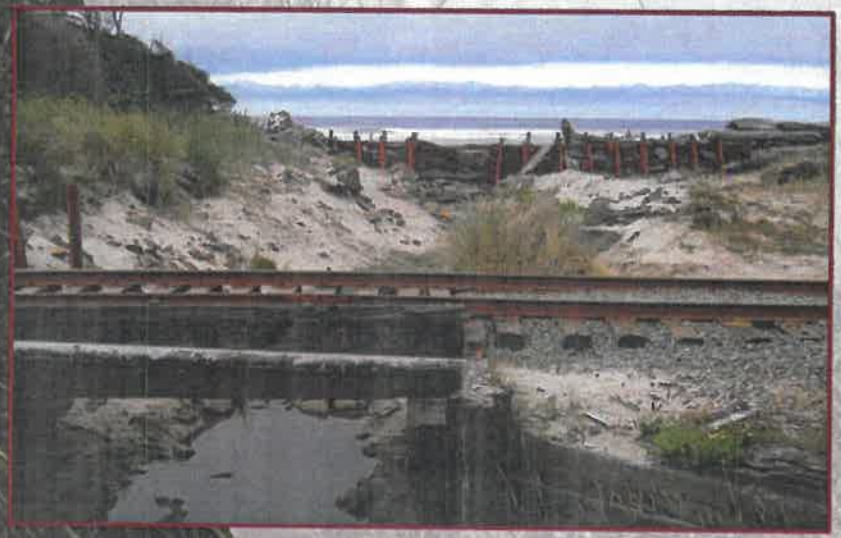
1. Extend Necarney Avenue
2. Repave and extend Miller Street (extensions for bicycle and pedestrian use)
3. Upgrade beach access points
4. Construct recreational trails around lakes
5. Restripe priority highway crossings
6. Install signal for emergency vehicles
7. Modify and add select parking
8. Improve pedestrian connectivity
9. Construct bus pullouts
10. Maintain critical railroad crossings
11. Improve Beach Drive intersection

1. Extend Necarney Avenue

- **WHAT:** Extend southwards from near NE 12th Avenue to Timberlake near N 3rd Avenue

- **WHY:** Once extended, Necarney Avenue would provide an alternate, parallel north-south route to US 101 for local vehicles, bicyclists, and pedestrians

2. Repave and Extend Miller Street



- **WHAT:**

  (1) Reconstruct existing portions of Miller

  (2) Extend Miller for bike/peds south to Minnehaha across
  McMillan Creek
  Spring Creek
  Lake Lytle

  (3) Extend north to Manhattan Beach as a pedestrian pathway

- **WHY:** Provide a continuous, north-south route for bicyclists and pedestrians throughout Rockaway Beach, from Manhattan Beach at the north to the Spring Lake Cabins at the south

3. Upgrade Beach Access Points

- **WHAT:** Upgrade signage at beach access points and city streets, and improve key access points in areas that are difficult

- **WHY:** Encourage use of the beach as a scenic north-south travel route by making it easier for visitors to understand the connection between areas along the beach and destinations in the downtown area

4. Construct Recreational Trails

- **WHAT:** Build trails or boardwalks around Lake Lytle and Crescent Lake
- **WHY:**
  1. Improve north-south pedestrian connectivity
  2. Recreational benefit

5. Restripe
Priority Highway Crossings

- **Priority Crossings**
  - N 11th Avenue
  - N 3rd Avenue
  - S 1st Avenue
  - S 2nd Avenue
  - S 3rd Avenue
  - S 6th Avenue
  - Washington Street
- **Other Important Crossings**
  - South of Neah-Kah-Nie School
  - N 19th Avenue
  - N 6th Avenue
  - S 4th Avenue

6. Install Signal for Emergency Vehicles

- **WHAT:** Emergency-activated traffic signal at S. 3rd Ave to allow emergency vehicles to turn onto US 101

- **WHY:** Decrease emergency response times, allow for safer highway entry for emergency vehicles

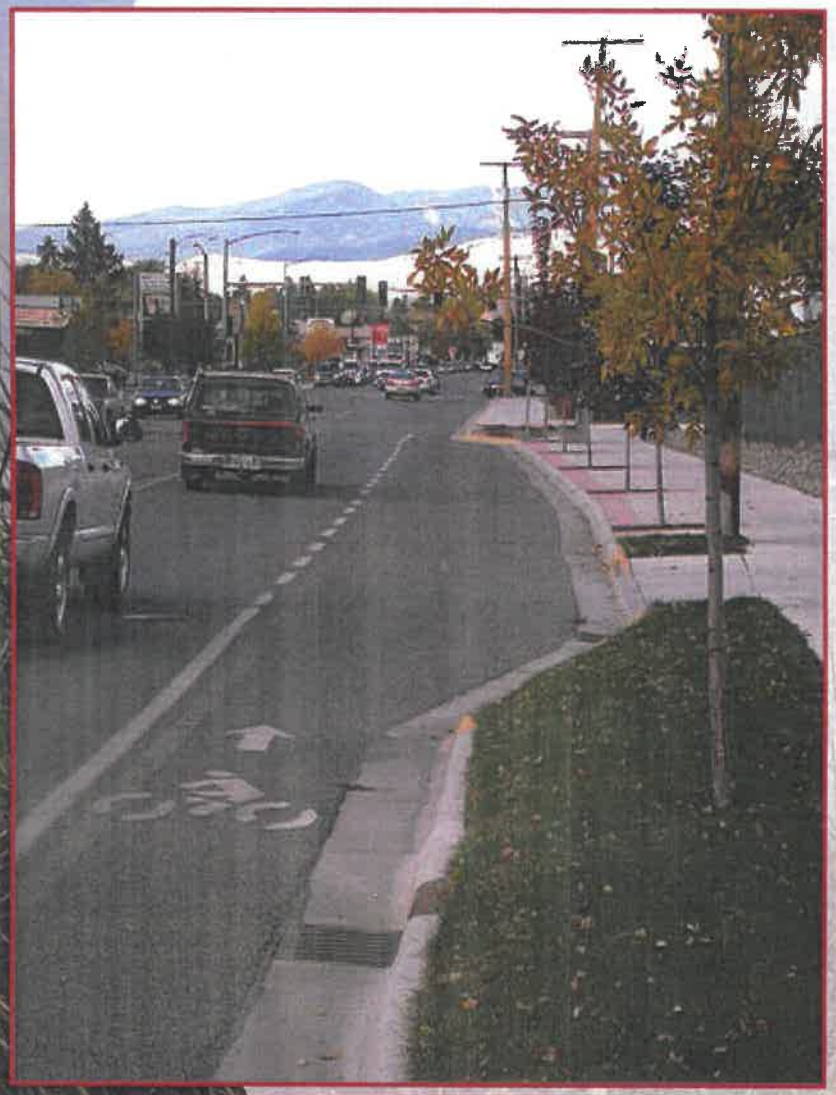
7. Modify and Add Select Parking

a. County parking lot at Section Line Street
b. Manhattan Beach Wayside
c. Downtown core
d. City parking lot
e. Zoning ordinance
f. Nature preserve

8. Improve Pedestrian Connectivity

1. PRIORITY 1: Continuous sidewalks N 6th Avenue to S 7th Avenue, east side of US 101
2. PRIORITY 2: Extend sidewalk south to Washington Street
3. Connection to Lake Lytle Trail
4. Connections at the South End

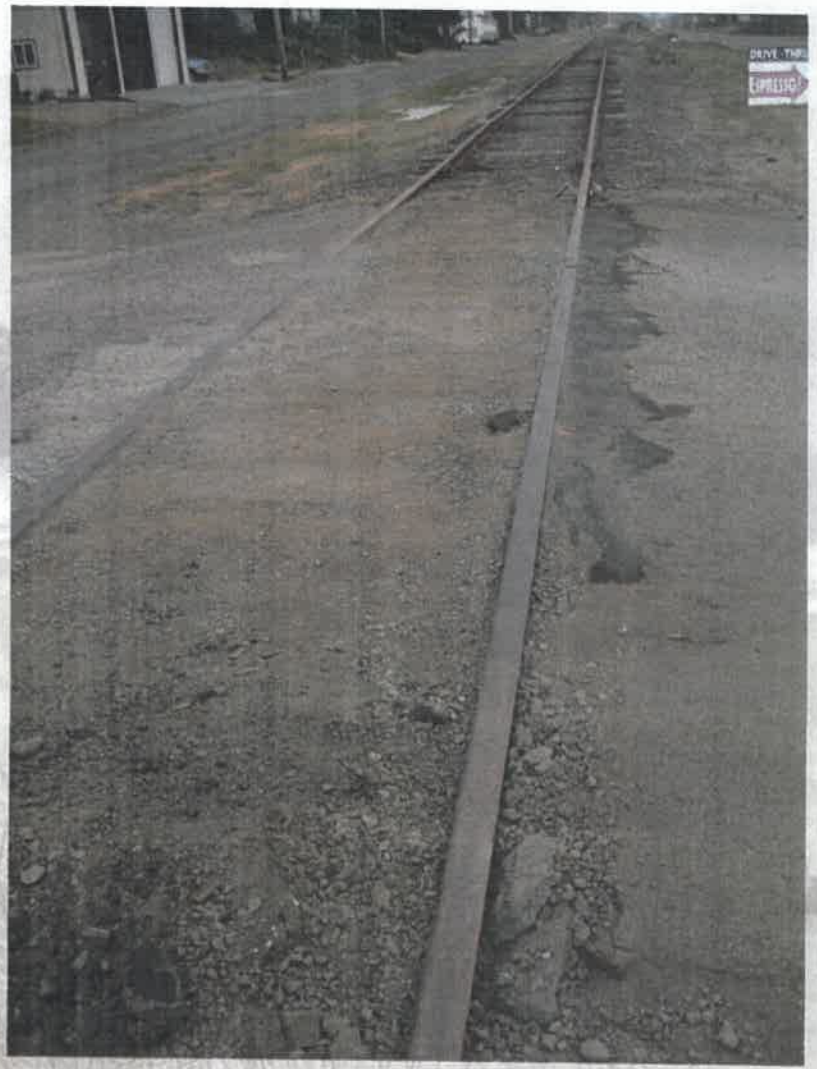
9. Construct Bus Pullouts



- **WHAT:** Build short sections of widened roadway sufficiently wide and long for buses at:
  - N 20th Avenue
  - N 12th Avenue
  - Washington Street
- **WHY:** Allows cars to pass buses at stops, and provides a sheltered waiting place for Tillamook County Transportation District and school bus riders

10. Maintain Critical Railroad Crossings

- Beach Drive
- N 23rd Avenue
- N 21st Avenue
- N 13th Avenue
- N 11th Avenue
- N 6th Avenue
- N 3rd Avenue
- S 1st Avenue
- S 2nd Avenue
- S 3rd Avenue
- S 6th Avenue
- Washington Street



11. Improve Beach Drive Intersection

- **WHAT:** Build a southbound right-turn lane on US 101 at Beach Street
- **WHY:** Provides more storage space for vehicles turning from the highway into the Nedonna Beach area

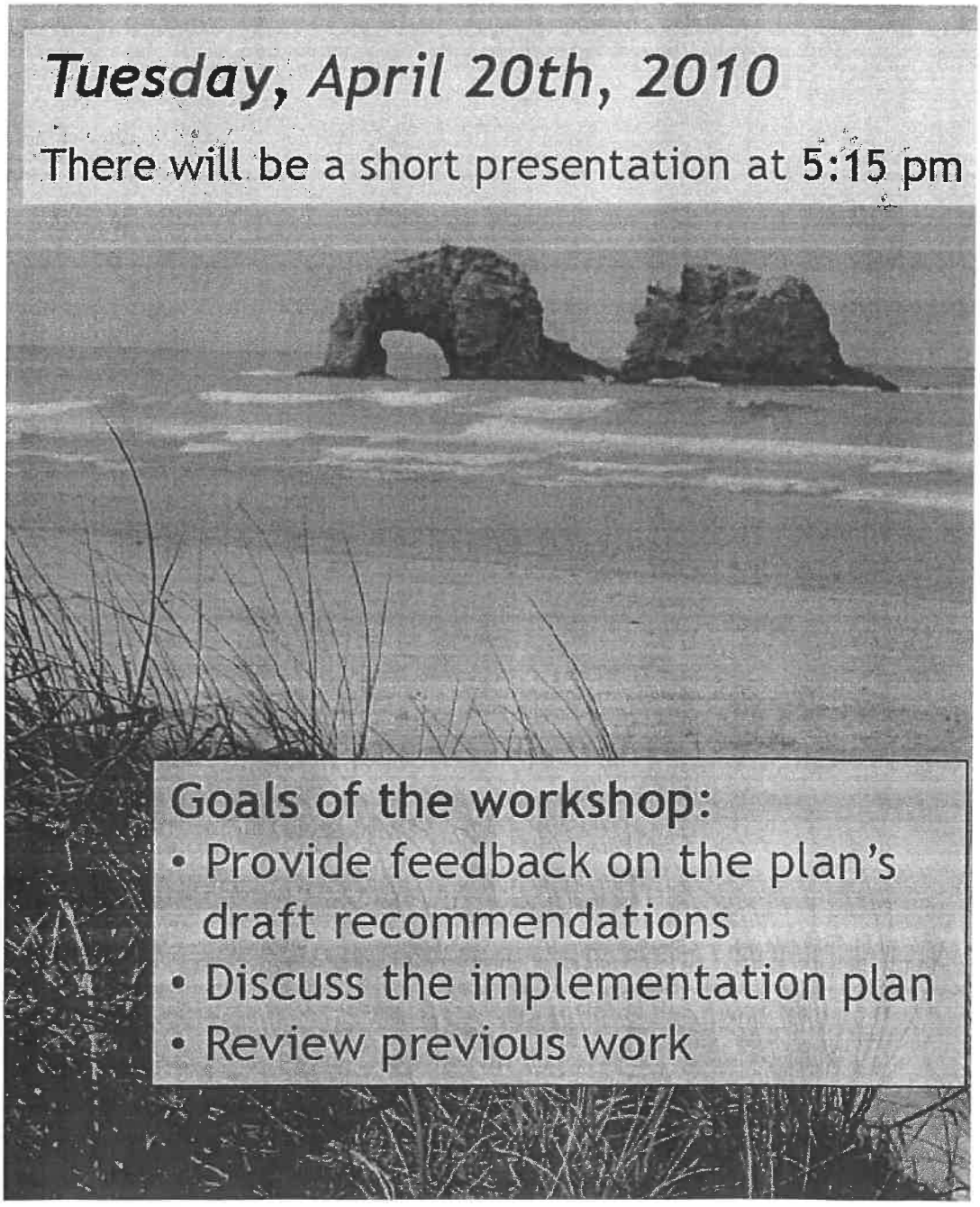

Thank You!

Rockaway Beach Transportation Plan

Public Open House #2

Tuesday, April 20th, 2010

There will be a short presentation at **5:15 pm**



Goals of the workshop:

- Provide feedback on the plan's draft recommendations
- Discuss the implementation plan
- Review previous work

Project Overview

The Rockaway Beach Transportation Plan identifies improvements needed to address current and future travel within the Rockaway Beach community and along US 101.

The focus of the study is to:

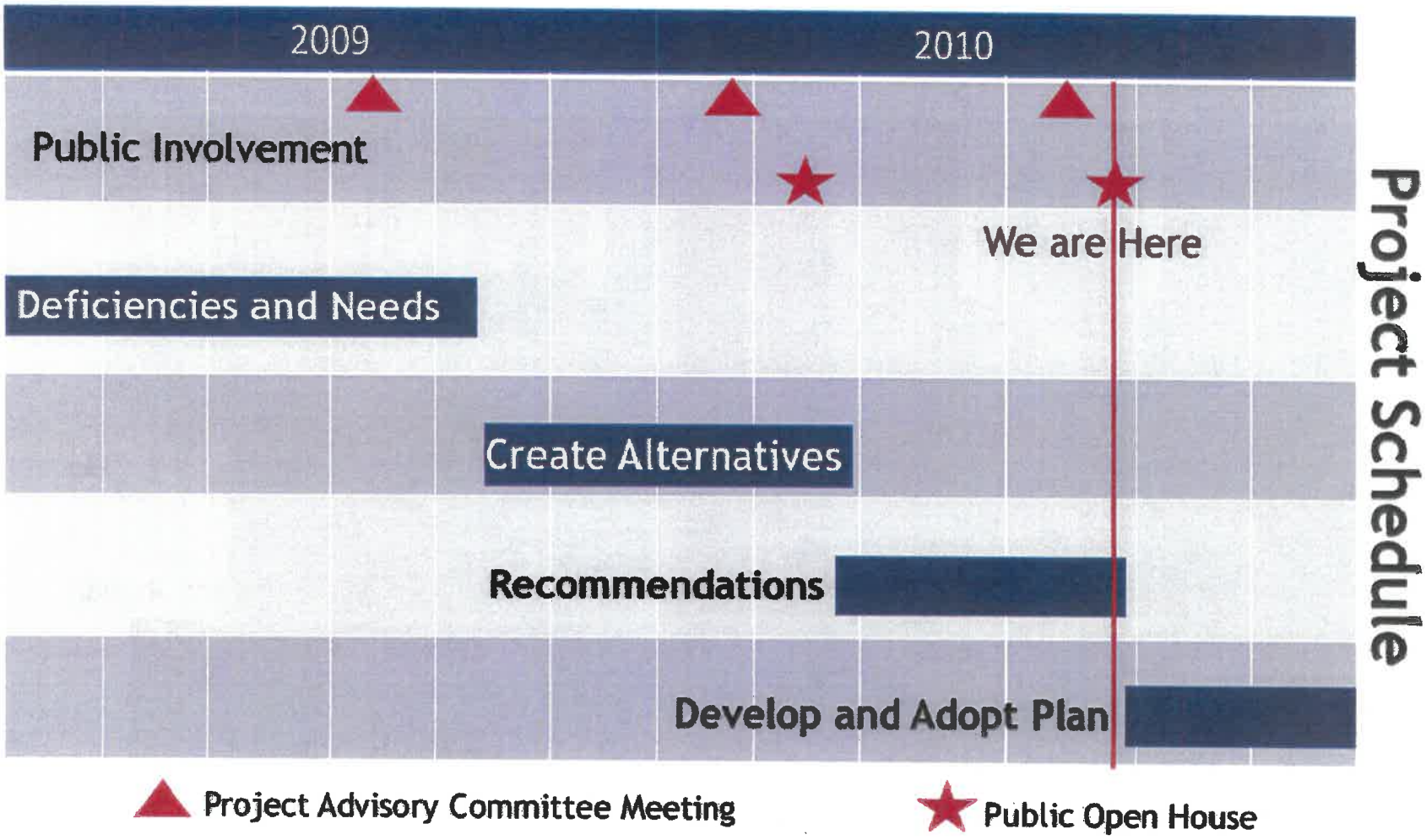
1. Improve north-south connectivity
2. Provide for safe crossings across US 101
3. Address parking needs for residents and visitors
4. Develop pedestrian and bicycle routes within the City
5. Identify crossing improvements for critical Port of Tillamook Bay railroad crossing locations

Who is Involved?

