

*Reconstructed U.S. Route 101
shortly after project completion.*



U.S. ROUTE 101- LINCOLN BEACH PARKWAY

Lincoln County, OR

BACKGROUND/PURPOSE

What has come to be called the “Lincoln Beach Parkway” is, in reality, a section of the Oregon Coast Highway (U.S. Route 101). Construction of the highway began in 1919 to ensure military preparedness. At that time, it was called the Theodore Roosevelt Coast Military Highway. The current name was adopted in 1931.

Running adjacent to the Pacific Coast for nearly 565 km (50 miles), this route is one of the most scenic highways in the United States. Its elevation varies from near sea level to cliffs 305 m (1,000 ft) above the ocean. The road passes through a variety of urban, suburban, and rural landscapes.

Major Traffic Growth Expected

U.S. 101 serves local, regional, and tourist travel demands. Existing ADT volumes within the central coastal region through Lincoln County range from a low of approximately 5,000 vehicles per day at the southern county line to approximately 17,500 vehicles per day in the Lincoln City area. Year 2015 traffic projections forecast these volumes to increase to approximately 11,700 vehicles per day and 32,000 vehicles per day, respectively.

Improved Access vs. Community Impacts

A major conflict facing the entire Route 101 corridor is the need to provide better access to resort-oriented communities to enhance economic development opportunities while balancing the impact of capacity improvements. This issue was particularly acute in Lincoln Beach, a city of 10,000, where new residential and resort developments, and access to them, contributed to increased congestion levels and a high accident rate.

Initial Options

This project was initiated by the Oregon Department of Transportation (ODOT) at the request of the Lincoln County Commissioners in early 1989. Initially, only three actions were considered: (1) the do-nothing/no-build option of retaining the existing two-lane undivided roadway with no access control, (2) a three-lane cross section with a continuous two-way median left-turn lane, and (3) a five-lane cross section with a continuous two-way median left-turn lane. When these three options were presented to the local community at public meetings in connection with the environmental assessment process, each option received an equal amount of support and opposition. The result was that no consensus was reached on the appropriate action.



View of Pacific Ocean beyond.

In 1992, jurisdictions along the highway approved the concept of a Pacific Coast Scenic Parkway to “increase the aesthetic experience, assist in access control, and develop community identity.” These parkways were to deviate from typical ODOT design concepts by providing a raised center median and limited median breaks, while keeping direct access along both sides of the road.

Land Use Control: A Paramount Factor

An important point raised by the Lincoln County Council was the relationship of the project’s design features to the County’s Master Plan, which was designed to control strip development. The Lincoln Beach area is a lightly developed 3.2-km (2-mile) section of homes and small businesses that is in the path of urban growth.



Before improvements.

Parkway Concept Adopted

Following the initial ODOT presentations of the parkway design concept, in 1988, the Lincoln County Commissioners sponsored a second public information meeting. The meeting was well attended by corridor residents and local business owners. As a result, the County Commissioners formally requested that the parkway design concept be implemented.

