

## 3.7 TRAFFIC AND CIRCULATION

The proposed Umatilla Generating Project would affect traffic flow on roadways in the vicinity of the power plant site. During construction of the proposed power plant, up to 400 workers would be employed at the site. Approximately 10 people would staff the power plant once it was completed. There would be an increase in traffic movement in the vicinity of the power plant during both construction and operation.

### 3.7.1 Affected Environment

#### Roadway System

The proposed power plant would be located along Lamb Road, between Westland Road to the east and Interstate 82 to the west. Access to the proposed power plant site would be from Lamb Road. The existing roadway system in the vicinity is shown in Figure 3.7.1. The roadways potentially affected by the proposed project include:

Interstate 84 (I-84) – I-84 is the primary interstate route from Portland, Oregon to Boise Idaho. This east-west freeway provides four travel lanes (two in each direction). It is located approximately 1.3 kilometers (0.8 mile) south of the proposed power plant site, with interchange access via Westland Road.

Interstate 82 (I-82) – I-82 is a north-south freeway that originates at I-84 and extends north to the Tri-Cities area and Yakima, Washington. Four travel lanes (two in each direction) are provided. The freeway forms the western boundary of the proposed power plant site, with interchange access via Lamb Road.

State Highway 207 (Hermiston Highway) – The Hermiston Highway is a north-south two-lane highway which bisects the City of Hermiston, with interchange connection at I-84. It lies several miles to the east of the proposed power plant site.

Westland Road – Westland Road is a two-lane county road that has interchange connection with I-84 to the south and extends northeast into the City of Hermiston. The roadway passes to the east of the proposed power plant site and provides access to the existing Hermiston Generating Plant approximately 152 meters (500 feet) south of Lamb Road.

Lamb Road – Lamb Road is a two-lane county road that intersects with Westland Road (stop control along Lamb Road) and extends west to the US Army's Umatilla Chemical Depot (UMCD), with interchange connection at I-82. The roadway forms the northern

boundary of the proposed power plant site, with proposed site access approximately 183 meters (600 feet) west of the intersection with Westland Road.

### Present Traffic Volumes

Traffic data for I-84 and I-82, including interchange ramp volumes (1999 daily traffic) and other roadways in the vicinity, were obtained from the Oregon Department of Transportation (ODOT) (ODOT, 1999). In addition, manual turning movement counts (TMCs) were conducted by URS at the intersection of Westland Road and Lamb Road on August 8, 2000 during peak weekday traffic periods (7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM).

During the afternoon traffic counts, construction traffic leaving the UMCD to the west (Umatilla Chemical Agent Disposal Facility (UMCDF), now under construction) was observed at the Westland Road and Lamb Road intersection. During a 15-minute period (5:30 to 5:45), an estimated 50 additional vehicles were observed travelling eastbound along Lamb Road and turning left onto Westland Road towards Hermiston. A similar short-term increase was not observed in the morning, likely because most of the construction traffic arrived earlier than 7:00 AM.

Based on this data, the average daily traffic (ADT) for the study area roadways is shown in Figure 3.7.1. It should be noted that the temporary UMCD construction traffic was not included for the estimated daily activity along Westland Road and Lamb Road. A steady decline in activity is expected for the remainder of this construction activity, with completion expected in May 2001 (Cornett, 2000).

Peak hour volumes along Westland Road and Lamb Road for the AM and PM periods are shown in Table 3.7.1.

### Future Traffic Volumes

The proposed power plant is expected to begin operation by late 2003. Traffic volumes in 2003 without the proposed power plant were estimated for the study area. The 2003 traffic volumes serve as the baseline condition for examination of the effects of the proposed power plant. Background traffic volumes were assumed to increase 5 percent annually between 2000 and 2003. This growth factor was determined from historical traffic data obtained from ODOT and expected general increases in residential population and employment opportunities for this area of Umatilla County. This assumed development includes operations at the completed UMCDF site, a minor traffic generator, particularly for local roadways east of I-82. Based on discussions with Umatilla County officials, no other major developments are planned in the vicinity at this

time (Graham, 2000). The resulting AM and PM peak-hour volumes at Westland Road and Lamb Road are shown in Table 3.7.1.

