
4.9 TRANSPORTATION AND TRAFFIC

4.9.1 Waterway for LNG Marine Traffic

Existing marine traffic along the waterway includes cargo ships that call at Coos Bay, tugs and barges, and fishing and recreational boats. According to the Port, 36 deep draft vessels called at Coos Bay in 2006. There are no records kept for the number of tugs and barges that may use the waterway, but anecdotal information provided in Jordan Cove's WSA indicated that up to 400 tugs and barges utilize the port annually. The tugs and barges are shallow draft vessels and are not constrained to stay within the deep draft navigation channel.

In 2006 the ODFW (2007) counted 71 commercial fishing vessels home ported at Coos Bay, that concentrated on groundfish. There are a total of 537 slips available within the inner and outer basins of the Charleston Marina. Of these, 278 slips can accommodate trollers and trawlers larger than 24 feet in length (Dyer Partnership 2007). The OSMB (2005) counted 30,996 recreational boat trips in Coos Bay in 2004, with 88 percent of those trips related to fishing.

Jordan Cove stated that up to 80 LNG carriers per year could come to call at its import terminal in Coos Bay. The Coast Guard's WSR limits the size of these carriers to 148,000 m³ in capacity or less. Jordan Cove's simulation study indicated that carriers with capacities of 148,000 m³ could successfully transit up the Coos Bay navigation channel as it is currently configured, under certain conditions, such as slack high tide, with specific aids to navigation moved or added (Moffatt & Nichol 2008).

Typical operations for LNG carriers calling on the proposed LNG terminal are discussed in section 2.7.1 of this EIS. Safety and security measures relating to LNG marine traffic are described in detail in section 4.12 of this EIS. In its WSR, the Coast Guard identified the need for a moving safety/security zone of 500 yards around each LNG carrier in transit in the waterway to the terminal. However, the Coast Guard states in its WSR that the expectation is the Coast Guard's representative would work with the Pilots and patrol assets to control traffic, and would allow other vessels to transit the safety/security zone on a case-by-case basis (see WSR in Appendix B).

Currently, deep draft cargo vessels enter and exit the port under the control of a Coos Bay Pilot. The navigation channel provides for only a single lane of deep draft traffic. The Coast Guard's WSR recognizes this, and requires that Jordan Cove develop a Traffic Management Plan, in coordination with the Coos Bay Pilots Association, tug operators, and security escorts, to minimize conflicts between LNG carriers in route to and from the terminal and other deep draft commercial vessels, and fishing and recreational boats.

The Pilots currently encounter an average of six recreational boats and two commercial fishing boats during the transit of each deep draft vessel in the navigation channel. These numbers tend to be lower in winter and on weekdays. LNG carriers would most likely transit in the waterway at slack high tide during daylight hours, with the travel time between the offshore buoy at the beginning of the waterway to the proposed LNG terminal estimated to be about 90 minutes, at typical speeds between 10 and 4 knots. The Pilots indicated that they would not allow an LNG carrier to enter the navigation channel under severe weather conditions, or when the volume of

other ship traffic in the channel is so heavy that transit to the LNG terminal could be potentially unsafe.

Effects on fishing and recreational boats from LNG marine traffic in the waterway would be similar to current deep draft cargo traffic to the port. In general, as deep draft vessels enter the channel, other boats move out of their way, and boats in the ocean near the mouth of the channel defer entering the channel until the larger ships have passed. The escort boats accompanying each LNG carrier would facilitate moving other boats out of the way in a timely manner. As they presently do for other commercial cargo traffic, the Coast Guard and OSMB would remind recreational boaters of their obligation to not impede deep draft vessels transiting in the waterway.

Interactions between deep draft vessels and other boats rarely occur in Coos Bay. The likelihood of collisions between LNG carriers and other vessels is low because the boats escorting each LNG carrier would help keep other boats out of the way. Non-routine events may infrequently occur, such as a recreational boat moving more slowly than expected, or a boat may follow an LNG carrier too closely. If, for example, a recreational boat were to lose power and be unable to move out of the way of an LNG carrier, the escort boats could come to its assistance.

Other boats may be delayed up to 30 minutes waiting for the passage of an LNG carrier. Boats in Charleston Marina ready to head out to sea may have to wait about 20 minutes for an LNG carrier to pass before entering the channel. Based on a total of 80 LNG carriers visiting the proposed terminal each year, Jordan Cove estimates that LNG marine traffic in the waterway could potentially impact recreational and other boating activity during about 1.3 percent of annual daylight hours (ECONorthwest 2006). Delays related to LNG carrier traffic would occur on average once every 4.5 days. These delays would be similar to those that occur during the current passage of a deep draft cargo vessel.

We do not believe LNG marine traffic in the waterway would have any significant or long term impacts on other boats in Coos Bay. Given the recommended measures outlined in the Coast Guard's WSR, the possibility of an incident resulting in an LNG spill from a carrier in transit in the waterway, and an associated pool fire if the LNG vapors were to be ignited, is remote. The safety and security zones around LNG carriers should protect other vessels from harm if an unforeseen event should happen.

