

3.12 GROUND TRANSPORTATION

3.12.1 Affected Environment

3.12.1.1 Existing Project Vicinity Road Network and Traffic Controls

The Desert Claim project area is served by a discontinuous system of two-lane county roads. Most paved road segments are approximately 20 feet in width with gravel shoulders of varying widths. The road network is organized in a north-south and east-west grid pattern that generally follows township and section lines. Speed limits range from 25 miles per hour (mph) to 45 mph.

The road network primarily serves existing agricultural and rural residential land uses. These land uses are typically accessed via dirt or gravel private roads and driveways that intersect the county road system. The road network appears to be well maintained and in good condition.

Key elements of the road network in the project area and the surrounding portion of the Kittitas Valley include the following (see **Figure 3.12-1**):

Interstate 90 (I-90) is a fully-controlled, limited-access freeway that provides regional and in-state access to Ellensburg and the project area. Near Ellensburg, it is classified by the Washington State Department of Transportation (WSDOT) as a rural interstate and has a posted speed limit of 70 mph. In the vicinity of Ellensburg, I-90 has two travel lanes in each direction and an average daily traffic volume (ADT) of 22,000 vehicles.

State Route 97 (SR-97) connects I-90 and Ellensburg with SR-2 to the north. In the vicinity of the I-90 interchange and the Dolarway Road/Cascade Way Extension intersection, SR-97 is classified as a principal arterial and is a fully-controlled, limited-access highway. North of the intersection area, SR-97 is classified as a rural principal arterial.

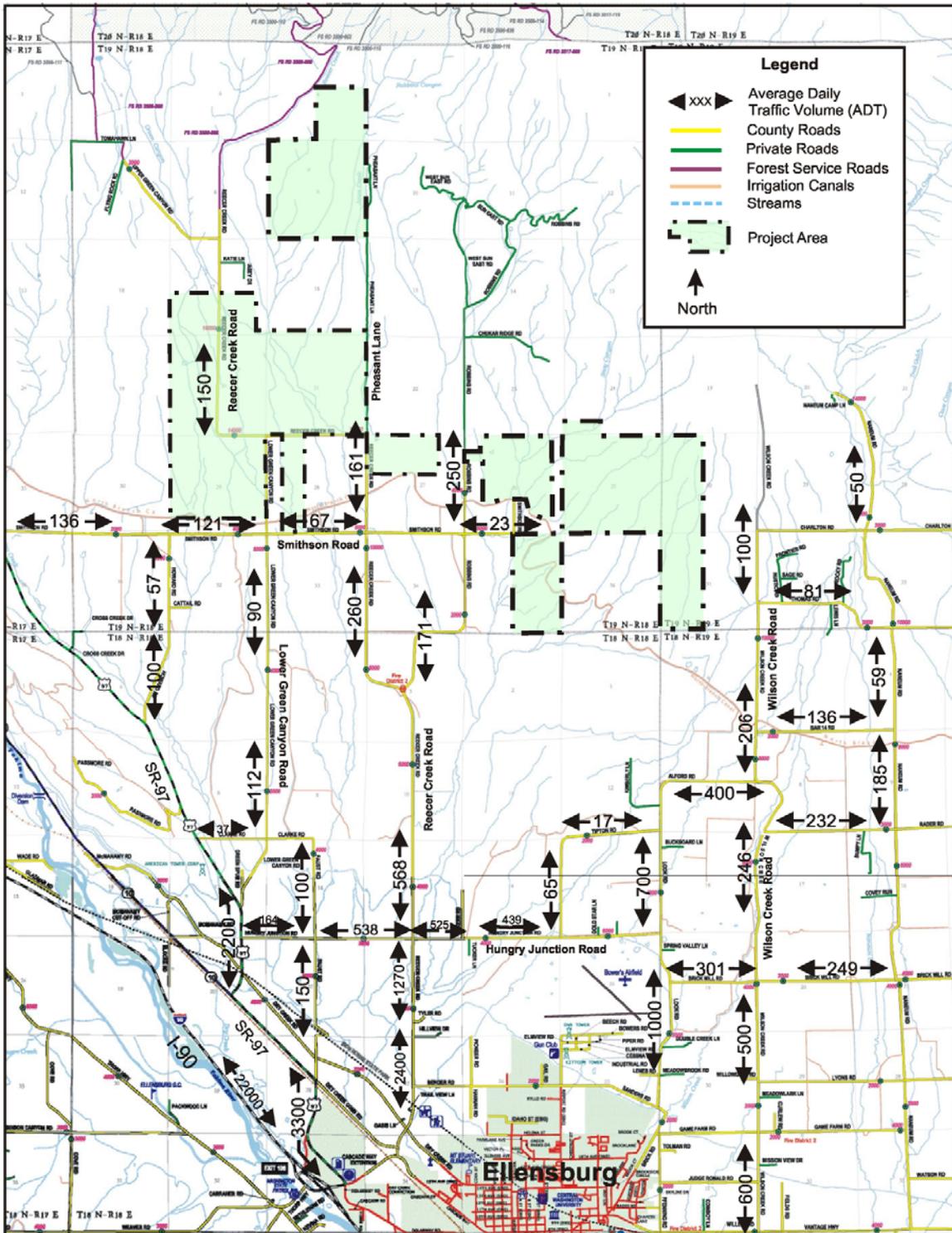
Smithson Road is a two-lane, paved county road oriented east-west that provides access to the western portion of the project area from SR-97. Smithson Road terminates just east of its intersection with Robbins Road.