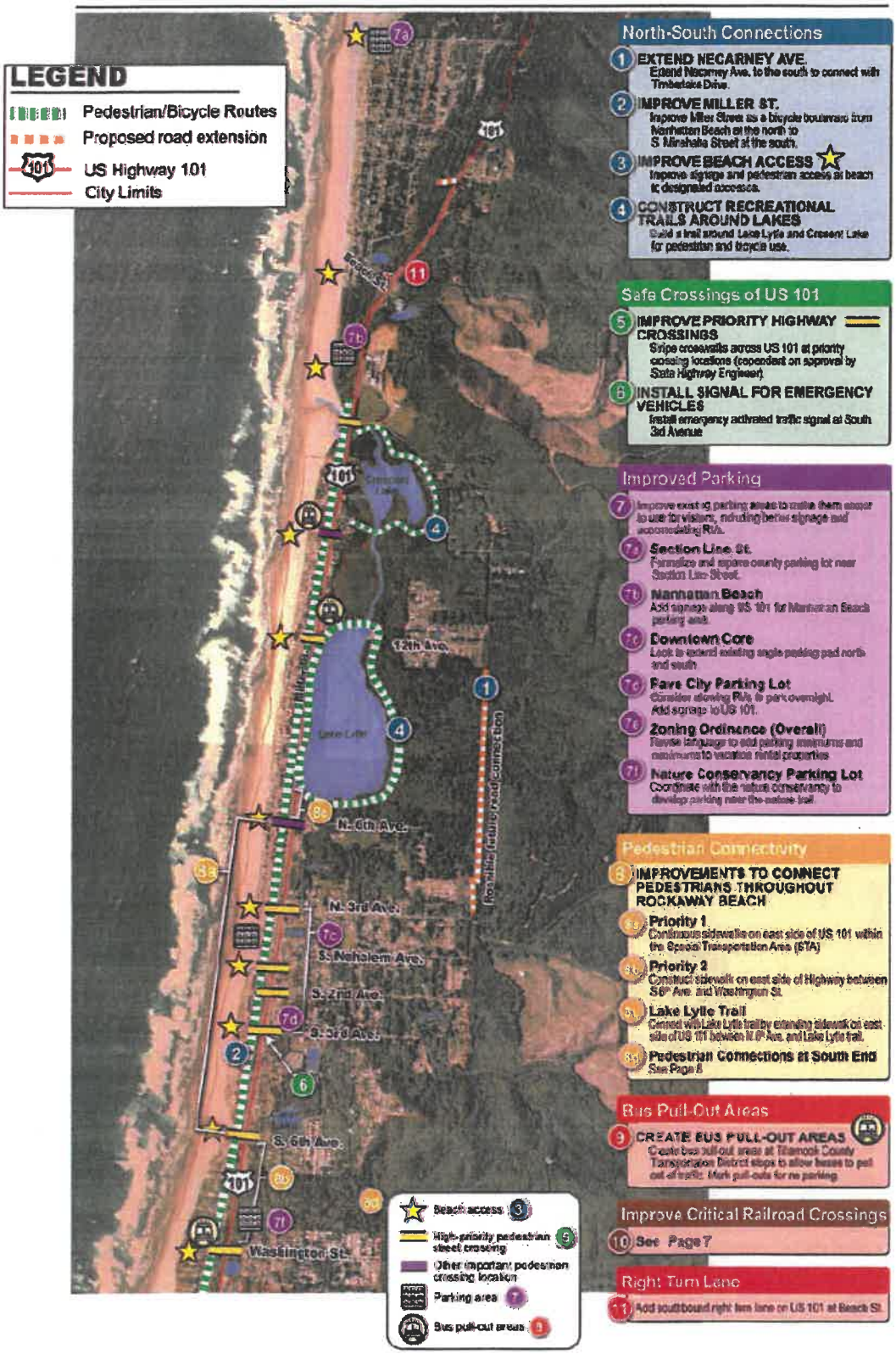
- City of Rockaway Beach
- The Oregon Department of Transportation
  - Highway Division
  - Rail Division
- Tillamook County
- Port of Tillamook Bay
- The Rockaway Beach Community

Key Findings

- Most north-south trips within Rockaway Beach use US 101 because there are **few alternate routes**
- The **railroad tracks** west of US 101 are close to the highway and present a crossing hazard
- There are **few bicycle and pedestrian facilities** throughout the City
- Many railroad crossings and beach accesses are **not ADA accessible** (Not accessible for everyone)
- There are **few RV parking spaces** in the City


2009
2010
Public Involvement
We are Here
Deficiencies and Needs
Create Alternatives
Recommendations
Develop and Adopt Plan
Project Advisory Committee Meeting
Public Open House
Project Schedule

Draft Project Recommendations



North-South Connections

1. **EXTEND NECARNEY AVE.**
   Extend Necarney Ave. to the south to connect with Timberlake Drive.
2. **IMPROVE MILLER ST.**
   Improve Miller Street as a bicycle boulevard from Manhattan Beach at the north to S. Minshaha Street at the south.
3. **IMPROVE BEACH ACCESS** ★
   Improve signage and pedestrian access at beach at designated accesses.
4. **CONSTRUCT RECREATIONAL TRAILS AROUND LAKES**
   Build a trail around Lake Lytle and Crescent Lake for pedestrian and bicycle use.

Safe Crossings of US 101

5. **IMPROVE PRIORITY HIGHWAY CROSSINGS**
   Stripe crosswalks across US 101 at priority crossing locations (dependent on approval by State Highway Engineer).
6. **INSTALL SIGNAL FOR EMERGENCY VEHICLES**
   Install emergency activated traffic signal at South 3rd Avenue

Improved Parking

7. Improve existing parking areas to make them easier to use for visitors, including better signage and accommodating RVs.
   - 7a **Section Line St.** Formalize and expand county parking lot near Section Line Street.
   - 7b **Manhattan Beach** Add signage along US 101 for Manhattan Beach parking area.
   - 7c **Downtown Core** Look to extend existing angle parking east north and south
   - 7d **Pave City Parking Lot** Consider allowing RVs to park overnight. Add signage to US 101.
   - 7e **Zoning Ordinance (Overall)** Revise language to add parking minimums and requirements to vacation rental properties
   - 7f **Nature Conservancy Parking Lot** Coordinate with the nature conservancy to develop parking near the nature trail

Pedestrian Connectivity

8. **IMPROVEMENTS TO CONNECT PEDESTRIANS THROUGHOUT ROCKAWAY BEACH**
   - 8a **Priority 1** Continuous sidewalk on east side of US 101 within the Special Transportation Area (STA)
   - 8b **Priority 2** Construct sidewalk on east side of Highway between S 6th Ave. and Washington St.
   - 8c **Lake Lytle Trail** Connect with Lake Lytle trail by extending sidewalk on east side of US 101 between N 6th Ave. and Lake Lytle trail.
   - 8d **Pedestrian Connections at South End** See Page 8

Bus Pull-Out Areas

9. **CREATE BUS PULL-OUT AREAS**
   Create bus pull-out areas at Tillamook County Transportation District stops to allow buses to pull out of traffic. Mark pull-outs for no parking.

Improve Critical Railroad Crossings

10. See Page 7

Right Turn Lane

11. Add southbound right turn lane on US 101 at Beach St.

Process to Improve and/or Consolidate Railroad Crossings

STEP 1 - IMPROVE "CRITICAL" CROSSINGS

a. Prioritize the critical crossings

b. Identify improvements needed for critical crossings to be adequately smooth for:
- cars
- bicycles
- wheelchairs

STEP 2 - MONITOR USE

a. How well do upgraded crossings work for users?

b. Are unimproved crossings problematic for users?

STEP 3 - HOLD A PUBLIC PROCESS TO CONSIDER CROSSING CONSOLIDATION

a. Discuss with community.

b. Discuss with railroads and City.

c. Consider criteria listed below for consolidating crossings.

Pedestrian Options South of Downtown

Option A: Sidewalk

Connect the Nature Preserve area with a sidewalk on east side of US 101 to Downtown Rockaway Beach.

Option B: Trail into center of Nature Preserve property

Nature preserve path - interior to parking area only.

Option C: Trails connecting neighborhood to Nature Preserve property

Pedestrian paths to Nature Preserve path connecting Washington Street to downtown via paths.

Option D: Extending Juniper Street

Extend Juniper St. as a pedestrian path connecting Washington Street to downtown via path.

LEGEND

- Sidewalk
- Future parking area
- Nature Preserve path (assumed)
- Pedestrian path (locations approximate)

Notes

Next Steps

May/June - Prepare the Rockaway Beach Transportation Plan

June - City Council and Planning Commission Adoption

For more information:

All material presented tonight will be available on our website at **www.rockawaybeachplan.com.** Please visit our site for more information about the project and to read work products completed to date.

You can also give us a call or send us a letter with specific questions or comments at:

City of Rockaway Beach
c/o Terri Michel
PO Box 5
Rockaway Beach, OR 97136
(503) 355-2291

Thank you. We look forward to your participation in the City adoption process!

Comment Form

Rockaway Beach Transportation Plan

Open House #2 – April 20, 2010

Welcome! Tonight's meeting is designed to:

1. Get your feedback on draft project recommendations
2. Discuss priority and phasing of projects

This evening we have presented draft recommendations that are intended to improve connectivity, circulation, and safety throughout Rockaway Beach. We would like your feedback on these projects. Please choose one of the boxes for each of the recommendations.

Recommendation	Like	Neutral/ No opinion	Don't like
1. Extend Necarney Street	☐	☐	☐
2. Improve Miller Street – Bicycle/Pedestrian path	☐	☐	☐
3. Improve Beach Access	☐	☐	☐
4. Construct Recreational Trails around Lakes	☐	☐	☐
5. Improve Priority Highway Crossings	☐	☐	☐
6. Install Signal for Emergency vehicles	☐	☐	☐
7a. Improve Section Line Street Lot	☐	☐	☐
7b. Add signage for Manhattan Beach	☐	☐	☐
7c. Extend Parking pod in downtown core	☐	☐	☐
7d. Pave City Parking Lot	☐	☐	☐
7e. Revise Zoning ordinance with minimum and maximum parking	☐	☐	☐
7f. Create Nature Preserve Parking lot	☐	☐	☐
8a. Continuous sidewalks on east side of US 101 between N 6th and S 7th	☐	☐	☐
8b. Sidewalks on east side of US 101 between S 6th and Washington	☐	☐	☐
8c. Connect Lake Lytle trail with sidewalk at N 6th	☐	☐	☐
8d. Pedestrian connections near Nature Preserve	☐	☐	☐
9. Create Bus Pull-out areas	☐	☐	☐
10. Improve critical railroad crossings	☐	☐	☐
11. Add right turn lane to US 101 at Beach Street	☐	☐	☐

PLEASE TURN OVER

Of the list above, which three recommendations do you think are the most important?

1. _____

2. _____

3. _____

Of the list above, which three recommendations do you think should be implemented first?

1. _____

2. _____

3. _____

Do you have any concerns with any recommendations that are listed? If so, what are they?

_____

_____

_____

Please add any other comments here:

_____

_____

_____

_____

Name: _____

Address: _____ City/Zip: _____

Email: _____

Would you like to be added to the project mailing list? ☐ Yes ☐ No

How did you hear about this meeting?

☐ Newspaper ☐ Project Flier ☐ Project Website ☐ Word of Mouth ☐ Other

(please describe): _____

Please tell us a little about yourself:

Do you live in: ☐ Rockaway Beach full-time? ☐ Elsewhere in Tillamook County?
☐ Part time in Rockaway Beach? ☐ Other? _____

Thank you for your feedback. Please fill out this comment form and give it to a staff member, put it in the comment box, or mail to:

Terri Michel
City of Rockaway Beach, PO Box 5
Rockaway Beach, OR 97136

Rockaway Beach Transportation Plan
Open House #2 Summary

Tuesday, April 20, 2010
5:00-7:00 p.m.
Rockaway Beach City Hall Civic Center

This document provides a summary of the Rockaway Beach Transportation Plan's second open house, held April 20th at Rockaway Beach City Hall. The purpose of this open house was to present and solicit feedback on draft recommendations and discuss priority and implementation. Approximately 25 people attended the meeting.

The format of the open house included a formal presentation followed by a large group question and answer period during the first hour of the meeting, and then an informal open house format for the second hour of the meeting. This provided a forum for community members to hear about the draft recommendations and ask questions of City, Department of Land Conservation and Development (DLCD), and members of the consultant team.

The Open House displays were organized into five areas:

- ***Welcome and sign in*** – a staff person at this station explained the format of the open house and distributed an informational handout describing the project background and draft recommendations.

- ***Project Overview*** – boards at this station included a project overview, goals, study area, project schedule, and who is involved.

- ***Key Findings*** – this station contained an overview display board describing current and future conditions and deficiencies within Rockaway Beach.

Example of Project Displays at the Open House

- ***Draft Recommendations*** – this station contained three boards showing draft recommendations including railroad crossings, and pedestrian connections at the south end. It also provided an interactive display where community members were asked to prioritize recommendations, and provide opinions on recommendations to be constructed first.

- *Next Steps* – this station described how comments from the public would be incorporated in the plan, and the adoption process.

Presentation with Question and Answer

The project team described the draft recommendations in a 20 minute presentation towards the beginning of the Open House. The presentation described the project timeline and the draft recommendations. Attendees had the opportunity to ask questions following the presentation. The following paragraphs summarize questions heard from the audience.

One homeowner asked about the responsibility of adjacent landowners to pay for sidewalk construction along US 101, and who has liability for accidents on the sidewalks.

Potential funding sources are being explored for each recommendation, and will be included in the transportation plan. Sidewalks along US 101 would be in the state right-of-way and state modernization funds could be used to fund sidewalks and other projects along US 101. Another attendee noted how important having an adopted before the city and ODOT can start to look for funding.

Another attendee noted that in the summer it is hard to cross US101 from east to west in a vehicle.

One resident asked about the distance between the stop line and railroad tracks on Beach Street as he was concerned that cars back up over the tracks. The project team noted that the distance is 42 feet and no accidents have been documented at the intersection because the railroad is used only seasonally for recreational trips. The concern was documented, acknowledging that longer recreational vehicles and vehicles towing boats sometimes use this and other intersections.

Presentation Question and Answer Session

Another resident highlighted a concern about vehicles passing on US 101 near N 12th Ave. After traffic passes through the school zone southbound on US 101, drivers use the opportunity to pass slower vehicles before entering the lower speed zone. A couple of residents have noted that making a southbound left turn from N 12th Ave onto US 101 is dangerous due to possibility of fast moving passing vehicles. The north-south connectivity recommendations could relieve some pressure on the highway.

Another participant noted that a bus pull-out would be helpful at S 6th Ave because many children wait for school buses there.

Response to Recommendations

A comment form was included in the handout distributed to the attendees. Fourteen people filled out the comment form and handed them in at the open house. Most of those that responded were full-time Rockaway Beach residents, and most had heard of the meeting via word of mouth, had seen a flier, or found the information on the project website.

The following pages summarize comments from comment sheets submitted at the meeting, conversations with meeting attendees, and comments written on flip charts during the open house.

Attendees were asked to provide feedback on each of the recommendations presented in both the presentation and the meeting displays. Attendees were asked to indicate how they felt about each of the draft recommendations by indicating if they liked the recommendation, if they were neutral or had no opinion, or didn't like the recommendation.

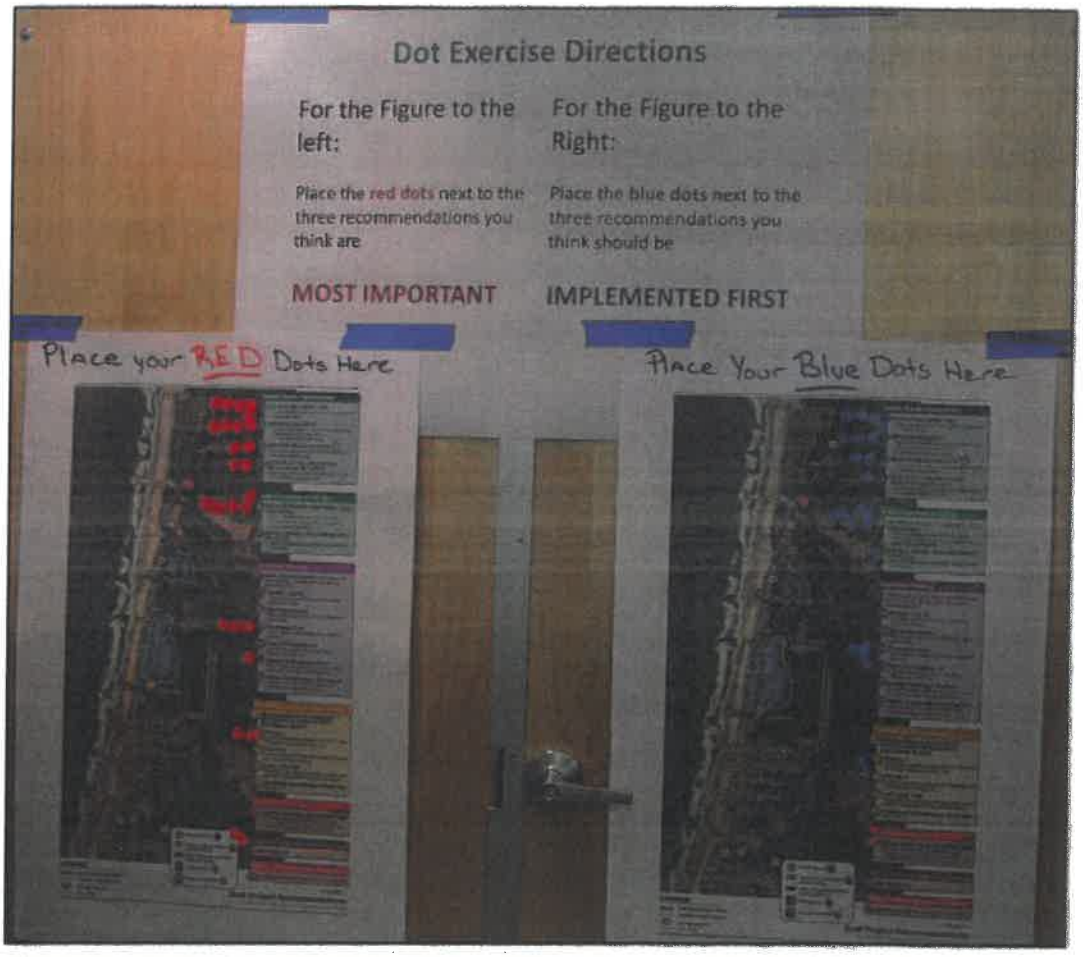
Improving critical railroad crossings received the most tallies for a recommendation that people liked, followed by improving Miller Street and improving highway crossings, while the parking ordinance minimums and maximums and pedestrian connections near the Nature Preserve received the most "don't like" tallies.

Open House Attendees filling out the Comment Form

Recommendation	Like	Neutral / No Opinion	Don't Like
1. Extend Necarney Street	7	1	2
2. Improve and Extend Miller Street	13	0	0
3. Improve Beach Access	11	1	0
4. Construct Recreational Trails around Lakes	10	2	1
5. Improve Priority Highway Crossings	12	1	0
6. Install Signal for Emergency Vehicles	11	2	0
7a. Improve Section Line Street Lot	5	7	0
7b. Add signage for Manhattan Beach	4	9	0
7c. Extend Parking Pod in Downtown Core	10	2	1
7 d. Pave City Parking Lot	8	3	1
7e. Revise Zoning Ordinance with Minimum and Maximum Parking	9	1	2
7f. Create Nature Preserver Parking Lot	5	7	1
8a. Continuous Sidewalks on East Side of US 101 between N 6th and S 7th	10	1	0
8b. Sidewalks on East Side of US 101 between S 6th and Washington	8	5	0
8c. Connect Lake Lytle Trail with Sidewalk at N 6th.	10	2	1
8d. Pedestrian Connections near the Nature Preserve	6	5	2
9. Create Bus Pull-out Areas	7	5	1
10. Improve Critical Railroad Crossings	14	0	0
11. Add Right Turn Lake to US 101 at Beach Street	6	6	1

Attendees were also asked to indicate the three recommendations that they thought were the most important, and the three recommendations that they would like to see implemented first. There were two opportunities to indicate both priorities: the comment form and two recommendations figures that attendees could place stickers next to the recommendations for each priority. The tally below shows the number of people that indicated which recommendations were the most important and which should be implemented first. There may be some double-counting as attendees could have filled out a comment form and placed a sticker on the recommendations map. The recommendation to improve Miller Street was chosen most often on the comment forms and the wall map as the most important, and the recommendation to implement first. The next two

recommendations that were chosen for both most important and implement first were to extend Necarney Street and improve priority highway crossings.