4.9.2 LNG Terminal

4.9.2.1 Marine Traffic

While an LNG carrier is moored at berth at the terminal, the Coast Guard's WSR recommends the imposition of a 150 yard security zone around the carrier, to include the entire slip. When no LNG carrier is at berth at the terminal, the security zone would extend 25 yards from the slip into Coos Bay. This security zone would not extend as far as the Coos Bay navigation channel, and would not affect vessels transiting in the channel. However, other boats in Coos Bay on the west side of the navigation channel would have to move around the terminal security zone. This should not be a difficult task, as they would only need to move 25 yards east from the shore. Therefore, use of the terminal slip by LNG carriers should not significantly impact other boats in Coos Bay.

4.9.2.2 Motor Vehicle Traffic

Primary access to the Jordan Cove LNG terminal would be provided by a new road that would cross the Roseburg property and intersect with the existing Jordan Cove Road. The Trans-Pacific Parkway connects Jordan Cove Road to the Oregon Coast Highway (U.S. Highway 101) via a causeway that extends across Hayes Inlet to the North Spit. A Transportation Impact Analysis prepared by David Evans & Associates, Inc. (DEA) for Jordan Cove¹ estimated that in the 3-year time frame between 2002 and 2004 daily traffic on Highway 101 at the intersection with the Trans-Pacific Parkway averaged 12,450 vehicles. There would be a second access road on the north side of the LNG terminal parcel that directly connects to the Trans-Pacific Parkway.

The Trans-Pacific Parkway provides the main vehicular access to the North Spit. About 0.5 mile east of the intersection with Jordan Cove Road there is a turn off to the northwest for Horsefall Beach Road, which provides access to the Oregon Dunes NRA. The locations of these roads are shown in figure 4.9-1.

Construction

During peak construction at month 18, it is estimated that 929 people would be working daily at the Jordan Cove terminal. If each of those construction workers drove their own vehicles to and from the job site every day, there would be a massive traffic jam at the intersection of Highway 101 and the Trans-Pacific Parkway.

In order to mitigate this potential impact, Jordan Cove proposes to reduce the number of single occupancy vehicle trips by establishing an offsite parking area for construction employee vehicles. Jordan Cove is evaluating two areas for temporary offsite parking, both located adjacent to the southern end of the McCullough Bridge in North Bend. Employees would be transported from the parking area to the proposed LNG terminal site on buses. To reduce congestion along U.S. Highway 101 and the Trans-Pacific Parkway, a maximum of 117 personal vehicles would be allowed on site on a daily basis for management and supervisory personnel.

Traffic operations during the peak construction phase were assumed for the purposes of analysis to consist of the addition of 117 personal vehicles and 15 buses during peak highway hours, and 48 additional truck trips (24 material deliveries) per day that would typically occur during off-peak periods. The addition of personal vehicles and buses to peak highway hours represents a worst case assumption. Based on existing traffic conditions, the proposed work shift changes (7:00 a.m. and 4:00 p.m.) would be outside peak highway hours measured in the field (7:30 to 8:30 a.m. and 5:30 to 6:30 p.m.). Deliveries were assumed to be limited to bulk materials required to produce concrete in an onsite concrete batch plant (DEA 2006).

¹ Snuffin, C., 31 July 2006, "Jordan Cove Energy Project Transportation Impact Study." This report was filed with Jordan Cove's application on September 4, 2007, as part of Appendix B.5 in environmental Resource Report 5.

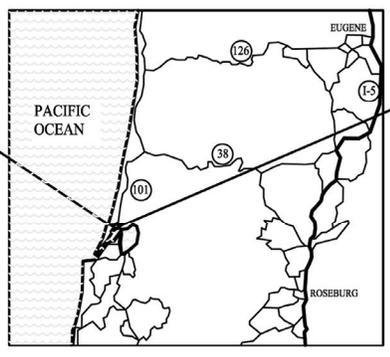
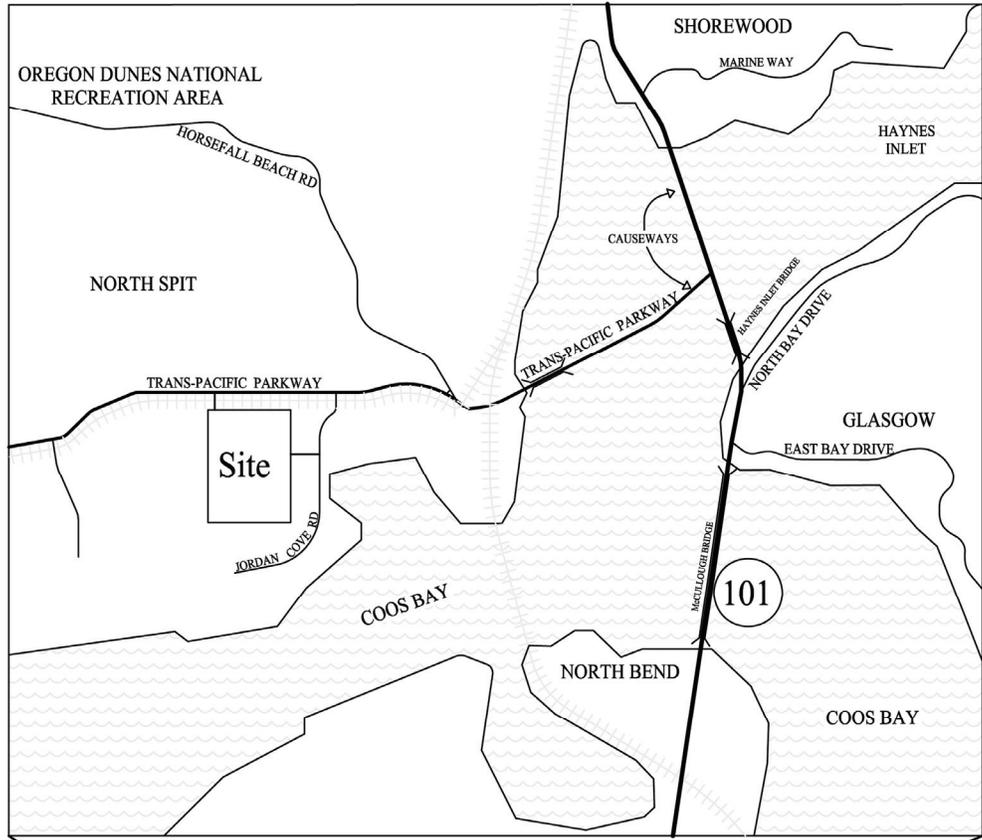


