

Section 3.6 TRANSPORTATION

The Transportation section is a summary of the *Transportation Report* (January 2023) prepared by Transportation Engineering Northwest (TENW) in **Appendix C**.

3.6.1 Affected Environment

2020 / 2021 SEIS

The SEIS described the existing transportation conditions on and in the vicinity of the 47° North site at that time (see Draft SEIS Section 3.13 and Final SEIS Section 3-2 for details). Selected information from the Draft and Final SEIS is provided and compared in context below; please consult these SEIS documents for more detailed information.

Revised Proposal

The 47° North site is served by I-90 to the south, Bullfrog Road to the northwest and west, and SR 903 (2nd Street) to the northeast. No development has occurred on the site since 2020. The SEIS Addendum studies the same 27 intersections that were studied in the Draft and Final SEIS, plus the proposed site accesses on Bullfrog Road and SR 903. To be consistent with the SEIS, the updated transportation analysis evaluates future years 2025, 2031, and 2037 during the weekday, Friday, and Sunday PM peak periods, with 2025 representing an early development phase of the Revised Proposal, 2031 representing full buildout, and 2037 the horizon year for City of Cle Elum's and Kittitas County's Comprehensive Plans and post-completion of the Revised Proposal.

Supplemental summer peak hour traffic volumes were collected at ten study intersections in July 2022 for the weekday, Friday, and Sunday PM peak periods. The supplemental traffic volumes showed that the weekday PM peak period annual background traffic growth that occurred between 2019 and 2022 at study intersections along Bullfrog Road (#1-6) was higher than the SEIS anticipated to occur between 2019 and 2025. As a result, the 2025, 2031, and 2037 'Baseline' condition (with background growth but without the Revised Proposal) traffic volumes at these six intersections along Bullfrog Road were updated for the weekday PM peak hour only (see **Appendix C** for details). The background traffic growth that occurred between 2019 and 2022 at all other study intersections during the weekday PM peak hour was consistent with the forecast annual growth anticipated to occur between 2019 and 2025. Additionally, the background traffic growth that occurred between 2019 and 2022 at the ten study intersections during the Friday and Sunday peak hours was reexamined and determined to be consistent with the forecast annual 'baseline' traffic growth anticipated to occur by 2025 and were not adjusted.

‘Baseline’ Intersection Level of Service

‘Baseline’ intersection level of service (LOS) (i.e., without the project) was updated at the six study intersections along Bullfrog Road and compared to the established LOS standards: LOS C for WSDOT intersections on I-90 and SR 903, LOS C for intersections within the City of Cle Elum, and LOS D for intersections within the rural areas of Kittitas County (including Bullfrog Road).

Weekday Summer PM Peak Hour

Of the six study intersections with updated ‘Baseline’ volumes along Bullfrog Road, the following intersections are expected to operate at non-compliant LOS for future ‘Baseline’ conditions during the summer weekday PM peak hour in 2037:

- #1 - Bullfrog Road / I-90 EB Ramps – LOS F by 2037 (*identified as LOS D by 2037 in the Final SEIS*)
- #2 - Bullfrog Road / I-90 WB Ramps – LOS D by 2037 (*identified as compliant in the Final SEIS*)

Data for weekend summer PM peak hour, intersection LOS is presented in **Appendix C**.

Collisions History/Traffic Safety

The collision history summarized in the Final SEIS remains unchanged.

3.6.2 Impacts

2020 / 2021 SEIS

As described in the SEIS, SEIS Alternative 6 would generate temporary construction-related traffic impacts over buildout of the project. Construction traffic impacts would be shorter and more condensed under SEIS Alternative 6 than under SEIS Alternative 5 because of the shortened buildout period. Proposed development under the SEIS Alternatives would increase traffic volumes and congestion on area roadways (e.g., in the City of Cle Elum, Kittitas County, and on state facilities such as SR 903, SR 907, and I-90); this is identified as an unavoidable effect of urban development. The LOS analysis in the SEIS indicated that several of the studied intersections would exceed LOS standards during the PM summer peak hours in the future analysis years (2025, 2031, and 2037) with the additional traffic generated by SEIS Alternatives 5 and 6; some of these intersections would also exceed the LOS standards without the project (e.g., in the ‘Baseline’ scenario) due to continued growth in background traffic. Mitigation measures would offset or reduce significant adverse transportation impacts under SEIS Alternative 6.

Revised Proposal

This section compares the Revised Proposal to SEIS Alternative 6. In some cases, level of service, and the year mitigation is needed at the studied intersections may have changed

with the Revised Proposal, but there are no new off-site mitigation requirements when compared to the off-site mitigation measures identified with SEIS Alternative 6 as reported in the Final SEIS. It should be noted that the Bullfrog Road/RV Access Road intersection is a new mitigation measure in the updated transportation analysis as a result of additional background growth on Bullfrog Road. However, all intersections providing access to 47° North will be designed to meet applicable level of service standards and are included in the proposal.

