OLYMPIC NATIONAL PARK ROAD SYSTEM
Olympic National Park
Port Angeles vicinity
Clallam County
Washington

HAER No. WA-166

HAER
WA-166

PHOTOGRAPHS

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
1849 C St. NW
Washington DC 20240

ADDENDUM TO:
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WRITTEN HISTORICAL AND DESCRIPTIVE DATA

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HAER NO. WA-166

Location: Olympic Peninsula, Jefferson, Clallam, Mason, and Grays Harbor counties, Washington
UTM Coordinates are listed in Appendix I.

Dates of Construction: Late nineteenth century to 1959

Designer/Builder: Various

Structure Type: Park road system

Present Owner: National Park Service, U.S. Department of the Interior; U.S. 101 is owned by Washington State.

Present Use: Transportation for park visitors, peninsula visitors, the local population, and commerce

Significance: The road system of Olympic National Park is largely organic in character, having been laid down over the years as need and happenstance dictated. When the Park Service took over management of the area in 1933, it inherited the vast majority of this system. The only major road planned and built under Park Service administration is the new Heart O' the Hills-Hurricane Ridge route constructed between 1949 and 1959. This route, as well as the decision not to construct other new roads in the park, reflect Olympic's designation as a wilderness park. Olympic's road system is intended to bring the visitor to the wilderness with the least possible disturbance of that wilderness.

Historian: Gina Ottoboni, Seattle, Washington, March 2004

Project Information: The Olympic National Park Road System research project was undertaken by the Historic American Engineering Record (HAER) and was sponsored by the Cultural Resources Division of Olympic National Park in the summer of 1999. Caroline Swope, graduate student, University of Washington, carried out the initial research during the summer of 1999 at the park and in Seattle and prepared a draft report. Additional research was later carried out in Seattle by Gina Ottoboni and supervised by the Cultural Resources Division, Columbia Cascades Support Office, National Park Service, Seattle, Washington. Old and new information was then compiled and edited by Gina Ottoboni. Jet Lowe, HAER Photographer,

produced large format photography. Justine Christianson, HAER Historian, prepared the documentation for transmittal to the Library of Congress.

I. INTRODUCTION

In 1985, a Park Service study team issued a slim volume on the road system of Olympic National Park. While the report was prepared both to comply with law and to guide road maintenance and improvement activities, it also reinforced the philosophy that has guided Olympic National Park since its inception. In language reminiscent of the National Park Service's founding document, the 1916 Organic Act, the report addressed the philosophy that governed park decisions, including those pertaining to roads:

> The fundamental purpose of national parks, and Olympic in particular, is to bring humankind and the environment into closer harmony; consequently, the quality of the park experience becomes a primary concern. The distinctive character of park roads plays a basic role in providing a safe, leisurely, and unhurried experience. The park roads should be designed with extreme care and sensitivity with respect to the terrain and environment through which they pass—they are laid lightly onto the land. Finally, the park road system is not intended to provide fast and convenient transportation.[1]

Throughout the history of the park, its roads have been subservient to the creation of a deeper experience, the experience of wilderness. For more than half a century, the concept of a wilderness park has guided road development, or more precisely, lack of development. Unlike Yosemite or Yellowstone, visitors cannot drive through Olympic. No roads cross its glacier-capped mountains or reach the headwaters of its many rivers. Short stretches of hardtop or gravel permit access to only a few select areas of the park. The remainder of this vast expanse must be explored the old-fashioned way—without the aid of motorized transport. While Olympic may not be the roadless park some hoped it would be, it is not one that caters primarily to the automotive traveler. Nevertheless, most visitors to the park arrive by car, and many never venture far from the roads that bring them to their destinations.

The roads of Olympic National Park are as varied as the park itself. From the coastal highway at Kalaloch, to the Hoh Rain Forest Road, to the vistas of Hurricane Ridge, the park's roads provide a window onto its many ecosystems. They also provide access to recreational areas and byways for visitors, locals, and commercial interests alike. Although envisioned as a largely roadless, wilderness park, one that would protect nature's beauty for posterity, Olympic was carved not out of pristine wilderness, but rather out of Forest Service lands dotted, here and there, with individual homesteads, small communities, and vacation enclaves. When the park opened in 1938, most of its roads were already in place. The park roads therefore have a history that predates the park and informs the Olympic experience today. In the intervening years, the road map of the park has changed little, with the exception of the building of the new road to Hurricane Ridge and the subsequent closing of the old route. Maintenance and improvement,

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[1] *Road System Evaluation: Olympic National Park* (Denver: U.S. Department of the Interior, National Park Service, Denver Service Center, 1985), 2.

along with the construction of short access and service roads, have been the staples of road history during the tenure of the park.

The largest of four national parks in Washington State, Olympic National Park is located in the northwestern corner of the state, on the Olympic Peninsula. Its 922,651 acres lie within four counties, Jefferson, Clallam, Mason, and Grays Harbor, and are ringed by Olympic National Forest. Although the heart of the park is contained within the central massif of the Olympic Range and its descending river valleys, a narrow, 57-mile long, coastal strip gives the park a purchase on the Pacific. An additional strip of land along Morse Creek connects the main body of the park with its administrative headquarters just outside the town of Port Angeles. No park in the United States contains as great a variety of ecosystems and microclimates as Olympic. From the only temperate rain forest in the contiguous United States, to the fog-swept beaches, to the barren heights of Mount Olympus, the park ranges from sea level to approximately 8,000 feet in altitude and is home to more than 1,500 species of flora and fauna, including eight animals and sixteen plants found only on the peninsula. While the Hoh Ranger Station, on the western boundary of the park, receives more than 142 inches of rain per a year and Mount Olympus, the highest peak in the park, receives more than 220 inches, most in the form of snow, the drier eastern slopes of the Olympics receive only about 20 inches of rain per year.

The largest portion of Olympic National Park, approximately 95 percent, is wilderness, formally designated as such by Congress in 1988 according to the provisions of the Wilderness Act of 1964. In addition to developed areas within the park, most road corridors are not part of the designated wilderness area.[2] Among the park's settlements are the resort areas of Lake Crescent and Lake Quinault. The nearest city, Port Angeles, has a population of about 20,000. The main road on the Olympic Peninsula is U.S. Highway 101, which both encircles the peninsula and runs through sections of the park. This highway, a major north-south thoroughfare running from northern Washington to southern California, provides easy access to the park. Roads also serve, at least partially, Olympic's numerous river valleys. Like spokes on a wheel, these roads run from the perimeter of the park in towards the center, following its many river valleys. Most roads, however, run only a short distance up the valleys, ending at trailheads, which provide access to the park's interior. The majority of park roads cover moderate to mountainous terrain, and are in fair condition. Paved roads often give way to unpaved, but graded roads, particularly as they progress deeper into the valleys.[3] Some roads, such as Dosewallips, Deer Park, Queets, and Graves Creek are unpaved for their entire length. While all park roads are subject to the vagaries of wind and water, most remain open during the winter, conditions permitting. Only Deer Park, Obstruction Point, and Hurricane Hill close for the duration of the winter season. Hurricane Ridge, the most historically significant of the park's roads, has limited winter hours, due in part to seasonal road conditions, including snow, avalanche danger, and wind. Although the weather and road conditions may be excellent at the bottom of the mountain, the road's 5,000-foot gain guarantees a change in weather. All in all, Olympic's roads provide a variety of driving experiences, as well as access to many of the park's

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[2] The Washington Park Wilderness Act (PL 100-668) (16 November 1988) as cited in "Legislative History" [Internet] [cited 20 March 2004]: available from: http://www.nps.gov/olym/stmlegis.htm.

[3] A graded road is one that has been surfaced by a grader. Often crushed stone or gravel is put down before the grader smoothes the surface. The result is a road, which although unpaved, has a hard, smooth surface—at least until the rains begin.

recreational sites. The center of the park, however, remains roadless. Despite an area greater than that of Rhode Island, the park has less than 200 miles of major road, yet more than 600 miles of trail.

From the late nineteenth century, when the first roads in what is now Olympic National Park were laid down, to the early twenty-first century, Olympic's roads have served many purposes. They have carried the peninsula's timber to market and brought back market goods to the local population. They have aided in the effort both to protect and exploit the peninsula, its flora and its fauna. They have brought visitors to the park and wilderness to the visitors, yet, unlike the roads in most of our national parks, the Olympic road system has never brought the visitor to the heart of the park's wilderness. It is, in fact, the lack of roads within Olympic National Park that is so notable. Instead of concession stands and campgrounds, parking lots and pop-up campers, protected mountain peaks rise in the center of this park. Olympic's roadless nature is rooted in the sentiments and controversies that created it. It is a park dedicated to the protection of elk and old growth forest, a park where wilderness is worshipped and recreation respects wilderness, for the most part. Here, the automobile gives way to hiking boots and snowshoes, and the motor home is often best left at home. Olympic National Park can be seen from the road, but its subtleties, its heights and valleys, are best seen from the trail. The history of Olympic National Park's roads is therefore a story both about roads built and roads not built. It is a story about balancing the demands of a growing population with the fragile wilderness of the park itself. It is also a story about the policies, politics and priorities of the National Park Service, the Forest Service, timber companies, and a host of local, regional, and national interest groups. Finally, it is a narrative that continues to be written to this day. While parkland is now safe from the forester's blade and the heyday of road construction is past, the park and its roads continue to face the challenges of both human and environmental stress.

II. DESCRIPTION

DESCRIBING THE PARK: FROM PAVED HIGHWAY TO SCENIC BYWAY

The map of the Olympic peninsula, and in particular of Olympic National Park, reveals a largely rugged, mountainous area notable for its lack of roads, a fact little changed since the Park Service took over administration of the area in 1933. The park's 922,651 acres contain only 122 miles of paved road, and 67 miles of unpaved, graded road—a small figure by National Park standards.[4] Twenty-seven bridges, three tunnels, a number of turnouts and parking lots, and minor access roads complete the road system.

Olympic's roads fall into three major categories, or functional classifications: public use roads, administrative roads, and finally, urban parkways and city streets. This report is concerned with the first of the three, public use roads, although those that provide access solely to campgrounds and other visitor facilities will not be discussed in any detail, nor will other minor public use roads. The park's main routes are easily identified by a glance at the Olympic National Park brochure. Minor roads can be found on more detailed maps of the area. On a

[4] *Road System Evaluation*, 9.

map, the road system appears somewhat like a large misshapen wheel encircling the park. Spur roads, like the broken spokes of a wheel, run only a short distance inward from U.S. 101. The vast, mountainous center of the park is roadless. Because of this physical arrangement, it is useful to describe the roads as a traveler might encounter them, counter-clockwise beginning in the north, just east of Port Angeles, with Deer Park Road, and ending with the short Dosewallips Road on the eastern edge of the park.

The Deer Park Road, built by the Forest Service with CCC labor, leaves U.S. 101 just east of Port Angeles climbing through the foothills before entering the park at an altitude of just over 2,000 feet. For the next 8.6 miles the road climbs steeply, with a maximum grade of 10 percent, a vast improvement from the 23 percent grade of the early road.[5] Nevertheless, it can be a challenging drive. The roadbed is narrow—from a minimum width of only 9' to a maximum of 16'. There are few turnouts and in many places the shoulder drops steeply away. Although the road remains unpaved, like many roads in the park, it is graded. The route traverses forest, alpine meadow, and exposed areas of rock. Near the top of Blue Mountain, Deer Park Road reaches its apex at just under 6,000 feet. At one time, a ski area and lodge graced the top of the mountain. When Hurricane Ridge Lodge opened in 1957, the ski area and lodge on Blue Mountain were closed. A seasonal campground has replaced the winter lodge. Beyond the campground, the road climbs a short distance before ending at the trail leading to the top of the mountain. The mile-long Green Mountain Road is a short spur road, which heads from Deer Park towards Obstruction Point.

While there are many entrances to Olympic National Park and many roads that offer a window onto Olympic's scenery, perhaps the best portal to the park is the Pioneer Memorial Museum and Visitor's Center outside Port Angeles. Just beyond, the 4.9-mile Heart O' the Hills Parkway forks to the right as it heads steadily upward through the forest to the junction with the park's great road, Hurricane Ridge. Often, the two segments together are referred to as Hurricane Ridge Road. The current road should not be confused with the old Hurricane Ridge Road, which ran from the Elwha River to the ridge and thence up Hurricane Hill. Much of this old road is now closed or renamed. Together, Heart O' the Hills Parkway and Hurricane Ridge Road provide access to Heart O' the Hills Campground, Hurricane Ridge Visitor's Center and Lodge, the nearby ski center and picnic grounds, as well as a number of trails. Both roads are paved and open year-round, weather and road conditions permitting, although Hurricane Ridge has limited hours during the winter. The two roads meet at the Heart O' the Hills Ranger and Entrance Station where fees are collected during the high season, usually Memorial Day through early October.