Figure 4.9-1
Roads in the Vicinity of the Proposed LNG Terminal

All construction activities would occur during a single shift (7:00 a.m. to 4 p.m.). For the purposes of analysis, all personnel traffic in the morning was assumed to be inbound to the site, while all afternoon personnel traffic was assumed to be outbound. All buses would arrive and depart to the south on Highway 101 and based on the existing population distribution, the majority of passenger vehicles (90 percent) are expected to originate from the south, with the remainder (10 percent) originating from the north (DEA 2006).

DEA's analysis examined potential impacts from terminal construction-related traffic at three intersections: Highway 101 and East Bay Drive, Highway 101 and the Trans-Pacific Parkway, and the Trans-Pacific Parkway and Jordan Cove Road. At the intersection of Highway 101 and East Bay Drive, projected construction related traffic would result in a volume to capacity (v/c) ratio of 0.74 which would not meet the ODOT mobility standard of a v/c of 0.70 or less.² However, DEA believes that operations at this intersection would still be well below capacity.

Existing traffic conditions would worsen at the intersection of Highway 101 and the Trans-Pacific Parkway as a result of terminal construction. Morning construction traffic to the terminal would result in a v/c ratio of 0.35 which would be within the ODOT mobility standards (0.70 or less). Afternoon traffic from workers leaving the terminal would result in a v/c ratio of 0.96, with queues eastbound approaching 150 feet long, and queues westbound being 100 feet or less. Terminal construction would put 34 vehicles at this intersection at the peak afternoon hour; or one car arriving every two minutes. However, this situation is a worse case scenario, and would only be temporary during peak construction months.

At the intersection of the Trans-Pacific Parkway and Jordan Cove Road, terminal construction would increase the v/c ratio from the present situation of 0.03 to 0.33. However, this would still be within the ODOT mobility standards, because background volumes are low, and this intersection has ample capacity to handle additional traffic.

During construction of the terminal slip, about 2.5 mcu of excavated material would be transported by truck to the Weyerhaeuser Linerboard disposal sites. The truck haul route would extend a total distance of 2.4 miles from the slip to the Linerboard sites. The route would cross a previously disturbed portion of the Roseburg property until it intersects with Jordan Cove Road. The haul route would then follow Jordan Cove Road for approximately 2,000 feet until it intersects with an existing dirt road that provides access to the Linerboard sites. Jordan Cove and the Port have committed to allowing the wood chip trucks serving Roseburg Company to have priority on Jordan Cove Road, and would have flag men to stop the haul trucks to give the right-of-way to the wood chip trucks. The Port estimates that the material would be hauled from the slip to the Linerboard site by 2 trucks a day for 7 months.

² The v/c ratio compares traffic volume demand to intersection capacity. A ratio less than 1.0 indicates that the volume is less than capacity. A v/c ratio close to 0.0 indicates that traffic conditions are generally good with little congestion and low delays for most intersection movements. As the ratio approaches 1.0, traffic becomes more congested and unstable with longer delays.

Operation

Once the LNG terminal is placed in service, regular operation would consist of three daily shifts, with a typical shift schedule as follows:

- Days: 7:00 a.m. to 3:00 p.m.—28 employees
- Swing: 3:00 p.m. to 11:00 p.m.—9 employees
- Grave: 11:00 p.m. to 7:00 a.m.—9 employees

Plant operation shift changes would occur outside peak highway hours, but are assumed to occur within the peak hours for the purposes of analysis. Based on all employees driving alone, 37 passenger vehicle trips would be added to the morning and afternoon peak highway hours. Daily truck traffic is expected to be limited to two daily trips (one truck entering and exiting). The results of the traffic impact analysis indicate that the addition of these trips to projected 2011 background traffic levels would have a negligible impact on study area intersections (DEA 2006).