Reecer Creek Road is a two-lane, paved county road oriented north-south that provides access between Ellensburg and the western portion of the project area. This road becomes an unpaved Forest Service road (Road 35) to the north of the project area and provides access to national forest lands.

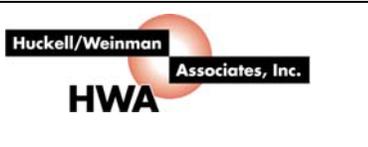
Wilson Creek Road is a two-lane, paved county road oriented north-south that provides access between Ellensburg and the eastern portion of the project area.

Hungry Junction Road is a two-lane, paved county road oriented east-west that provides the most northerly access between SR-97, Reecer Creek Road, and Wilson Creek Road. It should be noted that Hungry Junction Road has a relatively steep climb just west of its intersection with Tipton Road.

All intersections within the study area are controlled by either all-way or two-way stop signs.



Source: Kittitas County Public Works, 2003



**Kittitas County
Desert Claim Wind Power
Project EIS**

**Figure 3.12-1
Existing Road Network and
Average Daily Traffic Volumes**

3.12.1.2 Existing Traffic Volumes

Existing average daily traffic volumes (ADT) for the local road network (Kittitas County Public Works, 2003a) are also illustrated in **Figure 3.12-1**. The segment of SR-97 immediately north of its junction with I-90 has an ADT volume of approximately 3,300 vehicles. The ADT on SR-97 drops to 2,200 vehicles immediately north of its junction with SR-10. The ADT on I-90 is 22,000 vehicles immediately west of the I-97 interchange.

Traffic volumes on county roads within the project area are relatively low and well within the capacity of the road network; they tend to average from 25 to 160 vehicles per day. Volumes on road segments near the City limits of Ellensburg tend to average between 1,000 to 2,400 vehicles per day. The design capacity of these road segments is approximately 1,000 to 1,200 vehicles per *hour*.

3.12.1.3 Existing Traffic Operations

Because of the relatively low traffic volumes on county roads and at intersections, it may be assumed that volume to capacity ratios for the affected facilities are very low and that road segments and intersections operate at an acceptable level of service (LOS). Peak hour traffic volumes typically occur during the PM peak hour commute period of 4 to 6 PM and approximate 10 percent of the daily volume. It follows that PM peak-hour volumes on county roads within and adjacent to the project area would range from 16 to 240 vehicles per hour. A level-of-service (LOS) analysis for a two-lane road segment incorporates vehicle volumes, lane width, shoulder width, vehicle speed, terrain, number of access points, and vehicle mix, as well as other factors. These factors are input into a mathematical model that computes the percent time-spent-following another vehicle. These percentages are divided into level of service categories that range from LOS-A to LOS-E to provide a simple mechanism to convey the operational performance of a road segment. LOS-A represents a free flowing condition where the time-spent-following is less than or equal to 40 percent, while LOS-E reflects a breakdown in traffic flow where the time-spent-following is greater than 85 percent.

Road segments that currently have a peak hour volume of 20 vehicles operate at LOS-A with a time-spent-following rate of 3.5 percent. Busier road segments with a peak hourly volume of 240 vehicles have a time-spent-following of approximately 21% but remain at LOS-A. The peak hourly volume would have to exceed 500 vehicles for the LOS to drop to LOS-B.

Intersections in the vicinity of the project are typically controlled by stop signs on the minor approaches (two-way stop controlled). The intersection of Reecer Creek Road with Hungry Junction Road is used to illustrate intersection operations in the area. PM peak hour volumes were extrapolated from the daily volumes presented in **Figure 3.12-1** to complete a sample LOS analysis. Based on this extrapolation, it is assumed that the northbound approach carries 80 vehicles and the southbound, eastbound, and westbound approaches each carry approximately 28 vehicles during the PM peak hour. The LOS analysis concludes that the stop-controlled approaches would both operate at LOS-A with slightly less than 10 seconds of average delay per vehicle. Given the low volume of traffic on these roads, it may be assumed that other intersections with similar peak hour traffic volumes also operate at LOS-A.