#### Present Traffic Level of Service

The peak hour traffic counts were used to determine the peak hour Level of Service (LOS) for the unsignalized intersection of Westland Road and Lamb Road. LOS is an estimate of the quality and performance efficiency of transportation facilities as established by the Transportation Research Board's Highway Capacity Manual (HCM) (Highway Capacity Manual 1997). The HCM system measures the degree of traffic congestion and delay using the letter 'A' (the best) for least amount of congestion and letter rating 'F' (the worst) for the most amount of congestion. Table 3.7.2 shows the letter ratings with a verbal description of the type of delay associated with it.

Geometric information such as number of lanes, width, configuration and grade was identified based on collected field data. This was combined with the observed traffic counts as input to perform the LOS analysis.

A summary of the LOS analysis for the existing condition is shown in Table 3.7.3. The results show LOS A with little or no delay for northbound left turns along Westland Road. Critical turning movements for stopped vehicles along Lamb Road show only short delays of 10 to 15 seconds, resulting in LOS B. An overall LOS of C or better (less than 25 seconds) is typically considered to be acceptable for a rural setting. It should also be noted that the existing PM peak hour analysis includes the additional UMCD construction traffic volumes that were observed during the August 2000 traffic count.

#### Future Traffic Level of Service

The LOS analysis for the projected 2003 condition shows that turning movements at the intersection will continue to experience little delay, even with the assumed growth in background traffic. The results of the analysis are shown in Table 3.7.3. Northbound left turns along Westland Road will continue at LOS A and eastbound turns along Lamb Road will remain at LOS B.

#### Proposed Roadway Improvements

There are currently no funded or planned roadway improvements in the project area.

## Parking and Site Access

The proposed power plant site is vacant except for a Umatilla County access road/driveway named Generation Road. This gravel/asphalt roadway connects to Lamb Road and provides access to potato sheds south of the site, adjacent to the Union Pacific Railroad. An old gravel access also connects the driveway to Westland Road, approximately 46 meters (150 feet) south of Lamb Road. Traffic activity associated with the potato sheds was observed to be negligible during a typical weekday period.

### **3.7.2 Environmental Consequences and Mitigation Measures**

The proposed power plant site would be developed to accommodate the proposed Umatilla Generating Project. Access to the proposed power plant site would be provided by a public right-of-way that follows the existing road alignment through the property and intersects Lamb Road approximately 183 meters (600 feet) west of its intersection with Westland Road. The proposed power plant would share the use of this roadway with the potato shed operations to the south.

#### Impact 3.7.1 Operation of the proposed power plant would affect traffic volumes on local roadways

Assessment of Impact The proposed power plant is designed to operate continually (24 hours a day, seven days a week) with a work force of approximately 10 full-time employees. The workforce allocation per shift would be approximately as follows:

<i>Shift</i>	<i>Employees</i>	<i>Time</i>
Day Shift OPS	2	6:00 AM – 6:00 PM
Day Shift Office	5	7:00 AM – 3:30 PM
Night Shift OPS	2	6:00 PM – 6:00 AM

A worst-case assumption is that each employee would drive to work alone and account for 20 daily site trips (10 entering and 10 exiting). In addition, it is estimated that 20 daily site trips (10 entering and 10 exiting) would occur for service vehicles, delivery trucks and site visitors. Therefore, a total of 40 daily vehicle trips (20 entering and 20 exiting) would be generated by the proposed power plant.

The peak-hour generation includes a total of 20 vehicle trips per hour. The AM Peak Hour would entail 15 vehicles entering and 5 vehicles exiting, while the PM Peak Hour would be the reverse, with 15 vehicles exiting and 5 vehicles entering.

It is expected that most of the employees and other visitors to the power plant site would come from Hermiston, Umatilla and the Tri-Cities. Routing would primarily be via the interstate highways, with I-82 connecting to Umatilla and the Tri-Cities to the north, and I-84 connecting to other areas further to the east and west. Westland Road is expected to be a major route for trips originating from the nearby areas of Hermiston that are west of the Hermiston Highway (State Highway 207). It is estimated that 40 percent of the trips would be on I-82, 30 percent of the trips on Westland Road northeast of the proposed power plant site, 20 percent of the trips on I-84 east of the Westland Road Interchange and 10 percent of the trips on I-84 west of the I-82 Interchange.