DEA sent copies of its Jordan Cove traffic study to the Oregon Department of Transportation (ODOT), Coos County, and the City of North Bend. In an email to DEA dated November 14, 2006, Ron Hughes, ODOT Region 3 Access Management Engineer, indicated that ODOT generally agreed with the analysis.³ However, concerns were raised about potential impacts on traffic patterns if there would be construction on weekends during the summer. Jordan Cove did not document comments on the traffic study from Coos County or the City of North Bend. Therefore, **we recommend that:**

- **Before the end of the comment period on the draft EIS, Jordan Cove should document review of DEA’s Jordan Cove Energy Project Transportation Impact Analysis by Coos County and the City of North Bend, and comments on the study should be filed with the Secretary. Jordan Cove should also clarify if any construction at the terminal would occur on weekends during the summer, and if so, the transportation study should be updated to account for this. Any revised study should be sent to the ODOT, Coos County, and the City of North Bend for review, and their comments should be filed with the Secretary.**

4.9.2.3 Railroad Traffic

The Central Oregon and Pacific Railroad (COPR) parallels the Trans-Pacific Parkway on the east side of the North Spit of Coos Bay. This railroad has been out of service since September 2007 when COPR issued an embargo to shut the railroad down from Vaughn to Coquille. On July 11, 2008 the Port of Coos Bay filed an application with the Federal Surface Transportation Board to acquire this railroad line from COPR under the feeder line provision of USC 10907. On July 14, 2008 COPR filed an application with the Surface Transportation Board to abandon and discontinue service over this line. COPR would abandon the portions of this line it owns and discontinue service on the portions it leases. These applications are currently being reviewed by the Surface Transportation Board with a decision likely to be made before the end of the year (Melbo 2008).

³ This correspondence report was filed with Jordan Cove’s application on September 4, 2007 as part of Appendix A.5 in environmental Resource Report 5.

Jordan Cove does not plan to use this railroad during construction to transport materials to the proposed terminal site, or for any phase of operation. However, an unidentified third party may use the railroad to transport NGL from a non-jurisdictional NGL storage and loadout facility that would be located on the Roseburg property. The transportation of NGL is non-jurisdictional and addressed in section 2.2.1 of this EIS.

4.9.2.4 Air Traffic

The Southwest Oregon Regional Airport is located in the city of North Bend, directly across Coos Bay and less than one mile from the proposed LNG terminal site. The airport, which is operated by the Coos County Airport District, includes three asphalt runways. Two of these runways are used for air traffic. Runway 4-22 is the primary instrument runway. Runway 13-31 is the primary general aviation runway.⁴ The approaches to both of these runways cross the Coos Bay Navigation Channel, which borders the airport to the north. The third runway (16-34) is used by the Coast Guard for helicopter hovering practice and maintenance checks.

Commercial passenger service to and from the airport is provided by Horizon Air with four flights daily to and from Portland and one flight daily to and from Seattle. There were a total of 61,792 passenger enplanements (31,188) and deplanements (30,604) at the airport in 2004 (Southwest Oregon Regional Airport 2007). Horizon, Federal Express, and Ameriflight operate cargo services out of the airport. The Coast Guard uses the airport for helicopter operations and has five helicopters based there, two of which generally run out of the Newport Municipal Airport. The number of aircraft based at the Southwest Oregon Regional Airport has ranged from 61 to 68 for the past 20 years.

There were a total of 39,016 aircraft operations (defined as a take-off or landing) at the Southwest Oregon Regional Airport in 2000. Commercial air traffic (air cargo, air carrier, and air taxi) accounted for approximately 16 percent of this total, with the remainder comprising itinerant and local general aviation (77 percent), and military aviation (9 percent) (North Bend Municipal Airport 2002). About 4 percent or 1,392 of the total operations were classified as annual instrument approaches (AIAs). A total of 2,500 AIAs are projected for 2010, with commercial air traffic accounting for 65 percent of these AIAs (North Bend Municipal Airport 2002). Assuming that the peak month accounts for 10 percent of total annual AIAs and these operations all use runway 4-22, there were 35 AIA operations per week in the peak month in 2000, with about 58 per week projected for the peak month in 2010.

Clair Jones, Chairman of the Coos County Airport District Board of Commissioners, who manage the Southwest Oregon Regional Airport, stated, in an article published in the *Coos Bay World* newspaper on August 22, 2006, that the airport and the airspace surrounding the LNG terminal would not have to be shut down during LNG carrier transit to the terminal.⁵ In a letter to the FERC dated July 19, 2006, Captain Charles Yates, President of the Coos Bay Pilots Association, stated that although the airport's flight path crosses above the navigation channel, there has never been a conflict between air traffic and commercial ship traffic.

⁴ General aviation is generally defined as the portion of civil aviation that encompasses all aspects of aviation except commercial operations. Local general aviation operations are typically training operations that take place at the airport. Itinerant general aviation operations typically involve a specific origin or destination away from the airport (North Bend Municipal Airport 2002).

⁵ A copy of this article was filed with Jordan Cove's application to the FERC, in Appendix A.5 to environmental Resource Report 5.

