3.16 Transportation

This section describes the transportation setting of the City Heights site and potential impacts of conceptual development alternatives to transportation elements including traffic volumes, intersection operations, access points and connections with the existing roadway system. This analysis is based on existing traffic volume data from the *Draft Transportation Plan* (City of Cle Elum, May 2009), and extrapolation of future traffic volumes from that document. For the purpose of this analysis, phased development of the City Heights project under any conceptual land use alternative is expected to be complete in the year 2022. The Transportation analysis assumes a future year 2022 build-out, which provides the baseline against which project impacts are measured. New analyses were conducted by Heffron Transportation for existing (2009), future-without-project (Year 2022), and future-with-project (year 2022) conditions.

AFFECTED ENVIRONMENT

The Transportation study area is shown on Figure 3.16-1, and includes key intersections in central Cle Elum, existing access points to the City Heights site, and major highway intersections. The intersections analyzed are listed below:

- SR 970/SR 903
- W 1st Street/W Cemetery (Safeway Driveway)
- W 1st Street/S Cle Elum Way/Stafford Avenue
- W 1st Street/Oakes Avenue
- 1st Street/Pennsylvania Avenue
- E 1st Street/Montgomery Avenue
- E 1st Street/Columbia Avenue
- SR 903/Future Bullfrog UGA Access (east of Cle Elum-Roslyn Schools)
- SR 903/Ranger Station Road/W Cemetery Road
- SR 903 (W 2nd Street)/Stafford Avenue
- SR 903 (W 2nd Street)/Oakes Avenue
- 2nd Street/Pennsylvania Avenue
- E 2nd Street/Montgomery Avenue
- E 2nd Street/Columbia Avenue
- 3rd Street/Pennsylvania Avenue
- E 3rd Street/Montgomery Avenue
- E 3rd Street/Columbia Avenue

3.16.1 Roadway Network

Key roadways that serve the Transportation study area are described in Table 3.16-1. Primary access is provided by the State highway system, including Interstate 90, SR 970, and SR 903. These are described in further detail following the table.

Insert Figure 3.16-1. Study Area Transportation System.

(11 x 17-inch black-and-white)

Table 3.16-1. Summary of transportation study area roadway characteristics: key intersections – Cle Elum and vicinity.

Characteristic	SR 903 (outside City Limits)	SR 903/ E 1st Street	SR 903/ W 2nd Street	W 1st Street	3rd Street, 4th Street, 5th Street	Montgomery Stafford, Columbia, Pennsylvania and Oakes Avenue
Jurisdiction	WSDOT	WSDOT and City of Cle Elum	WSDOT and City of Cle Elum	City of Cle Elum	City of Cle Elum	City of Cle Elum
Street Classification	Collector Arterial	Collector Arterial/Secondary Arterial	Collector Arterial/Secondary Arterial	Primary Arterial	Local neighborhood connector or local access	Local neighborhood connector or local access; two blocks of Oakes Avenue are secondary arterial
Speed Limit (mph)	25 to 55	30	25	25 to 30	25	25
Lanes	One lane each direction	One lane each direction, center turn lane from Oakes Avenue to Montgomery Avenue	One lane each direction	One lane each direction, center turn lane except small section west of W Cemetery Street	One lane each direction	One lane each direction
Edge Condition	Paved and gravel shoulder, varying widths	Wide paved and gravel shoulders	Gravel shoulders	Mostly curb and gutter	Very wide gravel shoulders, angle and parallel on-street parking	Very wide gravel shoulders,angle and parallel on-street parking
Sidewalks	No	Limited sections	Yes, both sides east of Stafford Avenue; south curb only west of Stafford Avenue to Ranger Station Road	Yes, both sides from Oakes Avenue to Stafford Avenue	Present on most block faces south of 4th St E, narrow (4 to 5 feet)	Present on most block faces south of 4th St E, narrow (4 to 5 feet)
Parking	No	Yes, angle and parallel	Yes, angle and parallel	Yes, angle and parallel	Yes, angle and parallel	Yes, angle and parallel
Turn Lanes	Turn pockets at intersections	None	Turn pockets at intersections	Turn pockets at intersections	None	None
Traffic Control and Signal Locations	None	None	All-way stop at Pennsylvania Avenue	Traffic signals at Stafford Avenue/ S Cle Elum Avenue, Oakes Avenue and Pennsylvania Avenue	Stop signs at 1st, 2nd, 3rd and 4th Avenues	Stop signs at 1st, 2nd, 3rd and 4th Avenues; signals at 1st Street/Oakes and 1st Street/Pennsylvania

Sources: Heffron Transportation, Inc., August 2009; *Draft Transportation Plan* (City of Cle Elum, May 2009); *2008 Annual Traffic Report* (Washington State Department of Transportation).

Interstate 90 (I-90) is an east-west limited-access highway. It is classified as an Interstate highway, and is considered a Highway of Statewide Significance (HSS) by the Washington State Department of Transportation (WSDOT). Near Cle Elum, I-90 has two travel lanes in each direction with paved shoulders. The posted speed limit is 70 miles per hour (mph) for passenger vehicles and 60 mph for trucks.

Three interchanges connect Cle Elum with I-90. Exit 84 (West) is a partial half-diamond interchange providing access to/from the west end of Cle Elum only. The eastbound off-ramp and westbound on-ramp connect directly to W 1st Street, with no traffic controls (no signals or stop signs). Exit 84 (East) is a half-diamond interchange that provides access to/from the commercial core and locations at the east end of Cle Elum. The only traffic control for this interchange is a stop sign for northbound through or right-turn movements to the eastbound on-ramp. Exit 85 connects I-90 with SR 903 and SR 907. This full-diamond interchange provides both eastbound and westbound on- and off-ramp access. A fourth interchange, Exit 80 (Bullfrog Road) serves primarily the Suncadia Resort area, Roslyn and Ronald, west of Cle Elum. SR 903 connects to Bullfrog Road at a roundabout, providing another access route into and out of the Cle Elum area.

State Route 970 (SR 970) connects I-90 at Exit 85 to US 97. The roadway is aligned generally in a northeast to southwest configuration. SR 970 has two travel lanes. Most of the road is undivided. There are paved shoulders varying in width from 4 to 7 feet. Part of the National Highway System, SR 970 is also designated as an HSS by WSDOT. The road connects I-90, Cle Elum, Ellensburg and other communities to US 97 and Blewett Pass, and the towns and recreational areas along US 2 (e.g., Leavenworth, Cashmere, and Wenatchee). The intersection with I-90 and SR 903 is accessed via two ramps that connect to a bridge over the adjacent railroad tracks. Each ramp, north and south of the bridge, is controlled by a stop sign where it intersects SR 970.

State Route 903 (SR 903) (also W Second Street and E 1st Street through Cle Elum) connects from the I-90/SR 970/SR 903 interchange to Roslyn and the Suncadia Resort area. SR 903 is a two-lane paved roadway. SR 903 has some areas of very wide paved shoulders (up to 16 feet), and some areas with no shoulders. From SR 970 east to Montgomery Avenue, the road has wide travel lanes, wide shoulders, on-street parking and only a few block faces with sidewalks, curb or gutter. The posted speed limit in this section is 30 mph. From west of Montgomery Avenue to Oakes Avenue, there are curbs, gutters, sidewalks, a two-way left-turn lane, and on-street parking through the Cle Elum commercial core. The speed limit drops to 25 mph west of Montgomery Avenue. At Oakes Avenue, SR 903 turns 90 degrees north, then 90 degrees west, and continues west along the W 2nd Street alignment. West of Ranger Station Road, the roadway cross-section is generally rural, with two 12-foot wide travel lanes and wide, paved shoulders. The speed limit west of Denny Avenue (about milepost 3.0) is 45 mph. There is a sidewalk along the south side of west SR 903 from Stafford Avenue to Ranger Station Road. From Ranger Station Road to the Cle Elum-Roslyn Schools complex, there is an unpaved trail along the south side of SR 903, used primarily by students.

W 1st Street, a primary arterial from the west City limits to Pennsylvania Avenue, connects I-90 Exit 84 (West) with the Cle Elum core commercial area via Oakes Avenue. The road has one travel lane in each direction and a two-way left-turn lane from W Cemetery Road to east of Pine Street. There is a break in the center turn lane at the main Safeway driveway to allow for left-turn pockets. From the intersection of W 1st Street/Stafford Avenue/S Cle Elum Way to Pennsylvania Avenue, on-street parking is allowed along most block faces (both parallel and angle parking), with curbs and gutters, wide sidewalks, and curb "bulb-outs" [1] at Oakes Avenue and Pennsylvania Avenue. There is a two-way left-turn lane from Stafford

[1] "Bulb-outs" are a widened-out area of sidewalk at intersection corners, allowing for greater pedestrian queuing areas and reducing the width necessary to cross the street.