In general, it may be concluded that traffic operations in the area are very good and vehicles experience minimal delays on road segments and at intersections. This is primarily due to the relatively low traffic volumes.

3.12.1.4 Other Transportation Modes

The Kittitas County Airport (Bowers Field) is located immediately north of Ellensburg and south of the project area. It is classified as a Stage 1 airport and accommodates approximately 55,000 takeoffs and landings per year (Bucher, Willis & Ratliff 2004). Air traffic conditions and impacts are discussed in detail in **Section 3.13**.

The Burlington Northern/Santa Fe Railroad (BNSF) operates rail lines that carry freight through Ellensburg on a daily basis. There are a number of rail spurs in the vicinity of Ellensburg to accommodate local demand for freight service. Passenger service is currently not available, but could be provided in the future if current State of Washington planning efforts conclude it is economically feasible and funding for the service is secured.

3.12.1.5 Wild Horse Site (Alternative 1) Baseline Conditions

The Wild Horse site is located in a rural area with low population density to the northeast of the town of Kittitas. Access to the project site itself is by gravel roads that are privately owned and not open to general public access. Key transportation routes in the vicinity include I-90, approximately 4 miles to the south of the site; the Old Vantage Highway, a County road located 2 miles to the south; and No. 81 Road, a County road that extends north from Kittitas to the Old Vantage Highway. I-90 interchanges nearest the site are located at Kittitas (approximately 10 miles to the west) and Vantage (9 miles east).

Traffic volumes on this segment of I-90 are approximately 15,000 vehicles per day, somewhat lower than reported in **Section 3.12.1.1** for the area west of Ellensburg. The ADT volume for the Old Vantage Highway ranges from approximately 1,100 to 1,500, depending on location. The major roadways in the vicinity of the Wild Horse site currently operate at LOS C or better.

3.12.1.6 Springwood Ranch Site (Alternative 2) Baseline Conditions

The Springwood Ranch site is situated approximately 7 miles northwest of Ellensburg. The road network serving this area includes I-90, SR 10, Thorp Prairie Road and the Thorp Highway. I-90 passes near the southwestern side of the property for several miles, with two travel lanes in each direction. Thorp Prairie Road generally runs parallel to the freeway and immediately adjacent to Springwood Ranch. Just east of the site, Thorp Prairie Road becomes Taneum Road, which links with the Thorp Highway and the unincorporated community of Thorp. In the site vicinity, Thorp Prairie Road consists of two lanes with two-foot wide shoulders and ditches on both sides of the road. The posted speed limit is 45 mph. The Thorp Highway abuts the southeastern part of the site. SR 10 parallels the northern/eastern side of the property, on the opposite side of the Yakima River, for several miles.

Traffic controls at the I-90 ramps for Elk Heights Road consist of stop signs. A stop sign is also located at the intersection of Thorp Prairie Road and Elk Heights Road. The roads adjacent to the site serve existing farms and ranches. Counts recorded in 1999 indicated that traffic volumes at these intersections are very low, with weekday afternoon volumes of 5 or fewer vehicles (Kittitas County, 1999), and conditions have not changed significantly in the past few years.

3.12.2 Impacts of the Proposed Action

Transportation impacts resulting from the modified project configuration evaluated in the Final EIS would be essentially the same as for the proposed action evaluated in the Draft EIS. Construction and operation impacts would be the same in type, intensity and duration as described in the Draft EIS. The modified project configuration would result in limited and subtle shifts in the location or extent of potential transportation effects, primarily as a result of some changes in the locations of intersections of the project access road system and existing public roads. In addition, there would be somewhat less project construction activity in the southeast corner of the project area and somewhat more activity in the northwestern portion of the project area. Transportation impacts during construction and operation would remain insignificant with the modified project configuration.

3.12.2.1 Construction Impacts

Potential construction impacts include additional traffic generated by construction workers, the delivery of construction materials, and the transport of wind turbine components that would be assembled on-site.

It is anticipated that during periods of peak construction activity there would be from 80 to 100 workers on site. This workforce could generate as many as 80 inbound trips during the AM peak hour and 80 outbound trips during the PM peak hour. These additional trips would be well within the capacity of the local road network and would not noticeably or significantly affect existing levels of service.