In response to our NOI for this Project, the U.S. Department of Transportation Federal Aviation Administration (FAA) commented that Jordan Cove may need to file a formal notice with the FAA for the review of airspace utilization, under Federal Aviation Regulations (FAR) Part 77, Objects Affecting Navigable Airspace. If temporary or permanent structures, equipment or mobile objects associated with the project exceed the notification criteria under FAR Part 77, as outlined in 14 CFR Subchapter E, Jordan Cove would need to file that notice with the FAA at least 30 days before construction would begin on the LNG terminal. In addition, the FAA has indicated that a feasibility study should be prepared to evaluate alternatives. The feasibility study would be a limited aeronautical review based on very broad, estimated, or general information. The feasibility study would result in a report rather than an official determination and can provide valuable information regarding the relationship of the airport and surrounding airspace to the proposed LNG terminal. Therefore, **we recommend that:**

- **Jordan Cove should submit a request for a FAA feasibility study under IAW FAA Order 7400.2G, 6-1-6. Jordan Cove should consult with the FAA to ensure proper aspects of project alternatives are studied. Prior to the end of the comment period on this draft EIS, Jordan Cove should file with the Secretary documentation of consultations with the FAA, and a copy of the feasibility study.**
- **If the LNG terminal meets the notification standards outlined in 14 CFR Subchapter E, then Jordan Cove should submit the appropriate notice to the FAA under FAR 77, with a copy filed with the Secretary with its Implementation Plan.**

4.9.3 Pipeline Facilities

The existing transportation network in the area of the Pacific Connector pipeline in southwest Oregon includes the following major roads:

- U.S. 101, which generally follows the coast and links Coos Bay and North Bend with California and Washington. In southwest Oregon, it crosses through Coos and Curry Counties;
- State Route 42, which links Coos Bay and North Bend with Roseburg and passes through Coos and Douglas Counties;
- Interstate 5 (I-5) links Roseburg with California and Washington and passes through Douglas and Jackson Counties;
- State Highway 62 and State Route 140 in Jackson County;
- State Route 66, State Route 39, and U.S. Highway 97 in Klamath County;
- Highway 199, which links Grants Pass with Crescent City, California and crosses through Josephine County; and
- Highway 99, which links Grants Pass with Medford, Ashland, and Interstate 5 in Jackson County.

In addition to these main federal highways and state routes, the area is served by county roads and an integrated network of forest roads, generally designed for timber harvest. Forest roads cross federal, state, and private land, including lands managed by the USFS and BLM.

4.9.3.1 Roads Crossed by the Pipeline

The proposed Pacific Connector pipeline would extend for about 230 miles through four southwest Oregon counties, crossing several major transportation routes and highways, as well as many local roads and USFS- and BLM-managed roads. In addition, federal, state, and local roads, as well as roads on federal lands, would be used as access roads during construction to move construction equipment, materials, and personnel to the construction right-of-way. The proposed construction would result in short term effects on transportation in portions of the Project area, including traffic delays due to additional vehicles using the road system to transport workers and equipment to the construction site, and due to in-road work where the pipeline would cross roads.

Major state and federal transportation routes and highways that would be crossed by the proposed pipeline include U.S. Highway 101 (at MP 2.1) and State Route 42 (at MP 51.7) in Coos County; I-5 (at MP 69.9) and State Highway 227 (at MP 94.7) in Douglas County; State Highway 62 (at MP 192.0) and State Route 140 (at MP 132.5) in Jackson County; and State Route 66 (at MP 192.0) , and U.S. Highway 97 (at MP 199.6) in Klamath County. A more complete list of roads that would be crossed by the proposed pipeline, the proposed crossing method, and whether the identified roads would be used for construction access is provided in table E-2 of Appendix E.

A total of 685 road segments would be affected by the proposed pipeline. These road segments would be crossed by the proposed pipeline, within the proposed ROW, or used to access the proposed construction right-of-way. These affected roads include an estimated 118 BLM roads, 81 Forest Service roads, and 72 privately owned logging roads or spurs.

Pacific Connector has developed a draft Transportation Management Plan for Non-Federal Lands.⁶ This plan outlines measures Pacific Connector would implement to maintain public access on non-federal roads used as construction access, or crossed by the construction right-of-way during pipeline construction. Measures to be implemented by Pacific Connector to reduce transportation impacts include the following:

- The majority of the proposed pipeline road crossings would involve an open cut. In these cases, Pacific Connector would try to maintain at least one lane of traffic with detours around the construction by plating over the open portion of the trench or by other suitable methods. In some cases, however, it may be necessary to close the road for approximately 24 hours. Where road closures occur, Pacific Connector would communicate with landowners and land managing agencies regarding construction scheduling to minimize potential access impacts and allow emergency vehicles and residential access.
- Traffic control measures, such as flaggers, signs, lights, and barriers, would be used during construction to ensure public safety, allow efficient traffic movement through or around work areas, and provide safe working conditions for construction workers. Advanced signage that would provide notice of construction activities and expected delays may be used in some situations. Traffic control will comply with requirements of the jurisdictional land agency or property owner.

⁶ Pacific Connector filed its Preliminary Draft Transportation Plan (Non-Federal Lands) with the Commission on December 12, 2007.

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- Pacific Connector would implement additional traffic control measures as determined during the ODOT and county permit processes.
 - Roads would be kept free of mud and other debris that may be deposited by construction equipment. Truck-driven equipment would cross roads on tires or construction pads to minimize road damage. Pacific Connector would repair any roadways damaged by construction activities.
 - Pacific Connector would apply for all necessary permits to cross and/or use roads as required by ODOT, federal, and county jurisdictions, and apply all mitigation measures specified in these permits and stipulations.
 - Pacific Connector and its contractors would comply with local and federal road and bridge weight limits and restrictions, as well as applicable ODOT, federal, local, and private hauling permit requirements with respect to size and weight restrictions.
 - Pacific Connector would negotiate temporary and permanent road use agreements or easements to use private roads during construction and operation, where necessary.