Hurricane Ridge Road has an asphalt surface laid over a crushed stone base. The two-lane road is divided by a painted median. It is 26' wide and the shoulder varies from 1' to 3'. The posted speed limit is 35 miles per hour and the maximum grade, 7 percent. Over the 17.65 miles from the museum to the lodge the road gains approximately 5,000 feet in altitude. As road conditions can vary greatly from the bottom to the top of the road, a series of gates, each several miles apart, provides for flexible closures. There are more than thirty turn-offs and several interpretive sites. Although the road itself has no bridges, at about milepost three, it passes under the Washington State Division of Natural Resources Bridge, which provides access to state land

[5] Superintendent's Narrative Reports, Office of the Superintendent, Olympic National Park, box 1, folder 4, 23 March 1937, Cultural Resources Office Archives, Olympic National Park Headquarters, Port Angeles, Washington.

on either side of the road. Designed and owned by the Park Service, the box-beam bridge was constructed in 1969 and built of cast-in-place concrete. Six miles farther up the road, at Lookout Rock, three tunnels provide passage through the steep side of Burnt Mountain. Constructed in 1955, the tunnels are lined in concrete and vary in length from 293' to 515'. All three have a vertical clearance of 17'-10", and are 24' wide. There are no sidewalks within the tunnels, although there are 3' wide, raised shoulders on each side. The tunnel portals have a bushhammer finish. A 160' viaduct is located at milepost 9.65, in front of the first tunnel. The structure is cast concrete with tee-beam spans and spread footing. A second viaduct of the same construction, located before the third tunnel, at milepost 10.03, is 150' in length. Both viaducts have a deck width of 26'.

The first section of the road, Heart O' the Hills Parkway, runs through lowland ecological zones heavily populated with maple, alder, and a variety of second growth conifers, mainly cedars. The first several miles of road ascend steadily through the forest to the park entrance station at Heart O' the Hills. Beyond, the park's most celebrated road, Hurricane Ridge, climbs steadily from the mixed forest of the lowlands to the sub-alpine zone, first heading southeast before turning westward at Lookout Rock and the Tunnels Overlook. Here, at an altitude of 2,800 feet, the vista sweeps from Victoria, on the tip of Vancouver Island in the north, eastward to the San Juan Islands, and thence to the mainland where the Cascades rise up, punctuated by the glacier-capped Mount Baker. Below, in the foreground, are the populated area of Sequim and the unsightly patches of clear-cut land in the surrounding Olympic National Forest. To the southeast, Deer Park Road is visible as it climbs to its apex on Blue Mountain. From Tunnels Overlook, it is a short walk to Lookout Rock and its view south and west into the deep canyons of Olympic. The forested canyon walls drop precipitously away and the sound of the wind below is magnified and carried upward. Lookout Rock also provides an excellent view of the Hurricane Ridge Tunnels. Beyond the overlook, the road winds through the three consecutive tunnels blasted out of the steep, basalt walls of Burnt Mountain.

Beyond the tunnels the forest is less dense, with conifers dominating. The road curves gently along the steep southern slope of the mountain. In some areas, the exposed slope is treeless, and reddish-brown soil or rock covers the hillsides. Pillow basalt, lava that erupted underwater and hardened into rounded, pillow-like shapes, can been seen as the road heads westward from Lookout Rock along Klahhane Ridge.[6] Farther up the road, the overlook near Rocky Peak provides both a roadside interpretive site on pillow basalt and a good place to view these unusual formations. All along Klahhane Ridge views sweep southward across the steep canyons of the Morse Creek watershed towards the mountainous formation of Hurricane Ridge itself. Here, the views are more open as the trees give way to rock, earth, and, for many months of the year, snow. Several avalanche chutes cross the road. Below Mount Angeles, the road winds southward again until it finally meets its namesake, Hurricane Ridge. As the roadway turns westward on its last leg to Hurricane Ridge Lodge and Visitor Center, the great panorama of the Olympics spreads across the horizon in all its breath-taking majesty.

The Lodge and Visitor Center were built before the completion of the new Hurricane Ridge route and were originally accessed via the old Hurricane Ridge Road, which ran up from the Elwha River. The old road, long since closed, is now one of several trails in the vicinity of

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[6] George Wuerthner, *Olympic: A Visitor's Companion* (Mechanicsburg, Pa.: Stackpole Books, 1999), 35-38.

the lodge. A parking lot and small ski area complete the ridge-top facilities. At Hurricane Ridge, human tenacity, technological achievement and natural wonder meet. Beyond, meadows and canyons, rivers and mountains, forests and glaciers make wilderness a reality. Behind, a ribbon of pavement unwinds, bringing civilization to the backcountry, the city dweller to the wilderness, or at least to its parking lot.

The last leg of Hurricane Ridge Road, sometimes known as Hurricane Hill Road, begins beyond the lodge at Big Meadow and continues 1.35 miles up Hurricane Hill. In the winter it is closed due to snow. The road terminates in a one-way loop turn around.

Obstruction Point Road, which runs 7.74 miles to Obstruction Point, leaves Hurricane Ridge Road just east of the lodge. The narrow dirt road is only 12' to 16' in width and has no shoulder. Covering mountainous terrain, the road is considerably steeper than most roads in the park, with a maximum grade of between 15 and 20 percent. The road travels along Hurricane Ridge, at an approximate altitude of 5,000 feet, providing dramatic views of both mountain and valley. It also traverses forest and wide meadows resplendent with wildflowers in the summer. This scenic drive is also the most dangerous in the park, according to the Federal Highway Administration.[7] It is open only July through September.

Several roads serve the Elwha Valley and adjacent area. The route through the lower valley is usually called the Elwha Road, but it is more properly known as the Elwha Valley Road. Shortly before Lake Mills the road forks. To the west, a paved road parallels the lake as far as Boulder Creek where it then continues west to Olympic Hot Springs, once the site of a hotel. Years of cultural history, along with proximity to these several points of geographical interest, have led to linguistic confusion. On some maps, the entire 10.35 miles is labeled "Elwha Valley Road" and on others, "Olympic Hot Springs Road." More often, however, the latter name refers only to that portion of the road leading west along Boulder Creek to the hot springs and Boulder Creek Campground. For evident reasons, this final portion of the road is sometimes also referred to as the "Boulder Creek Road." Names aside, the road is currently closed (as of the writing of this report) several miles from the end due to a washout.

Leaving U.S. 101 at the tip of Lake Aldwell, the Elwha Valley Road heads south through Olympic National Forest before entering the park. The entire 10.35 miles of road are paved and the maximum grade is 9 percent. The first 3.66 miles, from the park boundary to Lake Mills, is 18' wide, with a shoulder of up to 2'. The flat to rolling terrain covers areas of both forest and open space. The road follows the Elwha River towards Lake Mills, passing the Elwha Campground and about a mile later, the Elwha Ranger Station. Just beyond the campground the road crosses to the western bank of the river. The bridge, built in 1972, is 235' long and 29.8' wide. It has two spans, constructed of continuous steel beams and a concrete deck. The U.S. Army Corps of Engineers built the original span, the Soldiers Bridge, in 1923. The present span is the third bridge to cross the river and is adjacent to the original site. Altaire Campground is just beyond the bridge. Continuing up the river, the road ascends slightly to Glines Canyon Dam and Lake Mills. This second section of road is slightly narrower, at only 17' wide, although the shoulders remain the same, at up to 2'. Beyond, the road climbs sharply up the forested mountainside and then follows the contour of the lake far below. The road provides access to several trails, including Olympic Hot Springs Trail and Boulder Lake Trail.

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[7] *Road System Evaluation*, Table 3.

Whiskey Bend Road, an unpaved, gravel road, branches off from the Elwha Valley Road just beyond Elwha Ranger Station. The road is just over 4 miles long and varies in width from 13' to 15'. There are no shoulders, although the road has several turnouts. The densely forested terrain is mountainous with a maximum grade of 15 percent. The road now ends at a parking lot and trailhead at Whiskey Bend. Until 1959, when the new Hurricane Ridge Road opened, Whiskey Bend Road, then known as Hurricane Ridge Road, continued eastward from this point, gaining elevation until it met Hurricane Ridge, just west of the present-day lodge.[8] This final portion of the old road, now called the Wolf Creek Trail, although no longer accessible by automobile, can be traversed on foot or horseback.

U.S. 101, a federal highway, which encircles most of the Olympic Peninsula, traverses two separate sections of the park. In the north, an 11.95-mile section of 101, known as Lake Crescent Highway, runs along the southern shore of the lake. The paved highway is 24' wide with a 2' shoulder. The maximum grade is 10 percent and there are several turnouts. A concrete viaduct near Barnes Point provides passage along the lake next to a particularly steep section of shoreline.

Highway 101 at Lake Crescent is the most heavily traveled road in the park. It not only provides access to a variety of recreational features, but also serves as a main thoroughfare on the peninsula. At Barnes Point there is a summer ranger station, a boat launch, and two historic hostelries, the Lake Crescent Lodge and the Rosemary Inn. Further west along the highway, at La Poel, there is a picnic area. The highway also provides access to several trails, including the popular Mount Storm King Trail. The drive along the lake takes in the deep blue waters of Lake Crescent, a remnant of the ice age, as well as steeply forested hillsides and the rising peaks of both Mount Storm King and Pyramid Mountain. The south shore of Lake Crescent is also a good place to view the region's pillow lava.

Just beyond the northeastern edge of the lake, East Beach Road, sometimes known as the Piedmont Road or the East Beach-Piedmont Road, branches off from 101, following the northernmost shore of the lake. The section of road within the park is 2.93 miles. Beyond the northern edge of the park, the road continues to the community of Joyce. East Beach Road is paved and the maximum grade is 9 percent. Road width varies from 18' to 20' with a 1' shoulder. Turnouts and parking areas for residents are frequent. The road provides access to East Beach and its swimming and picnic areas, to the small community of Piedmont, and to the Log Cabin Resort and boat launch. The road also serves more than sixty residences. The route cuts through rolling forest with occasional lake views. Just beyond Piedmont, the road forks. East Beach Road heads north and out of the park. Lyre River Road, also known as Boundary Creek Road, continues west. After crossing the Lyre River, the road forks. To the west, the road exits the park. To the south, the road continues only a short way before ending in a parking lot, which gives access to the historic Spruce Railroad Trail. Only the first portion of Lyre River Road is paved. The road is 16' wide with a shoulder of 2' or less. The maximum grade is 7 percent and there is one bridge, that over the Lyre River. The road provides access to thirty residences. The rolling terrain provides views of forest, lake, and river.

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[8] Olympic National Forest Detail Map of Roads, in TWP.s 28-29N. R.s 6-7 WWM (drawn by J. D. Baker), blueprint, Forestwide Road Development, Olympic National Forest, RG 95, National Archives and Records Administration, Pacific Alaska Region – Seattle [hereafter cited as NARA (Seattle)].

At Fairholm, at the western end of Lake Crescent, the North Shore road branches off from the highway heading east along the northern shore of the lake for 4.76 miles. The first section of the road, which is just over a half a mile, is paved, 19' to 20' wide, and has a shoulder of up to 2'. The maximum grade is only 4 percent. The remainder of the road is gravel, has a maximum grade of 9 percent, and no shoulder. Of that, the first 2.75 miles are 15' to 20' wide. The last 1.46 miles narrow to only 12' to 14' across. The road provides access to the Fairholm Campground and boat launch, as well as a picnic area and private residences, including those at Camp David. The Pyramid Mountain Trail and the historic Spruce Railroad Trail can also be reached via the North Shore Road. The route traverses the densely forested hillside, which rises steeply to the north. Occasionally, the lake is visible below.

About 2 miles west of Fairholm, the Soleduck Valley Road leaves U.S. 101 heading southwest while paralleling the park boundary. The road is also known as the Soleduck River Road, and simply as the Soleduck Road. The name derives from a Native American word meaning "sparkling water."[9] Upon reaching the Sol Duc River, the road follows the eastern bank upstream in a southeasterly direction. The entire length of the 13.96-mile long road is paved. The width varies from 15' to 18' and the grass shoulder varies from 0' to 2'. The maximum grade is a moderate 9 percent. The route passes through both old growth and second growth forest. At milepost 5.5, a bridge spans the North Fork of the Sol Duc River. Constructed in 1959, the bridge has three continuous concrete tee-beams. The Sol Duc Lodge Road, a short road that provides access to the lodge on the west bank of the river, also has a bridge. Built in 1974 of continuous concrete tee-beams, it is 114' long and 30.3' wide. The road, which ends just short of Sol Duc Falls, provides access to a campground, summer ranger station and trailheads, as well as Sol Duc Hot Springs Resort with its historic, and popular, mineral baths.

The Ozette Lake region, in the northwestern portion of the Olympic Peninsula, was settled in the nineteenth century. An 1893 map shows several roads in the area. The lake, however, was not incorporated into the park until 1953 when the coastal strip was acquired. The Ozette Road, also known as the Hoko Road, is a short extension of the county's Hoko-Ozette Road. The portion within the park is 2.25 miles long and 18' to 20' wide with a shoulder of up to 2'. The road runs near the lakeshore, providing views. It is essentially flat, with a maximum grade of 2 percent. The Coal Creek Bridge, at the end of the Ozette Road, crosses the creek leading to a parking lot. Constructed in 1970, the multi-beamed, timber structure is 61' long and 20.1' wide. In addition to providing access to the community of Ozette and to the lake, the Ozette Road provides access to trails, camping, picnicking, a ranger station, and boat launch.

The small community of Mora, about 10 miles south of Ozette Lake, lies just inland from Rialto Beach within the park's narrow coastal strip. A short 2.6-mile long stretch of paved road, leads from the park boundary westward to Mora and thence to its terminal at the beach. The road is variously known as the Mora Road, the Rialto Beach Road, and the Mora-Rialto Beach Road. It continues east of the park boundary until reaching Route 110, the La Push Road. The route runs through flat terrain with a maximum grade of 2 percent. The roadbed is 20' wide with a 1' to 3' shoulder. The Mora-Rialto Beach Road has one bridge spanning the Dickey River. Constructed in 1979, the multiple box-beam structure is constructed of three continuous concrete

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[9] Robert L. Wood, *Olympic Mountains Trail Guide: National Park and National Forest*, 2nd ed. (Seattle, Wa.: The Mountaineers, 1991), 275.

spans. The bridge is 224' long and 30.5' wide. The road provides access to a ranger station, campground, picnic area, boat launch, and trailheads. Rialto Beach is an excellent place to view the region's sea stacks.