Construction materials such as gravel, concrete, and building materials would be delivered on an intermittent basis throughout the construction period. The delivery of such materials would likely reach its peak during the construction of the internal road network and when the concrete foundations for the turbine towers are poured. The number of truck trips on public roads and the road segments impacted would depend upon the source of the concrete or gravel. Truck trips on public roads would be minimized if gravel was transported from an existing pit near the project area and if a temporary concrete batch plant was located within the project area or at a nearby gravel pit. If the source of concrete and gravel were an existing local supplier (such as Ellensburg Cement Products located on SR-97), delivery schedules for materials would be fall within the daily operations capacity of the supplier and the number of hourly truck trips would be limited by the number of trucks available to deliver material and/or the production capacity of the facilities. The existing concrete production capacity at Ellensburg Cement Products (for example) is 120 cubic yards per hour with a fleet of 12 trucks available for delivery (personal communication). Based upon this facility's production and delivery capacity, truck trips between a concrete and gravel supplier and the project area would not likely exceed 20 trips per hour (10 inbound to the project area and 10 outbound) during periods of peak construction activity.

A system of project access roads is proposed to provide connections to all 120 turbines, the project substation, and other key project facilities. The proposed configuration of the project access road system is shown in **Figure 2-12**. The project roads would connect with the existing public road system at a number of locations including (generally from east to west):

- a point near the east end of Smithson Road;
- a point on Robbins Road approximately one-half mile north of the North Branch canal;
- six points along various sections of Reecer Creek Road; and
- three points on Pheasant Lane.

The project access roads would be one-lane roads with a 15-foot-wide travel surface for straight sections and up to a 20-foot-wide travel surface for curved sections. Project access roads would have a compacted gravel surface. **Figure 2-13** shows a typical cross-section for the project access roads. Existing private roads on the project area properties would be utilized to the greatest extent possible in developing the access road system, so as to minimize the need for new road construction. Gates would be provided where project access roads intersect with county roads or private roads to prevent unauthorized access to the project area.

Detailed plans for the project road system and the connections to county roads would be prepared following micro-siting of the turbines. Project access roads would be designed pursuant to County road standards, and would be constructed in coordination with Kittitas County Public Works and Community Development Services.

Potential short-term impacts resulting from the construction of project access roads would be potential delays or detours necessitated by construction activities on or adjacent to county roads. Construction activities could also require temporary modifications to intersections of county roads to accommodate trucks transporting tower components, and damage to road surfaces could result from transport of components or construction materials.

Kittitas County staff comments (personal communication, D. Surlock, Kittitas County Public Works, March 6, 2003) on the Notice of Application suggested that the applicant construct a public road extension from the intersection of Wilson Creek Road and Charlton Road (near the eastern edge of the project area) west along the section line to Smithson Road (near the middle of the project area) to provide a more direct route for emergency access. Similarly, Kittitas County Public Works comments on the Draft EIS suggested that a road with an east-west orientation should be constructed to allow for fire control and emergency operations between Smithson Road and Wilson Creek Road (see Comment Record 3 in **Appendix I**). The modified project configuration described in detail in **Section 2.2** includes an east-west project access road approximately 2 miles in length extending eastward from Smithson Road, which would serve the purposes indicated in the Kittitas County requests. This road would be accessible for emergency use by public service providers (e.g., the Kittitas County Sheriff's Department and Kittitas County Fire District #2), but would not be open to general public use.

Each wind turbine unit would consist of three tower sections, the nacelle, hub assembly, three rotors, and one controller. The sizes of these components and truck requirements are summarized in **Table 3.12-1**; the shaded cells under the 'Loaded Truck' heading show which truck loads would exceed those limits. All loads transported on WSDOT rights-of-way must be within the legal size and load limits or must have valid oversize and/or overweight permits. Based on the information provided by Desert Claim LLC, all trucks would require WSDOT permits for transporting oversized loads. It should also be noted that the allowable operating hours for such permits are restricted during peak commute periods on segments of I-5 and I-90 in the Puget Sound region. This could further restrict the frequency of truck trips if the turbine components are delivered through western Washington. There is an overheight restriction on eastbound I-90 at Exit 62 (Stampede Pass/Lake Kachess); loads over the legal height of 14 feet are required to bypass this restricted area by exiting the roadway via the eastbound off-ramp and reentering via the eastbound entrance ramp. All loads are anticipated to meet legal axle weight requirements.

In their review comments on the Draft EIS (see Comment Record 2 in **Appendix I**), WSDOT identified six pending highway repair or improvement projects involving SR-97, I-90 and SR-970 that might affect transportation related to the Desert Claim project. Some of these projects appear likely to be completed

before Desert Claim project construction would likely begin, while others, if not so completed, might cause delays in transport of project components to the site or influence use of alternative access routes discussed below.