We recommend that:

- **Pacific Connector should submit its draft Transportation Plan for Non-Federal Lands to the ODOT and appropriate county agencies for review before the end of the comment period on the draft EIS. Pacific Connector should file comments on its plan, revise the plan as necessary based on input from state and county officials, and file the revised plan with the Secretary, for the review and approval of the Director of OEP, prior to the start of construction.**

4.9.3.2 Construction Access Roads

Pacific Connector has identified existing egress and ingress points to and from the proposed construction right-of-way to provide for safe, efficient construction and movement of equipment and materials. In some areas, it would be necessary to grade or widen existing roads (to allow large equipment a turning radius) to access the construction right-of-way (see section 2.3.3). The stringing trucks would haul 40- to 80-foot lengths (joints) of pipe, and the total length of these vehicles would be more than 100 feet, which would require travel outside the existing road footprint, especially on corners and with oncoming traffic. Widening access roads in the identified constricted locations would be necessary to accommodate the potential for the stringing trucks to “walk” outside of the existing road footprint. In some circumstances, it may also be necessary for oncoming traffic to pull off of the existing road footprint for passing purposes.

Minor improvements (i.e., filling potholes, grading to remove ruts, and/or limbing to remove overgrowth) would be needed in some areas to accommodate oversized and heavy construction equipment. In other cases, roadway improvements would require extensive reconstruction to make the roads useable for access to the construction right-of-way. Pacific Connector has estimated that modifications of 62 existing access roads may be required outside of the existing road bed resulting in about 17 acres of disturbance.

We received comments from residents on the east side of the proposed Rogue River crossing (MP 122.6) concerned about the use of Old Ferry Road to access the right-of-way and HDD assembly area. Pacific Connector would use about 2.5 miles of this road to access the right-of-way, of which about 2 miles would be private, unpaved road along the north side of the Rogue

River, separated from the paved portion of the road by an electronic gate. Pacific Connector has stated that it would need to widen the road to approximately 20 feet primarily by grading and limb and brush removal, and fill some areas with gravel. The company also stated that additional turn-outs of approximately 100 by 25 feet may be required to accommodate equipment turn arounds. The road would remain open to residents during construction. Pacific Connector would avoid removal of large trees if possible, and during construction would replace the existing gate with a temporary construction gate, and improve and reinstall the gate following construction.

The Old Ferry Road Committee, which maintains the private portion of the road, has filed information with the Commission expressing concerns about use of this road. Specific concerns are disruption to residents during construction and improvements to the private road that are not desired by the residents. In addition, they expressed concern that several segments of the road may not be usable by large equipment and pipeline stringing trucks due to sharp turns and a narrow roadway, including a hairpin turn and a segment between a rock wall and steep drop to the Rogue River. The Old Ferry Road Committee believes blasting would be required to widen the road, and is concerned with the resulting potential impact to the Rogue River, side streams, and cultural resources.

The Old Ferry Road Committee suggests that Pacific Connector use the Indian Creek firebreak road (BLM road 34-1-23) as an alternative access point to the east side of the Rogue River. Pacific Connector has identified this road as an existing access road that it would use, which would intersect the proposed pipeline at MP 124.9. We believe there may be reasonable alternatives that would minimize impacts on landowners along Old Ferry Road, including use of BLM road 34-1-23, and avoiding improvements to Old Ferry Road by limiting the type of construction vehicles that would use the road. Therefore, **we recommend that:**

- **Pacific Connector should file with the Secretary, before to the end of the comment period on the draft EIS, a plan that identifies measures that would either avoid entirely the need to use Old Ferry Road as a temporary access road, or would allow use of the road but without improvements. Measures should include, but not necessarily be limited to:**
 - **using BLM road 34-1-23 to access the right-of-way on the east side of the Rogue River between MPs 122.7 and 124.9; and**
 - **restricting use of Old Ferry Road to vehicles and equipment that could safely traverse the road as-is, with no need for improvements or road closures for the residents along the road.**

New Temporary Access Roads

Pacific Connector would need to construct 18 new temporary access roads with a total length of approximately 3.2 miles, portions of which are on federal lands (see table 2.3.3.1-1). All new temporary roads would be restored to preconstruction conditions following completion of construction. Construction of the new temporary access roads would impact approximately 6.1 acres. This would be a short term impact. Appropriate cultural and environmental surveys have been completed for the temporary access roads or would be completed prior to construction.

Construction of new temporary access roads would be a short-term impact, lasting for approximately 2 years during the construction phase of the project only.

New Permanent Access Roads

Pacific Connector would need to construct 16 new permanent access roads, with a total length of approximately 0.9 mile, portions of which would be on federal lands (see table 2.3.3.1-1). These roads would provide access during construction as well as for operations and maintenance activities while the Project is in service. Most of the new permanent access roads would be located within Pacific Connector's permanent pipeline easement. Construction of these roads would permanently impact approximately 2.8 acres. Appropriate cultural and environmental surveys have been completed for the proposed new permanent access roads or would be completed prior to construction. Construction of new permanent access roads would be a long-term impact.