Route 110, the La Push Beach Road, runs from Highway 101 to the Quileute Indian Reservation and the beach at La Push. A short, 2-mile stretch of the road runs through the coastal section of the park. The road is 20' wide with a grass shoulder that varies from 0' to 2'. There are several pulloffs. The La Push Beach Road is paved with a maximum grade of 2 percent. The road provides access to the reservation, the beach and a trailhead.

The Hoh Road, sometimes called the Hoh River Road as it runs beside the river, provides access to one of the most spectacular areas of old growth forest on the peninsula, in addition to one of the only temperate rain forests in the continental United States. The road leaves U.S. 101 approximately 10 miles south of Forks. As it meanders eastward, largely following the course of the Hoh River, the road passes through the stump ranches and second growth characteristic of the heavily harvested west side of the peninsula. Almost 12 miles from Highway 101, the Hoh Road finally enters the National Park. From here, it is 6.26 miles to the road's terminus at the Hoh Rain Forest Visitor Center. The road is paved, 20' wide, and has a 2' grass shoulder. There are seven turnouts that provide a window onto the area's flora and fauna. Following the course of the river, the road meanders along the valley floor through old growth forest of fir and spruce. The terrain is essentially flat, although the maximum grade is 7 percent. In addition to the visitor center, there is a ranger station, campground, and picnic area at the end of the road. The Hoh Trail, which leads to Mount Olympus, begins at the end of the road.

The Oil City Road runs from U.S. 101 westward to the coast, passing through Oil City and providing access to the Hoh Indian Reservation. Only a short half-mile stretch of the road lies within the national park. The road is unpaved and only 12' wide. The maximum grade is 2 percent. In addition to views of the lower Hoh River, the road provides access to the coastal strip and a trail.

On the western side of the Olympic Peninsula, U.S. 101 runs from Beaver and Forks in the north, southward to Hoquiam and Aberdeen. Along the way, a short, 13-mile stretch of highway skirts the Pacific providing access to the park's coastal strip, to Kalaloch Lodge and Campground, to Kalaloch Information Station (summer only), and to the South Beach Campground. Trails and beaches can also be reached via this portion of Highway 101, which enters parklands near Ruby Beach in the north and exits the park just beyond South Beach. The highway is paved, with a width of 24' and a 2' shoulder. The route is flat as it passes through gently rolling terrain on the bluff above the shore. The road provides intermittent ocean views.

The Queets Road branches off U.S. 101 several miles east of the community of Queets, generally following the southern bank of the Queets River as it passes through the thick growth of the rain forest. Thirteen miles of the unpaved, gravel road lie within the park. The roadbed is 16' to 18' wide, without a shoulder. Although the terrain is flat the road is rough and subject to washouts. There are three bridges along the Queets Road, the Salmon River Bridge, the Mud Creek Bridge and the Matheny Creek Bridge. The Salmon River Bridge was constructed in 1979 of multiple, concrete box-beams. It is 163' long and 22.5' wide. It is located 1.4 miles from Highway 101. The Mud Creek Bridge, constructed in 1974, is built of multiple, pre-stressed concrete beams. It is 100' long and 22.5' wide. It is located 4.6 miles northeast of Highway 101. The Matheny Creek Bridge was constructed in 1961 from continuous-span, concrete tee-beams.

It is 200' long and 16' wide. It is 7 miles northeast of Highway 101. In addition to providing access to the Queets Ranger Station (summer only) and campground, the road provides entry to the Queets Basin backcountry and a number of trails.

The Quinault Road, also known as the North Shore Road, lies on the southern edge of Olympic National Park. The road branches off U.S. 101 and enters the park almost immediately. The route runs along the north shore of Quinault Lake, and thence up the Quinault River Valley, ending at the junction with South Shore Road and Graves Creek Road. While the section of road within the park is 14.11 miles long, only the first 7.96 miles are paved. This portion of the road is 19' to 20' wide with a 2', grass shoulder and a maximum grade of 7 percent. The second, unpaved section of road is 6.15 miles long and 12' to 14' wide, with no shoulder. The maximum grade along this section of road is 10 percent. The Quinault Road has only minimal turnouts.

The Quinault Road has four bridges—the Canoe Creek Bridge, the Kestner Creek Bridge, the Finley Creek Bridge, and the Big Creek Bridge. The Canoe Creek Bridge is located 4.9 miles northeast of Highway 101. Constructed of a pre-stressed, concrete slab, it measures 70' in length and 26' in width. The Kestner Creek Bridge, which 5.3 miles northeast of Highway 101, is also constructed of pre-stressed concrete slab. It is 64' long and 26' wide. The Finley Creek Bridge, which lies 6.6 miles from U.S. 101, is the only remaining multi-span timber bridge in the park. Constructed in 1950 and reconstructed in 1982, the bridge is slated for replacement sometime in the next several years. It is 148' long and 16' wide. The Big Creek Bridge is 10.7 miles northeast of Highway 101. It is the only bridge on the unpaved section of the Quinault Road. The current span, erected in 1990, has three, concrete, single box-beam spans. It is 135' long and 24.4' wide. In addition to numerous river views, the Quinault Road passes through rain forest and old growth stands making it a popular drive. The road provides access to the numerous private homes along the lake, as well as access to July Creek Campground (walk-in only) and Quinault Rain Forest Ranger Station. The park's largest western red cedar is located just off the lower portion of the road.

Just before the end of the Quinault Road, the short, unpaved North Fork Road begins its 3.5-mile journey up the North Fork Quinault River. The 14' to 16' wide road passes through dense old-growth forest and rolling terrain. The maximum grade is 7 percent and the ride is poor, due in part to washouts. There are concrete bridges at both Howe Creek and Cannings Creek. The road ends at a campground and summer ranger station. The road also provides access to several trails. For many years, the road continued north another 6 miles or so along the river to Elip Creek.[10] This portion of old road is now closed and largely overgrown. The first 2.5 miles, however, from the end of the road to Wolf Bar are part of the North Fork Quinault Trail.[11]

The South Shore Road, which runs along the southern shore of Quinault Lake and then up the river valley, begins at U.S. 101. Almost all of the road's mileage lies within Olympic National Forest. The last 1.1 miles, however, are within the national park. This short section of road ends at the junction with the Quinault Road and the Graves Creek Road. The portion of road within the park is gravel. The roadbed is 18' to 20' wide and has no shoulder. The maximum grade is 9 percent.

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[10] Map of Olympic National Forest, Washington, compiled at regional office, Portland, Oregon, U.S. Department of Agriculture, Forest Service, 1923.
[11] Wood, 230.

Graves Creek Road, which is a continuation of the South Shore Road, is 6 miles long and follows the South Fork of the Quinault River. This road is also unpaved and narrow, with a width of only 14' to 18'. The maximum grade is 7 percent, and the ride is rough. The location of the road, in combination with heavy seasonal rains, contributes to washouts. A bridge connects the North Fork Road with the Graves Creek Road just inside the park boundary. In addition to trailheads, a campground and seasonal ranger station can be found at the end of the road.

There are four bridges along the South Shore Road, the Bunch Creek Bridge, the Quinault River Bridge, the Cannings Creek Bridge, and the Howe Creek Bridge. The Bunch Creek Bridge was constructed of pre-stressed concrete multiple box-beams in 1981. It is 63' long and 29.1' wide and is located 11.8 miles north east of Highway 101. The Quinault River Bridge was constructed in 1974 of pre-stressed, concrete, multiple box-beam spans. It is 328' long and 29.8' wide. It is located 12.7 miles northeast of Highway 101. The Cannings Creek Bridge is located approximately 13 miles northeast of Highway 101. The bridge was constructed of a continuous, concrete-span tee-beam and is 90' long and 23.5' wide. The Howe Creek Bridge is located approximately 13 miles northeast of Highway 101 and was constructed in 1981. The structure was made of multiple concrete box beams and is 149' long and 23.5' wide.

The Staircase Road is located near the southeastern boundary of the park, immediately north of Lake Cushman. It is a continuation of Jorsted Creek Road that runs through the National Forest lands adjacent to the park. The section of road within the park is only 1.05 miles long. The roadbed is paved, 22' wide with a grass shoulder of 0' to 2' and a maximum grade of 9 percent. In addition to trailheads, the road provides access to Staircase Ranger Station, a campground, and picnic area. The road runs through forested land along the North Fork Skokomish River. The road offers river, lake, and mountain vistas. There is one bridge at the end of the Staircase Road, although it is no longer used for automotive travel. Constructed of multiple, pre-stressed, continuous concrete beams in 1974, the bridge is 200' long and 18.8' wide.

The Dosewallips Road, also known as the Dosewallips River Road, is the only road that enters the park on its far eastern side. It begins 13 miles outside the park boundary. Once inside the park, it is only 1.82 miles to the road's end where a campground and summer ranger station are located. The 14' to 16' wide roadbed is gravel and has no shoulder. The road is rough, subject to seasonal washouts, and, with a grade of up to 20 percent, quite steep. As it follows the Dosewallips River up the valley, the road provides dramatic views of the river, Dosewallips Falls and the mountains. There is one bridge along the Dosewallips Road. The timber bridge was constructed in 1930 and reconstructed in 1980. The single, multi-beamed span is 30' long and 16' wide.

III. HISTORY

THE PATTERN OF EARLY ROADS: THE INFLUENCE OF EXPLORERS, SETTLERS, TIMBERMEN, AND TOURISTS

The history of the Olympic National Park, and thus its road system, is bound up with the ecological processes that created its peaks and valleys and allowed for the growth of large trees. Approximately 24 million years ago, as the San Juan de Fuca plate collided with the North

American plate, pushing much older rock and sediment up against the continent, the Olympic Mountains began to emerge.[12] Between 1,500 and 1,100 years ago, the Fraser glaciation put the final touches on the Puget Sound basin, scouring out deep channels and creating many of the present landforms.[13] The glaciers of the Olympic Range are the descendants of that long-ago ice age. As the ice receded northward, water began to flow down the newly carved valleys of the peninsula. Rock and snow gave way to tundra and then forest. Along the western slope of the Olympics, the constant flow of moisture from the Jet Stream produced a verdant rain forest. Only a few thousand years later, the first human inhabitants arrived on the peninsula.[14] The area's Native American groups made their homes near the coast, however, and left few lasting imprints upon the area that is now Olympic National Park. Their descendants, the Elwha Klallam, the Hoh, the Makah, the Ozette, the Quinault, and the Quileute, continue to live in the area, many on reservations contiguous with parkland. When Euro-Americans began to arrive on the peninsula in the nineteenth century, however, the relationship between humans and nature was fundamentally altered. For many of these new settlers, nature's bounty was yet another commodity.

By the mid-nineteenth century, the west coast of the North American continent was drawing ever greater numbers of people, and so too was the remote Olympic peninsula. Reports of its massive trees and its seemingly endless supply of timber drew entrepreneurs and laborers, hoping to cash in on the peninsula's resources. The development of railroads and steamships made the journey to this remote corner of America easier and quicker. In the second half of the nineteenth century, mill towns like Port Gamble sprang up on the peninsula. Here, old growth forest was reduced to board feet, turned into the lumber that helped fuel the expansion of western settlement. At first, the lumber companies ate away at the edges of the forest, consuming the magnificent fir, spruce, and cedar that had quietly matured, often for hundreds of years. Steadily however, the lumberman drove deeper into the peninsula in search of a bountiful harvest. Trails were cleared and eventually roads, to bring the great logs down the hillsides. Skid roads, early roads built of logs placed horizontally across the roadbed, allowed timber to be rolled downhill with a minimum of effort. Railroads, however, soon became a much more efficient way to transport the harvest to area mills. The easiest areas to log, the outer regions of the peninsula and river basins, were quickly harvested. While at the turn of the century, the surveying team of Dodwell and Rixon found that most of the peninsula's logged areas lay outside the Olympic Forest Reserve, they also reported that the reserve held vast quantities of marketable timber. The forested land also lay outside what is now Olympic National Park.[15] Nevertheless, the saga of

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[12] Wuerthner, 40.

[13] Arthur R. Kruckeberg, "A Natural History of the Puget Sound Basin," in Dale D. Goble and Paul W. Hirt, eds., *Northwest Lands, Northwest Peoples: Readings in Environmental History* (Seattle: University of Washington Press, 1999), 55-57.

[14] Scholars estimate that humans first migrated to the Olympic Peninsula between 8,000 and 10,000 years ago. See Kruckeberg, 70; and Douglas Deur, "Towards an Environmental Prehistory of the Northwest Coast," in Goble and Hirt, 133. Deur cites several sources.

[15] U.S. Department of the Interior, United States Geological Survey, *Forest Conditions in the Olympic Forest Reserve, Washington Notes by Arthur Dodwell and Theodore F. Rixon*, Professional paper no. 7, series H, forestry, 4 (Washington, D.C.: Government Printing Office, 1902), 14-18, as cited in Gail E. H. Evans, "Historic Resource Study: Olympic National Park, Washington" (unpublished study for Cultural Resources Division, Pacific Northwest Region, National Park Service, 1983), 139-149. Olympic Forest Reserve was created in 1897 and later became

forest and forester has shaped the park in ways both direct and indirect. Second growth forest can be seen along many of Olympic's roads, roads which once carried the forest to market, rumbling under the heavy load of logs as they made their way to the mill towns. The denuding of the forest also left its imprint on those early advocates of a wilderness park, a park where nature would be left undisturbed by the human imprint, by logging, settlement, roads, and other trappings of modern life.