Prioritization Boards – Recommendations that are Most Important and recommendations to Implement First

Recommendation	Total tally from comment form and wall map	
	Most Important	Implement First
1. Extend Necarney Street	11.5	10.5
2. Improve and Extend Miller Street	17.5	17.5
3. Improve Beach Access	4	5
4. Construct Recreational Trails around Lakes	7	5
5. Improve Priority Highway Crossings	12	15
6. Install Signal for Emergency Vehicles	4	4
7. Improve Parking (general)	-	5
7a. Improve Section Line Street Lot	0	0
7b. Add signage for Manhattan Beach	1	0
7c. Extend Parking Pod in Downtown Core	3	0
7 d. Pave City Parking Lot	0	0
7e. Revise Zoning Ordinance with Minimum and Maximum Parking	1	0
7f. Create Nature Preserver Parking Lot	0	0
8. Pedestrian Connectivity (general)	-	1
8a. Continuous Sidewalks on East Side of US 101 between N 6th and S 7th	5	5
8b. Sidewalks on East Side of US 101 between S 6th and Washington	2	4
8c. Connect Lake Lytle Trail with Sidewalk at N 6th.	0	0
8d. Pedestrian Connections near Nature Preserve	0	0
9. Create Bus Pull-out Areas	0	0
10. Improve Critical Railroad Crossings	7	3
11. Add Right Turn Lake to US 101 at Beach Street	5	4

Concerns with the Recommendations

Attendees were asked if they had any concerns with the draft recommendations. The responses from the comment forms and information from conversations with attendees are below:

One person thought that the recreational trails around lakes are impractical due to private ownership and wetlands/riparian regulations.

Other attendees were concerned with speed along US 101, passing lanes, truck noise – specifically braking and accelerating noise, and bus stops. One person recommended extending the 30 mph speed zone south to Spring Lake and north of the high school, especially near the Washington Street bus stop. Another person recommended extending the no passing zone through the 30 mph zone and adding a bus pullout at S 6th Ave.

One attendee was concerned with the proposed sidewalk east of US 101 to Washington Street. They recommended that Miller Street be used for walking instead.

Three attendees commented on the nature preserve recommendation. Two people raised concerns about paths through the preserve.

One attendee was concerned about the Nedonna Beach railroad crossing - if improvements would require the crossing to be removed and/or replaced.

Finally, two attendees mentioned the cost of the recommendations and grants, one thought that they would be hard to find funding for, and the other wrote that the recommendations were good projects once funding could be identified.

Additional Comments

One additional comment included a request for the Nature Preserve Committee to be more involved in trail ideas at the south end.

Attendees at the Open House

APPENDIX B

TRANSPORTATION SYSTEM CONDITIONS, DEFICIENCIES, AND NEEDS

Appendix B: Transportation System Conditions, Deficiencies, and Needs

Rockaway Beach Transportation Plan: Transportation System Conditions, Deficiencies, and Needs

PREPARED FOR: Rockaway Beach Transportation Plan Project Management Team

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DATE: October 26, 2009

This section describes existing and future transportation conditions in the Rockaway Beach Transportation Plan project study area, focusing on deficiencies in existing transportation facilities, as well as concerns related to existing and future safety and congestion. This section is divided into four parts: a review of background data and documents, a transportation system inventory and existing conditions, a forecast of future conditions, and an identification of deficiencies and needs.

Background

The City of Rockaway Beach is in Tillamook County and is located on and bisected by US 101. The Port of Tillamook Bay Railroad runs parallel to the west side of the highway. The City has a permanent population of 1,375, but peak daily population can reach 5,000 in summer months. The housing in the City historically consists of 65 percent second homes, including some vacation rentals, and 35 percent residences of the permanent population.

The City is characterized by relatively flat topography on the western side, with hills in the eastern part of the city, interspersed with lakes and wetlands throughout. Additionally, most of the city lies in the Tsunami Hazard zone.

The portion of the project study area west of US 101 is densely developed with beachfront housing, hotels, and commercial development. This area is served by local roads that create over twenty intersections with US 101 in the project study area, with few traffic controls or turn lanes to or from the highway.

Since US 101 in the project study area is paralleled by the Port of Tillamook Bay Railroad, each road connecting the western portion of the project study area to US 101 must also cross the railroad tracks. The large number of closely-spaced intersections and railroad crossings, limited traffic controls and turn lanes, and high levels of traffic during tourist season combine to create potential safety hazards at US 101 intersections, impede pedestrian

crossings of US 101 and create traffic congestion on US 101 in the downtown area between North Third Street and South Third Street.

East of US 101, development is clustered in three areas: Twin Rocks to the south, central Rockaway Beach between North 6th Avenue and South 7th Avenue, and the area north of Lake Lytle accessed via North 12th Avenue. There is no local street connectivity between these three areas, forcing travelers to use US 101 for many local trips. The lack of north-south transportation routes also limits the ability to provide safe routes to Neah-Kah-Nie Schools, which serve grades 6-12.

The central portion of the City, between North 6th Avenue and South 7th Avenue, has been designated as a Special Transportation Area (STA) in the Oregon Highway Plan (OHP). The STA designation reflects the development pattern and use of this area, with buildings clustered close to the highway, a traditional street grid creating multiple intersections, and high levels of pedestrian use. The STA provides access to community activities, businesses and residences and accommodates pedestrian, bicycle and transit movement along and across the highway in a downtown.

Finally, while most of the project study area west of US 101 is served by multiple connections to the highway, the Nedonna Beach neighborhood, State of Oregon Manhattan Beach Wayside, and a Tillamook County Park are served by one connection to US 101 – Beach Street. The Nedonna Beach neighborhood contains approximately 200 dwelling units, and the Manhattan Beach Wayside provides parking and activities for recreational vehicles (RVs). A second emergency use access to US 101 has been tentatively approved.

Study Area

The project study area consists of the area within the City of Rockaway Beach city limits and urban growth boundary (UGB). The project study area is illustrated by the shaded area shown in Figure 1.

Review of Relevant Plans and Policies

Background data were gathered and applicable local, regional, and state documents were reviewed to gain an understanding of policy context, recent growth and development trends, the type and likely location of future growth, and transportation issues already identified in the project study area. The documents reviewed are:

- U.S. Highway 101 Conditions Report (2005)
- City of Rockaway Beach Comprehensive Plan (2007)
- City of Rockaway Beach Zoning Ordinance (1994)
- City of Rockaway Beach Subdivision Ordinance (1987)
- City of Rockaway Beach Downtown Transportation Plan (2003)
- Rockaway Beach Transportation Study: Highway and Railroad Improvement Project (1995)
- City Zoning Map (1987)

U.S. Highway 101 Conditions Report (2005)

The U.S. Highway 101 Conditions Report is a web-based tool located here: http://www.odot.state.or.us/conditionsreports/US101/segmentindex_county.htm.

The report has a variety of information including maps showing:

- **Highway Approaches** including the Average Daily Traffic (ADT), number of lanes, presence of medians, Speed Zone, spacing standards, commercial and private approaches, crashes, and the presence of guardrails
- **Facility Inventory** including the number of lanes, bike lanes, functional classification, Statewide Transportation Improvement Program (STIP) projects for both 2002-2005 and 2004-2007, on-street parking, and gravel and paved shoulder width
- **Existing Geometric Conditions** including number of lanes, vertical clearance and grade, lane, shoulder, and median width, and intersection analysis
- **Operations** including automatic traffic recording locations, volume to capacity (v/c) standards and ratios, ADT, ADT/capacity ratios, mainline capacity, signalized intersections, daily freight tonnage, and statewide highway classification
- **Management Systems** including bridge conditions, pavement condition, intelligent transportation system (ITS) device locations, bridge types, historic bridges and locations of Safety Priority Index System (SPIS) locations and categories
- **Land Use** showing general zoning types
- **Recreational Areas** showing national park or forest, state park or forest, local park or recreational areas, and golf courses
- **Safety** including crashes between 2000-2002, ADT, railroads, guardrails, statewide average crash rate, US 101 crash rate, and SPIS locations
- **Topographic** showing contours and elevations

The Conditions Report data have not been updated since 2005 and the most recent crash data and traffic volumes were gathered for this project's safety and operational analyses. The geometric information from the US 101 Conditions Report was used, with information verified and updated through a site visit in August 2009.

The segment of US 101 through the City of Rockaway Beach is classified as a Statewide Highway and a Scenic Byway, and there is a Special Transportation Area (STA) designation between N 6th and S 7th Avenues, between mileposts 50.38 and 51.42.

Further applicable information found in the US Conditions Report is reported under the Existing Conditions section of this memo.

City of Rockaway Beach Comprehensive Plan (2007)

The Comprehensive Plan establishes policies to allow the City of Rockaway Beach to be in compliance with Oregon Statewide Planning Goals. The comprehensive plan performs several functions:

- Governs city staff, the planning commission, and city council on development proposals
- Provides a capital improvement program on water, sewer, drainage, and street proposals for the budget committee and city council
- Suggests useful ideas for the enhancement of the city

- Establishes a land use planning process or procedure for making decisions, involving citizens and agencies in the process

In 2007 the *Rockaway Beach Urbanization Study* was published, with the following key findings:

- Expected growth would increase from 1,394 year-round residents in 2007 to 1,709 residents in 2027, an increase of 315 residents at an annual growth rate of 1.02 percent. Employment growth is expected to grow from 342 jobs to 419 jobs, an increase of 77 jobs at an average annual rate of 1.02 percent.
- Rockaway Beach has 162 buildable acres within the UGB, with 96 percent of the land available in the UGB zoned residential
- Rockaway Beach will need approximately 160 new dwelling units to accommodate planned population growth between 2007 and 2027. An average of 8 new units will be needed annually, with 24 gross buildable residential acres to accommodate new housing for residents. The buildable lands inventory indicates that the City has a surplus of approximately 57 residential acres.
- Rockaway Beach will need about 12 gross buildable acres of commercial land to meet planned employment needs. There is currently a shortfall of approximately five commercial acres. Land currently designated for residential use will need to be re-designated for commercial land.

Policies Relating to the Economy

Relevant policies include working with the local business community to strengthen the downtown commercial area, including upgrades to the appearance of the area, providing additional conveniently located off-street parking, and development of pedestrian-oriented environments by providing pedestrian amenities. Specifics include:

- The City will provide sufficient commercial land to allow for reasonable expansion of the community's businesses, and will work with the Tillamook Economic Development Committee to allow projects supportive of Rockaway Beach's economy are incorporated into the overall strategy.

- The City should amend the comprehensive and zoning maps to increase the supply of commercial land by approximately 4 acres, encourage commercial redevelopment of existing commercial areas, and require condominiums in commercially zoned areas to have ground floor commercial space to meet commercial retail and service land needs.

Wetlands and Riparian Corridors

The City will protect riparian vegetation, corridors, and locally significant wetlands.

Relevant policies include:

- Cooperate with the Department of Environmental Quality to ensure that standards and requirements are met
- Improve sanitary sewer system
- Refuse to permit uses which the Department of Environmental Quality determines could pollute or adversely affect the aquifer
- Encourage cluster development, especially in areas with steep slopes, or wetlands

- Cluster developments near Lake Lytle, Crescent Lake and Spring Lake to prevent filling of wetlands.

Energy Considerations

Rockaway Beach is dependant upon transportation for the tourist and resort economy. Most visitors reach the City by driving, and improved facilities for pedestrians and cyclists and expanded bus service could reduce reliance on the auto within the City.

Policies and actions include:

- Cluster development – dense development in a smaller amount of space to preserve natural and sensitive areas.
- Land use planning to maintain an identifiable downtown commercial core concentrates activity by encouraging foot traffic rather than driving
- Infill development
- Providing sidewalks and centralized parking facilities in the downtown and other areas by encouraging people to walk to several destinations

Development Suitability

There are physical limitations to development within the City, and most undeveloped land in the area suffers substantial physical limitations to building suitability. Four areas present problems to development: 1) beaches, 2) dunes, 3) wetlands and flood areas, and 4) steep slopes.

Land Use Categories

The plan establishes high density limits (generally up to 24 units per acre) in the developed areas. There is little land in the City that does not provide development limitations, and developable areas should be more intensively used. Some relevant land use areas are described below.

Manhattan Residential/Resort Area

The area is characterized by poor traffic circulation in the northern part west of the railroad tracks. There are no north-south streets throughout much of this area, and the streets that exist are not capable of handling large amounts of traffic. Expansion of existing motels or other tourist facilities should be planned to provide sufficient parking and circulation space.

Saltair Creek Residential/Resort Area (R/R)

Saltair Creek is the area from S 3rd Avenue to Alder Street west of US 101. The streets are very narrow, and cannot accommodate large traffic volumes. The area should remain primarily resort residential, with a density limitation of 24 dwelling units per acre. Motels should be allowed conditionally with attention paid to vehicle access on the narrow streets. Off-street parking is especially important.

Transportation Element

The size, geography, and location of Rockaway Beach limits transportation circulation. According to the Comprehensive Plan, the automobile is the predominant form of transportation but pedestrian and bicycle traffic, especially in the summer tourist season, must be considered an important part of the overall transportation system. There is limited public transportation available in Rockaway Beach. Daily commercial bus service

approximately every 2 hours six times a day connects Rockaway Beach with other cities, and a bus system serves needs of the elderly.

The Comprehensive Plan cites the Port of Tillamook Bay rail line that extends through the City; however it states that there are no rail freight or passenger facilities in Rockaway Beach. A tourist train actually does serve the area during summer months, which is described later in this memo.

Circulation

- Pedestrian and bicycle needs should be considered in all proposed street construction and in the improvement of existing rights-of-way, in order to increase safety and encourage the use of non-automobile transportation
- Street and road construction should include provisions for drainage unless it is an area to be served by the City drainage system. Drainage in steep areas should not introduce storm runoff into the ground (except in culverts) and thereby increase the danger of landslides. Culverts shall be included in road projects where heavy runoff could cause erosion or slumping of the road bed.
- In areas of steep topography or other unusual circumstances, the planning commission may waive the street standards in order to minimize slide or other hazards, especially the street width requirements. (On-street parking should be banned where necessary, with additional off-street parking required to compensate for it.)
- The City will cooperate with the State Department of Transportation in developing any major improvements to US 101. Any major improvements shall give consideration to the following:

    A. The enhancement of vehicular and pedestrian access across US 101
    B. The maintenance or "improvement of parking facilities along US 101
    C. The provision of appropriate landscaping
    D. The minimization of short-term disruptions of downtown business and an enhancement of the long range viability of the downtown area

Parking

Parking needs in Rockaway Beach are most prominent during the summer tourist season. A wayside parking lot provides access to the beach and downtown, but according to the Comprehensive Plan parking problems persist in central Rockaway Beach. The City has established a long narrow parking lot between US 101 and the Southern Pacific railroad tracks between Nehalem Avenue and S. 3rd Avenue separated from the highway by a curb.

Special Transportation Needs

Special transportation needs cited by the Comprehensive Plan include:

- Sidewalks should be constructed along all heavily traveled streets, including US 101. The state Department of Transportation should be encouraged to provide a sidewalk on the east side of the highway from S. 3rd Avenue to S. Stark Street.
- Pedestrian crosswalks across US 101 should be clearly marked and defined with devices such as pedestrian refuges and curbside islands.
- Beach access should be made as easy as possible for all residents and visitors. The City should construct or maintain accesses where necessary to insure that persons of limited mobility, such as elderly and handicapped persons, can get to the beach.

- The City should consider placing wheelchair ramps at key points in the downtown area. These ramped curbs would also be of value to people using walkers and those with poor walking ability.
- The Tillamook County special bus service for the elderly program should be well-publicized. At present it serves Rockaway Beach with regular stops. The possibility of constructing stop shelters should be investigated. These could also be used by school children and passengers on the commercial inter-city buses.

City of Rockaway Beach Zoning Ordinance (1994)

According to the Zoning Ordinance, its purpose is to encourage the orderly development of the City; promote appropriate land uses; conserve and stabilize property values; provide adequate light and air; lessen congestion; prevent undue concentration of population; facilitate adequate provisions for community facilities such as water supply and sewerage; protect and enhance the appearances of the City; and in general promote public health, safety, convenience, and general welfare.

Section 2.020 Classification of Zones

The following zones are located within Rockaway Beach:

- Single Family (R-1)
- Residential (R-2, R-3)
- Resort Residential (R-R)
- Special Residential Resort (SRR)
- Commercial (C-1)
- Waterfront Development (WD)
- Special Area Wetland (SA)
- Residential Manufactured Dwellings (RMD)

There are also overlay districts with special provisions that modify the base zoning district:

- Overlay Zone
- Flood Hazard Overlay (FHO)
- Hazard Overlay (HO)
- Wetland Notification (WO)

Section 2.040

The City of Rockaway Beach Zoning Map dated February 1992, is adopted as the official zoning map of the City of Rockaway Beach. This map is included as Figure 2.

Article 3. Use Zones.

Section 3.010. Single Family Zone (R-1)

The R-1 zone is for single family dwellings, including modular housing and manufactured homes. Minimum lot size is 3,500 square feet for existing lots and new plots have a minimum lot size of 5,000 square feet. Duplexes are also allowed on the same sized lots. There are a number of conditional uses allowed, and the standards are described in this section.

Section 3.020. Residential Zone (R-2)

The R-2 zone allows single family dwellings, including modular housing and manufactured homes and duplexes. Minimum duplex lot size is 3,500 square feet for existing lots; for new lots, a duplex is permitted on 5,000 square feet. The density of multifamily dwellings is 1,750 square feet of lot area per unit. The minimum lot size of a multifamily dwelling is 5,250 square feet.

There are a number of conditional uses allowed, and the standards are described in this section. Multifamily structures are contingent upon the impact on local traffic, and if there is adequate space provided for parking maneuvering.

Section 3.030. Residential/Resort Zone (R-R)

R-R zones allow for single family dwellings, duplexes and multifamily dwellings, motels, hotels including meeting rooms or convention centers. Minimum duplex lot size is 3,500 square feet for existing lots; for new lots, a duplex is permitted on 5,000 square feet. Multifamily dwellings and condominiums are allowed on 1,750 square feet of lot area per unit. The minimum lot size for a multifamily dwelling is 5,250 square feet. The maximum density of motels, hotels, and timeshare condominiums is one unit per 1,000 square feet of site area.

There are a number of conditional uses allowed, and the standards are described in this section.

Section 3.040. Special Residential/Resort Zone (S/R/R)

SRR zones allow for single family dwellings, duplexes and multifamily units, a bed and breakfast, resort-type commercial establishments such as gift shops, restaurants and other services, including gas stations are also permitted. The standards in the Special Residential/Resort are the same as the R-R zone. There are a number of conditional uses allowed.

Section 3.050. Commercial Zone (C-1)

C-1 zones allow for retail activities, services, amusement activities, and business and professional services. Automobile service stations shall have a minimum lot size of 10,000 square feet, with a minimum width of 100 feet. There are a number of conditional uses allowed, and the standards are described in this section.

Section 3.080. Special Area Wetlands (SA)

The purpose of the SA zone is to conserve significant freshwater wetlands and the shoreland and aquatic environment of Rockaway Beach's lakes. Permitted uses include low intensity recreation, passive restoration measures, and vegetative shoreline stabilization. There are a number of conditional uses allowed, and the standards are described in this section.

Section 3.090. Lower Density Residential Zone (R-3)

Uses allowed in the R-3 zone include single family dwellings, including modular housing and manufactures homes, duplexes, and multifamily homes. Minimum lot size in an R-3 zone are 5,000 square feet where sanitary sewer service is available, or will be made available, except as provided in a Planned Unit Development with residential structures, otherwise, minimum lot size is 7,000 square feet. Density limits are 9 dwellings per acre, except in a Planned Unit Development involving residential structures.

There are a number of conditional uses allowed, and the standards are described in this section.

Section 3.091. Residential Manufactured Dwelling Zone - RMD Zone

Residential Manufactured Dwelling Zone includes single-family dwellings including modular and manufactured homes and duplexes. The minimum lot size is 3,500 square feet for existing lots. New lots have a minimum size of 5,000 square feet. Minimum duplex lot size is 3,500 square feet for existing lots; for new lots, a duplex is permitted on 5,000 square feet.