Tower components would likely be transported in three sections of approximately 66 to 75 feet each, with one section per truck. Rotors would likely be transported two or three at a time on one truck. The nacelles and associated components would require slightly more than two additional trucks per turbine. Therefore, there would be approximately 14 truck trips (7 inbound, 7 outbound) per turbine for delivery of turbine components. Delivery of turbine components for the entire project (120 turbines) would require 1,640 trips (820 inbound, 820 outbound). The frequency and duration of these truck trips would be dependent upon the specific construction schedule determined by the applicant and the construction contractor. The ability of the supplier to manufacture and deliver the components might affect the frequency and duration of the deliveries. The ultimate constraint on the frequency of truck trips might be the availability of specialized transporters capable of accommodating the components.

Some of the transporters used to deliver components would be low-slung with approximately 8 inches of ground clearance. These vehicles can accommodate a maximum rise or drop of 6 inches in 50 lineal feet. County roads used as transport routes would have to be inspected to identify road segments that would require grading to provide adequate clearance. Most of the transporters would also require a turning radius at intersections that exceeds that found at a typical county intersection. Turning locations would have to be inspected to determine how intersection would have to be modified to accommodate the turning radius of transporters. It is anticipated that both the inside and outside portions of the turning radii would have to be built up with crushed rock and/or asphalt concrete to provide a wider intersection.

**Table 3.12-1
Wind Turbine Component Sizes and Transporter Truck Requirements***

Component (quantity)	Load Size			Loaded Truck				
	Length	Width	Height	Length **	Width**	Height**	Axles	Max Axle Weight (lb)
Nacelle (1)	29'	11'6"	12'8"	111'2"	11'6"	15'4"	11	20,000
Hub (1)	10'5"	10'5"	12'7"	78'	10'5"	14'8"	6	15,500
Rotors (2)	124'	8'8"	9'8"	88'	8'8"	14'8"	6	<20,000
Tower (top)	75'	9'11"	9'11"	95'	9'11"	14'11"	5	<20,000
Tower (mid)	67'	9'11"	9'11"	99'7"	9'11"	13'2"	7	<20,000
Tower (base)	66'	13'5"	13'5"	99'7"	13'5"	15'7"	8	19,228
Controllers (3)	10'5"	7'8"	10'3"	71'	8'6"	14'1"	5	<20,000
WSDOT Legal Limits				68'	8'6"	14'		20,000

*Note that the numbers presented in this table are approximate and that actual component dimensions might vary depending upon the supplier, and that truck sizes might vary depending upon the transporter combinations used.

**Shaded columns indicate oversize vehicles which will require a permit form WSDOT.

The transport of wind turbine components to the Ellensburg area could be by truck or rail. (Depending upon the turbine model selected by the applicant, the turbine components might be manufactured overseas and shipped by water to a port in the Northwest, likely Seattle or Portland.) If transported to the Ellensburg area by rail, the components would be transferred to trucks at an existing railroad spur.

Transporters would likely exit I-90 at the SR 97 exit on the west side of Ellensburg and use one of three routes to access the project site. The first route would require a left turn through the Dolarway

Road/Cascade Way Extension intersection, continuing northbound on SR 97. From SR 97 transporters would turn right onto eastbound Smithson Road, which accesses the project site. The second route would require trucks to turn onto Lower Green Canyon Road from SR 97 and travel north to the project site. The third route would require transporters to travel further on Cascade Way Extension and turn left (north) onto Reecer Creek Road to access the project site. These three alternatives would provide direct access to the western portion of the project area. Delivery to the eastern portion of the project area could be accomplished via the proposed project access road extending eastward from Smithson Road. Alternatively, the Wilson Creek Road could be used to deliver components to the extreme eastern portion of the project area. The Wilson Creek route would require travel through a more densely populated area where there is a greater probability of encountering overhead structures that do not meet the clearance requirements. There is also not a clear route from I-90 to Wilson Creek Road that avoids populated areas.

Potential impacts associated with the delivery of turbine components include the physical degradation of the road surface, due to the weight and/or required turning radius of the trucks, as well as potential interruptions to general traffic flow resulting from detours or delays necessitated by a transporter's low travel speeds and maneuvering requirements at intersections. It is standard practice for transportation agencies, including WSDOT and Kittitas County Public Works, to require developers to repair roadway damage resulting from their construction activities. Therefore, it is assumed the applicant would be required to restore affected roadways to the condition the road was in prior to the project's construction activities. Therefore, there would be no long-term impacts to the road system.