At the same time that timber tycoons were discovering the Olympic peninsula, so too were explorers and mountaineers. Reports of the area's great beauty reached all the way to the east coast of the United States, prompting the interest of the government. In 1885, the U.S. Army commissioned Lt. Joseph P. O'Neil to lead a reconnaissance mission into the interior. O'Neil's small party of enlisted men and civilian engineers headed south from the town of Port Angeles. They ascended Mount Angeles and explored along Klahhane Ridge and thence Hurricane Ridge. As they went, they carved a trail through the deep undergrowth. At Hurricane Ridge the party divided, exploring both the Elwha and Lillian river valleys. Today, Hurricane Ridge Road provides access to its namesake and to Klahhane Ridge as well.

The Olympic Mountains continued to attract a flurry of interest amongst explorers and outdoor enthusiasts. With few trails and fewer roads, however, the peninsula's wilderness was accessible only to the hardy and well prepared. Several mountaineering parties, including the Gilman Expedition, the Wickersham *Banner* Expedition, and the 1889-90 Press Expedition (also known as the Christie Expedition), set out explore the interior. Financed by *The Seattle Press*, and led by James Christie, the Press Expedition crossed the Olympic Range in less than six months, from Elwha in the north to Quinault in the southwest, naming valleys, canyons and rivers as they went. The following year, Joseph O'Neil led his second expedition, beginning this time at Lake Cushman in the southeast, and heading westward along the North Fork of the Skokomish River and then the East Fork of the Quinault, cutting trail along the way. Today, Staircase Road lies along the North Fork Skokomish just beyond Lake Cushman in the area the O'Neil expedition likely traversed. Parties from the expedition also explored nearby watersheds including the Dosewallips, Queets, and North Fork Quinault.[16] Portions of all three rivers are now accessible by road.

These early expeditions helped inform both the government and the public about the nature of this seldom-seen corner of the Pacific Northwest. Following their respective journeys, both Wickersham and O'Neil voiced the opinion that the Olympic Mountains should be made a national park.[17] In an 1896 report to Congress, O'Neil wrote, "While the country on the outer slope of these mountains is valuable, the interior is useless for all practical purposes. It would, however, serve admirably for a national park."[18] The mountainous interior of the peninsula was both spectacular and unsuited for commercial purposes. In the eyes of many contemporaries, these qualities made it an ideal place for a national park. Although attitudes about wilderness

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Olympic National Forest. In 1909, Mount Olympus National Monument was carved out of the center of the forest. In 1933, management of the monument passed to the Park Service, and on June 29, 1938, Olympic National Park was created. In 1953, the coastal strip was added to the park. Olympic National Forest still surrounds the park.

[16] Evans, 31.

[17] Wuerthner, 68.

[18] U.S. Congress, Senate, Select Committee on Forest Reservations and the Protection of Game, O'Neil Expedition, 54th Cong., 1st sess., 7 January, 1896, S. Doc. 59, 20, as cited in Evans, 37.

were changing and sentiment for parks as places of preservation growing, the late nineteenth century was also a time of largely unrestrained capitalism. To many, the earth's bounty, whether in the form of timber, oil, or precious metal, was a commodity to be sought out, extracted, and sold. The great forests of the peninsula were much too valuable a commodity to be set aside in a national park. The rugged interior, however, was deemed unharvestable and thus an ideal spot for one of the new national parks.

While sentiment continued to grow for protection of at least a part of the Olympic peninsula, the lumbermen continued to take advantage of public land available through the Homestead Act (1862) and the Timber and Stone Act (1878). The growth of the timber industry, along with the growth of Washington Territory, led to statehood in 1889. By that time, the peninsula had scattered settlements, including several in areas that were later incorporated into the park. In the 1880s and 1890s, settlers also began to take advantage of the free land offered by the government on the peninsula. Homesteaders staked claims in the river valleys and along lakes Crescent, Cushman, Ozette, and Quinault. Rugged individuals built cabins in the woods, hunted, fished and supplemented their needs in a variety of creative ways, from bounty hunting to honey-making. The lower river valleys proved easiest to settle and farm, although even here, distance from civilization, lack of easy transportation, and the constant fight to keep nature at bay, took its toll. Few remnants of this era still survive.[19] Because most of these settlements were in the lower river valleys, they were outside of the area that is now the park, with several exceptions, including those at Heart O' the Hills, and on the lower Elwha, lakes Crescent and Ozette, the lower Queets, and Quinault Lake.

Access to settled areas was limited, and often either by water or primitive trail. The peninsula's rivers provided natural byways for Native Americans, explorers, hunters, prospectors, and settlers. Early trails often followed steams or rivers, as do many of today's roads. As pockets of settlement grew, trails were sometimes widened into roads. They were usually no more than rough dirt tracks, although some puncheon roads (made of boards) could also be found.[20] Some of these early roads no longer exist. Washed out, or grown over, they have surrendered to time and nature. Others remain, altered here and there, perhaps widened or paved, yet still essentially the same byway. Between 1897 and 1900, a team of surveyors, under the direction of Arthur Dodwell and Theodore Rixon, crisscrossed the peninsula, mapping and cataloging the newly formed Olympic Forest Reserve. "There are numerous roads and trails within the reserve," the team wrote, "In fact, all of the surrounding townships have one or more wagon roads and numerous trails."[21]

Slowly, trails began to be replaced or supplemented by roads. The Sol Duc River Valley, like others on the peninsula, was settled in the late nineteenth century, although many of these settlements were not permanent. It was the development of Sol Duc Hot Springs, however, that prompted the construction of a road between Fairholm and the popular attraction. The Forest

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[19] See Evans, 61-126.
[20] Evans, 64.
[21] U.S. Department of the Interior, United States Geological Survey, *Forest Conditions in the Olympic Forest Reserve, Washington from Notes by Arthur Dodwell and Theodore F. Rixon*, Professional paper no. 7, series H, forestry, 4 (Washington, D.C.: Government Printing Office, 1902), 19, as cited in Evans, 63.

Service granted the 14-mile right-of-way to the Sol Duc Hot Springs Company. By 1910, the $75,000 road had been completed.[22]

While the majority of the peninsula's early settlements did not lie within the boundaries of the present-day park, a few did. By the 1880s there was a settlement at Ozette Lake, and by the end of the decade there were small settlements in the fertile Queets River Valley and at Quinault Lake. Although little is known about access to these settlements, some were served at least by rough trails, if not by early roads. The original Queets River Road, constructed around 1910, followed the northern bank of the river and was one of the earliest roads in the park. The present-day Queets River Road opened in 1929.[23] Although still unpaved, it now follows the southern bank of the river, where early settlers established a trail.[24] Lake Quinault, like other large lakes on the peninsula, was settled shortly before the turn of the century. The road did not extend to the lake until 1915, however, and then, only to its southwest shore.[25] Presumably the Forest Service cleared the Quinault Road between 1907 and 1909.[26]

Settlers moved to the area around Lake Ozette in the late nineteenth century. The first road to the lake, from Clallam Bay to Swan Bay on the east side of the lake, was not completed until 1926 however. The Ozette Road, at the north end of the lake was finished in 1935 and the Lake Ozette Resort followed shortly.[27] By 1890, cabins, huts, and homesteads dotted the shore of Lake Cushman, which lies just outside the southeast corner of the park. In the same year, the road from Hoodsport was cut through to the lake.[28]

The clear waters and bountiful fish of Lake Crescent have long made it a peninsula attraction. Summer homes began to dot the shore even before the turn of the century. Before roads were built in the area, the lake itself served to convey locals and vacationers alike. A steam launch, LADY OF THE LAKE, was constructed by Paul Barnes in 1891 and began making trips from Piedmont, on the western shore, to Fairholm, on the northeastern shore. In the same year, the trail from the Strait of Juan de Fuca down to Lake Crescent was widened, becoming the first road in the area. By the late 1890s, the road from Port Angeles extended to East Beach on the lake. In 1903, the first route along the south shore of Lake Crescent was cleared by forest ranger Chris Morgenroth.[29] Although only a trail, it was an important step on the road to the eventual construction of U.S. 101 along Lake Crescent. As access to the area increased, so too did the number of residents and visitors alike, as well as facilities to accommodate them. Hotels and cabins sprang up around Lake Crescent, as did private homes.[30] Transportation from the east shore to resorts on the western side, and to the post office at

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[22] Memorandum to the Forester, 25 September 1911, Unacessioned historical papers, Olympic National Forest, U.S. Forest Service, Olympia, Wash., as cited in Evans, 279.
[23] Evans, 113.
[24] Lucile Horr Cleland, comp., *Trails and Trails of the Pioneers of the Olympic Peninsula* (Seattle: Shorey Book Store, 1973), 268-276, as cited in Evans, 104.
[25] Evans, 305.
[26] Jacilee Wray, "Draft of Statement of Historic Context for USFS/ONP Historic Landscapes, 1898-1942" (unpublished draft for Cultural Resources Office, Olympic National Park, Washington), 2.
[27] Marvin Thomas, *Pioneers in a Wilderness* (Port Angeles, Wash., ca. 1967), 21, as cited in Evans, 75; Evans, 313.
[28] Larry Overland, *Early Settlement of Lake Cushman* (Belfair, Wash.: Mason County Historical Society, 1981), 12, as cited in Evans, 125.
[29] Lake Crescent File, Office of Cultural Resources, Olympic National Park, Port Angeles, Wash.
[30] Evans, 247-248, 265.

Fairholm, was by ferry. The MARJORY and the STORM KING, built by the Clallam County Board of Commissioners in 1914 and 1915 respectively, conveyed passengers and all manner of vehicles, from horse drawn buggies to automobiles, across the lake. Rates varied from 25 cents to $2.00, depending on the type of vehicle and the weight.[31] Michael Earles, operator of Sol Duc Hot Spring resort later added his own launches, and eventually a number of Stanley Steamers, which brought guests from the dock up the road to the resort. The ferries continued to operate until 1925. By then, the trail on the south shore of the lake had been widened, becoming the South Shore Lake Crescent Road.[32] Eventually, the road would evolve, becoming U.S. 101. The construction of the South Shore Road brought not only more automobiles and more guests, but a new crop of vacation establishments as well. New hotels and cabins cropped up along the highway, and unlike the older resorts, which had been approached by the lake, these new establishments faced the highway, welcoming motorists.[33] A new species, the auto camp, also came to the peninsula, catering to America's growing mode of transportation.[34] By 1936, 455 parcels of private land clustered along the lakeshore.[35]

Like nearby Lake Crescent, the lower Elwha Valley was already home to settlers in the late 1880s when the *Press* expedition set out along the river.[36] Its rolling lowlands, plentiful timber and water, mild climate and relatively easy access to Puget Sound transportation made it a good choice for homesteaders. It is likely that a trail provided access to homesteaders along the river and to expedition members as well. In 1909 a wood and steel, Howe truss bridge was built over the Elwha just south of the Little River.[37]

Walter Horner, who was granted permission to build roads and trails up the river in 1906, began the first road along the Dosewallips River. Only 10 miles of road were completed and these miles probably never reached inside the present-day park. A company organized to extend the road never moved forward on the project.[38]

A trail in the Hoh region, which had been in use in the 1890s, connected to a wagon trail from Forks Prairie to Clallam Bay. In 1918 there was a state survey for a road between Forks and Clearwater, but it was not until the completion of Highway 101, in 1931, that the area was finally accessible to automobiles.

In the early years of peninsula settlement, access to communities, not to mention scattered homesteads, was limited. In 1915, the Good Roads Movement successfully initiated construction of new highways such as U.S. 101 and established public priorities for paved road access to every Washington county. While the vision was far-reaching, the reality was something quite different. Most settlers lived fairly isolated lives. Land, readily available under

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[31] Connie Lawrence, "Lake Crescent," in Jervis Russell, ed., *Johnny Come Lately* (Port Orchard, Wash.: Publisher's Printing, 1971), 402-412, as cited in Evans, 250.
[32] The trail was widened in 1922. Evans, 265.
[33] Evans, 265.
[34] Evans, 269.
[35] By 1983 there were only 145 parcels of private land along Lake Crescent. W.H. Horning, "Proposed Mount Olympus National Park and its Effect on National Economic Interests of the Olympic Peninsula, " typescript, photocopy, Port Angeles, Wash, unaccessioned historical papers, Olympic National Park, National Park Service, as cited in Evans, 277; Evans, 278.
[36] Evans, 23.
[37] Agnes Forsberg, "Upper Elwha Valley," in Jervis Russell, ed., 322-24, in Evans, 78.
[38] Evans, 203.

the Homestead Act, proved less accessible, and even more difficult to farm. Spring rains often turned footpaths to impassable mud, especially on the wet, western side of the peninsula. Roads were still woefully inadequate and pavement largely a promise. Many peninsula settlers gave up and moved to the region's burgeoning cities.