Section 3.092. Flood Hazard Overlay Zone - FHO Zone

The purpose of the Flood Hazard Overlay Zone is to regulate the use of areas subject to periodic flooding, to promote public health, safety and general welfare, and to minimize public and private losses due to flood conditions. The specific objectives of this zone are:

> *To combine with the present zoning requirements necessary restrictions for the known flood hazard areas to promote the general health, welfare, and safety of the City. To prevent certain structures and land uses in areas unsuitable for human habitation because of the danger of flooding, unsanitary conditions, or other hazards. To minimize the need for rescue and relief efforts associated with flooding. Maintain a stable tax base by providing for sound use and development in flood-prone areas and to minimize prolonged business interruptions. To minimize damage to public facilities and utilities located in flood hazard areas. To notify potential home and business buyers are that property is in a flood area. Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.*

Article 4. Supplementary Provisions.

Section 4.010. Access Requirement. Every lot shall abut a street or alley for at least 25 feet, or have vehicular access by means of a recorded easement.

Section 4.020. Clear Vision Areas. A clear vision area is maintained on the corners of all property at the intersection of two streets or a street and a railroad.

Section 4.060. Off-Street Parking and Off-Street Loading Requirements For new structures or an enlarged use of an existing structure, off-street parking spaces, loading spaces, and access shall be provided as in this section, unless greater requirements are established.

The Planning Commission determines the amount of required off-street parking if the use is not specifically listed in the zoning ordinance. When multiple uses occur in a single building or parcel, the total parking requirements are summed for each of the uses, except where the Planning Commission determines otherwise and reduces the required parking. Required parking spaces are located on the same lot as the dwelling, or 200 feet or less from the building or use they serve.

Uses located on US 101 shall have parking facilities that do not require vehicles to back into the highway right-of-way.

Retail and service connected businesses (excluding residences, hotels, motels, and other transient lodging) located in the C-1 Zone, is exempt from off-street parking requirements. Off-street parking requirements are discussed in detail for different uses within the code.

Section 4.065. Street and Drainage Standards. Owners or developers will comply with the City's street and drainage standards:

- Street and road construction provide for drainage and will not create a drainage problem for other property owners.
- All driveways or entrances must include a culvert at the expense of the owner of sufficient size to handle drainage and storm runoff.
- Streets shall be constructed to meet all applicable City standards.
- The Public Works Superintendent may waive or reduce paving requirements where he or she determines that proposed development and future use of a street right of way will be limited by topography, growth potential or other limiting factors.

Section 4.140. Maintenance of Access The City shall review proposals for the vacation of public easements or rights-of-way which provide access to or are along ocean beaches or lakes. The City shall review proposals for the sale, exchange, or transfer of public ownership which provides access to ocean beaches or lakes. Existing public ownership rights-of-way and similar public easements which provide access to or along ocean beaches or lakes shall be retained or replaced, if they are sold, exchanged or transferred. Rights-of-way may be vacated to permit redevelopment of shoreland areas provided public access across the affected site is retained.

Section 10.040. Planned Unit Development Standards

Density. The density of a planned development shall not exceed the density of the parent zone, except as more restrictive regulations may be prescribed as a condition of the Planned

Unit Development (PUD) permit. When calculating density, the gross area is used (total area including street dedications). Areas of public uses may be included in calculating allowable density.

Off-Street Parking. Parking spaces shall conform to all provisions of this ordinance, except that the Planning Commission may authorize exceptions for unusual circumstances.

Streets and Roads. Necessary streets and roads within the PUD shall be dedicated to the public and constructed to City standards or shall be private roads maintained by an owner's association and constructed to standards determined by the Planning Commission and City Engineer.

City of Rockaway Beach Subdivision Ordinance (1987)

The purpose of this ordinance is to enact subdivision and land partitioning regulations for the City which will provide for better living conditions within new land divisions; assure necessary streets, open space, utilities and public areas and provide for their installation or improvement; enhance and secure property values in land divisions and adjacent land; simplify and make land descriptions more certain and in general to promote the health, safety, convenience and general welfare of the people of Rockaway Beach.

Major Land Partition

(Includes Creation of a Street)

Section 18. MINIMUM STANDARDS. The Planning Commission may approve the creation of a street to be established by deed without full compliance with the applicable regulations to subdivisions if any of the following conditions exist:

- The establishment of the public street is initiated by the City Council or Board of County Commissioners and is essential for the purpose of general traffic circulation, and the partitioning of land is an incidental effect rather than the primary objective of the street.
- The tract in which the street is to be dedicated is a major partition within a solitary ownership situation either of not over one acre or of such size and characteristics for more than three dwelling units.
- The street is the only reasonable method by which the rear portion of an extraordinarily deep land parcel of a size to warrant partitioning into not over two parcels may be provided with access.

Section 25. INFORMATION ON FINAL PARTITION PLAT.

- The name and width of the streets being dedicated, the width of any existing right-of-way, and the width on each side of the center line. For streets on curvature, curve data shall be based on the street center line. In addition to the center line dimensions, the radius and central angle shall be indicated.

Section 33. Streets.

(1) The location, width and grade of streets shall be considered in their relation to existing and planned streets, to topographical conditions, to public convenience and safety, and to the proposed land use to be served by the streets. The street system shall assure an adequate traffic circulation system with intersection angles, grades, tangents and curves appropriate for the traffic to be carried considering the terrain.

(2) Street Widths. Street widths shall conform to City standards, except where topography and the probable future traffic development justify a narrower width. Increased widths may be required where streets are to serve commercial property, or where probable traffic conditions warrant. Approval or determination of street and area classification shall be made by the Planning Commission considering the zoning designations imposed by the Comprehensive Plan and the Development Code, the present use and development of the property in the area, the prospective development based upon public needs and trends, and public safety and welfare.

(3) Alignment. As far as is practical, streets other than minor streets shall be in alignment with existing streets by continuations of the center lines. Staggered street alignment resulting in 'T' intersections shall leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction. No streets shall be less than 150 feet.

(4) Future Street Extension. Where necessary to give access to, or permit a satisfactory future division of adjoining land, streets shall extend to the boundary of the subdivision or partition, and the resulting dead-end streets may be approved without a turnaround. Reserve strips including street plugs may be required to preserve the objectives of street extensions.

(5) Intersection Angles. Streets shall intersect at angles as practical except where topography requires a lesser angle, but in no case shall the acute angle be less than 60 degrees unless there is a special intersection design. An arterial or collector street intersecting with another street shall have at least 100 feet of tangent adjacent to the intersection unless topography requires a lesser distance. Other streets, except alleys, shall have at least 50 feet of tangent adjacent to the intersection unless topography requires a lesser distance. Intersections which contain an acute angle of less than 80 degrees or which include an arterial street shall have a minimum corner radius sufficient to allow for a roadway radius of 20 feet and maintain a uniform width between the roadway and the right-of-way line. The intersection of more than two streets at any one point will not be approved.

(6) Existing Streets. Whenever existing streets adjacent to or within a tract are of inadequate width, additional right-of-way shall be provided at the time of the land division.

(7) Reserved Strips. No reserved strips controlling the access to public ways will be approved unless the strips are necessary for the protection of the public welfare, and in these cases they may be required. The control and disposal of the land comprising the strips

shall be placed within the jurisdiction of the City under conditions approved by the Planning Commission.

(8) Half Streets. Half streets shall be prohibited except they may be approved where essential to the reasonable development of the subdivision or partitions when in conformity with the other requirements of these regulations, and when the Planning Commission finds it will be practical to require the dedication of the other half when the adjoining property is divided. Whenever a half street is adjacent to a tract to be divided, the other half of the street shall be platted within the tract. Reserve strips may be required to preserve the objectives of half streets.

(9) Cul-de-Sac. A cul-de-sac shall be as short as possible and shall have a maximum length of 400 feet and serve building sites for not more than 18 dwelling units. A cul-de-sac shall terminate with a circular turnaround.

(10) Alleys. When any lots or parcels are proposed for commercial or industrial usage, alleys at least 20 feet wide may be required at the rear with adequate ingress and egress for truck traffic unless alternative commitments for off-street service truck facilities without alleys are approved. Intersecting alleys shall not be permitted.

(11) Grades and Curves. Grades shall not exceed 6 percent on arterials, 10 percent on collector streets, or 12 percent on other streets. Center line radii of curves shall not be less than 300 feet on major arterials, 200 feet on secondary arterials, or 100 feet on other streets, and shall be to an even 10 feet. Where existing conditions, particularly the topography, make it otherwise impracticable to provide buildable sites, the Planning Commission may accept steeper grades and sharper curves. In flat areas, allowance shall be made for finished street grades having a minimum slope, preferably, of at least .5 percent.

(12) Marginal Access Streets. Where a land division abuts or contains an existing or proposed arterial street, the Planning Commission may require marginal access streets, reverse frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or other treatment necessary for adequate protection of residential properties and to afford separation of through and local traffic.

Section 34. Utility Easements. Easements for sewer, drainage, water mains, public utility installations, including overhead or underground systems, and other like public purposes shall be dedicated, reserved or granted by the land divider in widths not less than five (5) feet on each side of the rear lot or parcel lines, alongside lot or parcel lines and in planting strips wherever necessary, provided that easements of width, such as for anchorage, may be allowed when the purposes of easements may be accomplished by easements of lesser width as approved by the City.

Improvements

Section 44. Improvement Requirements. Improvements to be installed at the expense of the subdivider or applicant and at the time of subdivision or partition:

(1) Streets. Public streets, including alleys, within the subdivision and public streets adjacent but only partially within the subdivision shall be improved. Upon completion of the street improvement, monuments shall be re-established and protected in monument boxes at every public street intersection and all points of curvature and points of tangency on their center lines.

(6) Railroad Crossings. Provision shall be made for all railroad crossings necessary to provide access to or including the preparation of all documents necessary for application to the Oregon State Public Utilities Commissioner for the establishment and improvement of such crossing. The cost of such railroad crossing improvement including, but not limited to, the construction of signals, and other protective devices required by the Public Utilities Commissioner, shall, except for that portion payable by the railroad company, be borne by the subdivider or applicant.

City of Rockaway Beach Downtown Transportation Plan (2003)

The Rockaway Beach Downtown Transportation Plan addresses key transportation issues in the City of Rockaway Beach. The document focuses on the six-block segment of US 101 from South 3rd Avenue to North 3rd Avenue, emphasizing pedestrian and bicycle travel and parking on the west side of US 101, including the Port of Tillamook Bay Railroad and Miller Street areas. The plans goals were to:

- Improve mobility, safety, and accessibility for all travel modes
- Improve pedestrian and bicycle circulation and facilities
- Provide for improvements that can be implemented and that comply with applicable standards

The plan made recommendations for US 101 including:

- West side sidewalk and Parking: Continuous parallel parking and sidewalk on the west side of US 101 from North 3rd Avenue to South 3rd Avenue. Would require conversion of existing diagonal parking area to parallel parking, with additional parking to be added nearby
- US 101/South 2nd Avenue/Anchor Street intersection – narrow the entrance to Anchor Street with landscaped, raised entrance, convert traffic to one lane, one way street, add parking on both sides, and add left-turn lane from South 2nd Avenue to US 101
- Left-Turn lanes on US 101: turn lanes are warranted by ODOT methodology, but are not recommended because of downtown impacts, especially loss of parking.
- STA: An STA designation may be possible in Rockaway Beach and should be explored as a solution for long-term certainty (NOTE: this designation has been applied)

Recommendations for Miller Street include:

- Provide a bridge over Rock Creek, pedestrian/bicycle path across State Recreation Area (wayside) parking lot, and transform Miller Street to a "slow street" where pedestrians and bicyclists share the road with vehicles

Recommendations for Pacific Street include:

- Reconstruct Pacific Street to include diagonal parking on the west side, parallel parking on the east side, and sidewalks on both sides

Recommendations for the Railroad crossings include:

- Provide sidewalks (and Americans with Disabilities Act (ADA)-compliant ramp or bridge where required) on the three streets that cross the railroad, and determine whether any of the crossings can be reconstructed with a gated rail crossing, assuming that doing so would not interfere with preservation of on-street parking on US 101

Recommendations for a parking estimate include:

- Potential parking impacts were estimated and additional sources of parking suggested for an increase in parking spaces in the downtown area

Rockaway Beach Transportation Study: Highway and Railroad Improvement Project (1995)

The Rockaway Beach Transportation Study Highway and Railroad Improvement Project was a joint project with the City, the Tillamook Bay Railroad, the Oregon Public Utility Commission (PUC), and the Oregon Department of Transportation (ODOT). The purpose of the study was to improve service provided by the railroad, maintain adequate safety at railroad crossings and deal with traffic safety issues on Highway 101. The study reviewed public crossings only, and recommended public crossings to remain open and public crossings to be closed, along with needed improvements to existing crossings once other crossings are closed.

In the study area for the project, twenty-two crossings were analyzed, and many of the crossings were identified as substandard due to insufficient widths, unsafe stopping sight distances, inadequate storage lengths between the railroad and the highway, and substantial differences in elevation between the road and the railroad, especially in the northern end of the study area. There have been several circumstances where train/vehicle collisions have been avoided by attempts to stop or by stopping the train, or by actions taken by the motorist.

The project evaluated each of the 22 railroad crossings for possible closure using the following criteria:

1. **Road crossings that have to be open.** This criterion applied only to crossings that lead directly to tsunami escape routes. These crossings would be retained.
2. **Does the crossing already have high traffic volumes?** Crossings are retained because closing them would negatively affect the traffic circulation pattern. The impact of closing high volume crossings adds much more traffic to other crossings than closing low volume ones.
3. **Is the crossing important for east- west connectivity and accessibility with the rest of the community?** This criterion applied to crossings where there is no possible alternative, or where residents would be forced to travel relatively long distances to safely cross the railroad.
4. **Is the crossing unsafe?** Crossings that are very unsafe but still meet the criteria above would be closed if they are judged to be too difficult or too expensive to reconstruct. Crossings with poor sight distances or large elevation differences between the highway and railroad were included in this category.
5. **Can use of the crossing be easily offset by providing parallel roads and improving another nearby crossing?**

The study recommended closing the following streets at the railroad crossing and US 101:

North 21st Street
North 13th Street
North 9th Street
North 8th Street
North 7th Street
North 5th Street
South 7th Street
Minehaha Street

The study also recommended improving the following streets and railroad crossings:

North 23rd Street
North 19th Street
North 11th Street
North 9th Street
North 6th Street
North 9th Street
North 6th Street
North 3rd Street
South 1st Street
South 2nd Street
South 3rd Street
South 4th Street
South 6th Street
Washington Street
Pansy Street
Shand Street

Closure of the crossings and development of improved crossings would result in very similar total travel times and distances for residents: residents and emergency vehicles would only have to turn off the highway a block or so earlier or after their current crossing points. Comment at the public meeting held December 13, 1994, indicated that ambulance response times would not be affected.

For the crossings that would be retained and improved, the following improvements were recommended:

1. The crossings should be adequately protected according to PUC standards. Active protection (flashing lights and/or automatic gates) may be provided where and if warranted.
2. The width of the crossings should at least be equal to that of the approach roads including shoulder widths, preferably a minimum of 20 feet.
3. The crossings should be as level and as straight as possible to ensure adequate sight distance, braking distance and free of bumps. Vehicles need to be able to stop when necessary and to continue without difficulty across the railroad. The relative closeness of the two facilities requires special attention to turning radius design and treatment of intersection areas of the crossing streets and the highway. Many vehicles currently scrape the pavement when using crossings because the existing street crossings are too steep and abrupt. This condition presents a significant maintenance issue. It also is a safety problem for longer vehicles, recreational vehicles and other vehicles that have difficulties getting over this profile.
4. Crossing width and surfacing should conform to the Americans with Disabilities Act (ADA) provisions.
5. The gradient for many of the crossing approaches makes them practically unusable for mobility-impaired individuals. It also makes use more difficult for unimpaired persons. To the extent possible, the gradient at reconstructed crossings should comply with ADA provisions. The elevation difference between the highway and railroad north of the downtown area makes reconstruction of the approaches to comply with ADA requirements problematic.

In addition to the recommended closures and improved crossings, the study recommends improvements to the following transportation facilities:

Local Parallel Streets: Miller Street currently ranges among 12 and 20 ft in width. It should be improved and extended to ease traffic movement on the west side. These extensions would provide connectivity from all western sections of Rockaway Beach to the improved crossings. They also minimize the effect of crossing closures. Miller Street should be extended between the following sections to provide a continuous parallel frontage road:

1. North 23rd through North 20th (with closure of the North 21st crossing);
2. North 1st to South 1st across Rock Creek (near the Wayside). A bridge or large box culvert will be required to cross the creek.
3. South 4th to South 6th across Saltair Creek. A bridge or large box culvert will be required to cross the creek.

Miller Street should be widened where needed and treated with an asphalt overlay. It should have a minimum width of 24 feet to accommodate auto, bicycle and pedestrian travel. This will improve travel conditions for pedestrians and bicyclists. All Miller Street improvements and widening can be accommodated on railroad right-of-way.

Breaker and Pacific Streets will need surface improvements. The road surface in several sections of these streets is badly deteriorated or non-existent.

US 101

Turning & Storage Lanes: Traffic counts taken in the summer of 1994 indicated that highway left turn lanes are warranted at certain intersections. These counts coincided with the annual parade in Tillamook, which may have reduced traffic volumes in Rockaway Beach during the counting period. Weather also discouraged travel. Summer peak hour travel, which occurs in August, is 30 percent than the volumes counted. Left turn lanes would need to be striped on the highway. No warrants for traffic signals are met.

A continuous left turn lane would be needed between North 6th Street and South 4th Street, and between North 11th and North 12th. North 19th Street and Washington Street intersections would need left turn lanes. However, installing this lane pattern discontinuously is poor roadway design because of the varying condition that would result. A consistent design is proposed: a continuous left turn lane from Pansy Street north to North 19th Street. Additional road surface may be necessary in some areas to create this turn lane.

Right turn lanes should be provided in the southbound direction at North 19th, 11th and 6th Streets. The right turn lanes would act as storage at these higher volume crossings to prevent right-turning vehicles from blocking the highway when a train is approaching.

Highway Parking: Provision of the continuous center turn lane would require the highway to be re-striped, removing the on-street parking. This would eliminate conflicts between vehicles in the travel lane and vehicles being parked or re-entering the travel lane and would eliminate vehicle queues created during parking maneuvers. An additional benefit would be obtained by removing highway on-street parking: visibility for both pedestrians and motorists would be improved.

Parking on side streets would be maintained and extended where possible. Additional land on railroad right-of-way could be used to replace the on-street parking as well as provide a net increase in parking spaces. The area between the railroad and the highway currently used for off-street parking is between South 2nd Street and North 1st Street. This could be extended between North 3rd and South 3rd Streets. Additional area between North 5th and North 6th Streets and South 2nd and 3rd Streets could be used for parking, but these areas would require vegetation removal, leveling and some drainage work. Parking stalls should be angled to fit into and maximize the use of the available right-of-way. Parking in the Rockaway Beach Wayside should be reconfigured to maximize available space and improve traffic circulation. The proposed design would use a new access (NW Nehalem Street) which would be more direct and convenient access to the Wayside area and would be very desirable for recreational vehicles. However, this would add a new crossing. If it is not feasible to build a new crossing, extending Miller Street between NW 3rd Street and the

Wayside also would benefit vehicle circulation. Adequate signing would have to be provided.

Drainage: In conjunction with any road surface widening, drainage would need to be accommodated on the west side of the road. Existing drainage consists of disconnected percolation ditches. A continuous drainage system may be necessary. Wetland conditions may require mitigation.

Bicycle Facilities: Marked and striped bike lanes six feet in width should be provided on the highway in both directions throughout the study area. Eliminating on-street parking and additional paved surface would provide most of the surface width required for bike lane. If bike lanes in both directions cannot be provided, the travel lanes could be widened (14 feet minimum) to provide roadway that may be shared by bicyclists and motorists. No parking signs would be necessary if bike lanes are not provided.

Pedestrian Facilities: Sidewalks exist on Highway 101 in the downtown portion of Rockaway Beach. Elsewhere, pedestrians must use the highway shoulder. Sidewalks should be extended along the east side throughout the urban area. The walkway should comply with the Americans with Disabilities Act provisions and be at least six feet in width. Wider sidewalks in the downtown area should be considered.

OTHER SYSTEM-WIDE RECOMMENDATIONS: The following recommendations, although outside the scope of this project, could benefit transportation in the study area and should be considered. Other recommended improvements can be found in the Oregon Coast Highway Corridor Master Plan.