Measures to Mitigate Impacts

Construction of the pipeline is anticipated to extend for over 2 years, with most activities occurring between April and November. In the first year, the right-of-way would be surveyed, staked, and cleared of timber, and some water crossings may be installed. The second year the majority of the pipeline would be installed. Pacific Connector would space construction activities across four separate spreads. Each spread would be responsible for all construction activities within a specific milepost range along the pipeline. These activities would include grading, trenching, pipe stringing, welding, lowering-in, backfilling, regrading, and restoration. Construction activities at each spread would proceed in sequence in an assembly-line fashion along the right-of-way, with one crew following the next from clearing until final clean-up. As a result, construction workers and equipment would not only be divided between four spreads, but would also be distributed at different locations within each spread.

Equipment and materials would be transported from various laydown areas and storage yards within the vicinity of the pipeline. Most construction equipment would remain on site during construction. Three to four pipe stringing trucks would make an average of two roundtrips per day from pipe storage yards to the construction right-of-way. Water and dump trucks would, on average, make up to six trips per day to deliver materials and equipment to the right-of-way.

Construction personnel would drive to the active construction locations along the pipeline from the various residential centers in the area. The construction workforce would peak during the middle of each construction season and then gradually taper off toward the end of the season. The average workforce for each construction spread would be 280 workers per month, with a peak of 369 workers mid-season. Approximately 50 percent of the labor force would be expected to already reside within commuting distance of the project, with the remaining 50 percent expected to temporarily relocate to the area. To reduce impacts on local road infrastructure, the majority of workers would commute to a designated yard and then be transported by bus to the right-of-way.

The majority of the construction workforce would travel each morning from their permanent or temporary home to the construction yard established for the spread they are working on, and then make the return trip in the evening. Because pipeline construction typically is scheduled to take advantage of daylight hours and involves at least 10 hour work days, both journeys would take place during non-peak traffic hours. It is projected that 80 percent of the workforce for each

spread would be transported from the contractor yard to and from the right-of-way on crew buses, with the remaining 20 percent using their own vehicles (92 vehicles during peak construction) and moving from site-to-site along the right-of-way using local roads and highways. The 20 percent of the workforce using their own vehicles would make two to three daily trips from the contractor yards to various construction locations.

Construction of the proposed Butte Falls Compressor Station would involve a maximum of 45 workers on-site during peak construction. Access to the compressor station site by the construction workforce would be similar to that described above for the pipeline construction spreads. During construction of the compressor station there would be an increase in traffic on the Butte Falls Highway, which would be used to access the station entrance road. The number of vehicle trips would be minimized by bussing some crews to the site.

Most primary roads used to access the construction right-of-way are paved or graveled and would not require improvement for access. In some cases, narrow roads or single lane roads that would be used to access the construction right-of-way from the primary roads would require improvements to allow construction access (see discussion above). The site-specific engineering assessments will be needed to determine the adequacy of existing surface structures. Pacific Connector has primary responsibility for performing these assessments in cooperation with, and to standards satisfactory to, the jurisdictional agency.

Motor vehicle traffic could be affected by the addition of pipeline and compressor station construction-related traffic to local roads. This additional traffic would mainly consist of equipment and materials being transported to and between construction sites and construction workers commuting to and from work. Construction activities at proposed pipeline road crossings would also affect existing motor vehicle traffic.

Pacific Connector's draft Transportation Plan for Non-Federal Lands describes the measures Pacific Connector would take to access the construction right-of-way and maintain public access on non-federal roads around construction areas. Pacific Connector would implement the following measures to minimize potential impacts on roadways and traffic caused by pipeline construction:

- Construction hours would be scheduled to take advantage of all daylight hours and, as a result, construction workers would generally commute during off-peak hours.
- The majority of construction workers (80 percent) would use pipe storage and contractor yards as the primary parking area for their vehicles and would be transported to the construction right-of-way by buses provided by the contractor. This would reduce potential traffic impacts in the vicinity of the right-of-way and the number of personal vehicles parked along the right-of-way or nearby roads.
- Construction workers would use designated and approved access roads to access the right-of-way.
- Most construction equipment would remain on site during construction. Equipment would be dropped off in one location at the beginning of the construction season and would move in a generally linear fashion along the pipeline right-of-way as work progresses, reducing the amount of equipment transported on local roads.

Operation

Operation of the proposed Pacific Connector pipeline and Butte Falls Compressor Station would require an estimated permanent staff of five employees stationed at different locations along the pipeline. These employees would commute to various locations along the pipeline and to the Butte Falls Compressor Station on varying schedules. The addition of these five new employees stationed along the length of the pipeline would not affect local motor vehicle traffic.

4.9.3.3 Roads on Federal lands

Roads Crossed

The proposed pipeline would cross approximately 41 roads on BLM-managed lands, each of which would be crossed using an open cut crossing method. Some roads would be crossed at more than one location. The pipe would be placed in the roadway of 1 road for a distance of approximately 0.1 mile and within the right-of-way of another 18 roads for a total distance of approximately 8.5 miles (table E-2 in appendix E).

The proposed Pacific Connector pipeline would cross approximately 31 miles of NFS lands. Some roads would be crossed at more than one location. The pipe would be placed within the right-of-way of 20 roads for a total distance of approximately 6.1 miles.

Roads Used for Access

Approximately 10.2 miles of road on BLM-managed land would be used for access. Approximately 4.4 miles of road on NFS land would be used for access.