MANAGING THE FOREST: DRIVING OUT THE TIMBER, DRAWING IN THE PUBLIC

As the conservation movement began to grow in the late nineteenth century, so too, did the sentiment that the nation's natural treasures, including forests, be protected. Congress agreed, and in 1891 a law allowing the creation of forest reserves was passed. Six years later, in 1897, President Grover Cleveland set aside 2,188,800 acres on the Olympic peninsula, and the following year, the Olympic Forest Reserve, under the management of the Interior Department, came into being. As the survey team of Dodwell and Rixon reported, the area had numerous roads.[39]

The early reserve encompassed approximately two-thirds of the peninsula, including most of the Olympic Range as well as many heavily timbered hills and lowlands. Both the timber industry and local ranchers were angered by the removal of so much land from private development. The land represented a rich source of commercial wealth for those who were poised to claim it. The creation of the reserve might jeopardize the ability to utilize nature's bounty. The debate over the newly created forest reserve was mirrored in the larger, national debate between the two emerging wings of the conservation movement, one led by John Muir, the other by Gifford Pinchot.[40] More virulent than Pinchot, and at least as powerful a voice, the timber industry railed against the creation of the reserve, as did many local interests. The result–two presidential proclamations–reduced the size of the reserve to approximately 1.46 million acres.[41] The heavily forested western section of the reserve, from Ozette Lake south to the Jefferson County line, was once again open to logging.

In 1905, the Department of Agriculture's newly created U.S. Forest Service, headed by Pinchot, took over the management of all forest reserves, including Olympic. While the creation of the reserve had early seemed a victory for those concerned with preserving the nation's wilderness, it soon became apparent that the Forest Service's primary concern was not preservation but managed use of natural resources, including recreation and limited timber harvesting. This policy would lead to the clearing of logging roads on the reserve and later fire trails.

Preservationists, worried about the detrimental effects of Forest Service policy on the region, continued to call for the creation of a national park on the Olympic peninsula. In 1909, in a last minute gesture as his presidency was drawing to a close, Theodore Roosevelt authorized the creation of Mount Olympus National Monument, a 610,560-acre preserve in the heart of the

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[39] U.S. Department of the Interior, United States Geological Survey, *Forest Conditions in the Olympic Forest Reserve, Washington from Notes by Arthur Dodwell and Theodore F. Rixon*, Professional paper no. 7, series H, forestry, 4 (Washington, D.C.: Government Printing Office, 1902), 19, as cited in Evans, 63.

[40] Wuerthner, 70-75. As interest in protecting the environment grew, the conservation movement began to split. Those who advocated managed use of natural resources, like Pinchot, were known as conservationists. Those like Muir, who advocated preservation of wilderness for its own sake, came to be known as preservationists.

[41] "Olympic National Park: An Administrative History, " (unpublished report for Cultural Resources Division, Pacific Northwest Region, National Park Service, Seattle, Wash., 1992), 29.

forest reserve dedicated to the protection of the area's elk population.[42] The monument offered a level of protection that a forest reserve could not; yet, it was far from being a national park. While the elk were seemingly preserved, their habitat was not. Only a few years later, in 1915, President Woodrow Wilson authorized a significant reduction in the size of the monument.

In the late 1910s and 1920s, the call for a national park on the peninsula continued. Not wanting to lose control of the richly forested land under its purview, the Forest Service responded with a several-pronged approach. Hoping to justify continued management by highlighting recreational value and attracting more tourists, the Forest Service asked recreation engineer Fred W. Cleator to devise a recreation plan for forest service lands on the peninsula. Finished in 1929, the Cleator Plan addressed a wide range of issues, including trails, camps, shelters, resort areas and roads. Many of the specific areas targeted in the report are now part of Olympic National Park, including Lake Crescent, Quinault Lake and the Elwha River Valley. Declaring the potential of Olympic National Forest as a wilderness area, the report called for "an almost total exclusion of roads."[43] Nevertheless, Cleator argued that at least one road into the interior was needed. Forestland should be accessible to the "average" man who lacked the leisure and the wealth for the kind of lengthy vacation the area would otherwise require. Mule packs and long wilderness treks were still the prerogative of the few. A road would bring the wilderness experience of the forest to the average American, or so the report suggested. A Quinault-Dosewallips Road, Cleator argued, would not only prove beneficial for local cities, but would also improve access to trailheads and bring the motoring public far closer to the region's spectacular glaciers. In fact, the road would have likely passed quite near Anderson Glacier. By controlling road access Cleator also hoped to protect the forest's timber stands from the public and from fire, which often followed the public. By the time the Cleator Plan was finally submitted for approval in 1936, much of the area in question had been transferred to the Park Service.

The Forest Service's appeal to tourism continued into the thirties and mandated the consideration of new roads in both the Olympic National Forest and the monument. Roads were built, or extended, up the Dosewallips, Duckabush, Elwha, Hoh, Quinault, and Sol Duc rivers. In addition, there was road construction along Hurricane Ridge, at Lake Crescent, and the Sol Duc Hot Springs road was extended.[44] Several other road projects were also considered, but, in part, because they involved substantial construction through the mountains, they were never completed. Forester H. Barnes advocated the construction of a road from the Elwha to the North Fork of the Quinault, which would be of "immense value to recreational interest."[45] At $7,500 per mile, the 62-mile long road would cost approximately $465,000, a hefty sum at the time (1915). Sixteen years after the original proposal, the route, now a subject of concern for local conservationists, was still under consideration.[46]

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[42] See "Olympic National Park: An Administrative History, " 36.
[43] "Cleator Report," April 1936, Forester and Recreation Examiner to Forest Superintendent, Olympic National Monument, folder, Olympic Primitive Area; U.S. Department of Agriculture, Forest Service; Box 6-6-2; Record Group 95.
[44] Evans, 221.
[45] H. Barnes, Forester, to District Forester, Portland Oregon, 15 November 1915, Boundaries, Mount Olympus National Monument, 1915 Forest Service, Box 99758, Record Group 95, NARA (Seattle).
[46] H. L. Plumb to H.M. Meyers of the Mountaineers, 19 January 1931, Primitive Area File. Cultural Resource Management, Olympic National Park, Port Angeles, Wash.

In keeping with its new emphasis on recreation, the Forest Service approved construction of Olympic Hot Springs Road (now known more commonly as Boulder Creek Road). The hot springs, which opened as a health resort in 1910, had long been accessible only by foot or pack train. In 1930, the Forest Service, in cooperation with Clallam County, finally cut a narrow dirt road through to the hot springs. Guests could now hire a taxi in Port Angeles, and arrive at the resort in style. Round-trip fare was $3.75.[47]

While the Forest Service effort to appeal to tourism, and thus head off a possible park, necessarily addressed the need for roads to transport visitors, it also attempted to appease, or at least give the appearance of appeasing, preservationists. The Forest Service therefore proposed that a section of the monument remain a "primitive area." The hope was that this designation might satisfy many within the park movement. This move, however, brought criticism from another side. Local groups worried that a primitive area would spell the end of two proposed roads that they deemed beneficial. The first was to run up the East Fork Quinault and down the West Fork Dosewallips. The second would have cut through the heart of the monument following the Elwha south and thence the North Fork Quinault. Despite much discussion about these routes over the years, the cost of building was prohibitive, and as Forest Supervisor H.L. Plumb noted, the routes themselves were controversial and not likely to be approved.[48] Despite local opposition, it is unlikely that the proposed primitive area had any impact on the decision not to build the two roads. In a 1931 letter, Plumb indicated that the primitive area would not in any way affect the proposed Quinault-Dosewallips Road.[49]

In the final years of the Forest Service's administration of the area, several important road projects were finished, the most significant of which was the Olympic Loop Highway. For years, portions of Highway 101 served local communities and provided access to the peninsula's recreational and commercial opportunities. It was not until 1931, however, that the final portion of the highway, that between the Bogachiel and Queets rivers, was opened, thus creating the Olympic Loop Highway. Construction of this segment of road presented a number of challenges, from a roadway inundated with rain, to the removal of huge tree stumps.[50] The opening of the last portion of 101 was thus cause for celebration on the peninsula. Over 6,000 people gathered to mark the event in late August 1931.[51] The completion of the loop also encouraged a promotional campaign to attract visitors to the peninsula. A local magazine extolled the virtues of the highway:

> Without stirring from his car the vacationist may revel in the beauty of Lake Quinault, Crescent, Sutherland, and others . . . Three thousand miles of wilderness challenge the traveler to leave his car at any of the half dozen points along the loop, to take pack-

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[47] Jeanette E. Schoeffel, "Olympic Hot Springs," in Jervis Russell, ed., 412-415, as cited in Evans, 285.
[48] H. L. Plumb to H.M. Meyers of the Mountaineers, 19 January 1931, Primitive Area File.
[49] H. L. Plumb, Forest Supervisor, Letter to Charles Thomas, secretary of the Quinault Commercial Club, 19 January 1931; H. L. Plumb to George Welch, Vice President, First National Bank, Port Townsend, Primitive Area File.
[50] Walter A. Averill, "Building a Highway Across the West Slope of the Olympic Peninsula," *Pacific Builder and Engineer* (1 August 1931), as cited in Evans, 206.
[51] "Olympic Communities Join in Celebrating Opening Olympic Highway Circuit," Vertical file: Olympic Mountains, Peninsula. Pacific Northwest Collection, University of Washington, Seattle, Wash., as cited Evans, 206.

> sack or packtrain and go adventuring. . . . Even the inexperienced tourist who never leaves the highway unless told to do so by a signboard must find the Olympic Peninsula an enchanting faroff corner of America's greatest tourist empire–the Pacific Northwest.[52]

As the *Seattle Times* proudly proclaimed, the peninsula had been conquered.[53]

Despite the Forest Service's efforts to remain in control of peninsula land and resources, the tide was turning. In 1933, as part of a reorganization of federal agencies, President Franklin Roosevelt transferred the management of all national monuments, including Mount Olympus, from the Forest Service to the National Park Service. As the area now fell under Park Service management, so too its roads, although jurisdiction and maintenance were shared with local, state, and federal governments. The Forest Service, too, continued to provide some maintenance services.[54] The final size of the monument, however, was still under debate. Reluctant to spend undue sums of money financing projects that could potentially be managed by another federal agency, the Forest Service proceeded carefully. On the other hand, administrators were aware that road improvement could foster increased recreational use of their holdings, and that this in turn, might strengthen public support for Forest Service management of peninsula lands. In this situation, road and trail work continued, albeit cautiously, in areas the Forest Service knew they might soon lose. Even after the creation of the park in 1938, the Forest Service continued to maintain certain roads within the park that were of vital interest to the Forest Service, while the Park Service maintained certain roads within the National Forest that were necessary for park access.[55]

In the thirties, as boundaries between national forest and monument land continued to shift, many local organizations continued to advocate the building of roads across the peninsula and through the mountains. For many locals, roads brought not only ease of transportation, but livelihood as well. In 1935, the Olympic Peninsula Development League passed a resolution supporting the hard- surfacing of the entire Olympic Loop Highway, a trans-mountain highway from Quinault to Brinnon, and a Queets to Moclips highway. Little appears to have come from the proposal, however.[56] The *Forks Forum* published a piece advocating two east-west roads across the park in addition to at least one highway up each of the main rivers.[57] While the author supported the creation of a park and extolled the "last great unknown wilderness in the United States," he also shared the view of many—only the construction of new roads in the area would allow the public to "receive the benefits we should from the Olympic mountain.[sic.]"[58] The Park Service, however, stood firm, resisting pressure for development. At a February 1935 meeting of the Board of Trustees of the Olympic Chalet Company, Preston Macy, then Assistant

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[52] F.W. Linklater, "The Olympic Peninsula," *Argus* (17 December 1932): 33-34, as cited in Evans, 206-207.
[53] "Peninsula Road to Unfold New Scenic Wonders," *Seattle Sunday Times*, 1931, Vertical File: Olympic Mountains, Peninsula, Pacific Northwest Collection, University of Washington, Seattle, Washington.
[54] Superintendent's Narrative Reports, box 1, folder 3, December 1936.
[55] Superintendent's Narrative Reports, box 1, folder 6, 4 May 1939.
[56] Resolution by the Olympic Peninsula Development League, National Forest Service, folder 5, box 99758, Record Group 95, National Archives.
[57] C.W. Grader, "Action on Olympic Nat'l Park Urged," *Forks Forum*, 3 Jun 1935.
[58] C.W. Grader, "Action on Olympic Nat'l Park Urged," *Forks Forum*, 3 Jun 1935.

Chief Ranger of the monument, indicated that the Park Service "preferred to have no roads in the area."[59] For many, however, roads seemed essential. The nation's parks were viewed as public playgrounds—places to camp, swim, boat, and picnic. The idea that national parks were also, or even primarily, spaces dedicated to the preservation of wilderness, was, as yet, not widely held. Olympic National Park would play an important role, not only in shaping the idea of national parks in the late twentieth century, but also in our constantly evolving notion of wilderness.

In 1935, a series of bills were finally introduced into Congress proposing the creation of Olympic National Park. The park effort was given a boost when, in September 1937, President Roosevelt visited the peninsula and voiced his approval of the park proposal. The following year, on June 29, 1938, Roosevelt signed the legislation establishing the park. Its 634,000 acres were carved out of both national monument and national forest land. Additional acreage was added in 1939, 1940, 1942, 1953, and 1986. In addition to what had been Mount Olympus National Monument, the park included extensive ranges of forested land on the north and west sides, which had previously belonged to Olympic National Forest. Less than two years later, an additional 187,411 acres were added to the park as it expanded in the Calowah, Elwha, Hoh, Queets, and Quinault valleys. At the same time, President Roosevelt authorized the future acquisition of both coastal land and a narrow strip down the Queets River. With each acquisition, the park's roads gained mileage.

As the 1930s drew to a close, with war in Europe on the horizon, road advocates championed the national defense benefits of improved and increased road mileage on the peninsula. While the effect of war was felt on the peninsula, as it was throughout the United States, the early forties proved to be a quiet period in the history of Olympic National Park's road system.