The skewed alignment of Anchor Street results in a single intersection area with Highway 101 and 2nd Street. Anchor Street currently is one way southbound and is one of the higher accident locations in the city. The possible addition of a shoulder/bikeway on the eastern side of the highway makes this especially important. The intersection should be redesigned to either close the Anchor Street connection to 2nd Street or, north of the fire station and city hall parking areas, create a one-way street northbound that restricts turns onto 2nd Street to right turns. Similar suggestions are provided in the city's transportation plan.

Parking on the side streets should be provided where possible. In some locations diagonal parking can replace parallel parking.

Easy Street should be improved to enhance city connectivity and accessibility, and reduce reliance on the highway for local trips.

Additional efforts to manage highway access should be undertaken. Vehicle safety can be further enhanced by properly defining driveways, separating street intersections from driveways, and consolidating driveways.

Enhance the pedestrian environment by landscaping where possible.

City Zoning Map (1987)

See Figure 2 for the zoning map. A description of zones in Rockaway Beach is included as part of the Zoning Ordinance discussion earlier in this memo.

Rockaway Beach Resource Report (2000)

The Resource Report provides findings and recommendations based on an economic analysis of downtown Rockaway Beach's issues and opportunities. The recommendations focused on four areas for improvement within the downtown area:

1. Strengthening the Sense of Community and Place

- Strengthen the "heart" of the community for people to gather, achieved through elements of design, appropriate mixed-use development, and capitalizing on history, culture, and events in the community. Reconnecting with the Chamber of Commerce and the Port of Tillamook Bay Railroad to strengthen the community component
- A destination facility and expanded family facilities to attract new visitors. This compounds the need for a more comprehensive business mix and safe pedestrian pathways on and between main street, Miller Street and the beach. Community facilities like a new city hall/community center, robust retail development and family entertainment options will add to the family resort ambiance

2. Design: Public Space

- Opportunities to create better pedestrian and bicycle linkages along and across US 101 and the community, linking parks, beach access, and the motels to downtown
- Pedestrian friendly streetscapes, with traffic calming features
- Current downtown has an indistinct commercial core, entrances to the North and South are vague and don't identify the core commercial area. There are good opportunities for infill along US 101 for additional two-story retail/service/residential – type buildings
- Designate a STA between SW 3rd Avenue and N 8th Avenue to allow the city and ODOT to keep the traditional main street character and allow for special highway design and improved pedestrian access development
- A parking study would provide a location for additional parking for cars and RVs

3. Design: Private Space

- Existing main street commercial development on US 101 should be improved with façade rehabs including transparent storefronts, pedestrian scale signage, and appropriate building colors. Rehabs should take building façade back to the original Coney Island-40's style whenever possible
- Architectural elements like wood horizontal lap siding and cedar shingles siding should be emphasized in rehabs and new commercial and residential buildings on main street. Building colors, signage, and an awning system are also recommended
- There are sites for infill development along US 101, and could include professional offices, upper level dining with views of the ocean and mountains, and retail anchoring the first floor. Infill should allow pedestrian connections between the main street, the ocean, and Miller

4. Business Clustering, In-fill and Dynamics

- Primary and secondary market segments are not being serviced in Rockaway Beach
- Downtown amenities such as public gathering spaces, restrooms, benches, etc. are needed to encourage visitors to stop and get out of their vehicles.

In section III, Trade Area and Market Segments, the report determined that 65 percent of Rockaway Beach homeowners have a primary residence somewhere else. The part-time resident population is estimated at 1,000 persons.

In Section IV, Downtown Rockaway Beach's Competitive Advantages and Disadvantages for Business Development, the report suggests that the long narrow commercial district makes it challenging to market the area as a unified business district

The Strengthening the Sense of Community and Place Chapter of the report notes that there are Pedestrian and Bike Trail opportunities including:

- Replacing the existing bike lane on US 101 with a mountable curb and sidewalk, creating a pedestrian area on the west side of US 101. The pedestrian area would promote safety and visibility of pedestrians to highway traffic.
- Pedestrian access across the railroad tracks should be provided and clearly marked.
- Relocating the southbound bike lane from the west side of US 101 to the east side of Miller Street, providing an additional 6 feet of space along US 101 for pedestrians
- Limiting vehicular access on Miller Street, making it primarily a pedestrian street. The area could be identified by pavers, pedestrian scale lighting, plantings, public art, fountains, etc.
- Implementing an STA by maintaining on-street parking, reducing highway speed, and more clearly defining pedestrian crosswalks and on street lighting.

Transportation System Inventory and Existing Conditions

Residential Characteristics

As described in the Background section of this memo, the permanent population of Rockaway Beach in 2000 was 1,267, and the most recent estimate for 2008 is 1,375. Peak daily population can reach 5,000 in summer months. The housing in the City historically consists of 51 percent second homes, including some vacation rentals, and 40 percent permanent residences[1].

Listed below are some general demographic characteristics of Rockaway Beach residents, as obtained from the 2000 Decennial Census. Where appropriate, these characteristics are compared to statewide and countywide averages.

- Rockaway Beach consists of 635 households
- The average household size is 2.0 persons, which is lower than the average household size for Oregon (2.5 persons)

[1] From 2000 US Census, www.census.gov Accessed August, 2009.

- The median resident age in the City is 53 years, much higher than the median range for Oregon (36 years)
- Ninety-six percent of the population of the City of Rockaway Beach identified themselves as Caucasian, while 86 percent of people in the state of Oregon identify themselves as Caucasian
- Eleven percent of residents were living below the poverty level in 2007, slightly lower than the state average of twelve percent
- Approximately 16 percent of the adult population holds a college degree or higher
- Approximately 13 percent of households reported one or more school-age children present in the home
- There were 1,599 housing units in Rockaway Beach in 2000, of which 60 percent were vacant. This is higher than the vacancy rate of 36 percent within Tillamook County, and much higher than the statewide average of 8 percent vacancy
- Approximately 64 percent of the occupied housing units were owner-occupied, while the other 36 percent were renter-occupied. This is similar to the statewide average, but lower than the county-wide (72 percent owner occupied)
- Much of the current housing stock (23 percent) was built before 1940, though there was a period of growth in building in the 1980s (15 percent) and the 1970s (14 percent)

Employment Characteristics

According to the 2000 Decennial Census, approximately 530 Rockaway Beach residents (40 percent of the population) were employed in 2000. Table 1 provides an overview of the four largest employment sectors in the City – Educational, Retail trade, Manufacturing, and Arts, entertainment, recreation, accommodation and food services.

TABLE 1

Rockaway Beach Employment Characteristics

Employment Sector	Number employed
Arts; entertainment; recreation; accommodation and food services	94
Retail Trade	81
Education	78
Manufacturing	71

Source: Census 2000 Summary File 3 (SF3), Table P49

The median 1999 household income in Rockaway Beach was $28,798. This is lower than the statewide average ($40,916), and the Tillamook County average ($34,269).

Inventory of Transportation Facilities

The Rockaway Beach Transportation Plan Study includes primary and secondary roadways within the study area. For the purposes of this memorandum, primary roadways are those that provide major connections throughout the state, whereas secondary roadways serve mostly local traffic. A brief description of the primary roadway and a discussion on the secondary roadways in the study area are included in the following sections. The main

source for this information is the 2005 US 101 Conditions Report and verified through an August 2009 site visit.

Primary Roadway

US 101

US 101 is also known as Oregon Coast Highway (Hwy No. 9). This segment of US 101 is a Statewide Highway on the National Highway System, as well as a Scenic Byway and federally designated Truck Route. Within the study area, US 101 is designated as a STA between N 6th Avenue (Milepost (MP) 50.38) and S 7th Avenue (MP 51.42). US 101 is classified as a principal arterial. Through the study area, US 101 has one lane in each direction. The posted speed ranges from 30 to 45 miles per hour (mph). Table 2 provides a description the US 101 roadway characteristics.

TABLE 2

US 101 Classifications and Characteristics

Roadway Section	Jurisdiction	Classification	Posted Speed	Bike Lanes[3]	Parking	Sidewalks
US 101 – Northern UGB to N 3rd Ave	ODOT	Principal Arterial	45 mph	No	No	No
US 101 – N 3rd Ave to S 7th Ave	ODOT	Principal Arterial	30 mph	No	Intermittent[1]	Intermittent[2]
US 101 – S 7th Ave to Minnehaha St	ODOT	Principal Arterial	40 mph	No	No	No
US 101 – Minnehaha St to Southern UGB	ODOT	Principal Arterial	45 mph	No	No	No

Notes:
[1] Parallel parking available between Nehalem and S 3rd Avenues.
[2] Sidewalks available on east side of US 101 between N 3rd and S 3rd Avenues.
[3] While there are no designated bike lanes provided, bikeable shoulders are available along US 101 and currently used by bicycle traffic. Please refer to the "Bicycle Facilities" section of this report for additional information.

Secondary Roadways

There are several roadways traveling east-west from US 101. Table 3 shows the roadway classifications and characteristics for the secondary roadways within the study area.

TABLE 3

Secondary Roadway Classifications & Characteristics

Roadway	Jurisdiction	Classification	Posted Speed	Bike Lanes	Parking	Sidewalks
Beach Dr	Tillamook County	Local Road[4]	25 mph	No	No	No
Neah-Kah-Nie High School Access	Tillamook County	Local Road[4]	15 mph[1]	No	No	No
Northeast 12th Ave	City of Rockaway Beach	Local Road[4]	25 mph	No	No	No
North 6th Ave	City of Rockaway Beach	Local Road[4]	25 mph	No	No	No
North 3rd Ave	City of Rockaway Beach	Collector[5]	25 mph	No	No	No
South 1st Ave	City of Rockaway Beach	Local Road[5]	25 mph	No	No	No
South 2nd Ave	City of Rockaway Beach	Collector[5]	25 mph	No	Intermittent[2]	Intermittent[2]
South 3rd Ave	City of Rockaway Beach	Local Road[5]	25 mph	No	Intermittent[3]	Intermittent[3]
South 6th Ave	City of Rockaway Beach	Local Road[4]	25 mph	No	No	No
Washington St	City of Rockaway Beach	Local Road[4]	25 mph	No	No	No

Notes:
[1] Assume 15 mph inside Neah-Kah-Nie High School parking lot.
[2] Front-end parking and sidewalk available on S 2nd Avenue east of US 101.
[3] Front-end parking and sidewalk available on S 3rd Avenue east of US 101.
[4] Roadway classification based on the ODOT Rockaway Beach city map.
[5] Roadway classification based on the *City of Rockaway Beach Downtown Transportation Plan* (June 2003).

Roadway Design Elements

US 101 consists of two lanes through Rockaway Beach, with two locations having left turn pockets: a southbound left turn lane into the High School and a northbound left turn lane into the Nedonna Estates development (Beach Drive). According to the US 101 Conditions Report, the roadway condition is listed as good, and the striping is clearly visible. Other roadway design elements are summarized in Table 4, which also indicates the ODOT design standards category that will be applied during the roadway deficiencies review.

Category	MP 48.70Z to 50.38		MP 50.38 to 51.42		MP 51.42 to 52.10	
Length	1.68		1.04		0.68	
Number of Lanes	2		2		2	
Lane Widths (ft)	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
	12	12	12	12 – 30	12	12
Shoulder Widths (ft)	NB	SB	NB	SB	NB	SB
	4	4	0 - 4	4 – 6	4	4
Guardrails/Barriers	NB	SB	NB	SB	NB	SB
	Yes	Yes	No	No	No	No
On-Street Parking	No		Between N 1st Street and S 3rd Avenue(Parallel parking, northbound only)		No	
ODOT Design Std	ODOT 4R – Urban Fringe/Suburban Area		ODOT 4R/New Urban Stds - STA		ODOT 4R – Urban Fringe/Suburban Area	

Source: US 101 Mainline Conditions Report (2005), Rockaway Beach Field Visit (2009), Oregon Highway Design Manual

Pedestrian Facilities

According to the Oregon Bicycle and Pedestrian Plan (OBPP), pedestrian facilities are defined as any facilities utilized by a pedestrian or persons in wheelchairs. These types of facilities include walkways, traffic signals, crosswalks, curb ramps, and other features such as illumination or benches.

The following types of pedestrian facilities are recognized by the American Association of State Highway and Transportation Officials (AASHTO) and the OBPP:

- ***Shared Use Paths*** – Shared use paths are used by a variety of non-motorized users, including pedestrians, cyclists, skaters, and runners. Shared use paths may be paved or unpaved, and are often wider than an average sidewalk (i.e., 10 - 14 feet). In rare circumstances where peak traffic is expected to be low, pedestrian traffic is not expected to be more than occasional, good passing opportunities can be provided, AND maintenance vehicle loads are not expected to damage pavement, the width may be reduced to as little as 8 feet.
- ***Sidewalks*** – Sidewalks are located along roadways, are separated from the roadway with a curb and/or planting strip, and have a hard, smooth surface, such as concrete. ODOT standard for sidewalk travelway width is six feet, with a minimum travelway width of five feet acceptable on local streets. The unobstructed travelway for pedestrians should be clear of utility poles, sign posts, fire hydrants, vegetation and other site furnishings.
- ***Roadway (Multi-use) Shoulders*** – Roadway shoulders often serve as pedestrian routes in many rural Oregon communities. On roadways with low traffic volumes (i.e., less than 3,000 vehicles per day), roadway shoulders are often adequate for pedestrian travel.

These roadways should have shoulders wide enough so that both pedestrians and bicyclists can use them, usually six feet or greater.

Existing Pedestrian Facilities

The following paragraphs describe the pedestrian facilities present in Rockaway Beach.

Shared Use Paths

There are no shared use paths in Rockaway Beach.

Sidewalks

The presence and condition of sidewalks in Rockaway Beach varies by location. Existing sidewalks are curb-tight and in variable condition, depending upon age of construction. Sidewalk widths throughout the city vary in both total width and usable width, from narrow usable widths of less than 3 feet up to 8 feet in short sections.

Sidewalks in Rockaway Beach exist only in the locations shown in Tables 5 and 6 below.

The pedestrian environment in the downtown core does include a variety of complementary pedestrian facilities such as ADA-compliant curb ramps at intersections, sidewalk curb extensions, pedestrian-scale lighting, and amenities such as benches and trash receptacles. The curb extensions shorten the crossing distance of US 101 by eight feet. They also increase the visibility of pedestrians crossing the street. There is on-street parallel parking on the east side between North 3rd and South 3rd Avenues. This creates a physical buffer for pedestrians walking along US 101. Planter barrels provide color and visual texture in the downtown core of Rockaway Beach.

Table 5 below summarizes the northbound sidewalk along US 101. There is no existing sidewalk in the southbound direction adjacent to US 101; however, there is a multi-use shoulder that is common practice in rural communities where separate bike and pedestrian facilities are not available.

Roadway Shoulders

Pedestrians utilize the southbound shoulder on US 101 for walking through downtown Rockaway Beach and connecting to various destinations in the downtown core.

TABLE 5
Northbound Sidewalk - US 101 Sidewalk Widths (in feet)

Highway Section MP to MP	Width	Standard	Meets Standard
50.38 to 51.43	0	6	No
50.64 to 50.78	8	6	Yes
50.78 to 50.90	8	6	Yes
50.90 to 51.01	5	6	No
51.01 to 51.77	0	6	No

Source: US 101 Mainline Conditions Report (2005)

Table 6 below summarizes the remaining existing sidewalks in Rockaway Beach.

TABLE 6
Existing Sidewalks – Rockaway Beach

Road	From	To	Width	Standard	Meets Standard
Miller (west side only)	~200 ft N of N 3rd Ave	N 3rd Ave	4	5	No
Miller (west side only)	N 3rd Avenue	~ 150 ft S of N 3rd Ave	5	5	Yes
N 3rd Avenue (both sides)	Miller	Pacific	5	5	Yes
McNair (west side only)	~200 ft N of N 3rd Ave	N 3rd Ave	5	5	Yes
Pacific (east side only)	~200 ft N of N 3rd Ave	N 3rd Ave	5	5	Yes
Pacific (both sides)	N 3rd Ave	~ 150 ft S of N 3rd Ave	5	5	Yes
Miller (west side only)	S 1st Ave	S 2nd Ave	4	5	No
S 2nd Avenue (north side only)	US 101	S Beacon St	4	5	No
S Anchor Street (east side only)	S 2nd Ave	S 3rd Ave	5	5	Yes

Source: Rockaway Beach Field Visit (2009)

US 101 Crossings

There are no signalized intersections providing protected access across US 101 through Rockaway Beach. However, pedestrians can legally cross most intersections. There are 15 existing striped crosswalks across US 101 through Rockaway Beach. These marked crossings do not have requisite ODOT State Traffic Engineer approval. These crossings are located at the following intersections:

- N 19th Avenue (north side only)
- N 12th Avenue (south side only)
- N 3rd Avenue (south side only)
- N 2nd Avenue (north side only)
- N 1st Street (north side only)
- S Nehalem (south side only)
- S 1st Avenue (both north and south crossings)
- S 2nd Avenue (both north and south crossings)
- S 3rd Avenue (north side only)
- S 4th Avenue (south side only)
- S 5th Avenue (south side only)
- S 6th Avenue (north side only)
- Washington Street (south side only)

Striped crosswalk at South 3rd Avenue

Pedestrian walking South on US 101 shoulder

Bicycle Facilities

According to AASHTO's Guide for the Development of Bicycle Facilities (1999) and the OBPP, there are several different types of bicycle facilities. Bikeways are distinguished as preferential roadways that have facilities to accommodate bicycles. Accommodation can be a bicycle route designation or bicycle lane striping. Shared use paths are facilities separated from a roadway for use by cyclists, pedestrians, skaters, runners, and others. Bicycles are allowed on all study area roadways.

The following types of bikeways are recognized by AASHTO and OBPP:

- ***Shared Use Path*** - Shared use paths are used by a variety of non-motorized users, including pedestrians, cyclists, skaters, and runners. Shared use paths may be paved or

unpaved, and are often wider than an average sidewalk (i.e., 10 – 14 feet). In rare circumstances where peak traffic is expected to be low, pedestrian traffic is not expected to be more than occasional, good passing opportunities can be provided, AND maintenance vehicle loads are not expected to damage pavement, the width may be reduced to as little as eight feet.

- ***Bike Lane*** - Bike lanes are portions of the roadway designated specifically for bicycle travel via a striped lane and pavement stencils. ODOT standard width for a bicycle lane is 6 feet. The minimum width of a bicycle lane against a curb or adjacent to a parking lane is five feet. A bicycle lane may be as narrow as four feet, but only in very constrained situations. Bike lanes are most appropriate on arterials and major collectors, where high traffic volumes and speeds warrant greater separation.
- ***Shoulder Bikeway (Multi-use Shoulder)*** – These are paved roadways that have striped shoulders wide enough for bicycle travel. ODOT recommends a six-foot paved shoulder to adequately provide for bicyclists, and a four-foot minimum in constrained areas. Roadways with shoulders less than four-feet are considered shared roadways. Sometimes shoulder bikeways are signed to alert motorists to expect bicycle travel along the roadway.
- ***Shared Roadway / Signed Shared Roadway*** – Shared roadways include roadways on which bicyclists and motorists share the same travel lane. This is the most common type of bikeway. The most suitable roadways for shared bicycle use are those with low speeds (25 mph or less) or low traffic volumes (3,000 vehicles per day or fewer). Signed shared roadways are shared roadways that are designated and signed as bicycle routes and serve to provide continuity to other bicycle facilities (i.e., bicycle lanes) or designate a preferred route through the community. Common practice is to sign the route with standard Manual on Uniform Traffic Control Devices (MUTCD) green bicycle route signs with directional arrows. The OBPP recommends against the use of bike route signs if they do not have directional arrows and/or information accompanying them. Signed shared roadways can also be signed with innovative signing that highlights a special touring route (i.e., Oregon Coast Bike Route) or provides directional information in bicycling minutes or distance (e.g., "Library, 3 minutes, 1/2 mile").

Existing Facilities

The following paragraphs describe the bicycle facilities present in Rockaway Beach.

Shared Use Path

There are no shared use paths in Rockaway Beach.