Site Access & Circulation

Site access and circulation with the Revised Proposal would generally be the same as with SEIS Alternative 6 except that the Revised Proposal site access on SR 903 would now align with Bala Drive on the north side of SR 903; this access was offset in SEIS Alternative 6. There would also be some changes to the design of the onsite Connector Road (see **Chapter 2** for details).

Trip Generation

Trip generation for the Revised Proposal was updated based on the revised 47° North land use proposal and site plan, which include 50 affordable housing units and the integration of commercial development in the project. Additionally, the trip generation was updated for the revised 47° North proposal to reflect the updated development timeline (full buildout by 2031) using the latest edition of the ITE *Trip Generation Manual* (11th Edition).

Table 3.6-1 compares the total net new trip generation estimates for SEIS Alternative 6 and the Revised Proposal. As shown, the total net new trips generated by the Revised Proposal in 2025 is estimated to be 141 trips higher (+24%) during the weekday and Friday PM peak hours and 149 trips higher (+29%) during the Sunday peak hour than SEIS Alternative 6. The increase in the year 2025 trip generation for the Revised Proposal is primarily a result of the increase in commercial land uses that would be developed by 2025 compared to what was assumed for SEIS Alternative 6.

As also shown in **Table 3.6-1**, with full buildout of 47° North in 2031, the total net new trip generation under the Revised Proposal is estimated to be 77 trips higher (+6%) during the weekday and Friday PM peak hours and 316 trips higher (+31%) during the Sunday peak hour than SEIS Alternative 6. This increase in the full buildout Sunday project trip generation for the Revised Proposal is a result of the change in the mix of commercial land uses compared to Alternative 6, i.e., a reduction in office uses, which generate minimal trips on a Sunday, and an increase in retail/restaurant use. The 50 affordable housing units under the Revised Proposal are estimated to account for 1.4 to 1.6% of the total trip generation between 2025 and 2031.

**Table 3.6-1
TRIP GENERATION COMPARISON –
REVISED PROPOSAL & SEIS ALTERNATIVE 6**

Total Net New Trip Generation						
	SEIS ALTERNATIVE 6			REVISED PROPOSAL		
Year	Weekday	Friday	Sunday	Weekday	Friday	Sunday
2025	580	580	506	721	721	655
Full Buildout¹	1,225	1,225	1,012	1,302	1,302	1,328

Source: TENW, 2023.

¹ Full Buildout of the Revised Proposal is assumed to occur by 2031. Full Buildout of SEIS Alternative 6 was assumed to occur by 2037 in the SEIS.

Note that weekday trip generation at buildout for SEIS Alternative 5 is estimated at 1,826 trips, or approximately 30% greater. Sunday trips would be lower, however, due to the absence of retail land uses in Alternative 5.

Intersection LOS

The Revised Proposal project trip generation for future years 2025, 2031, and 2037 for the weekday PM peak hour, Friday PM peak hour, and Sunday peak hour was assigned to the road system based on the project trip distribution and assignment documented in the SEIS.

Intersection LOS analysis results with the Revised Proposal for future years 2025, 2031, and 2037 during the weekday PM peak hour in the peak summer period are summarized in **Table 3.6-2**; the intersection analysis results for the Revised Proposal are compared to those for the 'Baseline' (without project) and SEIS Alternative 6. See Tables 8 and 9 in **Appendix C** for the intersection analysis results for the same future years during the summer Friday and Sunday PM peak hours.

Study intersections forecast to operate at non-compliant LOS are shown in bold text in **Table 3.6-2**. Study intersections forecast to operate at non-compliant LOS with the Revised Proposal that were not identified to operate at a non-compliant LOS with SEIS Alternative 6 are shown as bold, purple text with purple highlight. Study intersections forecast to operate at non-compliant LOS during the weekday summer PM peak hour with the Revised Proposal are used to identify potential improvements to meet the adopted LOS standards in the *Mitigation Measures* section. The LOS results are discussed in more detail below.