Avenue/S Cle Elum Way to Pennsylvania Avenue, although it is not continuous; it changes to left-turn-only pockets at the intersections. There are signals at the intersections with Stafford Avenue/S Cle Elum Way, Oakes Avenue and Pennsylvania Avenue. These signals are fully actuated. [2] The posted speed limit is 25 mph on W 1st Street. Although 1st Street becomes SR 903 at Oakes Avenue, the split for W 1st Street and E 1st Street occurs one block east, at Pennsylvania Avenue.

The City of Cle Elum recently published a *Draft Transportation Plan* (May 2009) that discusses a range of potential improvements throughout the City, especially in the downtown core area. These include adding signals, rerouting traffic to Railroad Street and away from 1st Street, and improving pedestrian amenities in the core commercial area. The *Plan* sets forth a long-term vision of potential improvement needs with extensive growth in Cle Elum. The next stage of the process would be to place the highest need projects on the City's Six-Year Capital Improvement Program (CIP), and identify a funding plan and timeline. This next step in the process has not yet occurred. WSDOT has plans to improve the intersection of SR 970/SR903 at the eastern end of the City of Cle Elum.[3] The *Route Development Plan* (WSDOT 2004) discusses several improvements to the corridor. The intersection with SR 970 would be realigned and improved; other sections of the roadway would be widened to a consistent standard. Some of the elements of the *Route Development Plan* have already been constructed. A signal has been installed at the W 1st Street/Oakes Avenue intersection, and the signal at 1st Street/Pennsylvania Avenue has been improved.

3.16.2 Traffic Volumes

Existing Traffic Volumes

Existing (2009) traffic volumes were derived primarily from the City's *Draft Transportation Plan* (May 2009). The Plan's PM peak hour traffic volumes, which represent the highest one hour volumes during the day and typically occur in a one-hour period between 4:00 and 6:00 P.M., were collected in April 2008. These were then increased by 30 percent to represent summer average weekday conditions. Other volume data used in this analysis were collected by Transportation Solutions, Inc. (TSI), Suncadia's traffic consultant. These volumes were factored up to 2009 by applying a background growth rate of 1.3 percent per year, consistent with the background growth rate used in the City of Cle Elum *Draft Transportation Plan*. Some balancing was done between the two sets of data. Finally, field data were collected in July 2009 at three study area intersections to compare to the *Draft Transportation Plan* volumes. These counts confirmed that, for the three intersections counted, the volumes were close to the projections. Therefore, this Transportation analysis uses the *Draft Transportation Plan* data, adjusted as discussed above.[4] Figure 3.16-2 shows the existing PM peak hour traffic volumes at Transportation study area intersections.

[2] "Fully-actuated" means that when a car approaches an intersection, its presence is detected by equipment associated with the traffic signal, and the signal controller will provide a green phase in-sequence for that vehicle.

[3] *Route Development Plan, State Route 903 and State Route 903 Spur*, Washington State Department of Transportation, South Central Regional Office (January 2004).

[4] One volume was manually changed: the northbound left-turn volume from Stafford Avenue to SR 903 was far higher than the upstream and downstream volumes. Field observations showed the left turns from Pennsylvania Avenue, Oakes Avenue and Stafford Avenue to SR 903 occurred at about the same rate. Therefore, the northbound left-turn volume was adjusted down to more closely match the northbound volumes from 1st Street W/S Cle Elum Way/Stafford Avenue intersection.

Insert Figure 3.16-2. Existing (2009) PM Peak Hour Traffic Volumes.

(11 x 17-inch black-and-white)

Future Traffic Volumes

The *Draft Transportation Plan* (City of Cle Elum, May 2009) provides a summary of traffic projections related to the City's existing and future proposed land uses through the year 2029. The future land uses assume that all of the population growth "assigned" by the Washington State Office of Financial Management (OFM) and then by Kittitas County to the City of Cle Elum, its Urban Growth Area (UGA), and the surrounding area will be constructed and occupied by 2029. The *Draft Transportation Plan* allocated the future number of residences to different areas in and around the City based upon both known development proposals (like the Suncadia Resort), and potential development density based on zoning. For future commercial, industrial and retail uses, the available acreage for areas within these zoning districts was used. An assumed density of development was applied, along with a general factor to account for development constraints (such as steep slopes, setbacks, wetlands, buffers, etc). With this approach, essentially the entire available developable area of Cle Elum and adjacent lands was assumed to be built-out and occupied by 2029.

This approach is appropriate for long-range planning, and results in a near maximum estimate for development and the associated traffic that would occur within the City of Cle Elum's purview. However, for the purpose of preparing a project-specific EIS under the Washington State Environmental Policy Act (SEPA), it is more appropriate to base traffic projections for background traffic[5] and pipeline projects[6] on known proposals, such as:

- Projects that are under construction
- Projects that are permitted
- Projects that are likely to be permitted within the Transportation analysis horizon time period (in the case of City Heights, by the year 2022)
- Projects for which enough is known that it is reasonable to assume they will be constructed and occupied by the horizon year.

The year 2022 future-without-project[7] traffic volume forecasts were developed using the assumptions described below. The result would be a significant increase in traffic throughout the study area by 2022 (the horizon year for City Heights), but not to the levels projected in the City's *Draft Transportation Plan* (May 2009). This approach to determining the traffic baseline still represents a significant amount of development in Cle Elum within the next 13 years.

- The number of future residential units, not including the City Heights project, is assumed to match that of the City of Cle Elum *Draft Transportation Plan* (May 2009) in a pro rata manner. The Draft Plan predicted that an additional 3,541 dwelling units (1,931 single-family units and 1,610 multi-family units) would be built by 2029, which includes units on the City Heights site. To estimate future volumes without City Heights, it was assumed that 2,666 units are associated with other development projects.[8] It was assumed that 75 percent of the future 2,666 residential units would be built within the City Heights time frame, or approximately 2,000 units. This equates to an average of 153 new dwelling units per year over the next 13 years through 2022 (the

[5] "Background traffic" is defined as growth in traffic that will occur independent of development on the City Heights site.

[6] "Pipeline projects" are other known development proposals within the Transportation study area.

[7] The term "future-without-project" in this Transportation Analysis means the forecast of year 2022 traffic conditions without the City Height project.

[8] The 875 units in City Heights Alternative 2 were subtracted from the total future unit count. This is 110 units fewer than assumed for Alternative 1. The result is a higher background traffic volume as the basis for comparing all City Heights alternatives. A consistent background condition was used to provide an equal comparison basis.

City Heights study period). This level of assumed growth (excluding any from City Heights) results a projected compound annual growth rate of about 9 percent per year over the next 13 years, which is a conservatively high growth rate. For the purpose of the City Heights analysis, the additional 2,000 residences included in the background growth forecasts are all assumed to be occupied year-around.

- Commercial development within the City of Cle Elum as a whole would occur at about a market-standard ratio of 80 square feet per additional dwelling unit, and therefore would result in a total of about 220,000 square feet of new commercial space by the year 2022. This commercial development ratio could be supported by projected new residential development as well as tourist traffic to the area, including pass-by visitors traveling on I-90.

- All of the light industrial and industrial land uses assumed in the *Draft Transportation Plan* within the City as a whole would be built and occupied by 2022.

- Background traffic volumes, which include tourist trips, would grow at a rate of approximately 1.3 percent per year. This assumption is consistent with the *Draft Transportation Plan* (May 2009).

Table 3.16-2 summarizes the background growth land use program assumed for the year 2022 forecasts described above; the assumptions from the *Draft Transportation Plan* (May 2009) are listed for comparison. Table 3.16-3 summarizes PM peak hour trip generation for each pipeline project. In total, the pipeline projects are expected to generate about 2,650 new trips per hour in the year 2022.

Table 3.16-2. Estimate of future development in Cle Elum without the City Heights project.

General Area of the Transportation Study Area	Assumed Land Use Build-Out, 2029 City of Cle Elum Draft Transportation Plan				Estimated Build-Out by Horizon Year 2022 "Pipeline"* Projects for City Heights			
	Industrial sf	Comm (Retail) sf	Detached Units	Attached Units	Industrial sf	Comm (Retail) sf	Detached Units	Attached Units
UGA Projects								
Highway Commercial		92,000				10,000		
Light Industrial	96,000				96,000			
MP Resort (all residential)			17	28			17	28
Rural 3 (residential)			121				121	
Suburban (residential)			3				3	
Suburban 2 (residential)			2				2	
Agricultural 3 (residential)			40				40	
Sphere of Interest Projects								
Industrial Park	548,000				548,000			
North Residential [1]			938	879			283	0
Mix Comm/High Residential		1,359,000		129				129
Bullfrog Business/Commercial (UGA)		518,000				210,000		
Suncadia-Bullfrog Planned Mixed-Use District								
Residential			810	574			810	574
Totals	**644,000**	**1,969,000**	**1,931**	**1,610**	**644,000**	**220,000**	**1,276**	**731**

Sources: City of Cle Elum *Draft Transportation Plan* (May 2009), Tables 28 and 29; and Heffron Transportation, August 2009.