Bike Lanes

There are no designated bike lanes in Rockaway Beach.

Shoulder Bikeways

U.S. 101 is designated as the Oregon Coast Bike Route and serves thousands of cyclists each year. The highway generally has well-maintained striped shoulders in the southbound direction that are used for bicycle travel through the city, with a few exceptions. No dedicated bike facilities exist in the northbound direction, though there is a multi-use shoulder. Most cyclists along this route travel southbound, in the direction of prevailing winds.

Table 7 summarizes the characteristics for bicycle travel along US 101 in Rockaway Beach. Along most of US 101 through Rockaway Beach, striped shoulders meet or exceed the 4' minimum recommended by the Oregon Highway Design Manual (HDM). The largest gap in the shoulder bikeway network is in the northbound direction between S 3rd Avenue and N 3rd Avenue through downtown Rockaway Beach, when the shoulder is dropped to accommodate on-street parking. There are two additional northbound sections and two southbound sections with shoulder widths less than 4 feet.

US 101 is designated as the Oregon Coast Bike Route

Bicyclist heading south on Bike Route

TABLE 7
US 101 Bicycle Facilities

Northbound Shoulder			Southbound Shoulder		
MP to MP	Width (ft)	Meets Standards	MP to MP	Width (ft)	Meets Standards
49.00 to 49.57	4	N	49.00 to 49.57	4	N
49.57 to 50.64	4	N	49.57 to 50.78	4	N
50.64 to 51.01	0	N	50.78 to 50.90	6	Y
51.01 to 55.45	4	N	50.90 to 55.45	4	N
55.45 to 55.60	0	N	55.45 to 55.56	0	N
55.60 to 55.65	10	Y	55.56 to 55.65	8	Y
55.65 to 55.94	0	N	55.65 to 55.94	0	N
55.94 to 56.61	4	N	55.94 to 56.61	4	N
56.61 to 57.17	8	Y	56.61 to 57.17	10	Y
57.17 to 58.00	4	N	57.17 to 58.00	4	N
58.00 to 60.09	10	Y	58.00 to 61.12	10	Y
60.09 to 60.18	8	Y	61.12 to 63.00	7	Y
60.18 to 61.12	10	Y			
61.12 to 63.00	7	Y			

Source: US 101 Mainline Conditions Report (2005)

Shared Roadways / Signed Shared Roadways

Most local streets in Rockaway Beach are low speed/low volume roadways that could be classified as shared roadways. These streets can accommodate bicyclists of all ages and currently have little need for dedicated bicycle facilities (e.g., bicycle lanes). They generally have low vehicle volumes (3,000 ADT or less) and low posted speeds (25 mph or less). Roadway widths (as many of the local roads have no curb or gutter) range between 25 and 40 feet. Some of these local roads are unimproved, and therefore are not suitable for all types of bicycles. Other roads – such as Miller – while providing an excellent option as a parallel facility to US 101, require additional maintenance to provide a suitable facility for bicyclists of all ages and types.

Public Transportation

Tillamook County Transportation District (TCTD) provides Dial-A-Ride service and public transportation services countywide, service to Cannon Beach to Newskowin and inter-city service to Portland. Route 3 Tillamook – Manzanita/Cannon Beach provides service Monday-Saturday, with a stop near Rockaway Beach City Hall six times a day approximately every 2 hours in the morning and evening. Fares are $1.00 one way, with options for monthly passes.

Major Activity Centers

Activity Centers for Rockaway Beach are located in the commercial downtown core, which extends roughly to North 6th Avenue south to South 6th Avenue. This area houses most of the commercial destinations in the City including shops, restaurants, an arcade, a laundromat, gym, a market, the post office, police station, and liquor store. Most commercial destinations are located on the east side of US 101, except for the commercial area located just west of the railroad tracks between south 1st Avenue and south 2nd Avenues. Neah-Kah-Nie High School and Middle School are other destinations north of the downtown core, along with one or two restaurants. The beach is the main draw for visitors to town.

Existing Conditions Operational Analysis

Methodology

This section describes the data collected for the traffic analysis task and the methodology employed for the traffic operational and crash analysis.

Study Intersections and Analysis Time Period

A total of ten study intersections, all under ODOT jurisdiction, were analyzed as part of the Rockaway Beach Transportation Plan existing conditions analysis. Sixteen-hour turning movement counts were collected by ODOT at each of the study intersections either in September 2007 or in August 2009. Full vehicle classification counts, dividing truck traffic by axle, were collected at all locations between the hours of 6 AM and 10 PM.

Based on the volume counts for all intersections within the study area, an overall peak hour of 2:00 – 3:00 PM was determined and used in the traffic analysis.

Table 8 outlines the control type, jurisdiction, and count information for each intersection within the study area.

TABLE 8
Traffic Study Intersections

ID	Intersection	Control Type	Jurisdiction	Date Collected
1	US 101 & Beach Drive	1-Way Stop Controlled	ODOT	Sept. 9 & 10, 2007
2	US 101 & Neah-Kah-Nie High School Access	1-Way Stop Controlled	ODOT	Sept. 9 & 10, 2007
3	US 101 & Northeast 12th Avenue	1-Way Stop Controlled	ODOT	Sept. 10 & 11, 2007
4	US 101 & North 6th Avenue	2-Way Stop Controlled	ODOT	Sept. 12 & 13, 2007
5	US 101 & North 3rd Avenue	2-Way Stop Controlled	ODOT	Sept. 24 & 25, 2007
6	US 101 & South 1st Avenue	1-Way Stop Controlled	ODOT	Aug. 17 & 18, 2009
7	US 101 & South 2nd Avenue	2-Way Stop Controlled	ODOT	Sept. 11 & 12, 2007
8	US 101 & South 3rd Avenue	2-Way Stop Controlled	ODOT	Sept. 12 & 13, 2007
9	US 101 & South 6th Avenue	2-Way Stop Controlled	ODOT	Sept. 17 & 18, 2007
10	US 101 & Washington Street	2-Way Stop Controlled	ODOT	Sept. 12 & 13, 2007

[1] Intersection operates as a 1-Way Stop Controlled T-Intersection with a supplemental westbound driveway approach.

Seasonal and Growth Adjustments

ODOT traffic analysis procedures require the 30th highest hour traffic volumes be used for planning, project design, and to calculate v/c ratios for intersections and street segments. The 30th highest hour represents the 30th highest recorded traffic volumes during a one-year period.

ODOT guidelines require that raw volumes be processed through five steps:

1. Collect raw traffic volumes and determine individual intersection peak hour.
2. Consolidate traffic counts and determine a system peak hour for all intersections within the study area.
3. Use growth factors of 1.03 and 1.01 to adjust counts from 2007 and 2009, respectively, to existing conditions analysis year (2010). The method used to calculate the factor is explained in Technical Memorandum 2a, *Rockaway Beach*

Transportation Plan Methods and Assumptions, which can be found in Attachment A.

4. Apply the seasonal adjustment factors shown in Table 9 to obtain the 30th highest peak hour volumes. The method used to calculate the factor is explained in Technical Memorandum 2a, found in Attachment A.
5. Balance the 30th highest peak hour volumes for use in the traffic analysis so that the total entering and total exiting traffic volumes match between intersection approaches.

TABLE 9

Seasonal Trend Adjustment

Count Date	Seasonal Adjustment Factor
Sept 09 – Sept 11	1.17
Sept 11 – Sept 13	1.19
Sept 17 – Sept 18	1.23
Sept 24 – Sept 25	1.28
Aug 17 – Aug 18	1.01

Figures B.1-B.3 in Attachment B show the raw counts, raw counts with system peak hour and 30th highest volumes for all the study intersections.

Performance and Mobility Standards

ODOT specifies mobility standards that shall be maintained on state facility roadway segments and intersections that vary according to functional classification, location, and role within the state highway system. The mobility standards are quantified in terms of the relative vehicle demand versus the capacity of a facility/intersection (characterized as v/c). Intersection and roadway segments operations, measured by v/c ratios, are compared to the applicable mobility standards to determine if they maintain appropriate mobility based on roadway functional classification, location, and role within the state facility system. V/C ratios are deemed acceptable when they are less than the applicable mobility standard that is outlined in the OHP and the Oregon Highway Design Manual (HDM) as appropriate.

The mobility standards vary and are shown in Table 10 of this memorandum for each of the study intersections. These standards are based on roadway classification, speed and area type as shown in Table 4 of Technical Memorandum 2a, *Tillamook Rockaway Beach Transportation Plan Methods and Assumptions*, included in this memorandum as Attachment A.

Traffic Analysis Software Tools

Per Technical Memorandum 2a, *Tillamook Rockaway Beach Transportation Plan Methods and Assumptions* in Attachment, the software used to analyze traffic operations, Synchro 7 was used to construct a model for the study area based on the collected traffic turning movement counts, peak hour factors, truck percentages and field observations which were balanced for the 30th highest hour design volumes. This model was used to assess existing traffic operations within the study area.

The Synchro model uses methodologies in the 2000 Highway Capacity Manual (HCM) to analyze the study intersections. The model also computes the v/c ratio to determine whether the intersection meets the applicable mobility standards from the OHP.

SimTraffic, a traffic microsimulation software program, was used to collect vehicle queuing information for the study intersections. As a microscopic traffic model, SimTraffic models each vehicle as a separate entity with its own individual parameters and car-following logic. Vehicle queue results are reported for the expected 95th percentile queue length, which means that 95 percent of the time during the peak hour analyzed, the queue length should be less than or equal to the value reported. An average of at least five runs of SimTraffic were used to calculate the 95th percentile queue lengths.

Intersection Operational and Vehicle Queuing Analysis

The average intersection vehicle delay and level-of-service, 95th percentile queue length, and v/c ratio were collected from the existing conditions Synchro and SimTraffic simulation models for the nine study area intersections.

Operational Analysis Results

Results from the operational analysis results indicate that all ten study intersections currently meet jurisdictional mobility standards.

Table 10 shows the results of the existing conditions intersection operational analysis. Figure B.4 of Attachment B provides the volumes, channelization, and analysis results for all of the study area intersections. Attachment C provides the Synchro HCM reports for each study intersection.

TABLE 10

2010 Existing Conditions Operational Results

ID	Intersecting Roadway (OHP Highway Classification)		Control Type	OHP V/C Standard		Observed V/C Ratio	
1	US 101 (Statewide NHS, TR, SB)	Beach Drive (N/A – Local Road)	OWSC[3]	0.75[1]	0.80[2]	0.25	0.12
2	US 101 (Statewide NHS, TR, SB)	Neah-Kah-Nie High School Access (N/A – Local Road)	OWSC	0.75	0.80	0.26	0.09
3	US 101 (Statewide NHS, TR, SB)	NE 12 Avenue (N/A – Local Road)	OWSC	0.75	0.80	0.28	0.10
4	US 101 (Statewide NHS, TR, SB, STA)	N 6th Avenue (N/A – Local Road)	TWSC	0.90	0.95	0.01	0.06
5	US 101 (Statewide NHS, TR, SB, STA)	N 3rd Avenue (N/A – Local Road)	TWSC	0.90	0.95	0.03	0.27
6	US 101 (Statewide NHS, TR, SB, STA)	S 1st Avenue (N/A – Local Road)	OWSC[3]	0.90	0.95	0.03	0.25
7	US 101 (Statewide NHS, TR, SB, STA)	S 2nd Avenue (N/A – Local Road)	TWSC	0.90	0.95	0.04	0.30
8	US 101 (Statewide NHS, TR, SB, STA)	S 3rd Avenue (N/A – Local Road)	TWSC	0.90	0.95	0.01	0.12
9	US 101 (Statewide NHS, TR, SB, STA)	S 6th Avenue (N/A – Local Road)	TWSC	0.90	0.95	0.01	0.08
10	US 101 (Statewide NHS, TR, SB)	Washington St (N/A – Local Road)	TWSC	0.80	0.85	0.02	0.06

Notes:
[1] Indicates OHP Mobility Standard V/C ratio for uncontrolled roadway approach
[2] Indicates OHP Mobility Standard V/C ratio for stop controlled roadway approach
[3] Intersection is modeled as a 1-Way Stop Controlled, T-Intersection with a supplemental westbound approach driveway.
OWSC: One-Way Stop Controlled
TWSC: Two-Way Stop Controlled
NHS – National Highway System
TR – Federally Designated Truck Route
SB – State and/or Federal Scenic Byway
STA – Special Transportation Area

Vehicle Queuing Analysis Results

The analysis shows that one intersection within the study area is experiencing vehicle queue lengths that exceed existing available storage. Vehicle queues and available storage are shown in Table 11 on the next page.

The intersection of US 101 and Neah-Kah-Nie High School entrance is exceeding its available storage on the westbound approach, which is the driveway for the school. Since this approach is not located on US 101 (northbound and southbound approaches only), this queuing likely only impacts circulation within the school parking lot.

Several eastbound approaches at study intersections have queues that extend across the Port of Tillamook railway crossings. These are stop/yield controlled, ungated crossings (except Beach Street, which is gated). Movements from US 101 across the tracks are yield controlled

to minimize the amount of backup on the highway from crossing the tracks, and movements to the highway from the local streets on the west side are stop controlled to increase crossing safety. Vehicle queuing across the tracks is considered a safety issue. Field measurements conducted July 31st, 2009, indicate that the rail crossings are located between 40 and 30 feet (depending on the intersection) from US 101 crossings. Measurements were taken from intersection stop bars to the first rail track. Intersections impacted by this include:

- US 101/Beach Drive
- US 101/North 6th Avenue
- US 101/North 3rd Avenue
- US 101/South 1st Avenue
- US 101/South 2nd Avenue
- US 101/South 3rd Avenue
- US 101/South 6th Avenue
- US 101/Washington Street

This can affect operations, as well as safety at the intersections if vehicles on the eastbound approaches do not provide enough clearance for trains using the railway, however there are no crashes reported between rail vehicles and automobiles between 2003 and 2007.

At all other locations noted in Table 11, the queues do not exceed the available storage.

Attachment D shows a detailed description of the 95th percentile queue lengths for all movements at the study area intersections.

TABLE 11
2010 Existing Conditions 95th Percentile Queues (95% Queues calculated from SimTraffic)

ID	Intersection	Approach	Lane Group	Existing Storage (feet)	Queue Length (feet)
1	US 101 and Beach Drive	**Eastbound**	**Left/Thru/Right**	**40[1]**	**60**
		Westbound	Left/Thru/Right	Driveway	0
		Northbound	Left	210	40
		Southbound	Left/Thru/Right	-	10
2	US 101 and Neah-Kah-Nie High School Access	**Westbound**	**Left**	**30**	**50**
			Right	**30**	**50**
		Northbound	Right	65	0
		Southbound	Left	190	20
3	US 101 and NE 12th Avenue	Westbound	Left/Right	160	60
		Northbound	Thru/Right	280	10
		Southbound	Left/Thru	-	40
4	US 101 and N 6th Avenue	Eastbound	Left/Thru/Right	35[1]	60
		Westbound	Left/Thru/Right	-	40
		Northbound	Left/Thru/Right	450	40
		Southbound	Left/Thru/Right	-	40
5	US 101 & N 3rd Avenue	**Eastbound**	**Left/Thru/Right**	**35[1]**	**50**
		Westbound	Left/Thru/Right	150	80
		Northbound	Left/Thru/Right	970	40
		Southbound	Left/Thru/Right	450	90
6	US 101 and S 1st Avenue	**Eastbound**	**Left/Thru/Right**	**35[1]**	**80**
		Westbound	Left/Thru/Right	Driveway	50
		Northbound	Left/Thru/Right	420	80
		Southbound	Left/Thru/Right	830	100
7	US 101 and S 2nd Avenue	**Eastbound**	**Left/Thru/Right**	**35[1]**	**70**
		Westbound	Left/Thru/Right	-	90
		Northbound	Left/Thru/Right	630	100
		Southbound	Left/Thru/Right	420	110
8	US 101 and S 3rd Avenue	**Eastbound**	**Left/Thru/Right**	**30[1]**	**40**
		Westbound	Left/Thru/Right	930	60
		Northbound	Left/Thru/Right	630	60
		Southbound	Left/Thru/Right	630	70
9	US 101 and S 6th Avenue	**Eastbound**	**Left/Thru/Right**	**30[1]**	**50**
		Westbound	Left/Thru/Right	-	50
		Northbound	Left/Thru/Right	-	10
		Southbound	Left/Thru/Right	-	50
10	US 101 and Washington Street	**Eastbound**	**Left/Thru/Right**	**30[1]**	**30**
		Westbound	Left/Thru/Right	-	50
		Northbound	Left/Thru/Right	-	30
		Southbound	Left/Thru/Right	-	70

Table Notes:
[1] Indicates existing storage is measured to adjacent rail crossing.
95th Percentile queues calculated using an average of five, one hour SimTraffic runs
Existing storage measured to next intersection, unless otherwise stated.

Queue lengths rounded up to the nearest ten feet
Movements in black highlight indicate a vehicle queue length that exceeds the available storage length
- indicates existing storage exceeds 1,000 feet.

Crash Analysis

Vehicle crash data for study area intersections and major corridors were analyzed for the most recent five-year period available (2003 through 2007). The crash data were analyzed to identify crash patterns that may describe safety deficiencies within the study area.

Corridor Crash Rates

Crash rates, expressed in "crashes per million vehicle-miles (MVM) traveled," are used to compare the crash experience of one roadway segment to another. This rate expresses how many crashes might be expected of vehicles traveling through a particular section of roadway for a cumulative total of one million miles.

The three corridors listed below were analyzed as part of the Rockaway Beach Transportation Plan Study. The corridors were separated into segments based on environmental characteristics.

- US 101 , MP 48.70Z to 50.05
  - Northern UGB Boundary to 210 feet south of NW 9th Avenue
- US 101, MP 50.05 to 51.20
  - 210 feet south of NW 9th Avenue to 320 feet south of S 4th Avenue
- US 101, MP 51.20 to 52.10
  - 320 feet south of S 4th Avenue to Southern UGB Boundary

Table 12 provides a summary of the segment crash analysis results.

TABLE 12

Segment Crash Rates (2003-2007 data)

Segment No.	Roadway	Milepost		Length (miles)	Average AADT[1]	Number of Crashes[2]	Crash Rate[3]	
		From	To				5-year State Average	5-year Segment Average
1	US 101	48.70Z	50.05	1.35	5370	9	1.19*	0.68
2	US 101	50.05	51.20	1.15	6660	14	2.37**	1.00
2	US 101	51.20	52.10	0.90	6400	7	1.19*	0.67

Notes:
[1] Average AADT calculated using 2003-2007 ADT values along US 101 in the study segment
[2] Total number of crashes over 5-year period
[3] Crashes per million vehicle miles
*Statewide average crash rate for principal arterials in suburban areas
**Statewide average crash rate for other principal arterials in urban cities

The crash rates for all three segments are well below their corresponding state average. Therefore, the crash data along the corridor does not indicate an over-representation of crashes. Over the entire study corridor (MP 48.70Z to 52.10), the majority of recorded crashes were rear-end collisions (47 percent), followed by turning movement collisions (27 percent) and fixed or other-object collisions (17 percent). There were no fatalities, and the injury to property damage only (PDO) split is 40 to 60 percent, respectively.

The majority of crashes took place during clear weather conditions (67 percent) and during day light (80 percent). Of the 30 crashes recorded over the corridor during the five year analysis period, three crash causes account for 90 percent of the recorded crashes: 1) Speed too fast for conditions, but not exceeding posted speed limit (50 percent), 2) Did not yield right-of-way (20 percent), and 3) Vehicle followed too closely (20 percent). Also, since US 101 is considered a scenic highway, the crash data were reviewed to determine the split between local residents and tourist crashes. Fifty-three percent of the recorded crashes involved a driver that was within 25 miles of their home, and therefore considered local. The other 47 percent were non-local. There were no pedestrian or bicyclist related crashes reported between 2003 and 2007.

Intersection Crash Rates

Intersection crash rates were calculated for all ten study area intersections. Intersection crash rates are measured in "number of crashes per million annual vehicles entering into an intersection."