The potential site-generated traffic volumes were distributed onto the surrounding roadway network in accordance with the distribution noted above. The results show that maximum daily traffic increases would be along Lamb Road and amount to approximately 42 daily vehicle-trips (60 percent of total project vehicle-trips) to and from I-82, with the remaining 28 vehicle-trips (40 percent) to and from Westland Road. Peak-hour traffic volumes that include the proposed power plant traffic (a total of 20 additional vehicle-trips) were developed and are shown in Table 3.7.1.

A peak hour LOS analysis was undertaken for the intersection of Westland Road and Lamb Road. The results show that the small increase in traffic travelling through the intersection would cause little or no perceptible change to operations. As shown in Table 3.7.3, the maximum change in average stopped delay amounts to less than one second for any vehicle turning movement. The proposed site access on Lamb Road shows LOS A for westbound left turns entering the site and LOS B or better for northbound vehicles exiting onto Lamb Road.

A total of 29 permanent parking stalls are proposed for the power plant site. Peak employee use is expected during shift overlap at the beginning and end of the day shift with a need for about 20 stalls. The remaining 9 stalls would be available for visitor and delivery use. Consequently, the proposed power plant would have no adverse effects on parking in the vicinity.

Recommended Mitigation Measures No measures beyond those included in the proposed project are recommended.

### Impact 3.7.2 Construction of the proposed power plant would affect traffic volumes on local roadways

Assessment of Impact Construction activities for the proposed power plant would extend for about 20 months and would result in an increase in traffic activity in the power plant area. Traffic delays could occur during the maneuvering of large vehicles and due to the

overall number of additional vehicles destined to or leaving the proposed power plant site. These additional vehicles would include construction workers and trucks delivering materials.

Peak construction activity is estimated to last up to 5 months, with approximately 400 construction workers entering and leaving the site on a daily basis. Typically, some carpooling would occur for these trips. Assuming a vehicle occupancy of 1.2 workers per vehicle, 650 daily vehicle-trips would be expected. Daily truck activity is estimated to be as high as 60 deliveries per day. Therefore, there would be approximately 120 daily truck trips during this peak construction period.

The distribution of construction traffic trips is expected to be the same as for operational trips: 40 percent of the trips would be on I-82, 30 percent of the trips on Westland Road northeast of the proposed power plant site, 20 percent of the trips on I-84 east of the Westland Road Interchange and 10 percent of the trips on I-84 west of the I-82 Interchange. Peak hour traffic operations would be affected at stop-controlled intersections, where higher left turn demand is expected. Short-term delays are therefore expected during the AM peak at the I-82 Southbound Ramp/Lamb Road intersection and during the PM peak at Lamb Road and Westland Road.

Recommended Mitigation Measures The following mitigation measures are recommended to reduce adverse traffic impacts during the construction period:

- Promote ride-share and vanpool programs for construction workers to reduce vehicle-trips.
- Provide flagmen at the site driveways and at intersections along Lamb Road when very large trucks need to enter and leave the construction site.

### **3.7.3 Cumulative Impacts**

The proposed project would create approximately 10 full-time jobs and an estimated 40 trips per day. The small increase in trips on local roads associated with the proposed project would not be expected to create traffic congestion or a diminution of the level of service at any affected intersections. However, because the areas surrounding the proposed project site are zoned commercial and industrial, future development of the area could generate increased traffic. Traffic generated by the proposed project together with traffic generated by future industrial and commercial developments could have a cumulative adverse effect on traffic flow on local roads.

Insert Excel Table 3.7.1

**Table 3.7.2:  
Level of Service and Delay**

<b>Level of Service</b>	<b>Expected Traffic Delay</b>
A	Little or no delay
B	Short traffic delays
C	Average traffic delays
D	Long traffic delays
E	Very long traffic delays
F	Extreme delays

**Source:** Transportation Research Board, *Highway Capacity Manual Special Report*