The combined effects of traffic generated by construction workers, material deliveries, and delivery of turbine components would be minimal for a number of reasons. First, trips generated by construction workers and deliveries should not overlap because workers are typically on-site before deliveries begin and leave after the last delivery of the day. There is the potential of material deliveries and turbine deliveries overlapping. However, because turbine component deliveries would have to be scheduled and tightly controlled, it is feasible to communicate with and coordinate material deliveries so they use alternate routes or schedules to avoid potential conflicts with deliveries of turbine components.

The combined effects of trips generated by workers or deliveries would not affect the level of service at intersections or along road segments. The volume of project-generated trips combined with existing traffic would not be sufficient to cause a change in the level of service on existing public roads near the project. However, the delivery of turbine components would cause temporary delays resulting from the lower speed of the transporters and their turning requirements.

If project construction occurred in phases, the probable effect on the level of ground transportation impacts would be to extend the total duration of temporary disturbance from project construction, but also to reduce the intensity or magnitude of impacts for any individual phase. Construction would likely be phased for separate geographic portions of the project area, in which case specific areas of the existing road network probably would not be affected repeatedly by all phases of construction activity. Even in a phased-construction scenario, construction-related ground transportation impacts would still be temporary, localized and low in magnitude, and overall project impacts during construction would remain insignificant.

3.12.2.2 Operational Impacts

Project Activities

In operation, the Desert Claim project would employ approximately 10 people to maintain the turbines and related facilities. Employees would generate up to 10 inbound trips during the AM peak hour and 10 outbound trips during the PM peak hour. Additional trips generated by service and supply deliveries would be occasional and negligible in volume. The traffic directly associated with project operations and maintenance would not impact existing levels of service on public roads in the project vicinity.

Tourist Activity

It is anticipated that the presence of the wind farm could generate some level of interest that would draw tourists to the area and increase traffic volumes on roads adjacent to the project area. Several operating wind energy facilities were contacted in order to better understand potential tourist interest in wind farms and the facilities that wind farm operators provide to accommodate tourists. Information gathered from projects around the country (projects near Altamont Pass and Palm Springs, California, the Stateline project near Walla Walla and the Green Mountain project in Pennsylvania) as well as a few outside of the U.S. is summarized below.

Many existing wind farms do not experience significant tourist interest because they are in remote locations. Others, however, are marketed as tourist attractions and provide a range of services to accommodate visitors. A number of factors determine the level to which these projects provide accommodations for visitors, including:

- proximity to heavily traveled roadways;
- proximity to large population centers;
- proximity to other tourist attractions; and the
- type of tourists visiting the area.

Some existing wind farms are located near heavily traveled roadways and in existing tourist-driven settings, and therefore provide a more developed level of visitor services. Wind Mill Tours of Palm Springs, California, for example, provides large parking lots with the ability to accommodate multiple tourist buses and recreational vehicles. The operation also includes tour guides, a gift shop, and other accommodations that would be expected of a major tourist attraction. Wind Mill Tours has been marketed as a stand-alone tourist destination, and the Clean Power Now Organization estimates that 10,000 to 12,000 tourists visit Wind Mill Tours every year.

Some wind farms that are not heavily advertised and are not located near heavily populated areas have still taken tourism into account. The Codrington Wind Farm in Australia, for example, provides what is termed a “roadside car-park” where tourists can safely pull off of the roadway, park their vehicles, and view the wind farm from a platform. Codrington Wind Farm also provides close-up tours, via a mini-bus, which departs from the car-park.

A number of organized wind farm tours in the United States are associated with educational institutions. Most tours of the Stateline Wind Energy Center, a large wind farm southwest of Walla Walla, Washington, begin and end at the Whitman College campus, located in Walla Walla. Civic promotional

programs implemented by local chambers of commerce will often include neighboring wind farms as part of their list of tourist attractions.

Given that the Desert Claim project would be visible from portions of I-90 and SR-97 and that the Ellensburg area currently experiences significant tourism activity, it is possible that the Desert Claim project would generate some amount of tourist interest. In addition, Central Washington University and local schools could contribute interest in educational trips to the wind farm. Additional tourist trips could also occur if community interests actively promoted the wind farm as a tourist destination along with other Ellensburg-area tourist activities and attractions.

While it is assumed that the Desert Claim project would draw tourists, the level of future tourist activity cannot be specifically predicted. Based on project size and setting characteristics, none of the operating projects contacted for tourism information represents a comparable facility that could be used as a benchmark for projecting a level of tourist activity. It is reasonable to assume that potential visitation to the Desert Claim project would be considerably less than the 10,000 to 12,000 annual visitors reported for the Wind Mill Tours operation, however, because that operation is specifically developed and marketed to serve tourists visiting a heavily-developed wind energy area with multiple operating projects.