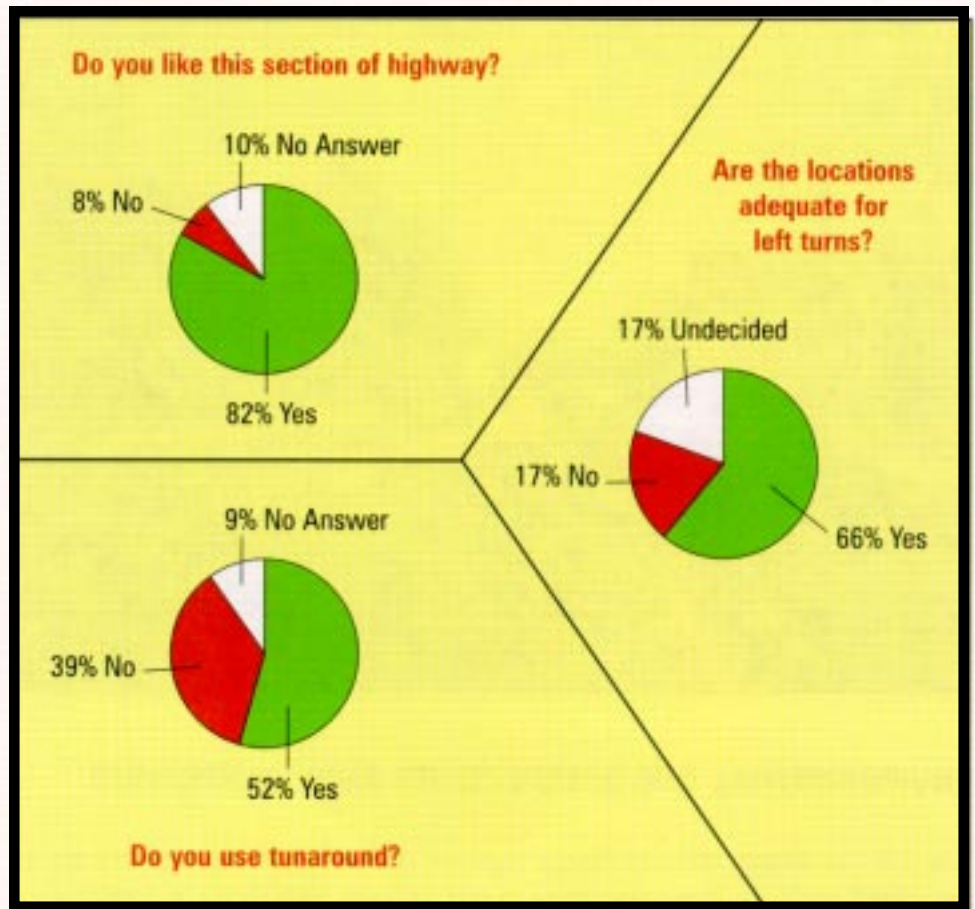
Design was initiated shortly thereafter by ODOT staff, with final plans completed in May 1990. Construction began in August 1990. Construction was complete and the 3.2-km (2-mile) section was opened to traffic in July 1992.

As finally constructed, the Lincoln Beach Parkway has a basic four-lane mediandivided cross section, with a curb-and-gutter closed drainage system and 1.2-m (4-ft) sidewalks along both sides. The cross section consists of two, 3.6-m (12ft) travel lanes on either side of a typical 4.3-m (14-ft) raised, landscaped median. To accommodate bicyclists, the pavement on either side of the median was originally designed to include a 0.6-m (2-ft) left shoulder and a 1.8-m to 2.4m (6-ft to 8-ft) right shoulder. However, the left shoulder is currently striped as 1.2 m (4 ft) wide and the right shoulder is typically 1.2 m to 1.8 m (4 ft to 6 ft) wide.



Widened paved shoulders were provided for bicyclists.

Motorist Survey
(1,535 Interviews)



Favorable Public Reaction

The reaction to the project by both local businesses and residents has been favorable, except for several of the business owners who complain about restricted access. Surveys of users of the facility conducted by Portland State University for ODOT should an 82 percent favorable rating by auto drivers and a 78 percent favorable rating by drivers of delivery and large trucks. Moreover, 77 percent of auto drivers and 79 percent of truck drivers expressed the view that the parkway is much safer than the previous two-lane highway. Recent accident records verify this attitude survey. The records show that the accident rate along this section of parkway has been halved and is lower than on other three-lane or five-lane sections of U.S. Route 101 that have similar traffic volumes and development density.



Turn lane improvements.

ENVIRONMENTAL AND DESIGN ISSUES AND CONSTRAINTS

The Lincoln Beach Parkway design required resolution of the types of issues associated with the implementation of any highway improvement project in a developing suburban area. Residences and businesses with direct access from both directions along the old two-lane highway now have access from only one side of a four-lane divided highway. At one point, a concrete soundwall was built to reduce the noise impact on residents of a trailer park, but the barrier also partially obscures the view of the entrance to a craft shop.

ACTIONS TAKEN TO RESOLVE ISSUES

Access Controls

A complex issue addressed during design was the manner in which to ensure adequate access to adjacent properties. Where possible, median breaks were provided at existing public street intersections and these streets were repaved or reconstructed. In a few instances, closely spaced streets were consolidated into a single crossing point through the use of short sections of parallel connector street. The design of median breaks was tailored to allow for easy movement by oversize recreational vehicles and tour buses.

Emergency Vehicle Access

At street intersections where a median break could not be safely provided, special access-crossing concrete pavers were installed in the landscaped median to allow for fire and emergency vehicles to reach the areas. Raised pavement markers along the mountable median curb identify these locations.