Weekday Summer PM Peak Hour

As a result of the updated future 'Baseline' traffic volume forecasts along Bullfrog Road, one intersection is anticipated to operate at a non-compliant LOS in the updated transportation analysis that operated at a compliant LOS for future 'Baseline' conditions in the Final SEIS:

- #2 - Bullfrog Road/I-90 WB Ramps – LOS D by 2037 (*identified as LOS E by 2037 with SEIS Alternative 6*)

As shown in **Table 3.6-2**, the same four intersections that operated at non-compliant LOS for future 'Baseline' conditions in the Final SEIS during the summer weekday PM peak hour would operate at non-compliant LOS in the updated transportation analysis:

- #8 - Ranger Station Road / Miller Avenue / W 2nd Street (SR 903) – LOS D by 2025
- #11 - Douglas Munro Boulevard / W 1st Street – LOS E by 2025
- #12 - N Pine Street / W 1st Street – LOS D by 2025
- #13 - N Stafford Avenue / W 2nd Street (SR 903) – LOS E by 2025

Additionally, the same six intersections that would operate at non-compliant LOS during the summer weekday PM peak hour with SEIS Alternative 6 would operate at non-compliant LOS with the Revised Proposal:

- #1 - Bullfrog Road / I-90 EB Ramps – LOS F by 2031 (*identified as LOS D by 2031 with SEIS Alternative 6*)
- #3 - Bullfrog Road / Tumble Creek – LOS E by 2031 (*identified as LOS F by 2037 with SEIS Alternative 6*)
- #7 - Denny Avenue / W 2nd Street (SR 903) – LOS D by 2025 (*identified as LOS E by 2031 with SEIS Alternative 6*)
- #9 - N Pine Street / W 2nd Street (SR 903) – LOS F by 2025 (*identified as LOS D by 2025 with SEIS Alternative 6*)
- #15 - N Oakes Avenue / W 2nd Street (SR 903) – LOS E by 2025 (*identified as LOS D by 2025 with SEIS Alternative 6*)
- #21 - Pennsylvania Avenue / N 1st Street (SR 903) in Roslyn – LOS E by 2031 (*identified as LOS D by 2031 with SEIS Alternative 6*)

Overall intersection delay may have increased at some locations and the year mitigation is needed at intersections may have changed with the Revised Proposal; however, there are no new intersections beyond those identified in the SEIS that would operate at non-compliant LOS during the summer weekday PM peak hour compared to SEIS Alternative 6.

Additionally, due to the updated future 'Baseline' traffic volume forecasts along Bullfrog Road, one of the intersections that was previously reported to operate at a non-compliant LOS with SEIS Alternative 6 would now operate at a non-compliant LOS under the future 'Baseline' condition (without the project).