The number of entering vehicles into each study intersection was approximated from the raw turning movement counts (2007 and 2009 depending on the count location). The raw intersection turning movement volumes are added together to achieve a total 16 hour vehicle count, and then a factor of 1.10 is applied to get a 24-hour vehicle approximation.

Table 13 provides a summary of the intersection crash analysis.

Table 13
Intersection Crash Rates (2003-2007 data)

	Intersection	Severity of Crash				
		Fatal	Injury	Property Damage	Total Crashes	Crash Rate^
1	US 101 & Beach Drive	0	2	0	2	0.17
2	US 101 & Neah-Kah-Nie High School Access	0	1	3	4	0.32
3	US 101 & Northeast 12th Avenue	0	2	1	3	0.22
4	US 101 & North 6th Avenue	0	2	1	3	0.23
5	US 101 & North 3rd Avenue	0	1	2	3	0.21
6	US 101 & South 1st Avenue	No Crashes Recorded				
7	US 101 & South 2nd Avenue	0	0	2	2	0.12
8	US 101 & South 3rd Avenue	0	2	0	2	0.13
9	US 101 & South 6th Avenue	No Crashes Recorded				
10	US 101 & Washington Street	0	1	1	2	0.14

Notes:
-Crash rate is based on number of accidents and AADT at the intersection
^Crash rates are measured in total crashes per million vehicles entering into the intersection

The range of intersection crash rates for the study area is between 0.12 and 0.32. An intersection crash rate exceeding 1.00 is usually considered an indicator that the intersection may benefit from further safety investigation.

All ten study intersections have crash rates below 1.00, and therefore there is no indication of safety deficiencies.

Safety Priority Index System

In addition to crash rates, ODOT also assesses roadway safety via the SPIS. The SPIS takes into account crash frequency, crash rate, and crash severity. SPIS scores are computed for sections that are one tenth of a mile. The scores for different roadway segments can be compared to determine where safety improvement funds might best be spent. Typically, ODOT places the highest priority locations where SPIS scores fall within the top ten percent in the entire state or region. The 2008 top ten percent SPIS data for Region 2 was analyzed for this report.

There are no top ten percent SPIS sites located within the project study area.

Summary of Existing Conditions and Deficiencies

All study intersections meet applicable mobility standards.

One study intersection currently has a 95th percentile queue lengths that exceeds storage capacity. This is the westbound approach of the US 101 & Neah-Kah-Nie High School intersection. This likely only impacts circulation within the High School parking lot.

Eight study intersections have existing queues that do not exceed available storage, but that extend to or across the Port of Tillamook railway tracks. Since these crossings are ungated, queues extending to or over the railway tracks constitute a safety concern. These intersections include:

- US 101 & Beach Drive
- US 101 & North 6th Avenue
- US 101 & North 3rd Avenue
- US 101 & South 1st Avenue
- US 101 & South 2nd Avenue
- US 101 & South 3rd Avenue
- US 101 & South 6th Avenue
- US 101 & Washington Street

The segment and intersection crash rates do not indicate any over-representations of crashes within the study area. No safety deficiencies have been identified. A review of the 2008 Region 2 SPIS list does not show any SPIS sites within the project study area.

Future Conditions

The project study area for the 2030 Future No-Build traffic analysis is the same as the existing traffic analysis study area.

Analysis Year and Time Period

The year 2030 was chosen as the horizon analysis year for the Future No-Build traffic analysis. This year was chosen to provide a 20 year forecast horizon from existing conditions (2010). The 30th highest hour was selected as the future No-Build analysis time period because it is consistent with the existing conditions traffic analysis.

Future No-Build Forecasting

The ODOT Future Volume Tables are used to forecast 2030 transportation volumes. This forecasting process was approved by ODOT as part of the methods and assumptions memorandum in Attachment A is Technical Memorandum 2a, *Rockaway Beach Transportation Plan Methods and Assumptions*. Table 14 shows the forecasted growth rate calculated for the project area.

TABLE 14
Annual Growth Rate on US 101

Milepost	2006 ADT	2027 ADT	R-Squared	Overall Factor	1-year growth
49.26 Z	5200	6400	0.7936	1.23	1.10%
50.00	5800	7000	0.8432	1.21	0.99%
50.86	6800	7700	0.3343	--	--
50.88	6900	8900	0.6803	--	--
51.77	6500	8700	0.6259	--	--
			US 101 Average Annual Rate		1.04%
			US 101 1-Yr Factor (2009 to 2010)		1.01
			US 101 3-Yr Factor (2007 to 2010)		1.03
			US 101 20-Year Factor (2010 to 2030)		1.21

Notes:
Source: ODOT 2027 Highway Future Volume Table.
http://www.oregon.gov/ODOT/TD/TP/docs/TADR/2027FVT.pdf
The available growth rates are only projected to year 2027; this study assumed the AAGR to continue at the same rate through year 2030.

The volumes used to calculate the annual growth rate are chosen based on the R-squared value. The R-squared value measures the correlation between the historical data points and the generated trend. An R-squared value above 0.75 holds the highest confidence level. The annual growth rate on US 101 suggests a growth of 1.04 percent per year or about a 21 percent increase in traffic over the 20-year roadway design life (2010 to 2030). This 21 percent factor was applied uniformly to each of the existing 2010 30th highest hour, balanced intersection turn movements on US 101 to obtain future 2030 No-Build 30th highest hour intersection volumes. These volumes were then balanced again for the 2030 No-Build operational and mobility analysis.

Figure B.5 in Attachment B provides 2030 No-Build balanced 30th highest hour intersection turn movements.

Future Intersection Operations

The v/c and 95th percentile queue lengths were collected from the future No-Build Synchro and SimTraffic simulation models for the ten study area intersections. The post processed 2030 balanced volumes for each intersection were utilized in the analysis.

Operational Analysis Results

Results from the operational analysis results show that all ten of the study intersections will meet ODOT mobility standards under the 2030 Future No-Build scenario.

Table 15 shows the results of the 2030 Future No-Build intersection operational analysis. Figure B.5 of Attachment B shows the volumes, channelization, and analysis results for all of the study area intersections. Attachment E shows the Synchro HCM reports for each study intersection.

None of the ten study intersections exceed v/c mobility standards in the future (2030) year planning horizon.

TABLE 15

2030 Future No-Build Operational Results

ID	Intersecting Roadway (OHP Highway Classification)		Control Type	Future No-Build OHP V/C Standard		Forecast V/C Ratio	
1	US 101 (Statewide NHS, TR, SB)	Beach Drive (N/A – Local Road)	OWSC[3]	0.75[1]	0.80[2]	0.31	0.20
2	US 101 (Statewide NHS, TR, SB)	Neah-Kah-Nie High School Access (N/A – Local Road)	OWSC	0.75	0.80	0.33	0.15
3	US 101 (Statewide NHS, TR, SB)	NE 12 Avenue (N/A – Local Road)	OWSC	0.75	0.80	0.34	0.17
4	US 101 (Statewide NHS, TR, SB, STA)	N 6th Avenue (N/A – Local Road)	TWSC	0.90	0.95	0.02	0.18
5	US 101 (Statewide NHS, TR, SB, STA)	N 3rd Avenue (N/A – Local Road)	TWSC	0.90	0.95	0.04	0.54
6	US 101 (Statewide NHS, TR, SB, STA)	S 1st Avenue (N/A – Local Road)	OWSC[3]	0.90	0.95	0.04	0.45
7	US 101 (Statewide NHS, TR, SB, STA)	S 2nd Avenue (N/A – Local Road)	TWSC	0.90	0.95	0.05	0.62
8	US 101 (Statewide NHS, TR, SB, STA)	S 3rd Avenue (N/A – Local Road)	TWSC	0.90	0.95	0.02	0.26
9	US 101 (Statewide NHS, TR, SB, STA)	S 6th Avenue (N/A – Local Road)	TWSC	0.90	0.95	0.02	0.19
10	US 101 (Statewide NHS, TR, SB)	Washington St (N/A – Local Road)	TWSC	0.80	0.85	0.02	0.13

Notes:
[1] Indicates OHP Mobility Standard V/C ratio for uncontrolled roadway approach
[2] Indicates OHP Mobility Standard V/C ratio for stop controlled roadway approach
[3] Intersection is modeled as a 1-Way Stop Controlled, T-Intersection with a supplemental westbound approach driveway.
OWSC: One-Way Stop Controlled
TWSC: Two-Way Stop Controlled
NHS – National Highway System
TR – Federally Designated Truck Route
SB – State and/or Federal Scenic Byway
STA – Special Transportation Area

Queuing Analysis Results

The vehicle queue analysis identifies one location where anticipated queue lengths will exceed available storage. Table 16 shows the forecast 2030 95th percentile vehicle queues for each movement in the study area. A more detailed table is provided in Attachment F.

TABLE 16
2030 Future No-Build 95th Percentile Queues (95% Queues calculated from SimTraffic)

ID	Intersection	Approach	Lane Group	Existing Storage (feet)	Queue Length (feet)
1	US 101 and Beach Drive	Eastbound	Left/Thru/Right	40[1]	60
		Westbound	Left/Thru/Right	Driveway	0
		Northbound	Left	210	50
		Southbound	Left/Thru/Right	-	20
2	US 101 and Neah-Kah-Nie High School Access	Westbound	Left	30	60
			Right	30	60
		Northbound	Right	65	10
		Southbound	Left	190	30
3	US 101 and NE 12th Avenue	Westbound	Left/Right	160	70
		Northbound	Thru/Right	280	10
		Southbound	Left/Thru	-	40
4	US 101 and N 6th Avenue	Eastbound	Left/Thru/Right	35[1]	90
		Westbound	Left/Thru/Right	-	50
		Northbound	Left/Thru/Right	450	90
		Southbound	Left/Thru/Right	-	90
5	US 101 & N 3rd Avenue	Eastbound	Left/Thru/Right	35[1]	60
		Westbound	Left/Thru/Right	150	110
		Northbound	Left/Thru/Right	970	50
		Southbound	Left/Thru/Right	450	120
6	US 101 and S 1st Avenue	Eastbound	Left/Thru/Right	35[1]	100
		Westbound	Left/Thru/Right	Driveway	60
		Northbound	Left/Thru/Right	420	110
		Southbound	Left/Thru/Right	830	130
7	US 101 and S 2nd Avenue	Eastbound	Left/Thru/Right	35[1]	90
		Westbound	Left/Thru/Right	-	140
		Northbound	Left/Thru/Right	630	100
		Southbound	Left/Thru/Right	420	200
8	US 101 and S 3rd Avenue	Eastbound	Left/Thru/Right	30[1]	50
		Westbound	Left/Thru/Right	930	70
		Northbound	Left/Thru/Right	630	120
		Southbound	Left/Thru/Right	630	70
9	US 101 and S 6th Avenue	Eastbound	Left/Thru/Right	30[1]	60
		Westbound	Left/Thru/Right	-	60
		Northbound	Left/Thru/Right	-	20
		Southbound	Left/Thru/Right	-	90
10	US 101 and Washington Street	Eastbound	Left/Thru/Right	30[1]	40
		Westbound	Left/Thru/Right	-	60
		Northbound	Left/Thru/Right	-	80
		Southbound	Left/Thru/Right	-	90

Table Notes:
[1] Indicates existing storage is measured to adjacent rail crossing.
95th Percentile queues calculated using an average of five, one hour SimTraffic runs
Existing storage measured to next intersection, unless otherwise stated. Queue lengths rounded up to the nearest ten feet
Movements in black highlight indicate a vehicle queue length that exceeds the available storage length
- indicates existing storage exceeds 1,000 feet.

The westbound approach at US 101 & Neah-Kah-Nie High School is forecasted to have inadequate storage, and is shown in the table with black highlight. The inadequate storage will likely only impact parking lot circulation for Neah-Kah-Nie High School.

Table 16 also shows eight intersections (with grayed cells) where the anticipated 2030 vehicle queues for the eastbound approaches extend across the Port of Tillamook railway tracks. Currently the Port of Tillamook train operates once daily from May to September and three times daily in August, so this will not have a large impact on operations unless service is increased. It can, however, create an unsafe environment for vehicles if they are stopped on the tracks when a train approaches and cannot divert their vehicle because they are gridlocked from the queues.

For the purposes of this memorandum, it was assumed that the railroad would continue operating the tourist train and would not resume freight train operations. However, the Port of Tillamook Bay indicated there is a possibility of resuming freight train operations along the corridor, though at this point there is no specific plan or time frame. Adding freight trains to the alignment would require track repairs and upgrades which are not currently budgeted.

Summary of Future Conditions and Deficiencies

All ten study intersections meet mobility standards under the 2030 Future No-Build conditions.

The queuing analysis results show that one of the ten intersections analyzed has anticipated 2030 queuing that will exceed available storage. Eight of the ten study intersections have eastbound approach queues that extend across the Port of Tillamook railway tracks.

Overall Summary of Deficiencies and Needs

Deficiencies identified thus far include:

Operational and Safety Deficiencies

These deficiencies are true under both existing and future analysis scenarios.

- Each of the ten study intersections meet ODOT mobility standards both in current (2010) and future (2030) analyses (no deficiency)
- The intersection of US 101 & Neah-Kah-Nie High School westbound queue (high school access street) has a queue that exceeds available storage
- Eight of the ten study intersections have eastbound approach queues that extend to or across the Port of Tillamook railway tracks. These are ungated, stop/yield controlled crossings. Queuing extending to across the tracks is considered a safety concern.

- No safety deficiencies have been identified within the study corridor as a result of crash data analysis and no SPIS sites are indentified within the project study area

Pedestrian Facility Deficiencies

- The most notable deficiency in the pedestrian environment is the lack of sidewalks throughout the other parts of town. Missing sidewalks and curb ramps makes traveling by wheelchair or motorized mobility device challenging, if not impossible

Washington St. railroad track crossing

- Access to the beach by wheelchair is extremely difficult
- U.S. 101 creates a significant crossing impediment to pedestrian travel in Rockaway Beach. This is because most homes and businesses exist on the east side of U.S. 101, and the beach and tourist lodging facilities are west of U.S. 101. South 1st and Nehalem Avenues are the primary access points to the beach and, therefore, are the two crossings with the greatest pedestrian use. Pedestrian trip generators, such as the school, library, bank, post office, transit stop and future civic center, are located east of U.S. 101


Lack of curb and gutter in southbound direction in downtown Rockaway Beach

- There are no facilities to aid pedestrians getting to higher ground in the event of a tsunami or other emergency situation
- There are no sidewalks or crossing safety devices on the roads that cross the railroad tracks. This is a safety concern for all non-motorized travelers. Rockaway Beach experiences substantial seasonal variation of pedestrian traffic. On a given day in the summer, a significant portion of motor vehicle traffic traveling US 101 stops in Rockaway Beach, creating many temporary, non-resident pedestrians

There is an existing prohibition against riding on the sidewalk in downtown

- An impediment to north-south pedestrian and bicycle travel is Miller Street at Rock Creek, where Miller Street

does not cross the creek. Currently, some pedestrians walk around the creek and onto the railroad tracks to continue on Miller Street north or south of Rock Creek

Bicycle Facility Deficiencies

Bicycling along US 101 through Rockaway Beach is complicated by the following conditions:

- The high number of vehicle access points, both at intersections and at mid-block, requires vigilance on the part of bicyclists and motorists (particularly during the summer months) to reduce conflicts between the modes
- The lack of curb and gutter along large stretches of US 101 allows and encourages vehicle parking directly off the paved shoulder - leading to higher levels of gravel and debris in the shoulder bikeway, and unpredictable vehicular movements
- The lack of a northbound shoulder through downtown Rockaway Beach (South 3rd Avenue to North 3rd Avenue) requires that all northbound bicyclists (both long-distance and local) share the roadway, use the sidewalk (posted as illegal), or use an alternate route. In particular, a number of younger local bicyclists were observed riding on sidewalks and against traffic. This may indicate the need for education about safe bicycling techniques in addition to improving facilities
- Miller Street generally provides excellent north-south connectivity as a parallel route to US 101, however the roadway conditions itself are less than ideal for bicycle travel along parts of the route
- Bicycle parking is not provided at most destinations or along most commercial streets in Rockaway Beach. Bike racks are available at the schools; however these racks are poorly located and designed poorly according to accepted standards. The shortage of quality bicycle racks in high-demand locations means cyclists secure their bikes to hand rails, street signs, light poles, trees and other objects
- Gravel, glass and other debris are routinely present on the bikeway system, making bicycling difficult at times. This typically occurs when passing motor vehicles blow debris into the adjacent shoulder
- The lack of roadway treatments designed to encourage and make bicycle use possible (e.g., signing, pavement markings, and traffic calming), was notable and are a necessary component in facilitating safe, comfortable, and convenient bicycle travel. Rockaway Beach's bikeway system lacks signage to indicate to bicyclists and drivers that bicyclists may be found on the road. There are no wayfinding tools to direct riders to bikeways

Rough chip seal makes bicycling difficult along Miller Street

and to major destinations such as parks, schools, and business districts, or through town to neighboring communities

- The railroad crossings are a barrier for pedestrians, bicycles, and members of the public who use a wheelchair, cane or walker or similar assistance device.

- **Transit Deficiencies** There is only one bus route that travels through Rockaway Beach, and any trips into Portland must transfer to another bus through Tillamook. This does not provide any other choices of routes or service for those who use public transit. There are no local circulation routes or direct service into Portland or other major cities in the Willamette Valley.

Roadway Deficiencies

TABLE 17

Summary of Roadway Deficiencies

Shoulder Widths	MP 48.70Z to 50.38		MP 50.38 to 51.42		MP 51.42 to 52.10	
	NB	SB	NB	SB	NB	SB
Available (ft)	4	4	0 - 4	4 – 6	4	4
Required (ft)	8	8	5	5	8	8
Requirement Met	No	No	No	Partial	No	No
ODOT Design Std	ODOT 4R – Urban Fringe/Suburban Area		ODOT 4R/New Urban Stds - STA		ODOT 4R – Urban Fringe/Suburban Area	

Based on the ODOT criteria, the only roadway deficiencies identified are in relation to shoulder widths. This is outlined in Table 17.

Next Steps

The next step in the analysis process will be to review these findings with the City, ODOT, and the Project Advisory Committee (PAC), to ensure this analysis has addressed all outstanding questions and areas of local concern. The deficiencies will then be used as the basis for identifying potential transportation improvements.

Attachment A

Rockaway Transportation Plan Methods and Assumptions

Rockaway Beach Transportation Plan: Operational Analysis Methods and Assumptions

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CC: Theresa Carr/CH2M HILL

DATE: August 18, 2009

This attachment outlines the key methodology and assumptions that will be used in the traffic operational analysis for the Rockaway Beach Transportation Plan. The attachment describes the analysis years, study area limits, study area intersections, and growth assumptions.

To meet the project schedule we request that comments be submitted by Friday, August 21.

I. Analysis Years & Time Periods

Transportation analysis will be conducted for the following years:

- Existing Year (2010)
- Design Year (2030)

The traffic analysis will be conducted for the 30th highest hour volume. An overall study area peak hour will be determined by 16-hour intersection turning movement counts, which were largely collected by ODOT in September 2007. We understand that one additional count may be collected by ODOT in August 2009.

II. Traffic Study Area Limits

The traffic study area of the Rockaway Beach Transportation Plan Study extends along US 101 from the northern to southern urban growth boundaries (MP 48.70 Z, MP 52.10 respectively). US 101 is also known as Oregon Coast Highway (Hwy No. 9). This segment of US 101 is a Statewide Highway on the National Highway System, as well as a Scenic Byway and federally designated Truck Route. Within the study area, US 101 is designated as a Special Transportation Area (STA) between N 6th Ave (MP 50.38) and S 7th Ave (MP 51.42). US 101 is classified as a principal arterial.

Table 1 shows each intersection included in the study, as well as its mile point along US 101 and the date the turning movement count was conducted by ODOT.