Tourists stopping in the roadway or attempting to turn around on narrow public roads near the Desert Claim project could create a potential safety concern. Safety concerns could be addressed by providing directions for tourists along specific roads adjacent to the project area and installing facilities along this route to provide short-term, off-road parking, viewing opportunities and interpretive information. One or two road-side stops that provide parking for a minimum of 10 vehicles and are designed to allow recreational vehicles enough maneuvering space to turn around would be appropriate for the project.

An additional option would be to plan a circular tourist route, which could originate at the I-90 interchange on the west edge of Ellensburg and proceed via Reecer Creek Road to Smithson Road to SR-97 and back to I-90. Signage could be provided at key intersections in the area to direct wind farm tourists to this route and provide directions back to Ellensburg and I-90.

3.12.3 Impacts of Alternatives

3.12.3.1 Alternative 1: Wild Horse Site

Construction

Two routes have been proposed for construction and operation traffic to the Wild Horse site. Transporter Route 1 begins in the City of Seattle and heads east on I-90, passes through the town of Kittitas (Main St.), then heads north on No. 81 Road before reaching Old Vantage Highway and the site access point. Roads maintained by the town of Kittitas have the capacity to accommodate lower speed vehicles and are usually used for local residential or agricultural traffic. Therefore, Transporter Route 1 would only be used for light duty traffic such as passenger vehicles, delivery trucks, and single-unit construction materials and equipment trucks. Transporter Route 2 extends further east on I-90 and passes through the town of Vantage before continuing westbound on Old Vantage Highway to the site access point. This route utilizes interstate and county highways and is better suited for larger vehicles because it does not pass through residential areas. Therefore, oversize and overlength delivery vehicles would use Transporter Route 2.

Under this alternative the number of turbines constructed would be approximately the same as the proposed action, so the number of construction workers and trucks delivering materials and tower components would approximately the same as described for the proposed action. Potential impacts of construction include degradation of the road surface caused by trucks delivering tower components. Due to the low existing traffic volumes, roadways in the project vicinity would continue to operate at LOS C or better with the traffic generated by Alternative 1 construction activity. Therefore, Alternative 1 would not have a significant impact on existing levels of service in the local area.

Operation

When operational the facility would likely have the same number of workers on-site as the proposed action. Trips generated by the workers would be similar and they would likely travel through the town of Kittitas to access I-90 if they live outside of the local area. The small number of trips generated by workers would not affect local traffic operations or change the existing levels of service.

The wind turbines would be further from I-90 and likely less visible than the proposed action, and it is anticipated that relatively few travelers on I-90 would leave the freeway to take a close look at the facility. Providing interpretive facilities for tourists would not likely be necessary unless the local community establishes a marketing program to draw tourists from I-90 to the wind farm and local businesses.

3.12.3.2 Alternative 2: Springwood Ranch Site

The Springwood Ranch site is located west of Ellensburg and immediately north of I-90. Under this alternative the northwestern portion of the site would be developed as a wind farm with fewer turbines (40 to 45) than the proposed action (120).

Primary access to the site would be from I-90 at the Elk Heights interchange (milepost 94). This interchange provides access to Thorp Prairie Road, which is adjacent to the west side of the site, and Taneum Road immediately south of the site. The Springwood Ranch site and surrounding area is in agricultural use and has few residences.

Existing traffic volumes at the Elk Heights interchange are extremely low, with fewer than 15 vehicles entering or exiting I-90 during the PM peak hour. The intersection of Elk Heights Road and Thorp Prairie Road (adjacent to the intersection) is estimated to serve around 10 vehicles during the PM peak hour.

Construction

Under this alternative there would be fewer turbines constructed so the number of trucks delivering materials and tower components would be less than with the proposed action. The number of construction workers might be similar to or less than the proposed action, while the duration of construction would be about the same (9 months). Potential impacts of construction include degradation of the road surface caused by trucks delivering tower components. Due to the very low existing traffic volumes the traffic generated by construction would not affect level of service and there would be few opportunities for slow moving trucks delivering turbine components to delay local traffic.

The delivery of turbine components might be more difficult than described for the proposed action due to the physical constrictions of the Elk Heights interchange and the adjacent intersection of Elk Heights

Road and Thorp Prairie Road. In addition, the Thorp Prairie Road has numerous horizontal and vertical curves that might be problematic for transporters with low clearances. If the turbine components were delivered from western Washington, the distance traveled on I-90 would be less than under the proposed action there would be slightly less impact to I-90 traffic. In particular, turbine transporters for Alternative 2 would not be using I-90 in the vicinity of the US 97 interchange.