Special Turnaround Design

In recognition of the large number of recreational vehicles and tour buses using the Route 101 corridor during the summer peak season, special turnarounds designed to accommodate full-size buses were provided at the center and at both the northern and southern ends of this project.

Postal Service Provisions

An unanticipated benefit of the median construction resulted from the installation of mailboxes on both sides of the highway. Previously, all mailboxes were located on the northbound or east side of the two-lane highway. Residents are now able to walk or bicycle to get their mail. Many residents believe this action, combined with sidewalks along both sides of the highway, has resulted in a more closely knit community than formerly existed.

Community Enhancements

The extensive use of native low-level plantings in the parkway median and along the perimeters of the roadway and sidewalks has led adjacent property owners to invest in site landscaping and related improvements. Landscaping also helps define the road edges in this area of frequent fog and 2.0 m (80 in) of annual rainfall.

Lessening Noise Impact

Techniques to lessen physical and noise impact on adjacent properties were important. These techniques involved constructing short sections of retaining walls along the roadway edges to avoid side slope impacts on homes. In addition, a soundwall that is 3.7 m (12 ft) high was constructed for a distance of approximately 163 m (600 ft) adjacent to a mobile-home park. Vine-like vegetation enhances the soundwalls.



The Issue of Overhead vs. Underground Utilities

Because this was a demonstration project, ODOT attempted to have overhead utilities placed underground during highway construction. However, the local public utility district declined to support such an option, citing an estimated cost of approximately \$1.2 million. ODOT subsequently obtained \$600,000 in State funds to pay for one-half of the utility undergrounding but still obtained no interest in participation by the public utility district. As a result, half the project has underground utilities and half has overhead lines. An unusual illustration of differing visual effects exists over the relatively short length of the project.

Shoulder Width Exception

The only formal design exception requested from FHWA by ODOT was a reduction in the outside shoulder width from 3.0 m (10 ft) (the 1990 AASHTO Green Book minimum requirement for such rural arterial highways) to 2.4 m (8 ft). The 1994 edition of the Green Book now allows for use of shoulders that are 2.4 m (8 ft) wide on such facilities.

Although not a formal design exception per se, this project does represent a major variance from typical ODOT highway planning and design practice by providing a raised median along a non-access-controlled rural/suburban highway. Generally in Oregon, medians are found only along full access-controlled freeway or expressway facilities and urban boulevards.

LESSONS LEARNED

ODOT views the planning and design of the Lincoln Beach Parkway as a prototype for similar highway improvements that can be implemented along the U.S. Route 101 corridor. The early involvement of residents and businesses, in addition to local elected officials and traditional public agency representatives, is now viewed as standard departmental procedure to better involve all affected stakeholders. Documentation of the safety benefits associated with mediandivided arterial facilities, in contrast to the traditional ODOT three-lane and five-lane urban cross-section design solutions, is an important result of this planning and design effort.

The design treatments associated with the Lincoln Beach Parkway are viewed as a model for resolving future traffic management problems throughout Oregon, especially on U.S. 101. ODOT is now engaged in the second phase of the Coast Highway Corridor Master Plan development, which is concerned with the definition of more detailed access management plans and subarea planning and design studies, including the consideration of a number of through-traffic bypasses around congested urban areas.

LINCOLN BEACH PARKWAY AT A GLANCE

Setting: Pacific Coast resort community, rural transition to suburban

Length: 3.29 km (2.04 miles)

Traffic Volume: 11,500 ADT (1992 count)

Design Speed: 73 kph (45 mph)

Type of Road: Rural principal arterial; four-lane, median divided (part of an Oregon Scenic Byway)

Design Cost: Not available (in-house by Oregon DOT staff)

Construction Cost: \$4.8 million (including \$600,000 for 1 mile [1.6 km] of underground utilities)

Key Design Features: Raised, landscaped median area (first use on a non-limited-access rural highway in Oregon); emergency vehicle median crossover points; special turnarounds provided for buses and large RVs

Debits: Utilities placed underground on one-half of project; limited separation of some existing homes and businesses from edge of travelway due to restricted right-of-way availability

Similar Projects: Carson Street, Torrance, CA
One-Way Couplet, Carbondale, IL
West Broad Street, Falls Church, VA

Contacts for Additional Information: Mr. Donald Byard
Senior Transportation Planner
Transportation Development Branch
Oregon Department of Transportation
555 13th Street, NE
Salem, OR 97310
Tel: 503-986-4126