TABLE 1

Rockaway Beach Transportation Plan – Traffic Study Intersections

ID #	Intersection	Traffic Control	Mile Point	Count Date
1	US 101 & Beach Drive	Stop Controlled	48.74 Z	Sept-09 to 10, 2007
2	US 101 & Neah-Kah-Nie High School Access	Stop Controlled	49.03 Z	Sept-09 to 10, 2007
3	US 101 & Northeast 12th Avenue	Stop Controlled	49.77	Sept-10 to 11, 2007
4	US 101 & North 6th Avenue	Stop Controlled	50.38	Sept-12 to 13, 2007
5	US 101 & North 3rd Avenue	Stop Controlled	50.64	Sept-24 to 25, 2007
6	US 101 & South 1st Avenue	Stop Controlled	50.82	Planned Aug 2009
7	US 101 & South 2nd Avenue	Stop Controlled	50.90	Sept-11 to 12, 2007
8	US 101 & South 3rd Avenue	Stop Controlled	51.01	Sept-12 to 13, 2007
9	US 101 & South 6th Avenue	Stop Controlled	51.35	Sept-17 to 18, 2007
10	US 101 & Washington Street	Stop Controlled	51.67	Sept-12 to 13, 2007

Notes:
All intersections are under ODOT jurisdiction
Count hours are 6 AM to 10 PM at all locations

III. Existing and Future Traffic Volumes

Turning movements over a 16-hour period were collected by ODOT in 2007 at each of the study area intersections. To adjust the 2007 volumes to existing year (2010), a growth rate of 1.03 will be applied to the count volumes. After obtaining the 2009 volumes, the peak hour turning movement counts will be adjusted to account for seasonal effects according to ODOT Transportation Planning Analysis Unit (TPAU) *Analysis Procedures Manual*. The on-site ATR 29-001 (Rockaway) will be used to calculated seasonal adjustments. ATR 29-001 is located 2.08 miles south of the most southern intersection, US 101 and Washington Street (study intersection 10).

TABLE 2

Rockaway Beach Transportation Plan – Seasonal Trend Adjustment

Count Date	Seasonal Adjustment Factor
Sept 09 – Sept 11	1.17
Sept 11 – Sept 13	1.19
Sept 17 – Sept 18	1.23
Sept 24 – Sept 25	1.28
Aug 17 – Aug 18	1.01

Calculations for seasonal adjustment factors are provided in the Attachment of this section.

The derived 30th highest hour design volumes will be balanced between adjacent study intersections, as outlined by ODOT standards. The existing conditions analysis will be conducted using the 30th highest hour volumes. If possible, the study will assign one peak hour for use in the traffic analysis. If the characteristics of the traffic count data show that

different peak hours occur at different locations within the study area, multiple peak hours will be utilized in the analysis.

IV. Forecasting/Modeling Methodology

Travel demand forecasts for study intersections in the Rockaway Beach Transportation Plan will be determined by analyzing the ODOT Future Volume Tables. Within the study area, the latest tables provide 2006 traffic volumes, forecast traffic volumes for the year 2027, and a statistical descriptor (R-squared value) that provides the reliability of the forecast for all state highways. Consistent with ODOT guidelines, growth rates for future forecasts will be developed using Future Volume Table estimates with R-squared values above 0.75 for the 20-year planning period. The 20-year growth factor of 1.21, calculated in Table 3, will be used to adjust balanced 2010 30th highest hour volumes to the future analysis year of 2030. These volumes will then be balanced again to get the 2030 future volumes. Also shown in Table 3 is the 3-year growth factor which will be applied to the 2007 volumes during the existing conditions analysis.

TABLE 3
Rockaway Beach Transportation Plan –Annual Growth Rate on US 101

Milepost	2006 ADT	2027 ADT	R-Squared	Overall Factor	1-year growth
49.26 Z	5200	6400	0.7936	1.23	1.10%
50.00	5800	7000	0.8432	1.21	0.99%
50.86	6800	7700	0.3343	--	--
50.88	6900	8900	0.6803	--	--
51.77	6500	8700	0.6259	--	--
			US 101 Average Annual Rate		1.04%
			US 101 1-Yr Factor (2009 to 2010)		1.01
			US 101 3-Yr Factor (2007 to 2010)		1.03
			US 101 20-Year Factor (2010 to 2030)		1.21

Notes:
Source: ODOT 2027 Highway Future Volume Table http://www.oregon.gov/ODOT/TD/TP/docs/TADR/2027FVT.pdf
The available growth rates are only projected to year 2027; this study assumed the AAGR to continue at the same rate through year 2030.

The project work order contract requests the consultant to "...compare future traffic volumes estimated...with the type and likely location of expected growth in the Project Study Area to comment on the validity of the future traffic volume estimates". In order to fulfill the contract, the 2030 future volumes will be estimated using the 20-Year Factor in Table 3. In the event that the Project Management Team determines that these volumes do not portray reasonable levels of anticipated growth within the City of Rockaway, the 2030 future volumes would be modified. Modifications would be done in conjunction with ODOT's TPAU group.

V. State, Regional, and Local Mobility Standards

State highway mobility standards were developed for the Oregon Highway Plan (OHP) as a method to gauge reasonable and consistent standards for traffic flow along state highways. These mobility standards consider the classification (e.g., freeway, regional, district) and location (rural, urban) of each state highway. Mobility standards are based on volume to capacity (V/C) ratios. The 1999 OHP, with amendments adopted by the Oregon Transportation Commission from November 1999 through January 2006, was released on August 23, 2006. This version of the 1999 OHP will be used in this study.

Table 4 shows the OHP and the Oregon Highway Design Manual (HDM) mobility standards for each study intersection. These standards will be applied to all study intersections since they are all within ODOT jurisdiction. The intersection mobility standard is determined based on its traffic control. For signalized intersections, the intersection V/C ratio is reported, while for unsignalized intersections, the highest value for major movement and the minor street movement is reported. Table 4 will be used to identify mobility standards in the existing and future conditions analysis.

TABLE 4

Rockaway Beach Transportation Plan Study – Highway Mobility Standards

Location	Mile Point	OHP Highway Classification	Mobility Standard Category	Area	Speed	V/C Ratio Standard	
						Existing or Future No-Build	Future Build
US 101							
At Beach Drive	48.74Z	Statewide, NHS, TR, SB	Statewide (non Freight Route)	Non-MPO	45	0.75/0.80*	0.70/0.75
At Neah-Kah-Nie High School Access	49.03Z	Statewide, NHS, TR, SB	Statewide (non Freight Route)	Non-MPO	45	0.75/0.80	0.70/0.75
At Northeast 12th Avenue	49.77	Statewide, NHS, TR, SB	Statewide (non Freight Route)	Non-MPO	45	0.75/0.80	0.70/0.75
At North 6th Avenue	50.38	Statewide, NHS, TR, SB, STA	Statewide (non Freight Route)	STA	45	0.90/0.95	0.90/0.95
At North 3rd Avenue	50.64	Statewide, NHS, TR, SB, STA	Statewide (non Freight Route)	STA	30	0.90/0.95	0.90/0.95
At South 1st Avenue	50.82	Statewide, NHS, TR, SB, STA	Statewide (non Freight Route)	STA	30	0.90/0.95	0.90/0.95
At South 2nd Avenue	50.90	Statewide, NHS, TR, SB, STA	Statewide (non Freight Route)	STA	30	0.90/0.95	0.90/0.95
At South 3rd Avenue	51.01	Statewide, NHS, TR, SB, STA	Statewide (non Freight Route)	STA	30	0.90/0.95	0.90/0.95
At South 6th Avenue	51.35	Statewide, NHS, TR, SB, STA	Statewide (non Freight Route)	STA	30	0.90/0.95	0.90/0.95
At Washington Street	51.67	Statewide, NHS, TR, SB	Statewide (non Freight Route)	Non-MPO	40	0.80/0.85	0.75/0.80

Notes:
NHS – National Highway System
TR – Federally Designated Truck Route
SB – Scenic Byway
STA – Special Transportation Area
* V/C Ratio Standards are shown as uncontrolled approach/controlled approach
Speed Source: Speed Zone Orders
Existing and No-Build Mobility Source: Adopted Oregon Highway Plan as Amended in August 2006 (Table 6)
Future Mobility Source: ODOT Highway Design Manual (Table 10-1)

VI. Traffic Analysis Software and Input Assumptions

Synchro software, version 7, will be used for the intersection analysis. The reported results will be the V/C ratios from the HCM report. The assumptions are listed in Table 5. Simulation input will be based on TPAU's *Analysis Procedure Manual*.

TABLE 5

Rockaway Beach Transportation Plan – Synchro Operations Parameters/Assumptions

Intersection Parameters	Condition	
	Existing (2010)	No-Build and Build Alternatives (2030)
PHF (Peak Hour Factor)	From traffic count data where 15 minute intervals are available. In the event that PHF cannot be calculated: - 0.85 for side street approaches - 0.90 for State Highway Minor Arterials - 0.95 for State Highway Major Arterials	- 0.85 for side street approaches - 0.90 for State Highway Minor Arterials - 0.95 for State Highway Major Arterials If traffic count has higher PHFs than default PHFs, then continue using the existing PHFs
Conflicting Bikes and Pedestrian per Hour	From traffic count, if not provided, assume 5 ped, 5 bike crossings/ approach	From Existing
Area Type	Default	From Existing
Ideal Saturation Flow Rate per Lane (for all movements)	1750	From Existing
Lane Width	From As-builts, field visit or ODOT website, otherwise 12 feet	From Existing
Percent Heavy Vehicles	From traffic count, otherwise 5%	From Existing
Percent Grade	From As-builts, otherwise 0%	From Existing
Parking Maneuvers per Hour	If on-street parking allowed, assume 1 maneuver per stall)	From Existing
Bus Blockages	From field visit, otherwise assume 0	From Existing
Intersection signal phasing and coordination	N/A, no existing signals	If signals are proposed, optimize phase and cycle length, phase sequence and offset (if signals benefit from coordination)
Intersection signal timing optimization limits	N/A, no existing signals	If signals are proposed, 60 to 120 seconds depending on the number of phases[1]
Minimum Green time	N/A, no existing signals	If signals are proposed and determined warranted, timing will be assumed per APM guidelines
Yellow and all-red time	N/A, no existing signals	If signals are proposed and determined warranted, timing will be assumed per APM guidelines
Right Turn on Red	N/A, no existing signals	From existing conditions, if additional signal, then "allow"
Vehicle Queues	95th Percentile, based on ave 25'/ vehicle. SimTraffic used for signalized and unsignalized intersections (average of at least 5 runs of 1 hour length, 15-min peak divided out)[2]	Same as Existing

[1]Assumptions consistent with White Paper on Application of Oregon Highway Plan Mobility Standards.

[2]The simulation will be for one hour with the peak 15-minutes in the first 15 minutes. The results from this simulation will be applied to signalized and unsignalized intersections. Instructions provided by TPAU.

VII. Crash Analysis

A crash analysis will be conducted in the study area. Data will be collected from ODOT for the five most recent years available at time of project start date.

Analysis will include crash rates for each study intersection and segment outlined in Tables 6 and 7, as well as comparisons to published rates of similar facilities. Available crash data will be reviewed for trends and patterns throughout the study corridor. No sites in the study area within the top ten (10) percent of 2008 Region 2 Safety Priority Index System (SPIS) have been identified.

TABLE 6
Rockaway Beach Transportation Plan - Crash Analysis Segments

Segment No.	State Highway Number/Street Name	Route No.	Begin MP	End MP	Segment Length (Miles)
1	Oregon Coast Highway No. 9	US 101	48.70 Z Northern UGB	50.05 Between N 8th Ave and NW 9th Ave	1.35
2	Oregon Coast Highway No. 9	US 101	50.05 Between N 8th Ave and NW 9th Ave	51.20 Between S 4th Ave and S 5th Ave	1.15
3	Oregon Coast Highway No. 9	US 101	51.20 Between S 4th Ave and S 5th Ave	52.10 Southern UGB	0.90

Segments 1 and 3 will be compared to the ODOT 2007 Crash Rate for principal arterials in suburban areas (1.19). Segment 2 will be compared to the ODOT 2007 Crash Rate for principal arterials in urban cities (2.37).

TABLE 7
Rockaway Beach Transportation Plan - Crash Analysis Intersections

No.	Intersection	Mile Point
1	US 101 & Beach Drive	48.74 Z
2	US 101 & Neah-Kah-Nie High School Access	49.03 Z
3	US 101 & Northeast 12th Avenue	49.77
4	US 101 & North 6th Avenue	50.38
5	US 101 & North 3rd Avenue	50.64
6	US 101 & South 1st Avenue	50.82
7	US 101 & South 2nd Avenue	50.90
8	US 101 & South 3rd Avenue	51.01
9	US 101 & South 6th Avenue	51.35
10	US 101 & Washington Street	51.67

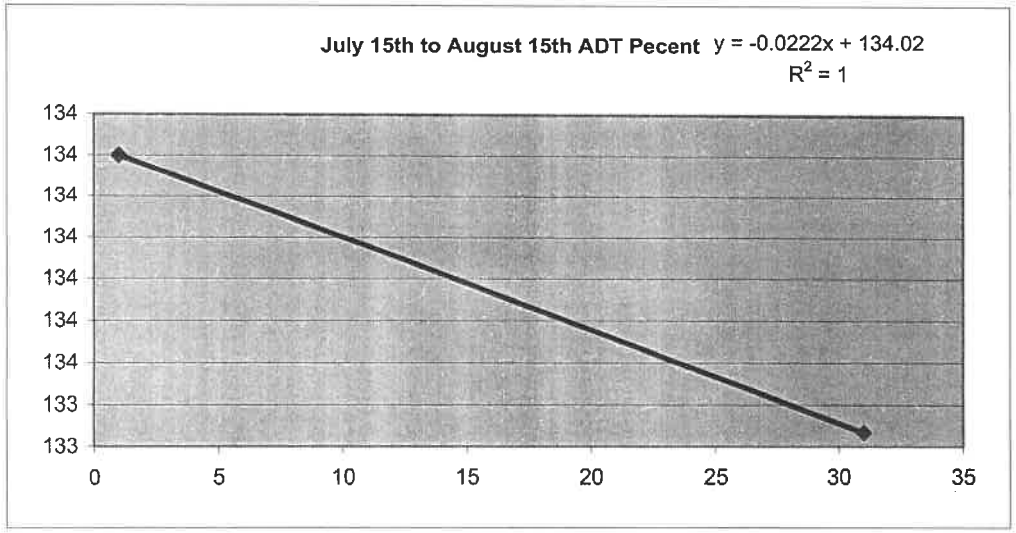
The future crash analysis will be qualitative in nature and will not include a quantitative future predictive analysis.

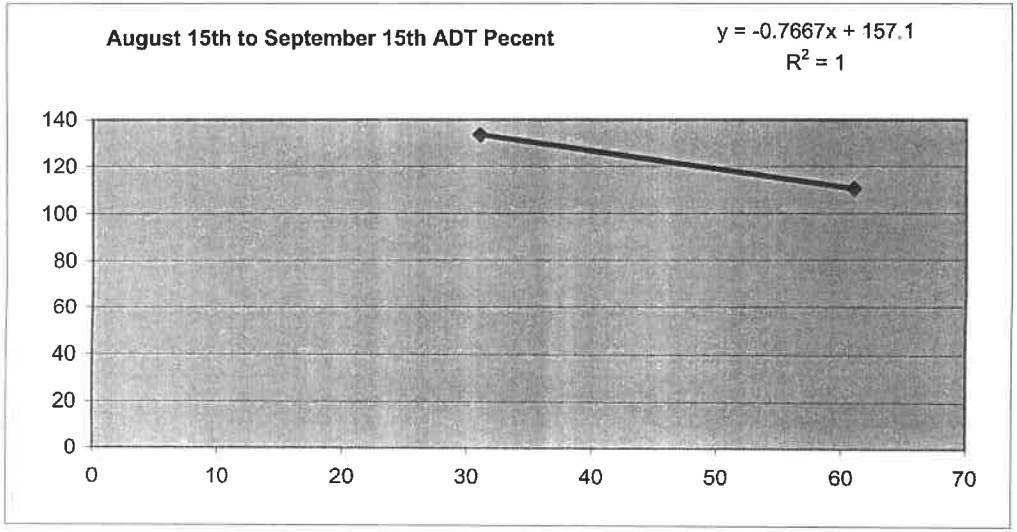
Attachment
Seasonal Adjustment Factor Calculations

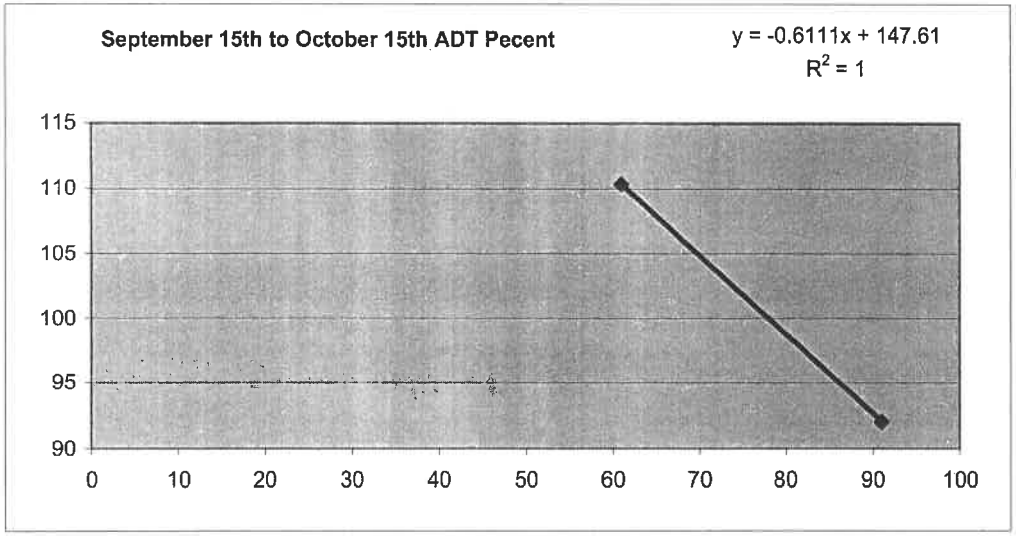
Seasonal Adjustment Factors
Rockaway Beach Transportation Plan
ATR 29-001 (Rockaway)

Results			
Int. No.	**Intersection**	**Count Date**	**Adjustment Factor**
1	US 101 & Beach Drive	Sept-09 to 10, 2007	**1.17**
2	US 101 & Neah-Kah-Nie High School Access	Sept-09 to 10, 2007	**1.17**
3	US 101 & Northeast 12th Avenue	Sept-10 to 11, 2007	**1.17**
4	US 101 & North 6th Avenue	Sept-12 to 13, 2007	**1.19**
5	US 101 & North 3rd Avenue	Sept-24 to 25, 2007	**1.28**
6	US 101 & South 1st Avenue	Aug-17 to 18, 2009	**1.01**
7	US 101 & South 2nd Avenue	Sept-11 to 12, 2007	**1.19**
8	US 101 & South 3rd Avenue	Sept-12 to 13, 2007	**1.19**
9	US 101 & South 6th Avenue	Sept-17 to 18, 2007	**1.23**
10	US 101 & Washington Street	Sept-12 to 13, 2007	**1.19**

	Percentage of ADT					Average	Seasonal Adjustment
	2007	**2006**	**2005**	**2004**	**2003**		
Peak Month (July)	~~138~~	135	133	~~130~~	134	134	
Count Month - July (15th)	~~138~~	135	133	~~130~~	134	134	
Count Month - Aug (15th)	135	133	132	~~131~~	~~137~~	133	
Count Month -Sept (15th)	~~113~~	111	~~107~~	110	110	110	
Count Month - Oct (15th)	93	~~95~~	91	92	~~90~~	92	
September 10th							**1.17**
September 12th							**1.19**
September 17th							**1.23**
September 24th							**1.28**
August 17th							**1.01**


July 15th to August 15th ADT Pecent
y = -0.0222x + 134.02
R2 = 1
134
134
134
134
134
134
134
133
133
0
5
10
15
20
25
30
35


August 15th to September 15th ADT Pecent
y = -0.7667x + 157.1
R2 = 1
140
120
100
80
60
40
20
0
0
10
20
30
40
50
60
70


September 15th to October 15th ADT Pecent
y = -0.6111x + 147.61
R2 = 1
115
110
105
100
95
90
0
10
20
30
40
50
60
70
80
90
100