Operation

When operational the Alternative 2 facility would likely have fewer workers on-site than the proposed action. Trips generated by the workers would be proportionally less than the proposed action and they would not affect the existing level of service at local intersections.

The wind towers would be closer to I-90 than with the proposed action and it is anticipated that some travelers on I-90 would leave the freeway to take a closer look at the facility. In order to avoid tourists making u-turns on county roads with narrow or no shoulders, it would be necessary to construct a turn around and small off-road parking area at a suitable viewpoint on Thorp Prairie Road. Interpretive information could be included at this location.

3.12.3.3 No Action Alternative

If the proposed action is not constructed, the existing land uses would remain and there would likely be a modest growth in the number of rural residences within the project area. This would result in an equally modest growth in average daily traffic volumes. The increase in traffic volumes would not likely be noticeable to the average motorist traveling on the local road network, and would not significantly affect existing traffic operations.

3.12.4 Cumulative Impacts

Cumulative impacts for all elements of the environment are addressed in **Chapter 4**.

3.12.5 Mitigation

3.12.5.1 Construction

Construction traffic impacts should be mitigated through the development and approval of a Construction Traffic Management Plan that would address transportation and access concerns during the construction period. The plan would be subject to review and acceptance by Kittitas County and would be incorporated in the development agreement required by Kittitas County's review process for wind power facilities. The review process for development agreement conditions would include other agencies with jurisdiction and expertise (such as WSDOT and the Kittitas County Sheriff's Department). The plan would define access routes and procedures to be used by various types of construction equipment and material shipments, approved hours of operation for construction traffic, safety provisions and other management requirements. The plan would also describe how turbine components would be transported safely and efficiently while minimizing impacts to the local road system. The Construction Traffic Management Plan would confirm or modify the transporter routes examined in the EIS, and provide detailed information on the suitability of the identified road segments to accommodate vehicle loads. It would identify any permanent or temporary improvements to road surfaces necessary to accommodate

transporters with low clearances, and any needed temporary improvements to intersections to accommodate the turning radius of transporters.

Gates at project access roads should be set back far enough from the edge of the public road to accommodate the length of trucks entering or leaving the project area so they do not encroach upon the public road when gates are being opened or closed. In addition, the area between the gates and the public roads should be paved in order to keep gravel off of the public road and the pavement edges flared to provide an adequate turning radius for entering and exiting trucks.

The potential cumulative impact associated with turbine components being delivered to different project sites at the same time could be avoided by conditioning the required vehicle permits to limit the number of trips per day or require contractors to coordinate deliveries.

3.12.5.2 Operation

Wind farm operations would likely generate some number of tourist trips to the project area that would need to be accommodated and managed. Monitoring of tourist activity associated with the project would be desirable, since the magnitude of tourism is unknown.

Prior to the beginning of power generation, it is recommended that the applicant prepare a Tourism Management Plan that describes how tourists visiting the site would be accommodated. The goal of the plan would be to encourage and accommodate tourist activity while minimizing the impacts to safe vehicle circulation on constricted county roads. This plan should identify tourist routes, outline a directional and information signage plan, and establish the location and number of roadside interpretive sites that would be constructed and maintained by the applicant. Such sites should be located at viewpoints and distributed so that tourists would not be tempted to make u-turns on county roads or private driveways. Short-term parking should be provided for up to 10 vehicles with adequate space for recreational vehicles to turn around. The plan should also include a description of the interpretive facilities and information that would be provided and site amenities such as picnic facilities or rest rooms. The plan would be subject to review and acceptance by Kittitas County in conjunction with a development agreement. The review process for the development agreement would include other agencies with jurisdiction and expertise (such as WSDOT and the Kittitas County Sheriff's Department).

In review comments on the Draft EIS, Kittitas County Public Works suggested that a tourist kiosk should be located along the SR-97 corridor or along Smithson Road adjacent to the Desert Claim project area. Operation and maintenance of this facility would be a project responsibility, and plans should allow for increased capacity if warranted by increased tourism use.

3.12.6 Significant Unavoidable Adverse Impacts

Development of the Desert Claim Wind Power Project would generate a relatively small increase in vehicle traffic on the local road system during the construction period. It is not likely that this increase in volumes would be noticeable to the average motorist, or would result in a decreased level of service. Physical impacts to roadways from construction disturbance and the transport of turbine components and construction equipment would be mitigated through required terms of the development agreement. Traffic volumes generated directly by project operations and maintenance activities would be negligible. Assuming that a tourism management plan is implemented, potential tourist traffic resulting from public interest in the project is not expected to generate large traffic volumes on local roads, and would not result

in traffic interference or safety hazards. Therefore, no significant unavoidable adverse impacts to the local ground transportation system would result from the construction or operation of the project.