*Note: The *Draft Transportation Plan* includes a location called "North Residential", which presumably includes City Heights. We have included the known platted or subdivided lots, which include Forest Ridge, Ponderosa Pines, Section 32 lots and others in the North Residential area. These properties have the potential for 283 detached dwelling units. City Heights is not included in the Horizon Year 2022, as it will be the action, not a pipeline project.

Table 3.16-3. Pipeline project* trip generation (2022).

	PM Peak Hour Trips		
Pipeline Projects	Inbound	Outbound	Total
UGA Projects			
Highway Commercial 1	43	42	85
Highway Commercial 2	6	8	14
Light Industrial 1	6	41	47
Light Industrial 2	6	41	47
MP Resort	22	12	34
Rural 3	77	45	122
Suburban	2	1	3
Suburban 2	1	1	2
Agricultural 3	25	15	40
Sphere of Interest			
Industrial Park 1	9	34	43
Industrial Park 2	18	68	86
Industrial Park 3	9	34	43
Industrial Park 4	45	168	213
North Residential	250	146	396
Mix Comm/High Residential	82	48	130
Bullfrog Business/Commercial (UGA)	32	130	162
Suncadia-Bullfrog PMU			
Residential	746	428	1,174
Total PM Peak Hour Trips	1,379	1,262	2,641

Source: Heffron Transportation, August 2009. Trips estimated using ITE (2008) trip generation rates for the specified land use.

*Note: "Pipeline projects" are other known development proposals within the Transportation study area.

Future-without-project (year 2022) PM peak hour traffic volumes are shown on Figure 3.16-3.

Insert Figure 3.16-3. Future Without-Project (Year 2022) PM Peak Hour Traffic Volumes.

(11 x 17-inch black-and-white)

3.16.3 Levels of Service

Traffic operations are evaluated using level of service (LOS) analysis. Six letter designations, "A" through "F," are used to define level of service. LOS A is the best condition and represents good traffic operations with little or no delay to motorists. LOS F is the worst condition and indicates poor traffic operations with long delays. There are several types of traffic operations that can be evaluated through level of service. The primary analyses are concerned with intersection operations. As of January 2010, the City of Cle Elum uses Level of Service D as its standard for acceptable intersection operations. For intersection operations, Kittitas County has adopted LOS C for rural facilities and LOS D for urban facilities. Kittitas County considers a number of factors in determining roadway sufficiency including accident rates, roadway cross section (e.g., travel lane widths, shoulder widths and composition, curvature), traffic volumes and roadway alignment. The Washington State Department of Transportation generally prefers LOS C for rural locations and LOS D for urban locations. Tables 3.16-4 and 3.16-5 summarize the existing (2009) levels of service at Transportation study area intersections.

Some changes to the City of Cle Elum roadway network would need to occur in the future without the proposed City Heights project in order to achieve operations better than LOS E. The City of Cle Elum *Draft Transportation Plan* (May 2009) lists a significant number of roadway improvement projects through 2029. Three improvements were assumed for the future year 2022 conditions in order to achieve acceptable levels of service within the City, with or without the City Heights development. These include: installing traffic signals at Cemetery Road/W 1st Street, Oakes Avenue/W 2nd Street, and Stafford Avenue/W 2nd Street. It also assumes that a two-way left-turn lane would be installed on SR 903 from east of Pine Street to west of Ranger Station Road, an improvement that was also identified in the City's *Draft Transportation Plan*.

Table 3.16-4. Transportation study area PM peak hour level of service summary for signalized intersections – existing conditions.

	Existing (2009) Conditions		Year 2022 w/o the Project	
Signalized Intersection	LOS[1]	Delay[2]	LOS[1]	Delay[2]
W Cemetery Road/W 1st Street [3]	N/A – no signal in 2009		B	12.2
S Cle Elum Way/W 1st Street/Stafford Avenue	B	15.8	B	19.9
Oakes Avenue/W 1st Street	B	13.7	B	14.0
Oakes Avenue/W 2nd Street [3]	N/A – no signal in 2009		A	7.3
Pennsylvania Avenue/W 1st Street	B	13.4	B	17.8
N Stafford Avenue/W 2nd Street (SR 903) [3]	N/A – no signal in 2009		B	10.6

Source: Heffron Transportation, August 2009. All levels of service reflect the Synchro methodology from the Synchro 7.0 software.

[1] LOS = Level of service.

[2] Delay = Average seconds of delay per vehicle.

[3] Signals at these locations are identified among future improvements in the City of Cle Elum Draft Transportation Plan (May 2009).

Table 3.16-5. Transportation study area PM peak hour level of service summary for unsignalized intersections – existing conditions.

	Existing (2009) Conditions		Year 2022 Future Conditions w/o the project	
Four-way Stop-Controlled Intersection	LOS[1]	Delay[2]	LOS	Delay
Pennsylvania Avenue/W 2nd Street	A	8.2	A	9.9
Unsignalized Intersections[3]	LOS	Delay	LOS	Delay
W Cemetery Road/W 1st Street				
Northbound Left-turn	C	20.3	N/A – signalized in future,	
Southbound Approach	C	22.3	see Table 3.16-4	
Montgomery Avenue/E 1st Street				
Northbound Approach	A	0.0	C	21.2
Southbound Approach	B	12.4	C	19.2
Columbia Avenue/E 1st Street				
Northbound Approach	B	12.0	C	21.6
Southbound Approach	B	12.9	D	33.3
SR 903/SR 970				
Northbound Approach	B	11.0	C	19.3
SR 903/Bullfrog UGA/New City Heights Access[4]				
Northbound Approach	N/A does not exist		B	14.3
Southbound Approach	N/A does not exist		N/A would not exist	
SR 903/Ranger Station Road/W Cemetery Road				
Northbound Approach	C	17.6	C	19.6
Stafford Avenue/W 2nd Street (SR 903)				
Northbound Left-turn	E	42.8	N/A – signalized in future,	
Southbound Approach	B	13.2	see Table 3.16-4	
Oakes Avenue/W 2nd Street (SR 903)				
Northbound Left-turn	B	12.3	N/A – signalized in future,	
Southbound Approach	B	11.6	see Table 3.16-4	
Montgomery Avenue/E 2nd Street				
Northbound Approach	A	9.2	B	10.4
Southbound Approach	A	9.6	A	9.7
Columbia Avenue/E 2nd Street				
Northbound Approach	A	9.0	B	13.3
Southbound Approach	A	9.3	B	11.0
Pennsylvania Avenue/W 3rd Street				
Northbound Approach	A	8.9	A	9.1
Southbound Approach	A	9.1	A	9.3
Montgomery Avenue/E 3rd Street				
Northbound Approach	A	9.2	A	9.4
Southbound Approach	A	9.0	A	9.6
Columbia Avenue/E 3rd Street				
Northbound Approach	A	8.8	B	10.7
Southbound Approach	A	9.0	A	9.7
Alliance Road/SR 903				
Northbound Left-turn	C	15.1	D	33.2
Southbound Approach	B	13.1	D	29.4

Source: Heffron Transportation, August 2009.
[1] LOS = Level of service.
[2] Delay = Average seconds of delay per vehicle.
[3] Level of service and delay reported for worst operating movement/approach at unsignalized intersection.
[4] The north leg of this intersection is a future condition only, and only an element of City Heights Alternative 1.

3.16.4 Traffic Safety

Traffic accident data for the City of Cle Elum were provided by the Cle Elum Police Department (personal communication with Karen Krahenbuhl, Administrative Assistant, City of Cle Elum Police Department, June 17, 2009). Data for 2008 and the first six months of 2009 were reviewed. The data showed a total of 39 accidents in the City in 2008, and 19 in the first six months of 2009. Of the 39 accidents in 2008, 23 were mid-block accidents, 11 occurred in intersections, and five occurred in parking lots. No single intersection seemed to have significantly more incidents than the others. The block of W 1st Street between Oakes Avenue and Pennsylvania Avenue had the highest number of mid-block incidents in 2008, with five accidents reported. No specific information on cause, injuries, or number of vehicles was available.

3.16.5 Parking

There is a good supply of on-street parking available in the City of Cle Elum. A parking inventory for the City was conducted as part of the *Draft Transportation Plan* (May 2009). This showed an inventory of 652 on-street parking spaces in the downtown Cle Elum area, with a 53 percent utilization rate on a peak summer Saturday. If downtown parking is reconfigured as discussed in the *Draft Transportation Plan*, there could be more than 1,000 on-street parking stalls in the core commercial area. In addition, there are on- and off-street parking areas elsewhere in Cle Elum.

3.16.6 Transit

There is no public transportation service within the City of Cle Elum at the time of this writing. There are two private providers of limited transportation service: HopeSource Transportation (a not-for-profit agency), and the Central Washington Airporter Shuttle (a for-profit operation). The Burlington Northern-Santa Fe (BNSF) rail line that runs parallel to SR 970 does not carry passenger trains, and there are no stops in the City of Cle Elum.