THE ROADS OF OLYMPIC NATIONAL PARK: MANAGING A PARK, MAINTAINING A WILDERNESS

In 1938, the long struggle to establish a park on the peninsula finally produced results with the establishment of Olympic National Park. The new park encompassed both former monument and forestlands. It therefore inherited a network of roads, from the newly complete Olympic Loop Highway (U.S. 101) to gravel driveways. These roads were built to serve a variety of needs, to provide access to timber, access to peninsula communities, and access to recreational areas. They were tied to public necessity and commercial demand, and finally to Forest Service policy. Park Service policy was different, however. From its inception in 1916, the National Park Service had sought to balance the contradictory missions of preserving scenic wilderness and serving the public by providing access to that wilderness. While hiking trails were deemed compatible with wilderness preservation, the extent of road development in national parks was often a matter of debate. The purpose of the Park Service, as defined by the National Park Service Act of 1916, also known as the Organic Act, declared that the service's mission was:

> to conserve the scenery and the natural historic objects and the wild life therein and to provide for the enjoyment of the same in

[59] Superintendent's Narrative Reports, box 1, folder 2, February 1935.

> such manner and by such means as will leave them unimpaired for the enjoyment of future generations.[60]

Translated to road policy this meant "In the construction of roads, trails, buildings, and other improvements, particular attention must be devoted always to the harmonizing of these improvements with the landscape."[61] The degree and form of that devotion would vary over time as the Park Service sought to balance wilderness preservation with public access. In addition, it was exactly this notion of wilderness preservation that allowed the Park Service to justify public access.[62]

From its inception, Olympic National Park was managed according to the newly formed policy of wilderness management, as advocated by President Franklin Roosevelt and especially by Secretary of the Interior Harold Ickes. In keeping with this policy, Olympic's first master plan specified that the new park would be a roadless park.[63] Yet, exactly what this meant was open to interpretation. After all, Olympic *did* have roads. Moreover, by 1938, America's vision of national parks was built largely on the public's automotive experience of them. With the creation of Olympic National Park, and other "roadless" parks of the era, the Park Service took on the task of reconciling wilderness preservation with the public's expectation of access to that wilderness. The solution to this contradiction would be worked out over the next two decades.

While the management of Olympic was a departure from older Park Service ideas, it harkened back to the 1916 Organic Act, which had placed primacy on the conservation of scenery and wildlife. In 1918, this idea was reinforced in a directive from Secretary of the Interior Franklin Lane to Park Service Director Stephen T. Mather, which declared "Every activity of the Service is subordinate to the duties imposed upon it to faithfully preserve the parks for posterity in essentially their natural state."[64] Despite this declaration, the directive also suggested that:

> Every opportunity should be afforded the public, wherever possible, to enjoy the national parks in the manner that best satisfies the individual taste. Automobiles and motorcycles will be permitted in all of the national parks.[65]

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[60] Hillory A. Tolson, *Laws Relating to the National Park Service, the National Parks and Monuments* (Washington, D.C.: Department of the Interior, 1933), 9-11, as cited in Richard West Sellers, *Preserving Nature in the National Parks: A History* (New Haven, Conn.: Yale University Press, 1997), 38.

[61] National Park Service, Statement of Policy, 1918, as cited in Linda Flint McClelland, *Building the National Parks* (Baltimore: Johns Hopkins University Press, 1998), 123.

[62] See Sellars.

[63] National Park Service, "The Master Plan: Olympic National Park—Washington," c. October 1938, 1, 3-4, RG 79, Central Site Files—Olympic National Park, 1927-1953, box 129, file 600 (Master Plan, 1939), National Archives and Records Administration, Sierra Region--San Bruno, California [hereafter cited as NARA (San Bruno)], as cited in David B. Louter, "Windshield Wilderness: The Automobile and the Meaning of National Parks in Washington State," (Ph.D. diss., University of Washington, 2000), 111.

[64] National Park Service, "Compilation of the Administrative Policies for the National Parks and National Monuments of Scientific Significance" (Washington, D.C.: Government Printing Office, 1970), 68-69, as cited in "Olympic National Park: An Administrative History, " 88.

[65] Ibid., 88.

Already, by 1918, the inherent difficulty between the Park Service's dual goals, preservation and enjoyment, was apparent. It was a conflict engendered, at least in part, by the need to justify and pay for the maintenance of the parks themselves. Public enjoyment of parks and the preservation of them could cut both ways. It was left largely to park superintendents themselves to achieve a workable balance.[66]

The 1930s were a pivotal era for the country, the Park Service, and Olympic National Park itself. The Depression years ushered in not only a variety of New Deal public works programs, many with an emphasis on developing America's outdoor recreational opportunities, but an expanded and reorganized National Park Service as well. Roosevelt's alphabet soup agencies, in particular the Civilian Conservation Corps (CCC), the Public Works Administration (PWA), and the Works Progress Administration (WPA) played an integral part in funding, developing, and maintaining national parks during the New Deal years.[67] Roads, campgrounds, and other recreational facilities on the peninsula's park, along with forestlands, benefited. The establishment of Olympic National Park also coincided with a resurgent conservation movement. Conservation groups began to argue that wilderness preservation should be the primary reason for the creation of national parks.[68] At the same time, the Park Service itself began to recognize the importance of ecology in park management.[69] This emphasis on preservation rather than public use resulted in the creation of a new type of park–the wilderness park. Olympic, like Everglades National Park before it, followed this new rationale. The rain forest and the Roosevelt elk were to be preserved and wilderness conditions were to be maintained. In practice, this meant that roads were to be limited.[70] As Secretary of the Interior, Harold Ickes observed, in an address given in Seattle, only a few months after the establishment of the park:

> When a national park is established, the insistent demand is to build roads everywhere, to build broad easy trails, to build air fields, to make it possible for everybody to go everywhere–*without effort*. . . . But let us preserve a still larger representative area in its primitive condition for all time by excluding roads. *Limit the roads*. Make the trails safe but not too easy, and you will preserve the beauty of the parks for untold generations. Yield to the thoughtless demand for easy travel, and in time the few wilderness areas that are left to us will be nothing but the back yards of filling stations.[71]

Ickes' plea for a park with limited roads was, in fact, more of a comment on the reality at hand. Olympic National Park was largely wilderness, punctuated here and there by a few miles of road.

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[66] "Olympic National Park: An Administrative History," 88-89.
[67] Sellars, 100, 140-142.
[68] Horace Albright to Max Gilstrap. 2 April 1956, Records of the National Park Service, RG 79, Wirth Papers, Albright File, 1, National Archives and Records Administration, as cited in Evans, 89.
[69] See Sellars, 91-148.
[70] "Olympic National Park: An Administrative History," 88-94.
[71] Harold Ickes, "Keep it a Wilderness–Ickes," *National Parks Bulletin*, 29 December 1938, 9-13.

Wilderness philosophy aside, the geography of Olympic rendered the cost of much road building prohibitive. Crossing the mountains would be too expensive. No doubt Ickes and the Park Service hoped to sell their vision of the new park to locals who often wished for more mileage. The notion of a wilderness park fit Olympic in more than one way.

Work on the new park's roads began even before the park itself existed. During the mid-thirties Preston Macy, Assistant Chief Ranger, sought to explore, inspect, and inventory the Park Service's new acquisition. As part of this effort, both road and trail surveys were undertaken. These efforts were necessarily supplemented when the heavy rains of 1935 damaged many of the park's roads. On the Hoh River Road alone, the rain-swelled river washed away four bridges. The Olympic Loop Highway was blocked by slides in several places and in others the waterlogged soil had given way under the roadbed itself causing the highway to sink several feet.[72] Weather and water, dual enemies of Olympic's road system, made their presence known from the beginning.

In the early years of Park Service management, in addition to routine maintenance, the administration undertook a general campaign of road improvement that would continue for many years. Roads were widened and sharp turns softened. The Civilian Conservation Corps (CCC) was instrumental in carrying out a number of these projects.[73] The CCC constructed parking areas, installed signage along roads, and undertook flood-control projects. The work was often shared with other agencies and often the Forest Service supervised the CCC crews, even when working on parklands.[74] CCC laborers extended Dosewallips and Elwha Valley roads, improved and straightened Olympic Hot Springs Road, graveled Sol Duc Hot Springs Road, and worked on Deer Park and Hurricane Ridge roads.[75] The Forest Service also utilized the CCC to help extend existing roads in the forests surrounding the monument. Many of these roads now lie within the boundaries of Olympic National Park, including the Elwha, Sol Duc, Hoh, Quinault, and Dosewallips roads.

As Olympic National Park settled into its routine, those who wished for new roads in the new park were to be largely disappointed. Not only did the park's mandate argue against it, but also in the early years, there was little money to spend on maintaining roads, let alone on building them. The federal programs of the Depression years were a windfall for the fledgling park. During the war years of the forties, military service and gasoline rationing meant fewer excursions for most, and fewer dollars for the parks. Visits to Olympic declined markedly. By the early 1950s, however, things had begun to change. Not only was the park's budget increased, allowing for better road maintenance, but good times and increased automobile ownership meant an upswing in park visitations. By the mid-fifties, annual visits to the park had topped 600,000, more than ten times what they had been only ten years earlier.[76] Fred Overly, the new superintendent at Olympic, made park maintenance, including that of roads, a priority. He also oversaw the building of the park's most significant road—the new Hurricane Ridge Road.[77]

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[72] Superintendent's Narrative Reports, box 1, folder 2, March 1935 and April 1935.
[73] Superintendent's Narrative Reports, box 1, folder 3, December 1936.
[74] Superintendent's Narrative Reports, box 1.
[75] Superintendent's Narrative Reports, box 1, folders 2 and 3, 2 December 1935 and 1 December 1936; *Port Angeles Daily News*, 6 January 1934, as cited in Wray, 29; *Aberdeen Daily World*, 7 July 1933, as cited in Wray, 26.
[76] "Olympic National Park: An Administrative History," 250.
[77] "Olympic National Park: An Administrative History," 160-161.

The first Hurricane Ridge Road, built in the thirties by the Forest Service, had proved difficult to negotiate.[78] With its steep grades (at points in excess of 18 percent), narrow roadbed, and winding course, it seemed an inadequate entry into the park's backcountry. The route left the Elwha Road, running south along Lake Mills to Whiskey Bend, and thence eastward to Hurricane Ridge.[79] The possibility of a new road to the ridge was first explored shortly after the park's formation, but budget concerns, World War II and wilderness philosophy put a hold any new construction. Nonetheless, in 1940 E. A. Davison, the regional Landscape Architect for the Park Service, arrived to study possible approaches for a new road leading up to the ridge.[80] Two routes were suggested—the first along the south bend of the Little River and the second along Morse Creek, where the new road was eventually built. The route along Morse Creek proved superior in several regards. Not only would it permit spectacular views, its geological profile indicated less dense rock and shallower slopes than the Little River route. Despite the advantages of the Morse Creek route, the engineers believed it would still require two bridges, $600,000, and three years to complete.[81] Three years would prove to be optimistic.

If the forties were a quiet time for the park's roads, with visits down and minimal budgets, they were not altogether silent. Discussion continued over the place of roads in the park. It was a discussion that mirrored a larger conversation about the changing place of roads within national parks, and particularly within "wilderness" parks like Olympic.[82] New ideas about parks and their relationship to wilderness led necessarily to new ideas about roads. Trans-park roads and traditional loop highways did not seem to fit the new model of park that was emerging. At Olympic, the Park Service had an opportunity to help shape the direction of park road history. The new Hurricane Ridge Road was designed against this backdrop.

A new road to Hurricane Ridge, while under consideration, was not altogether a foregone conclusion, nor was it clear that a new type of road would emerge. Traditional solutions had to be considered, including the loop road. Park officials discussed the possibility of a one-way loop road running from Deer Park across to Obstruction Point and thence to Hurricane Ridge. Travelers would descend down the Elwha. In addition to the fact that a one-way loop would be less damaging to the environment than a two-way road, the route had the benefit of being largely complete already. Only the section from Deer Park to Obstruction Point would need to be built. Unfortunately, it would be a very difficult section to build.[83] A number of other routes were proposed, including a Sol Duc-Olympic Hot Springs loop in the Seven Lakes Basin area of the north and a Queets to Quinault road in the south. The public continued to clamor for a park entrance at Dosewallips with a road continuing up the river, over the divide and down to Quinault.[84] The Park Service itself gave serious consideration to a loop road, which

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[78] Robert Wood, *Olympic Mountains Trail Guide: National Park and National Forest*, 2nd ed. (Seattle: The Mountaineers, 1991), 82.

[79] The first part of this route, the Whiskey Bend Road, can still be traveled by car. The remainder of the route, now the Wolf Creek Trail, is open only to foot traffic.

[80] Superintendent's Narrative Reports, box 1, folder 7, October 1940.

[81] R.D. Waterhouse, "Proposed Morse Creek-Hurricane Ridge Approach Road, Olympic National Park," 10 February 1943, Engineers' Reports, NARA (San Bruno).

[82] Louter, fn. 35.

[83] Louter, fn. 17. See also Olympic National Park Master Plan, 1954.

[84] Arthur Garrett to Henry M. Jackson, 16 February 1949, Henry M. Jackson Papers, UW Libraries, Seattle, Wash., as cited in Louter, 141.

would connect Hood Canal to Staircase and Quinault Lake, while passing briefly through the high country.[85] And only a year after the park's creation, as part of the effort to acquire the coastal strip and the Queets corridor, Public Works Administration-funded parkways were considered in both areas, although the proposed coastal parkway was never more than a tool to acquire land.