USFS and BLM roads are of varying standards and some roads would require improvements to surfacing, brushing, drainage maintenance, and other work to accommodate oversized and heavy construction equipment. For pipeline construction access, Pacific Connector indicated it may need to modify 10 existing roads on BLM managed lands, requiring about 6.1 acres of disturbance. Modifications are also proposed for 10 roads crossing USFS lands, resulting in disturbance to 2.6 acres. However, the USFS has stated that a number of additional USFS roads that Pacific Connector has identified as construction access roads would require improvements prior to use, in some cases requiring clearing, grading, widening, and drainage improvements. Pacific Connector has begun to identify this impact, but much of the specific road improvement requirements would not be identified until closer to construction. These areas would be identified and addressed in the POD prepared in consultation with the USFS and BLM. All road maintenance, reconstruction, and improvements would conform to BLM and USFS requirements. No maintenance or improvements would be allowed on any road not authorized for use and approved for improvements.

Pacific Connector would need to construct two new temporary access roads with a total length of approximately 0.2 mile on BLM-managed lands. Approximately 0.4 acre of land would be disturbed for construction of the new temporary access roads. These roads would provide access during construction and would be restored to preconstruction conditions following completion of construction. This would be a short term impact. Appropriate cultural and environmental surveys have been completed for the temporary access roads or would be completed prior to construction. No new temporary access roads would be built on NFS lands.

Pacific Connector would need to construct two new permanent access roads on BLM-managed lands, with a total length of less than 0.1 mile. These roads would provide access during construction and for operations and maintenance activities while the project is in service. Construction of these new roads would permanently impact approximately 0.2 acre. This would be a long term impact. Appropriate cultural and environmental surveys have been completed for the new permanent access roads or would be completed prior to construction. No new permanent roads would be built on NFS lands.

Measures to Mitigate Impacts

Pacific Connector developed a draft Transportation Management Plan as part of its draft POD to support the federal Right-of-Way Grant required on federal lands.⁷ Pacific Connector plans to continue to meet with the BLM and USFS regarding this plan, and the plan would be finalized and submitted with the POD in early 2009. It would be completed in consultation with the land-managing agencies and would identify all roads on federal lands that would be used during construction and operations. This plan would specify in detail the activities that would occur on federal roads and the standards that would be utilized where improvements are necessary.

Motor vehicle traffic could be affected by the addition of pipeline construction-related traffic to local roads. This additional traffic would mainly consist of equipment and materials being transported to and between construction sites and construction workers commuting to and from work. Construction activities at proposed road crossings would also affect public access, as well as use by permittees, contractors, and cost share users. Pacific Connector has provided a list of existing rights-of-way on roads managed by the BLM that are expected to be used during clearing and/or construction activities (table 8A-5 in Appendix 8 of environmental Resource Report 8 of Pacific Connector's application to the FERC) and a list of third party rights which may be affected (table 8A-6 in Appendix 8 of environmental Resource Report 8). Similar information has not been provided for USFS lands.

In addition to the design criteria listed above that would be applicable to all pipeline construction, the potential effects on federal lands would further be minimized by implementing the following mitigation measures.

- Dust abatement for access roads would include applying water or synthetic product depending on site-specific conditions and agency direction;
- Any damage to dirt, gravel, or paved roads as a result of construction, including access for construction, would be repaired and the road would be restored to the pre-construction condition or better;
- Access roads would be maintained to comply with the USFS and BLM requirements, as necessary to minimize resource damage;
- Appropriate erosion and sediment control BMPs would be utilized along access roads to minimize resource damage. Additional details would be included in the POD;
- OHV barriers, such as boulders, large tree trunks, and piles of dirt and rock, would be installed at appropriate locations, generally, where the right-of-way crosses a trail, to minimize OHV access to the right-of-way. Gates would not be installed. Detailed plans on preventing the pipeline right-of-way from being used as an OHV trail would be included in the POD.

⁷ This plan was filed as part of Pacific Connector's application with the FERC on September 4, 2007.

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- Pacific Connector proposes that it would provide 24-hour notice to the agencies that a road would be closed for construction. Additional measures would be included in the POD.

The USFS and BLM have stated that 24-hour notice would not allow the agencies sufficient time to notify the public of closures and use restrictions. In addition, many roads have cost-share agreements, permits, and right-of-way grants, and the agencies would need more than 24 hours to coordinate with these individuals, companies, and organizations. Therefore, **we recommend that:**

- **In order to provide the USFS and BLM adequate time to provide notice to the public and other road users, Pacific Connector should provide a construction work plan, updated weekly during construction, that would provide the agencies an estimate of when access on federally managed roads would be impeded or restricted. This should include work on any non-federal roads that would directly affect access to federally managed roads. Pacific Connector should initiate additional discussion with the USFS and BLM on road closure notification prior to preparing the POD. Pacific Connector should file with the Secretary the results of these consultations, prior to pipeline construction.**

The USFS and BLM have stated that many roads that may be used by Pacific Connector during construction have cost-share agreements, permits, and right-of-way grants held by other parties, and that all of these parties must be identified prior to review and approval of the right-of-way grant. Pacific Connector has not yet identified all of the potentially affected parties on these roads. Therefore, we recommend that:

- **Pacific Connector should identify all construction access roads on federal lands, or access roads leading to federal lands, where non-government parties hold existing cost-share agreements, permits, and/or right-of-way grants. Pacific Connector should provide a list of these parties, and the respective road and federal land management unit affected, to the USFS, BLM, and BOR, and the Secretary, before the end of the comment period on the draft EIS.**