The City owns a general aviation facility, the Cle Elum Municipal Airport, although no general commercial air service is available. Private airplanes can use the Municipal Airport. There is also a private airstrip 3 miles east of downtown (De Vere Field Airport).

3.16.7 Non-Motorized Transportation Facilities

Most east-west streets in the Cle Elum downtown area have sidewalks on both sides. However, roads on the east and north ends of town have few sidewalks at the present time. For example, there are no sidewalks in the vicinity of the proposed City Heights project.

The Coal Mines Trail passes near the south boundary of the site, at its west end (see Figure 3.16-1). This trail approximately parallels SR 903 in the area, north of the highway. This multi-use trail was constructed in the alignment of a former railroad bed from the coal mining era of the community, and is a wide, primarily gravel path that connects downtown Cle Elum to the Roslyn/Ronald area. The trailhead, an information kiosk, and a small parking area are located at the intersection of Stafford Street/1st Avenue W. According to the City's Comprehensive Plan (Parks, Recreation and Open Space Element), Coal Mines Trail is about 4.7 miles in length, with a relative grade change of only about 1 percent.

Progress Path Trail extends one mile from Ranger Station Road to the Cle Elum-Roslyn Schools site (see Figure 3.16-1). The trail is primarily gravel, with some pavement.

The John Wayne Pioneer Trail, part of the Iron Horse State Park, parallels I-90 within the general study area. The closest existing access point is at Exit 84 (Bullfrog Road). The trail is 110 miles in length, from North Bend to west of the Columbia River.

Numerous trails (paved and dirt) criss-cross the Suncadia Resort development west of Cle Elum. These are generally open to the public.

The *Kittitas County Transportation Plan* (2008) identifies Bullfrog Road and Airport Road as bicycle routes.

Although technically motorized transportation, numerous snowmobile trails exist in the Cle Elum area. Snowmobiling is a popular recreational activity in and around Cle Elum. There are Sno-Parks with associated parking in several locations in Upper Kittitas County. These are used by snowshoers, cross-country skiers, and hikers in addition to snowmobile riders.

POTENTIAL IMPACTS DURING CONSTRUCTION

The highest level of truck activity for construction projects typically occurs during initial earthwork phases when unsuitable or excess materials are excavated and removed from the site, and clean fill is imported. On the City Heights site, much of the material to be excavated will be reused as fill elsewhere on the property, approximately balancing the amount of cut and fill. A certain percentage is estimated to be imported or exported, depending upon the alternative selected for implementation, and depending on select materials needed for specific purposes. Table 3.16-6 summarizes the total estimated amount of earthwork for each conceptual land use alternative, and the total amount of material to be hauled onto or off of the site.

The site would have ample room for staging, laydown areas, and construction offices, as well as for employee parking and deliveries, with implementation of any conceptual land use alternative. No off-site parking related to construction is expected to occur.

Table 3.16-6. Project earth movement to/from the City Heights site for each conceptual land use alternative in cubic yards (CY).

Conceptual Land Use Plan	Total Earthwork (CY)	Cut (% of Total)	Export (% of Cut)	Fill (% of Total)	Import (% of Fill)	CY Exported Off-site	CY Imported To Site	Total CY Moved by Off-site Trips
Alternative 1	2,106,800	90%	12%	10%	25%	227,534	52,670	280,204
Alternative 2	1,917,200	91%	11%	9%	20%	191,912	34,510	226,421
Alternative 3A	1,917,200	91%	11%	9%	20%	191,912	34,510	226,421
Alternative 3B	1,538,000	75%	7%	25%	10%	80,745	38,450	119,195

Source: Encompass Engineering and Surveying (2010).

Alternative 1: Preferred. About 280,000 cubic yards of material would be trucked to or from the site over the 6- to 12-year construction period if the City Heights development were to occur under Alternative 1. Exported material would expand by about 30 percent when it is loaded into a truck; therefore, a total of about 348,000 cubic yards (cy) of material would need to be hauled.[9] Assuming that each dump truck with trailer can carry about 24 cy of material, the excavation would generate a total of about 14,500 truck loads or 29,000 truck trips (14,500 inbound and 14,500 outbound). These truck trips would not occur continuously; they would be spread out over the 6- to 12-year development period of the project. Therefore, the site could generate between about 1,200 and 2,400 truck loads per year. If earth-moving only occurs six months of the year, the average number of truck loads per day would range from 9 to 18 during earthwork activity. This relates to 18 to 36 truck trips per day.[10] Haul routes would depend on the location of disposal sites for excess material to be removed from the site, and the location of quarry sources of fill to be imported.

The amount of other construction-related traffic would be less than the total development-related traffic volumes that are anticipated. While construction-related traffic may at times cause inconvenience to properties adjacent to the site, such impacts would be temporary.

Alternative 2 - Reduced Residential Density. As shown in Table 3.16-6 above, Alternative 2 would result in approximately 20 percent less material being moved to or from the site compared to Alternative 1. With the expansion factor of 1.3 applied to the exported material, a total of about 284,000 cy would need to be hauled to and from the site. This would generate a total of about 11,840 truck loads or 23,680 truck trips (11,840 inbound and 11,840 outbound). As with Alternative 1, these truck trips would be spread over the 6 to 12-year development of the project at a rate ranging from 990 to 1,980 to/from the site per year. If earthwork occurs during just six months of each year, this would correlate to 8 to 16 truck loads per day, or 16 to 32 truck trips to day during earthwork activity. Excess material disposal sites, quarry sources of material to be imported, and therefore haul routes would likely be the same as those for Alternative 1.

Alternative 3A – No Annexation, Development within the County under Single Ownership. Approximately the same amount of material would be imported or exported to the site if Alternative 3A were selected for implementation as those described above for Alternative 2. Thus, the number of earth-moving truck trips, haul routes, and other potential construction traffic and parking impacts would be approximately the same as with Alternative 2.

Alternative 3B – No Annexation, Development within the County under Multiple Ownerships. The amount and continuity of development that would occur at any one time under Alternative 3B is unknown; however, it is likely that the number of earth-moving truck trips in a given year would be no more than half the number projected for Alternative 1, 2 or 3A. Under Alternative 3B, the residential density would be approximately half that of Alternative 1, and there would be no commercial development. There would be less opportunity to balance cut and fill material on the site with development of up to 17 parcels by multiple owners at different times. Off-site haul routes would likely be the same as those for any of the other conceptual land use alternatives, since the developers of individual parcels would likely depend on the same local quarries and excess material disposal sites.

Alternative 4 – No Action. With no development to occur on the site at the present time under Alternative 4, there would be no clearing, grading or other form of construction traffic generated.

[9] The estimate of "CY Exported Offsite" is multiplied by a factor for expansion of 1.3 and added to the "CY Imported To Site" to arrive at the total quantity of material to be hauled by dump trucks with trailers.

[10] The estimated number of "truck trips" is twice the estimated number of "truck loads" to account for the in-bound trip and the out-bound trip.

POTENTIAL DEVELOPED-CONDITION IMPACTS

Roadway Network

The internal roadway system of the City Heights development under any conceptual land use alternative would connect the site to existing City of Cle Elum streets, as well as to the regional roadway network (SR 903, I-90, SR 970). The access points are described below.

Alternative 1: Preferred. Most proposed development areas within Alternative 1 would be connected to at least one other development area of the site through an internal roadway network (see Figure 2.6-1 in Chapter 2). Although the City's *Draft Transportation Plan* discussed a future North Hills connector road to provide additional east-west general capacity, the volumes of the Preferred Alternative and the potential diverted volumes from other City streets would not be sufficient to require this route through the City Heights development.

Some of the proposed access points would provide regional connections that do not require circulation through the downtown core of Cle Elum; others would provide direct connection into the established areas of the City, providing circulation between the project site and commercial, recreational and civic activities within the City. Pedestrian connections between existing Cle Elum streets and the project site would provide clear visual connections and direct community access to and through the site.

Alternative 1 would have four proposed access points. One would be a new intersection leg; the other three would make use of existing roadways, with some improvements. Proposed Alternative 1 access points are described below, from west to east.

West Access to SR 903 through the Cle Elum Pines (Deneen) Property. This access point would require constructing the north leg of the intersection to create a four-legged intersection with the future Bullfrog Commercial UGA access proposed on SR 903 (east of Alliance Road). City Heights drivers destined for or arriving from I-90 or other areas to the north and west would likely use SR 903 west to Bullfrog Road to access I-90. This west access would require an elevated bridge crossing the Coal Mines Trail and Crystal Creek, described and conceptually illustrated in Draft EIS Section 2.9.4.1.