In 1939, concerned with the ongoing deterioration of the Olympic Peninsula's coastline, including deforestation, Secretary of Interior Harold Ickes negotiated the purchase of the coastal strip with PWA funds, although the strip was not officially added to the park until 1953. Although parkways were falling out of favor by this time, the Park Service, after some reorganization, was in charge of a number of them from the George Washington Memorial Parkway outside of Washington, D.C., to the Blue Ridge Parkway in Shenandoah National Park.[86] Ickes used the idea of a new parkway to justify the purchase of the coastal strip and to thereby preserve its fragile ecosystem.[87] Shortly thereafter, Park Superintendent Preston Macy indicated his support for a scenic coastal highway.[88] A preliminary road survey was completed in the area from Ozette south to Sandy Point with favorable results.[89] Interior Secretary Howard Ickes backed the plan.[90] A coastal road, while costly, would be far less expensive than a trans-mountain route. It would also deflect demands for larger road projects within the park proper, thus helping preserve Olympic's wild interior. It seemed that Olympic would soon have a coastal parkway. As the *Port Angeles Evening News* announced, "Park Service Confirms Plan to Build Ocean Beach Road."[91] The proposed 22-mile road project received a considerable amount of opposition, however. While a coastal highway would provide access to the coast, and thus hopefully generate support for the addition of the coastal strip to the park, it would also change the nature of the rugged coastline and damage its fragile ecology, which was exactly what Ickes hoped to prevent in the first place. Before plans for the parkway could advance, however, America entered World War II. The issue of a coast road was tabled until the 1950s, by which time the parkway era had passed, the WPA no longer existed, and Olympic National Park had already committed to the building of the new Hurricane Ridge Road.

Although the coastal strip would have to wait until the after the war, the park did acquire additional land in the forties. Acreage in the Bogachiel River valley was added in 1940. In 1943, the 20,000-acre Morse Creek drainage was added to the park. It would later provide a route for the new Hurricane Ridge Road.

As the 1950s approached, visits to the park were up, as was funding. New road construction was once again a possibility and the decision to go forward with a new route to

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[85] W.C. Struble, "Preliminary Investigation Report, Olympic National Park: Staircase-Graves Creek Road," September 1949, RG 79, Central Sites Files, Olympic National Park, 1927-1953, box 130, file 600-01, NARA (San Bruno), as cited in Louter, 141. For a more complete discussion of road proposals see Louter, 135-144.

[86] For more information on George Washington Memorial Parkway, see HAER No. VA-69; for more information on Blue Ridge Parkway, see HAER No. NC-42.

[87] Louter, 137-138.

[88] *Port Angeles Evening News*, 14 December 1940.

[89] Frank J. Twynham, Memo to National Engineer, National Park Service, 26 September 1940, Olympic National Park, Monthly Engineering Reports, NARA (San Bruno).

[90] A.E. Demaray to Regional Director, 26 June 1940, RG 79, Olympic National Park--Land Acquisition Files, 1938-1953, box 8, file 630, NARA (San Bruno), as cited in Louter, 138.

[91] "Park Service Confirms Plan to Build Ocean Beach Road," *Port Angeles Evening News*, 16 February 1940.

Hurricane Ridge was made. The new road would simultaneously bring the visitor into the park's interior to experience wilderness, and, at the same time, preserve that wilderness. The short, easily driven route would take in several ecological zones providing a nearly comprehensive park experience while successfully funneling visitors in, and *out*, of the park in the space of a few hours. Olympic National Park's new road would be a new type of road for a new type of park. It would simultaneously allow visitors to enjoy the park's spectacular scenery, while disturbing as little of that scenery as possible. It would be a route that by virtue of its limited length would preserve the park. By bringing the public into the mountains, however, it would also obviate the necessity to build any further roads. Thus the building of Hurricane Ridge would also be a story about roads not built.

In 1949, work on the road finally began as a Public Roads Administration crew began to survey the lower Heart O' the Hills section of the new route.[92] Bids for clearing and grading of the road opened in Portland in December of the same year.[93] The cost of the project was now projected at $2 million and construction time estimated at four to five years. Both would prove optimistic, largely because the terrain proved far more difficult to negotiate than had originally been thought.

Work on the new road progressed in sections with crews working both up from Heart O' the Hills and down from Hurricane Ridge. Although the project was within the national park, the work was managed through the Bureau of Public Roads (BPR) who contracted the job out to Lucich Construction Company.[94] BPR had a long-standing contract with the Park Service to build roads. As work progressed, it became apparent that the steep rock face of Burnt Mountain near Lookout Rock would require tunneling. In 1955, Landscape Architect Rice, from the National Park Service's Western Office in Portland, Oregon, was brought on to design three reinforced concrete tunnels for the new road.[95] Landscape Architect Russell, also from the Portland office, later redesigned the north portal of the westernmost tunnel. Blueprints drawn up in 1959 indicated colored and textured concrete on the tunnel portal as well as the placement of several small boulders at the tunnel entrance. While construction of the lower section of the road went fairly smoothly, construction on the upper section, particularly the drilling of the tunnels, was slow and the opening date for the road had to be continually moved forward. Other setbacks included at least one death and the theft of explosives, which were later detonated in Port Angeles.[96]

By late fall 1957, the new route to Hurricane Ridge had been completed, although it was still unpaved. While sections of the road had been opened to the public as they were completed, the grand opening was scheduled for December 28, 1957. After eight years of construction, the moment was long anticipated. The Park Service, however, well aware of the season, the possibility of snow and their dearth of snow removal equipment, made no firm promises. Others, caught up in the excitement, and no doubt the chance to capitalize on the opening of the road,

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[92] Superintendent's Narrative Reports, box 1, folder 16, August 1949; Engineer J.S. Allen was chief of the party. Superintendent's Narrative Reports, box 15, December 1949.
[93] Superintendent's Narrative Reports, box 1, folder 17, 12 January 1950.
[94] Superintendent's Narrative Reports, box 1, folder 19, 8 September 1952; 8 October 1952; 17 November 1952; 9 December 1952.
[95] Superintendent's Narrative Reports, box 1, folder 23, 17 August 1957.
[96] Superintendent's Narrative Reports.

heard only what they wanted to hear. Local advertisers, apparently carried away by the moment, promoted not only the opening, but also the existence of facilities like ski lifts that had not yet been built. As park authorities had feared, a huge snowstorm struck between Christmas and New Year's forcing the cancellation of the road's opening. The high winds and deep drifts were no match for the park's outdated snowplows.[97] More than 100 disappointed drivers called to voice their displeasure with the delay.[98] Four days later, on New Year's Day 1958, the new road to Hurricane Ridge opened to the public, although for holiday and winter weekend use only.[99] Twenty years after its creation, Olympic, like other national parks, now had its great road, the road that would, in large measure, come to define the Olympic experience.

ROADS LESS TRAVELED

While the drama of Hurricane Ridge occupied much time and energy during the fifties, it was only part of the decade's road history. In 1953, the park finally acquired the coastal strip and the Queets corridor, bringing several more roads into the park's system. The new acquisitions put the question of road development on the table once more. The Park service again considered a Quinault to Queets road, while local interests lobbied for a Dosewallips to Quinault road.[100] The Olympic Development League went so far as to sponsor a pack-train trip over the route, extending invitations to journalists and local politicians, including the governor. The event succeeded in attracting publicity and public interest, neither of which, were enough to convince the Park Service to build the road.[101] Olympic's 1954 Master Plan revisited the idea of an Obstruction Point-Deer Park Road.[102] The following year, in 1955, concern over heavy truck traffic along Lake Crescent, prompted the consideration of a north shore bypass for trucks.[103] None of these projects made it past the early stages of discussion or planning. In the late fifties, there was renewed interest in a both a coastal road and in short coastal access roads. Now that this area was actually within park boundaries, the issue had become real. Daniel Beard, Superintendent of Olympic, while voicing his concern with coastal development, also supported a 13-mile road running from Neah Bay on the Makah Indian Reservation south through the coastal strip to Ozette. He also cautioned, however, that:

> *The unique and distinctive value of the Coastal Strip is that most of it remains undeveloped and undisturbed.* It is the *only* place along

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[97] Jack Hughes, Ranger, Olympic National Park, interview by author, Olympic National Park, Washington, January 2003.
[98] Fred Overly, Superintendent, to Regional Director, region 4, 24 January 1958; D-30 Heart O' the Hills, Hurricane Ridge Road, Olympic National Park 1954-1962, Box 7, Record Group 79, NARA (Seattle).
[99] Superintendent's Narrative Reports, box 1, folder 24, 13 February 1958.
[100] Thomas E. Carpenter, landscape architect, "Reconnaissance Report for a Road Route over Tshletchy Creek Ridge," to Chief, Western Office Division, Office of Design and Control, 30 July 1954, 30-D Construction; Olympic National Park,, 1954-62; Box 5, RG 79, NARA (Seattle).
[101] Editorial, "Plans Progress for Caravan Over Olympics," *Port Townsend Leader*, 2 August 1956.
[102] Master Plan, Olympic National Park, 1954.
[103] Superintendent's Narrative Reports, box 1, folder 22, August 1955; Krueger and Rice, Park Landscape Architects, to Acting Chief, Western Office, Division of Design and Construction, 2 September 1955, Olympic National Park, 1954-1962, D-30 Construction, Box 5, RG 79, NARA (Seattle).

> the Pacific Northwest Coast where at least a major segment can be expected to be retained in perpetuity as a wild, natural, seacoast. It is a relic of great value which short-sighted development could easily reduce to mediocrity."[104]

Many others agreed. In the summer of 1958, Supreme Court Justice William O. Douglas lent his support to the campaign opposing a coastal road. More than seventy people, including Douglas, hiked from Cape Alava to Rialto Beach in a highly publicized protest march, hoping to call attention to the area's fragile beauty and gather national support for its protection.[105] A small group of local, pro-road, business owners were waiting at Rialto Beach with a reply, "Bird Watchers Go Home."[106] In the end, like many other proposed roads in the park, a coastal highway was not built, thus helping to maintain the wilderness character of Olympic National Park.

The controversy over new roads during the late fifties was also given impetus by the Park Service's multi-million dollar, Mission 66 initiative. This ten-year plan was intended both to celebrate the fiftieth anniversary of the park service and to upgrade national park facilities in response to increased usage. Running from 1956 to 1966, Mission 66 covered some of Olympic's most significant years, years in which the park would reconcile its vision of wilderness preservation and public access. For Olympic, Mission 66, and its concomitant funding, represented an opportunity to both upgrade and add to the park's existing infrastructure, including roads. For park administrators this meant a chance to fund long-overdue projects, like the paving of roads. For locals, it meant a chance to hopefully influence the process. Many of the era's road proposals were in some way influenced by the existence of Mission 66.

The park's largest project, the construction of the new route to Hurricane Ridge, unfolded, in part, against the backdrop of Mission 66. Although construction began well before the celebratory initiative, Mission 66 and the building of Hurricane Ridge both reflected the same philosophy. The Mission 66 approach to roads was to provide modernized access, while maintaining, as much as possible, the wilderness quality of parks. Loop roads and trans-park roads were out. Mission 66 roads would be designed to funnel visitors in and out of parks in the same day. Gateway cities, like Port Angeles, would provide lodging and other facilities thus reducing the need for traditional hotels within the parks. Civilization's imprint upon the parks would be reduced and nature preserved. Hurricane Ridge fit this model. It was Olympic's great road, but it covered only 19 miles and could be traveled in under an hour. Hurricane Ridge Lodge, which had opened in 1952, contained dining facilities and an interpretive center, but no overnight accommodations. Those who wished to venture further into the park could pack into the backcountry taking advantage of the extensive trail system.

The philosophy behind Mission 66 also reflected the nation's emerging interest in the preservation of nature. The modern environmental movement, which blossomed in the sixties,

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[104] Daniel Beard, Superintendent of Olympic National Park, "A Study for Preservation and Use of the Ocean Strip Section of Olympic National Park," 3 November 1958, part 4, Northwest Region Coastal Strip File, Cultural Resources Division, 15. Emphasis in original.
[105] Superintendent's Narrative Reports, box 1, folder 24, August 1958.
[106] Sign carried by L.V. Venable of the Black Ball freight line.

helped produce the 1964 Wilderness Act, which, in turn, supported natural resource conservation within national parks. Increasingly, the place of the automobile in parks, long accepted as necessary, would be questioned. For Olympic, the Wilderness Act served to reinforce a notion that had long guided the park. Unlike many earlier parks in the national system, Olympic had been founded as a wilderness park, a place where roads would be subservient to the preservation of nature. As public awareness of the environment and the need to protect it grew together with legal mandate, pressure to develop Olympic's road system would lessen.

The building of Hurricane Ridge was Olympic National Park's first and last major road project to date. While other road ideas and proposals have been discussed, only Hurricane Ridge fit the needs and mission of the park. Continued maintenance and minor improvements have insured that park roads remain much the same today as they were in 1958 when Hurricane Ridge was completed. Many of the park's narrow, winding, dirt roads continue to offer their experience to visitors. While subject to washouts, potholes and other inconveniences, they offer an intimate view of a still largely wild landscape. To pave and straighten these roads, to widen them and offer roadside amenities, would be to lose the very thing visitors seek to gain by driving them—the wilderness experience, or least the nearest thing to it one can achieve through the windshield.