Stafford Avenue/Summit View Access. This west-central access point would make use of the existing section of Summit View Road north of W 6th Street. This roadway is paved, with 21 to 22 feet of pavement along its 2-mile length. Summit View traverses the City Heights property, and provides access to existing and other future proposed residential development north of the site. At W 6th Street, Summit View traffic is controlled by a stop sign. From this intersection, drivers would continue to the south and east along any of the existing roadways (primarily Stafford Street, but also via W 5th Street, W 6th Street, Billings Avenue or Oakes Avenue). The proposal includes reconstructing the substandard curve east of the Summit View/W 6th Street intersection to improve sight distance and roadway width.

Montgomery Avenue Access. This access would use existing Montgomery Avenue north from E 1st Street, E 2nd Street, or E 3rd Street. The road is paved, although there are sections that would require widening or other improvements for two-way travel. Montgomery Avenue presently provides access to existing residential development north of City Heights. Montgomery Avenue traffic is controlled by stop signs at its existing intersections with 1st, 2nd and 3rd Streets E − the typical traffic control configuration for north-south roadways in Cle Elum.

Columbia Avenue Access. The east sector of the City Heights site would connect to the City street system via Columbia Avenue. North of E 4th Street, Columbia Avenue is unpaved. The road currently

provides access to a few existing homes and a number of proposed residential developments. Columbia Avenue would need to be paved and improved to provide access to any of the proposed future developments that would use this road for access, including City Heights. Due to steep slopes, the Alternative 1 lots that would be served by Columbia Avenue would not connect internally to the remainder of the development to the west. Emergency vehicle access would be provided from Montgomery Avenue.

Alternative 2 − Reduced Residential Density. Alternative 2 would also have four access points. The western site access would connect to existing Alliance Road that intersects SR 903 across from the Cle Elum-Roslyn School Complex driveway. The north leg of this intersection has one southbound left/through lane, and one right-turn lane. This leg of Alliance Road currently provides access for several residences north of SR 903. If this route is selected to serve as the west access to City Heights, it would be improved to the standards of a Collector Road (described in Draft EIS Section 2.9.4.3). The west-central access to the City Heights site via Stafford Avenue/Summit View would be the same as in Alternative 1. Access to the central part of the Alternative 2 conceptual land use plan would be constructed along the general alignment of W 6th Street, beginning at about Oakes Avenue or Pennsylvania Avenue (see Figure 2.6-2 in Chapter 2).[11] This road would be constructed to City of Cle Elum standards. Montgomery Avenue would remain in its current alignment under Alternative 2, but would not be improved beyond its current condition. It would be utilized for emergency vehicle access only. The Columbia Avenue access proposed would be the same in Alternative 2 as that described above with Alternative 1.

Alternative 3A – No Annexation, Development within the County under Single Ownership. Under Alternative 3A, the City Heights site would not be annexed to the City of Cle Elum, and would remain under the jurisdiction of Kittitas County. Therefore, major project roadways would be built to Kittitas County standards, rather than to City standards. The roadway access network would otherwise be the same as described above for Alternative 2.

Alternative 3B – No Annexation, Development within the County under Multiple Ownerships. Under Alternative 3B, lots would be sold in 17 parcels, and development by individual entities would likely occur in an uncoordinated manner. There would be no coordinated internal roadway system in the City Heights area, although roads between parcels would likely be constructed. While some of the same main access routes would be utilized, individual development owners would construct site-specific access points. This could result in the need for road maintenance agreements between developments, and cross-access agreements. The City Heights site would not be annexed to the City of Cle Elum, and would remain under the jurisdiction of Kittitas County. Therefore, project roadways would be built to Kittitas County standards.

Alternative 4 – No Action. In this alternative, there would be no development on the City Heights site and thus no roadway network constructed.

Traffic Volumes

Trip generation was determined using rates in the Institute of Transportation Engineers (ITE) *Trip Generation* manual (ITE, 8th Edition, 2008). This reference summarizes the results of numerous traffic studies throughout the United States for a variety of land-use types. Trip generation rates for residential uses were based on data in *Trip Generation* for Land Use Code 210 (Single-Family Detached Housing), Land Use Code 220 (Apartments), and Land Use Code 260 (Recreational Homes). The City Heights conceptual land use alternatives include a mix of primary (year-around) and secondary

[11] W 6th Street becomes E 6th Street east of Pennsylvania Avenue.

(recreational/vacation) homes. Traffic levels on a given day are different for vacation homes than for typical single-family or multi-family homes that are occupied year-around. The trip generation rate for recreational homes applies for both attached and detached homes. For the alternatives that include neighborhood commercial development, trip generation rates for Land Use Code 814 (Specialty Retail) were applied.

Alternative 1 – Preferred. Land use characteristics used for the Alternative 1 traffic analysis are shown in Table 3.16-7. Up to 985 residential units, with a mix of approximately 30 percent attached and 70 percent detached dwelling units. The applicant projects that about 65 percent of these units would be occupied by permanent residents, and about 35 percent would be occupied by seasonal residents as second homes or vacation homes (i.e., not year-around). However, for the purpose of planning for the provision of public services and infrastructure, the City of Cle Elum prefers to anticipate that the City Heights development will be a neighborhood in which approximately 90 percent of dwelling units will be occupied by permanent residents. The Preferred Alternative also includes construction of two 10,000-square foot neighborhood commercial centers, for a total of approximately 20,000 square feet of commercial development within the Planned Mixed-Use project.

Table 3.16-7 shows the estimated number of PM peak hour trips that would be generated by land uses in the Alternative 1 conceptual land use plan. As shown, this alternative would generate approximately 8,650 vehicle trips per day, 607 vehicle trips during the AM peak hour, and 839 vehicle trips during the PM peak hour.

Table 3.16-7. City Heights Alternative 1 trip generation by land use type.

Land Use Type	ITE Land Use Code	Daily Trips	AM Peak Hour Trips[a]			PM Peak Hour Trips[b]		
			In	Out	Total	In	Out	Total
Single Family Residential	210	4,930	97	290	387	328	194	522
Multifamily Residential	220	2,520	43	150	193	151	81	232
Recreational Home	260	310	11	2	13	7	24	31
Neighborhood Commercial	814	890	9	5	14	24	30	54
Total Trips		8,650	160	447	607	510	329	839

[a] AM peak hour trips are defined as the highest volumes during a one-hour period between 7:00 AM and 9:00 AM on weekdays.
[b] PM peak hour trips are defined as the highest volumes during a one-hour period between 4:00 PM and 6:00 PM on weekdays.

Source: Heffron Transportation, Inc. August 2009.

Although a small number of PM peak hour trips would occur within the City Heights project site, to be conservative, the traffic analysis analyzes all PM peak hour trips as if they originate from or are destined to areas outside of City Heights. Additionally, some trips could occur using transportation modes other than a vehicle (such as walking or bicycling), but again, to be conservative, no adjustments for non-vehicle modes of travel have been made in these analyses.

Project trips were assigned to the surrounding roadway system for the PM peak hour, based on access location and purpose of trip. It was assumed that one-third of the PM peak hour trips would occur between the site and I-90. This is based on information in the City's *Draft Transportation Plan* (May 2009) regarding average work trip lengths. In the year 2000, 26 percent of work trips lasted 30 minutes or more, indicating a workplace outside of Cle Elum. This was an increase from 18 percent in 1990. As the

residential population in Cle Elum grows, it is reasonable to assume that more people would travel beyond Cle Elum for work. Another one-third of PM peak hour trips were assumed to occur between the City Heights site and central Cle Elum; these could be work, school, shopping, recreational or civic trips. The remaining one-third of the PM peak hour trips were assigned to areas outside of central Cle Elum but in the near vicinity (such as to Roslyn, South Cle Elum, or east along SR 970).

The project trip assignment also accounts for how the development would be clustered on the site and the proximity to the various access points. Table 3.16-8 summarizes the Alternative 1 PM peak hour trips by proposed access location.

Table 3.16-8. City Heights Alternative 1 PM peak hour project trips, by access point.

	PM Peak Hour Trips		
Access Location	Enter	Exit	Total
West Access (through Cle Elum Pines property)	49	32	81
Stafford Avenue/Summit View Access	107	74	181
Montgomery Avenue Access	221	140	361
Columbia Avenue Access	133	83	216
Total Trips	510	329	839

Source: Heffron Transportation, Inc. August 2009.

Figure 3.16-4 shows the PM peak hour project trips associated with Alternative 1. These volumes were added to the year 2022 without-project traffic volumes. The resulting future-with-Alternative 1 PM peak hour traffic volumes are shown on Figure 3.16-5.

Alternative 2 – Reduced Residential Density. The Alternative 2 conceptual land use plan includes fewer dwelling units compared to Alternative 1. The relative proportion of detached and attached units would also differ, with fewer detached units and more attached units (60 percent and 40 percent of total, respectively). Alternative 2 would have twice the estimated amount of neighborhood commercial development (approximately 40,000 sq ft) compared to 20,000 square feet in Alternative 1.

With these land use characteristics, Alternative 2 would result in fewer overall project trips compared to Alternative 1. Alternative 2 would generate about 8,520 vehicle trips per day, 547 vehicle trips during the AM peak hour, and 783 vehicle trips during the PM peak hour.

Alternative 2 would change the site access points to the project. The west access would connect to Alliance Road, and in the center of the site, the access would connect to E 6th Street instead of Montgomery Avenue. The access points at Stafford Avenue/Summit View Road and at Columbia Avenue would be the same as with Alternative 1. The change in access from Montgomery Avenue to E 6th Street would not substantially increase traffic through the downtown core area. For Alternative 2, traffic would access the downtown grid via Oakes Avenue instead of Montgomery Avenue to 2nd Street.

Alternative 3A – No Annexation, Development within the County under Single Ownership. Alternative 3A would result in the same level of traffic generation as described above for Alternative 2, since the

conceptual land use plan for Alternative 3A has the same residential and commercial features as Alternative 2.

Alternative 3B – No Annexation, Development within the County under Multiple Ownerships. Alternative 3B would result in a lower overall traffic level than Alternatives 1, 2 or 3A, as only 500 dwelling units would be constructed. This alternative is assumed to be all single-family (detached) units, with 90 percent year-around occupancy and 10 percent seasonal occupancy (i.e., second homes or vacation homes). Alternative 3B would generate about 4,470 daily trips, with 346 occurring during the AM peak hour and 468 during the PM peak hour.

Alternative 4 – No Action. No traffic would be generated by the City Heights site in Alternative 4, as the property would not be developed under this alternative.

Insert Figure 3.16-4. Alternative 1 PM Peak Hour Trips.

(11 x 17-inch black-and-white)

Insert Figure 3.16-5. Future With Alternative 1 (Year 2022) PM Peak Hour Traffic Volumes.

(11 x 17-inch black-and-white)

Level of Service

Levels of service were determined for future conditions using the methodology described in the Transportation: Affected Environment section. The future conditions assume several improvements would be needed to achieve acceptable levels of service (LOS D or better) for the 2022-wthout-project conditions. These include installing traffic signals at three City intersections: Cemetery Road/W 1st Street, Oakes Avenue/W 2nd Street, and Stafford Avenue/W 2nd Street. It also includes adding a two-way left-turn lane on SR 903 from east of Pine Street to west of Ranger Station Road, which was also identified in the City's *Draft Transportation Plan* (May 2009). Signal timings were optimized for the signalized intersections since all signals are actuated, and signal timings would adjust to meet vehicular demand. Table 3.16-9 summarizes the PM peak hour level of service for City Heights Alternative 1 (Preferred), and future conditions without the project in the year 2022.

Table 3.16-9 summarizes the level of service for signalized intersections, and Table 3.16-10 summarizes the level of service for unsignalized intersections, for two traffic volume scenarios. Both compare future conditions without the project in the year 2022 to Alternative 1, the Preferred Alternative. The difference between these two conditions reflects the operational impact of Alternative 1.

Table 3.16-9. PM peak hour level of service summary for signalized intersections – Future year 2022 conditions with City Heights Alternative 1.

	Year 2022 Future Conditions w/o the Project		Year 2022 w/ City Heights Alternative 1 (Preferred)	
Signalized Intersection	LOS[1]	Delay[2]	LOS[1]	Delay[2]
W Cemetery Road/W 1st Street [3]	B	12.2	B	13.5
S Cle Elum Way/W 1st Street/Stafford Avenue	B	19.9	B	20.0
Oakes Avenue/W 1st Street	B	14.0	B	14.2
Oakes Avenue/W 2nd Street [3]	A	7.3	A	7.7
Pennsylvania Avenue/W 1st Street	B	17.8	B	18.0
N Stafford Avenue/W 2nd Street (SR 903) [3]	B	10.6	B	13.6

Source: Heffron Transportation, August 2009. All levels of service reflect the Synchro methodology from the Synchro 7.0 software.

[1] LOS = Level of service.

[2] Delay = Average seconds of delay per vehicle.

[3] Signals at these locations are identified among future improvements in the City of Cle Elum Draft Transportation Plan (May 2009).

Table 3.16-10. PM peak hour level of service summary for unsignalized intersections – Future year 2022 conditions with City Heights Alternative 1.

	Year 2022 Future Conditions w/o the project		Year 2022 City Heights Alternative 1 (Preferred Alternative)	
Four-way Stop-Controlled Intersection	LOS[1]	Delay[2]	LOS	Delay
Pennsylvania Avenue/W 2nd Street	A	9.9	C	15.3
Unsignalized Intersections[3]	LOS	Delay	LOS	Delay
Montgomery Avenue/E 1st Street				
Northbound Approach	C	21.2	C	24.3
Southbound Approach	C	19.2	D	29.1
Columbia Avenue/E 1st Street				
Northbound Approach	C	21.6	D	26.9
Southbound Approach	D	33.3	F[4]	153.6
SR 903/SR 970				
Northbound Approach	C	19.3	E[5]	41.6
SR 903/Bullfrog UGA/New City Heights Access[6]				
Northbound Approach	B	14.3	C	17.4
Southbound Approach	N/A does not exist		E	38.7
SR 903/Ranger Station Road/W Cemetery Road				
Northbound Approach	C	19.6	D	29.7
Montgomery Avenue/E 2nd Street				
Northbound Approach	B	10.4	C	21.1
Southbound Approach	A	9.7	C	16.4
Columbia Avenue/E 2nd Street				
Northbound Approach	B	13.3	D	25.4
Southbound Approach	B	11.0	B	14.6
Pennsylvania Avenue/W 3rd Street				
Northbound Approach	A	9.1	A	9.1
Southbound Approach	A	9.3	A	9.3
Montgomery Avenue/E 3rd Street				
Northbound Approach	A	9.4	B	11.8
Southbound Approach	A	9.6	B	10.7
Columbia Avenue/E 3rd Street				
Northbound Approach	B	10.7	B	14.7
Southbound Approach	A	9.7	B	11.2
Alliance Road/SR 903				
Northbound Left-turn	D	33.2	E	47.5
Southbound Approach	D	29.4	E	44.0

Source: Heffron Transportation, August 2009.

[1] LOS = Level of service.

[2] Delay = Average seconds of delay per vehicle.

[3] Level of service and delay reported for worst operating movement/approach at unsignalized intersection.

[4] The southbound approach would operate with long delays with Alternative 1 in place (and likely with any other City Heights action alternative). This intersection may require mitigation.

[5] The northbound approach of this three-legged intersection would operate at LOS E with Alternative 1. It may require mitigation. However, WSDOT has a Route Development Plan for SR 970 that would include improvements at this intersection, and for the Exit 85 interchange overall. The exact nature of the improvements is not known at this time. Therefore, this intersection may have been improved by year 2022, in which case, no mitigation would be necessary.

[6] The north leg of this intersection is only an element of City Heights Alternative 1. The southbound approach would operate at LOS E with Alternative 1.

Alternative 1 – Preferred. The traffic operations analysis determined that all of the signalized intersections within the Transportation study area, including those shown in the *Draft Transportation Plan* as signalized to serve future growth without the City Heights development, would operate at LOS B or better with full build-out and 90 percent occupancy of Alternative 1 (year 2022).

Most of the unsignalized intersections would also continue to operate at LOS D or better in 2022 with City Heights Alternative 1. The exceptions would be the southbound approach to the SR 903/CityHeights west access intersection (through the Cle Elum Pines property), which would operate at LOS E, as would the southbound approach of the SR 903/Alliance Road intersection. The additional traffic generated by Alternative 1, however, would not be enough to warrant a traffic signal at either intersection. Delays may occur for project traffic trying to turn onto SR 903; however, this would not affect the main flow of traffic on SR 903. Therefore, no mitigation is recommended for these intersections.

Alternative 1 City Heights traffic would also affect the southbound approach of the E 1st Street/Columbia Avenue intersection, causing that movement to degrade from LOS D to LOS F.

Alternative 2 – Reduced Residential Density. Because overall trip generation for Alternative 2 would be less than with Alternative 1, all study area intersections would operate at the same or better levels of service than with Alternative 1. The exception would be at the west access to the site, which would increase traffic on the north leg of the SR 903/Alliance Road intersection. As with Alternative 1, the volume of traffic at this access point would not likely be high enough to warrant a traffic signal. Therefore, no mitigation is recommended for this location.

The change in site access from Montgomery Avenue (in Alternative 1) to E 6th Street (in Alternative 2) would substantially reduce projects impacts at the Montgomery Avenue/1st Street and Montgomery Avenue/2nd Street intersections. These intersections would operate close to without-project conditions. If all of the trips assigned to Montgomery Avenue under Alternative 1 were to use Oakes Avenue instead, it would not degrade operations along this route. This is a worst-case condition since the grid of streets would allow traffic to disperse to other routes. The intersection of Oakes Avenue/W 1st Street would continue to operate at LOS B with Alternative 2 (14.2 seconds of delay per vehicle), and the intersection of Oakes Avenue/W 2nd Street would change from LOS A to LOS B (11.8 seconds of delay per vehicle).