APPENDIX I

UNIVERSAL TRANSVERSE MERCATOR COORDINATES
DATUM: WGS84
PROJECTION: UTM 10

Deer Park Road:
beginning: 476123, 5316313
end: 480639, 5311492

Dosewallips Road:
beginning: 489908, 5286305
end: 487621, 5287026

Elwha Valley Road:
beginning: 455989, 5321152
end (at Whiskey Bend): 456457, 5312946
Section on west side of Lake Mills:
beginning: 456032, 5318059
end: 454362, 5316436

Graves Creek Road:
beginning: 447683, 5264100
end: 457219, 5269087

Hoh Rain Forest Road:
beginning: 425121, 5297357
end: 430245, 5301170

Hurricane Ridge Road:
beginning: 468276, 532721
end: 461174, 5314033

Obstruction Point Road:
beginning: 463135, 5313012
end: 471553, 5307362

Queets Road:
beginning: 408241, 5266065
end: 423808, 5274985

Quinault Road:
beginning: 430687, 5258047
end: 451272, 5269268

Sol Duc Road:
beginning: 428901, 5325121
end: 437846, 5311526

Staircase Road:
beginning: 476347, 5261248
end: 475036, 5262643

U.S. Highway 101 Kalaloch:
beginning (north): 396011, 5286591
end (south): 397828, 5268591

U.S. Highway 101 Lake Crescent:
beginning (east): 444747, 5325417
end (west): 432445, 532250

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HAER WA-126-2

HAER NO WA-106-3

HAER NO WA-166-A

St Lowe Q 135
HAER NY-104-23

HWY 99 MAP - 1996 - G

HAER NO. WA-169-1

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HAER NO WA-166-11

Ed Lowe Q 38

LIGHTS
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HAER NO WA-161-13

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HAER NO WA-166-16

HAER NO WA-166-17

HAER NO WA-166-18

St Louis 96
Hwy 126 MP 19.4

HAER NO WAT-116-20

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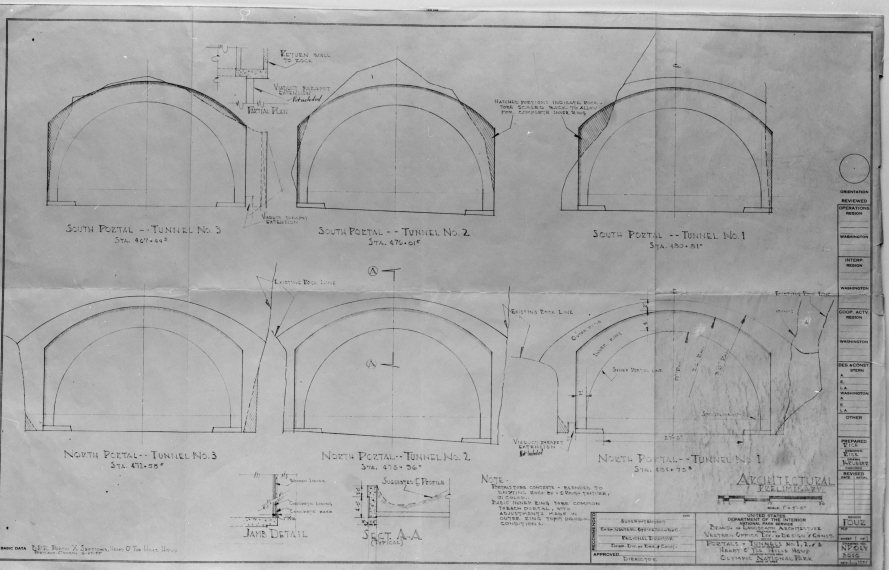
RETURN WALL TO BORA
VERTICAL PARAPET CURVE Extended
PORTAL PLAN
VERTICAL PARAPET EXTENSION
HATCHED PORTIONS INDICATE ROCK TO BE SCALED, MACHINE ALSO FOR CONCRETE UNDER SILLS
SOUTH PORTAL - - TUNNEL No. 3
STA. 409+44
SOUTH PORTAL - - TUNNEL No. 2
STA. 470+61
SOUTH PORTAL - - TUNNEL No. 1
STA. 480+81
EXISTING ROCK LINE
NORTH PORTAL - - TUNNEL No. 3
STA. 471+98
NORTH PORTAL - - TUNNEL No. 2
STA. 470+94
NORTH PORTAL - - TUNNEL No. 1
STA. 481+78
JAMB DETAIL
SILLS AND PEDESTAL
SECT. A-A
NOTE:-
EXCAVATING CONCRETE - BACKING TO BE PITCH, KNOB RD. - 2 ROUGH FINISHES.
DUCT RUNNING ALONG TUNNEL WALLS TO BE CONCRETED IN TRENCH DIGITALLY WITH ADJUSTMENTS MADE IN OUTER RING TIGHT DIAMETER CONCRETE LINING.
ARCHITECTURAL FEATURES
SCALE: 1/4" = 1'-0"
BASIC DATA
SUPERINTENDENT
TUNNEL DISTRICT
RESIDENT ENGINEER
APPROVED
DIRECTOR
UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
BRANCH OF LANDSCAPE ARCHITECTURE
WESTERN CONTRACT OFFICE OF DESIGN & CONSTR.
PORTALS & TUNNELS No. 1, 2 & 3
MOUNT ST. HELENS HIGHWAY
OLYMPIC NATIONAL PARK
NPS
3515
ORIENTATION
REVIEWED
OPERATIONS REGION
WASHINGTON
INTERP. REGION
WASHINGTON
COOP. ACTV. REGION
WASHINGTON
DES. & CONST. WORK
A.
E.
M.
WASHINGTON
R.
S.
OTHER
PREPARED IN DIV. OF PLANS & SPECS.
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OF
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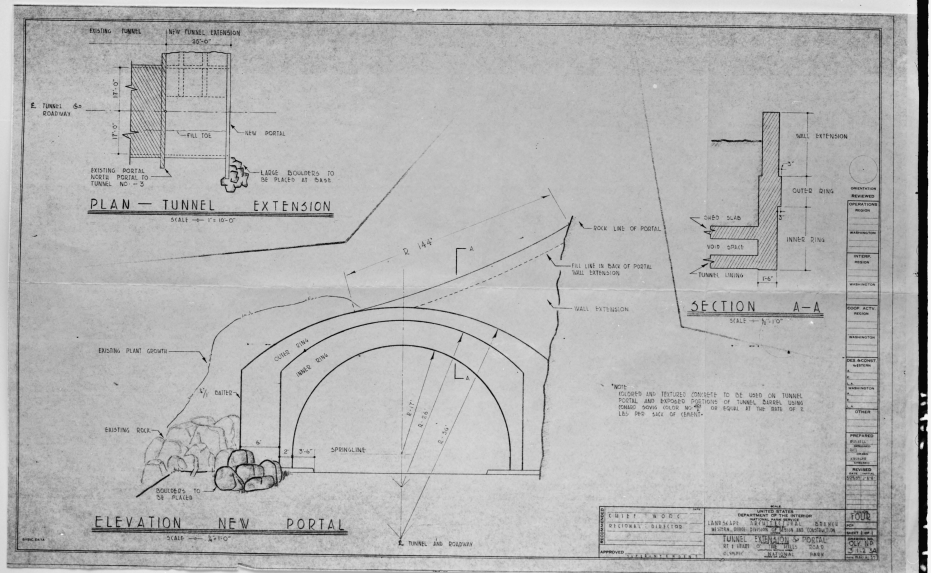
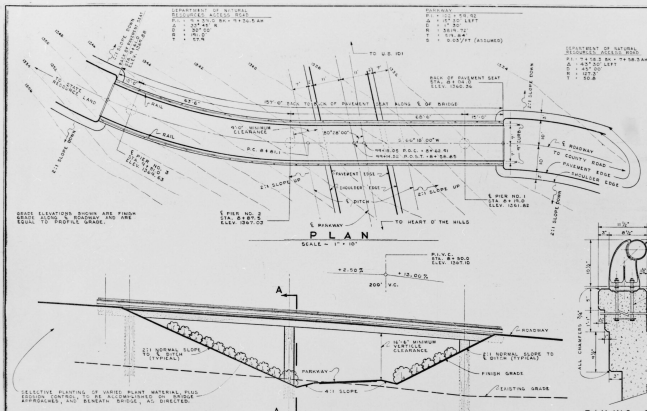

EXISTING TUNNEL
NEW TUNNEL EXTENSION
30'-0"
17'-0"
17'-0"
E. TUNNEL & ROADWAY
FILL TOE
NEW PORTAL
EXISTING PORTAL
NORTH PORTAL TO TUNNEL NO. 5
LARGE BOULDERS TO BE PLACED AT BASE
PLAN — TUNNEL EXTENSION
SCALE — 1" = 10'-0"
ROCK LINE OF PORTAL
FILL LINE IN BACK OF PORTAL WALL EXTENSION
WALL EXTENSION
R 14'-0"
A
EXISTING PLANT GROWTH
OUTER RING
INNER RING
EXISTING ROCK
5'
3'-6"
SPRINGLINE
BOULDERS TO BE PLACED
E. TUNNEL AND ROADWAY
ELEVATION NEW PORTAL
SCALE — 1/4"=1'-0"
WALL EXTENSION
2'-3"
OUTER RING
CURB SLAB
VOID SPACE
INNER RING
TUNNEL LINING
1'-6"
SECTION A-A
SCALE — 1/4"=1'-0"
"NOTE
COLORED AND TEXTURED CONCRETE TO BE USED ON TUNNEL PORTAL AND EXPOSED PORTIONS OF TUNNEL BARREL USING STANDO SOVIA COLOR NO. 45 OR EQUAL AT THE RATE OF 5 LBS PER SACK OF CEMENT.
ORIENTATION REVIEWED
OPERATIONS REGION
MANAGEMENT
INTERN REGION
WASHINGTON
FOOD ACTY REGION
WASHINGTON
DES & CONST NORTH
WASHINGTON
OTHER
PREPARED
REVISED
DRAWING NO.
SHEET OF SHEETS
DESIGNED
DRAWN
TRACED
CHECKED
APPROVED
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
REGIONAL DIRECTOR
TUNNEL EXTENSION & PORTAL
TOUR
CONTRACT NO.
SPECIFICATION NO.
DWG. NO.

HAER NO. MA-1006-40

NPS Form 10-900-a (8-86)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TO U.S. 101
ROAD
RAILROAD
PI = 15+92.
A = 17°30' LEFT
D = 5°30'
R = 1041.72
T = 160.00
L = 317.77 (ASSUMED)
DEPARTMENT OF NATURAL RESOURCES ACCESS ROAD
PI = 14+38.3 BK = 11+38.54 AH
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R = 191.0
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RAIL
R/W
R/W MINIMUM CLEARANCE
PC #8+81
PAVEMENT EDGE
DITCH
DITCH
PAVEMENT EDGE
R/W MINIMUM CLEARANCE
RAIL
R/W
4:1 SLOPE DOWN
4:1 SLOPE DOWN
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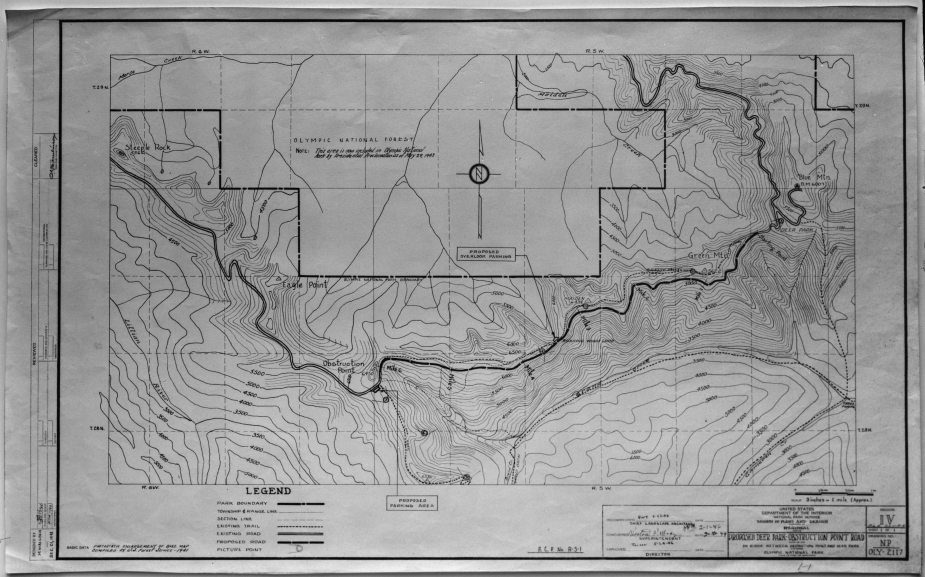
OLYMPIC NATIONAL FOREST
Note: The area is excluded in Olympic National Park by Presidential Proclamation of May 22, 1915
Maple Rock
Eagle Point
Destruction Point
Grim Hill
PROPOSED OVERLOOK PARKING
PROPOSED PARKING AREA
R.8 W.
R.5 W.
T.28 N.
T.28 N.
T.28 N.
LEGEND
PARK BOUNDARY
TOWNSHIP & RANGE LINE
SECTION LINE
EXISTING TRAIL
EXISTING ROAD
PROPOSED ROAD
PICTURE POINT
PROPOSED PARKING AREA
BASIC DATA
DIRECTOR
R.C.P. No. B-3-1
UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
OLYMPIC NATIONAL PARK
IMPROVEMENT TEEL PARK CONSTRUCTION POINT ROAD
IN ROAD INITIATED CONSTRUCTION FUNDS AND STATE ROADS
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