Alternative 3A – No Annexation, Development within the County under Single Ownership. The level of service for traffic operations with Alternative 3A would be the same as those described for Alternative 2, due to the same residential and commercial land use components and access configuration in the conceptual land use plan.

Alternative 3B – No Annexation, Development within the County under Multiple Ownerships. The level of service with Alternative 3B would be the same or less as with Alternative 2 or 3A. Fewer residential units would be constructed in Alternative 3B (approximately 500 compared to 875 with Alternative 2 or 3A), resulting in lower overall traffic volumes.

Alternative 4 – No Action. Under the No Action alternative, all study area intersections would operate at LOS D or better in 2022 without the City Heights project. These levels of service assume some improvements to the roadway system and traffic control in accordance with the City of Cle Elum *Draft Transportation Plan* (May 2009), including installation of signals at three City intersections − Cemetery Road/W 1st Street, Oakes Avenue/W 2nd Street, and Stafford Avenue/W 2nd Street − and adding a two-way left-turn lane on SR 903 from east of Pine Street to west of Ranger Station Road.

Site Access

Alternative 1 – Preferred. Alternative 1 would have four vehicle access points along the length of the City Heights property (see Figure 2.6-1 in Chapter 2): one on the west end (through the Cle Elum Pines property), one at the east end (Columbia Avenue), and two in the middle (Stafford Street/Summit View Road, and Montgomery Avenue). This access configuration would result in project-related trips being distributed widely through City streets. It would also allow drivers who are accessing I-90 to minimize their travel through the Cle Elum core commercial area. The west access location (proposed through the Cle Elum Pines property) would allow drivers to access I-90 via SR 903 west of Cle Elum via Bullfrog Road. The Columbia Avenue access would allow drivers to access I-90 via the full diamond interchange at Exit 85; these trips would only use City of Cle Elum streets on the very eastern end of the City. The Alternative 1 proposed access configuration would also allow those drivers who have business in downtown more direct access via the Stafford Avenue/Summit View Road and Montgomery Avenue access points.

Alternative 2 – Reduced Residential Density. Alternative 2 would have fewer project trips than Alternative 1 due to a reduced number of dwelling units (875 compared to 985 with Alternative 1), but the same number of access points. Alternative 2 would provide similar connections to I-90 and downtown Cle Elum as those described for Alternative 1. At the west end, access would be via Alliance Road (instead of through the Cle Elum Pines Property as with Alternative1). In the center, the access would connect to E 6th Avenue instead of Montgomery Avenue (see Figure 2.6-2 in Chapter 2). The effect of these access changes are described above in the Level of Service section.

Alternative 3A – No Annexation, Development within the County under Single Ownership. Alternative 3A would have the same access configuration as Alternative 2, and the same projected number of vehicle trips. The function of the access points would not differ regardless of whether the site is in the County under Alternative 3A, or within the City (Alternative 1 or 2). Therefore, projected impacts on the off-site transportation system would be the same as described above for Alternative 2.

Alternative 3B – No Annexation, Development within the County under Multiple Ownerships. No organized approach to the construction of project access points would occur with Alternative 3B. The number of residential units would be lower (approximately 500 dwelling units) compared to Alternative 1, 2 or 3A. Therefore the number of trips through any one City or County intersection would be less than with those alternatives, and traffic impacts would be expected to be the same or less.

Alternative 4 – No Action. Under the No Action Alternative, no new points of access to the City Heights site would be constructed.

Public Service and Emergency Vehicle Access

Internal roadways, particularly the Main Access Roads described in Draft EIS Section 2.9.4.3, would be designed to accommodate Cle Elum-Roslyn School District buses with student bus stops at appropriate locations. Because of low forecast traffic volumes on internal roadways, bus pullouts would not be needed since it is safer to have the buses stop in-lane and hold all approaching or following traffic while students embark or disembark the bus.[12] Cul-de-sac turn-arounds designed for fire equipment would also accommodate the turn-around needs of school buses. Accommodations for school bus access would be the same with any action alternative, since the Cle Elum-Roslyn School District would serve the City Heights development regardless of the City or County jurisdiction in which the project is developed.

[12] Concurrence received from the Cle Elum-Roslyn School District in the form of personal communication with Brian Twardoski, Director of Finance, Operations, and Athletics, March 3, 2010.

Emergency vehicle access during construction and in the developed condition of the project would be provided along the Main Access Roads to each proposed Development Area, and would be enhanced by the connectivity provided by project roads to be improved within the power line easements.

Within the power line easements, roads would be designed to comply with City of Cle Elum (or Kittitas County(standards, depending on the alternative selected for implementation, and Fire Marshal requirements.

Snow removal would be the responsibility of the entity that owns the roads (i.e., private or City). Snow removal on private roads within the development would be performed by the City Heights Homeowner's Association; snow removal on public roads would be the responsibility of the City. Roads and building setbacks will be designed to provide sufficient snow storage areas so that snow piles would not block intersection sight lines. Snow plowing policies will be defined in the Development Agreement to be negotiated between the City and the project proponent, and enforced to provide for emergency vehicle access in winter months. If Alternative 3A or 3B is selected, conditions of project approval to be imposed by Kittitas County would likely address snow removal responsibilities.

During construction, fire hydrants and provisions for emergency vehicle access would be provided as required by the City Fire Department and/or County Fire Marshal (depending on the alternative selected), including maintenance of clear roadways to support the weight of heavy fire apparatus and tenders. In addition, signage would be installed to indicate routes to various locations within the project, and up-to-date maps would be provided to emergency service providers.

Alternative 1 – Preferred. Internal roadways would be designed to meet the emergency access requirements of the City, local fire districts and Medic One, including standards for roadway width, maximum grade, and turn-arounds at dead-end streets.

Alternative 2 – Reduced Residential Density. Although Alternative 2 would have fewer dwelling units and fewer project trips compared to Alternative 1, provisions for public service access would be made in a similar manner to those described above with Alternative 1. In Alternative 2, however, Montgomery Avenue would be used for emergency access only. The east/west Collector Road across the site (described in Draft EIS Section 2.9.4.3) would be gated at Montgomery Avenue with a keyed access for emergency vehicles only. Other properties that use Montgomery Avenue/Deer Creek Road for access to the north would not be affected by the gate.

Alternative 3A – No Annexation, Development within the County under Single Ownership. Alternative 3A would be developed in accordance with Kittitas County standards, rather than City of Cle Elum. Where fire or emergency vehicle access requirements differ for Kittitas County compared to the City, the public service access design within the City Heights development may differ as well. Snow removal on public roads internal to the site would be the responsibility of the County.

Alternative 3B – No Annexation, Development within the County under Multiple Ownerships. Although this alternative would result in fewer residential units than Alternative 1, 2 or 3A, the County would still require designing public service access into overall site development. However, site development under multiple ownerships could result in less efficient provision of public services access.

Alternative 4 – No Action. Under the No Action Alternative, public service access to the site would not be altered from the present system of unimproved dirt trails on the property.

Traffic Safety

Alternative 1 – Preferred. The traffic accident analysis described in the Affected Environment section indicated no unusual safety conditions in the vicinity of the City Heights site. Full build-out of Alternative 1 is not expected to increase the number of traffic incidents other than in proportion to the affect of additional cars on City streets and WSDOT highways.

Internal roadways and site access connections to the existing City of Cle Elum street system and WSDOT State routes would be designed to meet City standards, including providing adequate sight distance at intersections. Internal streets will also be designed to minimize vehicle speeds through design principles. Therefore, no adverse safety impacts are expected with this alternative.

Alternative 2 – Reduced Residential Density. The potential traffic safety impacts of Alternative 2 would be approximately the same as those described for Alternative 1. Residential traffic would be proportionately less (875 dwelling units compared to 985 with Alternative 1). Commercial traffic would be proportionately more (40,000 square feet total in two locations on the site, compared to 20,000 square feet total in two locations with Alternative 1).

Alternative 3A – No Annexation, Development within the County under Single Ownership. The internal roadway system of the City Heights development would be built to Kittitas County standards under Alternative 3A. This would likely include wider roads than if developed under City standards. Vehicles tend to travel at higher speeds on wider roads, with the result that longer sight distance would be needed at internal project road intersections. However, there would be no reason to anticipate adverse safety impacts with this alternative.

Alternative 3B – No Annexation, Development within the County under Multiple Ownerships. Roadway connections to new development would be built as needed to serve various ownership parcels. It is not anticipated that there would be a coordinated internal roadway system. New roads would be built to Kittitas County standards (i.e., wider than City standards, as described with Alternative 3A). No adverse safety impacts would be expected with this alternative.

Alternative 4 – No Action. There would be no change in traffic safety associated with the property under the No Action Alternative, as there would be no development on the site.

Parking

Alternative 1 – Preferred. Alternative 1 would provide on-site parking for each residential unit based on City code requirements (or as negotiated in the Development Agreement with the City). Parking would be provided for proposed neighborhood commercial uses, as well. A small amount of parking, either on-street or in small parking lots, may be provided near proposed parks and public amenities. The Preferred Alternative would have sufficient parking to meet typical daily parking demand.

Alternative 2 – Reduced Residential Density. Parking would be provided in the same manner as described with Alternative 1. No adverse parking impacts would be anticipated.

Alternative 3A – No Annexation, Development within the County under Single Ownership. On-site parking would be provided in accordance with Kittitas County code requirements (or as negotiated in a Development Agreement with the County). No adverse parking impacts would be anticipated.

Alternative 3B – No Annexation, Development within the County under Multiple Ownerships. Parking requirements would be limited to those associated with single-family attached and detached units, in

accordance with Kittitas County code requirements. There would be no commercial areas, public parks or public amenities with this alternative.

Alternative 4 – No Action. No on-site parking would be provided with the No Action Alternative, as no development would occur on the property at this time.

Transit

The provision of public transportation service (or lack of service) in the local area would not be altered by any City Heights development alternative, including No Action. To the extent that the City Heights population would add to the population base within the service area, it may become more viable in the future for transit service to be considered in the Cle Elum area.

Non-Motorized Facilities

Alternative 1 – Preferred. The Alternative 1 conceptual land use plan includes approximately 155 acres of parks, open space, and public amenities. Approximately 9 miles of walking paths, hiking trails, and a multi-use path with bike access are proposed. This would provide for pedestrian activity within the development area, and would provide some pedestrian/bicycle connection to areas of the City of Cle Elum that are already developed. Also see the Possible Road Standard figures in Chapter 2 (Figures 2.9-2 through 2.9-5). Some configurations have sidewalks on one side only, or no sidewalks.

Alternative 2 – Reduced Residential Density. The Alternative 2 conceptual land use plan includes approximately 161 acres of parks, open space, and public amenities. With Alternative 2, only the 3.2-mile multi-use path with bike access would be constructed. Similar to Alternative 1, roads internal to the project may have sidewalks on one side only or no sidewalks with Alternative 2.

Alternative 3A – No Annexation, Development within the County under Single Ownership. The Alternative 3A conceptual land use plan includes approximately 161 acres of unimproved open space. No walking paths or hiking trails would be constructed with Alternative 3A. As with Alternative 1 or 2, roadways in Alternative 3A may have sidewalks on one side only or no sidewalks.

Alternative 3B – No Annexation, Development within the County under Multiple Ownerships. There would be no open space, trail system, or public amenities with Alternative 3B, and no sidewalks along road system internal to the development.

Alternative 4 – No Action. No non-motorized transportation improvements would be made on the site under the No Action Alternative.

MITIGATION MEASURES

Mitigation Measures Included in the Development Proposal

Haul routes for construction traffic will be addressed with the Public Works Director prior to the initiation of any construction activity. Provisions will be made in the Development Agreement to be negotiated between the City and the project proponent for restoration of road surfaces damaged by construction traffic (if any).

Alternative 1 – Preferred. New internal roadways and intersections at access points would be constructed to City of Cle Elum standards, or standards negotiated as part of the Development Agreement with the City (see Draft EIS Section 2.9.4.3). Internal roadways would be designed to meet Fire Marshal

requirements, emergency access requirements and access for school buses. Snow storage would also be designed into Alternative 1. Proportionate-share mitigation for project impacts to the transportation system would be negotiated as an element of the Development Agreement between the City and the project proponent.[13] The proposal includes reconstructing the substandard curve east of the Summit View/W 6th Street intersection to improve sight distance and roadway width.

Alternative 2 – Reduced Residential Density. Similar to Alternative 1, new internal roadways and intersections at access points to serve Alternative 2 would be constructed to City of Cle Elum standards or as negotiated in a Development Agreement with the City. Transportation system mitigation would also be a negotiated element of the Development Agreement.

Alternative 3A – No Annexation, Development within the County under Single Ownership. New internal roadways and intersections at access points to serve Alternative 3A would be constructed to Kittitas County standards, or as negotiated with the County. Proportionate-share mitigation for project impacts to the transportation system would also be negotiated between the project proponent and the County.

Alternative 3B – No Annexation, Development within the County under Multiple Ownerships. Road improvements to serve the 17 parcels within Alternative 3B would be constructed to Kittitas County standards. There would be no coordinated internal road system plan, and it is unlikely that a coordinated approach to transportation system mitigation could be achieved.

Alternative 4 – No Action. Because there would be no development on the site at this time with the No Action Alternative, there would be no need for transportation system mitigation measures with Alternative 4.

Applicable Regulations

Alternative 1 – Preferred. In addition to complying with City of Cle Elum road improvement standards, the City Heights project would be required to obtain a permit from the Washington State Department of Transportation (WSDOT) and comply with State standards specified in that permit for any improvements constructed on SR 903 or other roads under WSDOT jurisdiction.

Alternative 2 – Reduced Residential Density. The same regulations would apply for Alternative 2 as those described for Alternative 1. Modifications to the intersection of SR 903/Alliance Road should be made in consultation with the Cle Elum-Roslyn School District.

Alternative 3A – No Annexation, Development within the County under Single Ownership. Under Alternative 3A, roadways would be designed and constructed to Kittitas County standards. Improvements to intersections with SR 903 or other State highways would require compliance with WSDOT standards through a permit to be obtained from this agency.

Alternative 3B – No Annexation, Development within the County under Multiple Ownerships. Under Alternative 3B, roadways would be designed and constructed to Kittitas County standards.

[13] The City Heights proportionate share would be calculated by dividing project traffic volumes by the sum of project traffic plus background traffic volumes.

Other Recommended Mitigation Measures

Proportionate-share roadway, intersection, and traffic signal improvements to be required of the City Heights project, and the relative timing for these improvements, will be negotiated between the City (or County, depending on the alternative selected) and the project proponent during the Development Agreement process. Off-site improvements identified by the project traffic consultant to mitigate the PM peak hour trips and level of service impacts of the City Heights project are identified in this section to facilitate those negotiations.

Alternative 1 – Preferred. The project proponent should contribute to future round-abouts or traffic signals at four intersections if and when such improvements are warranted (e.g., an intersection must meet minimum volume thresholds before a traffic signal is installed). These intersections would operate at poor levels of service in the future without the City Heights development, and have been identified as needed improvements in the City of Cle Elum *Draft Transportation Plan* (May 2009). The intersections are:

- W Cemetery Road/W 1st Street. PM peak hour traffic generated by Alternative 1 of the City Heights project would represent about 10 percent of total traffic through this intersection in the year 2022.
- Oakes Avenue/W 2nd Street. PM peak hour traffic generated by Alternative 1 of the City Heights project would represent about 30 percent of total traffic through this intersection in the year 2022.
- N Stafford Avenue/W 2nd Street (SR 903). PM peak hour traffic generated by Alternative 1 of the City Heights project would represent about 29 percent of total traffic through this intersection in the year 2022.
- E 1st Street /Columbia Avenue. PM peak hour traffic generated by Alternative 1 of the City Heights project would represent about 20 percent of total traffic through this intersection in the year 2022.

Alternative 2 – Reduced Residential Density. The same off-site improvements as those identified to mitigate the impacts of Alternative 1 would be needed to achieve acceptable levels of service at study area intersections with full build-out and occupancy of Alternative 2. However, the proportionate share of the improvements would be less, except at the intersection of Oakes Avenue/W 2nd Street where the project share could increase up to 50 percent.

Alternative 3A – No Annexation, Development within the County under Single Ownership. The same improvements listed for Alternative 2 would be needed if Alternative 3A were selected for implementation.

Alternative 3B – No Annexation, Development within the County under Multiple Ownerships. If Alternative 3B were selected, individual developers of the 17 parcels should be required to contribute proportionate-share costs to future signalization at the same four intersections:

- W Cemetery Road/W 1st Street
- Oakes Avenue/W 2nd Street
- N Stafford Avenue/W 2nd Street (SR 903)
- E 1st Street/Columbia Avenue.

Because the site would be in the County under Alternative 3A or 3B, and several impacted intersections would be within the City, a mechanism for proportionate-share cost responsibility would likely be required through SEPA mitigation.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Any of the City Heights build alternatives would increase traffic in Cle Elum. Features incorporated into the design plus additional off-site mitigation measures to be negotiated through the Development Agreement with the City of Cle Elum (or through conditions of project approval that would be imposed by Kittitas County if Alternative 3A or 3B were selected) would alleviate adverse impacts associated with the additional traffic. Therefore, none of the project alternatives is forecast to have significant unavoidable adverse impacts to the study area transportation system.