**Table 3.6-2
INTERSECTION LOS SUMMARY – WEEKDAY PM PEAK HOUR (SUMMER) – REVISED PROPOSAL**

		Weekday PM Peak Hour Conditions (Summer Peak)																	
		Year 2025						Year 2031						Year 2037					
		"Baseline"		With SEIS Alt 6		With Revised Proposal		"Baseline"		With SEIS Alt 6		With Revised Proposal		"Baseline"		With SEIS Alt 6		With Revised Proposal	
Study Intersection	LOS Standard	LOS ¹	Delay ¹	LOS ¹	Delay ¹	LOS ¹	Delay ¹	LOS ¹	Delay ¹	LOS ¹	Delay ¹	LOS ¹	Delay ¹	LOS ¹	Delay ¹	LOS ¹	Delay ¹	LOS ¹	Delay ¹
Signalized																			
14. S Cle Elum Way / Stafford / W 1 st St	C	B	11.5	B	12.0	B	12.4	B	12.8	B	13.7	B	13.6	B	13.8	B	14.6	B	14.6
16. N Oakes Ave / W 1 st St (SR 903)	C	B	10.4	B	10.8	B	11.1	B	11.7	B	13.0	B	13.0	B	15.9	C	21.1	C	21.6
18. Pennsylvania Ave / 1 st St (SR 903)	C	A	7.6	A	7.5	A	7.7	A	8.0	A	8.6	A	9.3	A	9.1	B	10.7	B	10.8
Roundabout																			
4. Bullfrog Rd / Suncadia Trail ²	D	A	6.3	A	5.6	A	7.3	A	7.2	A	7.5	A	9.9	A	8.9	B	10.3	B	13.1
6. Bullfrog Rd / W 2 nd St (SR 903) ²	C	A	7.9	A	6.8	A	9.2	A	8.8	A	8.0	B	11.4	B	10.1	A	9.7	B	13.4
All-Way Stop-Controlled																			
17. Pennsylvania Ave / 2 nd St	C	A	9.6	B	10.1	B	10.4	B	11.9	B	14.3	B	13.6	C	16.8	C	20.6	C	21.0
Two-Way Stop-Controlled ³																			
1. Bullfrog Rd / I-90 EB Ramps ²	C	C	15.8	C	15.3	C	21.4	C	24.1	D	30.4	F	88.7	F	54.8	F	> 100	F	> 100
2. Bullfrog Rd / I-90 WB Ramps ²	C	B	11.8	B	11.7	B	13.4	B	15.0	C	16.9	C	24.8	D	28.4	E	42.1	F	88.0
3. Bullfrog Rd / Tumble Creek Dr ²	D	C	16.3	B	13.9	C	20.0	C	20.3	C	23.9	E	39.9	D	33.6	F	61.1	F	> 100
5. Bullfrog Rd / Firehouse Rd ²	D	C	15.3	B	12.5	C	18.0	B	14.6	B	13.4	C	17.9	B	14.9	B	14.0	C	18.4
7. Denny Ave / W 2 nd St (SR 903)	C	C	16.6	C	23.3	D	28.2	C	20.1	E	38.1	E	42.6	D	25.8	F	65.5	F	70.5
8. Ranger Sta Rd / Miller / W 2 nd (SR 903)	C	D	26.1	F	95.7	F	> 100	E	47.8	F	> 100	F	> 100	F	> 100	F	> 100	F	> 100
9. N Pine St / W 2 nd St (SR 903)	C	C	18.1	D	33.3	F	53.3	C	23.5	F	> 100	F	> 100	D	27.4	F	> 100	F	> 100
10. Douglas Munro Blvd / Ranger Sta Rd	C	A	7.7	A	7.9	A	8.0	A	7.9	A	8.3	A	8.4	A	8.4	A	9.0	A	9.0
11. Douglas Munro Blvd / W 1 st St	C	E	46.2	F	56.1	F	67.3	F	74.7	F	> 100	F	> 100	F	> 100	F	> 100	F	> 100
12. Pine St / W 1 st St	C	D	27.9	D	30.4	D	32.9	D	27.9	D	32.9	E	38.5	E	35.2	F	51.7	F	53.8
13. N Stafford Ave / W 2 nd St (SR 903)	C	E	46.7	F	> 100	F	> 100	F	> 100	F	> 100	F	> 100	F	> 100	F	> 100	F	> 100
15. N Oakes Ave / W 2 nd St (SR 903)	C	C	20.3	D	33.3	E	42.4	E	45.0	F	> 100	F	> 100	F	> 100	F	> 100	F	> 100
19. Oakes Ave / I-90 EB Off-Ramp	C	A	9.7	A	9.8	A	9.9	B	10.2	B	10.6	B	10.6	B	10.8	B	11.3	B	11.3
20. Oakes Ave / I-90 EB On-Ramp	C	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0
21. SR 903 / E Pennsylvania Ave	C	C	19.3	C	21.7	C	22.1	C	22.1	D	29.3	E	36.1	D	25.4	E	42.6	E	45.0
22. SR 903 / Pacific Ave	C	B	12.0	B	12.8	B	12.9	B	14.5	C	16.8	C	17.9	C	17.2	C	22.2	C	22.5
23. Rock Rose Rd / Morrel Rd / SR 903	C	B	10.7	B	11.0	B	11.0	B	11.2	B	11.9	B	12.2	B	12.2	B	13.2	B	13.3

Source: TENW, 2023.

¹ LOS = Level of Service. Delay = average control delay expressed in seconds per vehicle. Bold indicates does not meet LOS standard. Bold, purple text with purple highlight indicates changes in non-compliant LOS intersections compared to the Final SEIS.

² Include changes to LOS results from the Final SEIS due to updated 'Baseline' traffic volumes along Bullfrog Road.

³ LOS at two-way stop-controlled intersections is reported for the stop-controlled movement with the highest delay.

Friday Summer PM Peak Hour

As shown in Table 8 in **Appendix C**, the same five intersections that operated at non-compliant LOS for future 'Baseline' conditions in the Final SEIS during the summer Friday PM peak hour would continue to operate at non-compliant LOS with the Revised Proposal (i.e., future 'Baseline' traffic volumes and LOS results are consistent with the Final SEIS during the Friday PM peak hour).

Additionally, the same seven intersections that would operate at non-compliant LOS during the summer Friday PM peak hour with SEIS Alternative 6 would operate at non-complaint LOS with the Revised Proposal.

As described above for the summer weekday PM peak hour, although overall intersection delay may increase at some locations with the Revised Proposal, there would be no new intersections operating at non-compliant LOS during the summer Friday PM peak hour compared to SEIS Alternative 6 and identified in the SEIS. Overall, therefore, the impacts of the Revised Proposal identified in this Addendum are consistent with the analysis of impacts in the SEIS.

Sunday Summer PM Peak Hour

As shown in Table 9 in **Appendix C**, the same ten intersections that were reported in the Final SEIS to operate at non-compliant LOS for future 'Baseline' conditions (without the project) during the summer Sunday PM peak hour would operate at non-compliant LOS with the Revised Proposal (i.e., future 'Baseline' traffic volumes and LOS results are consistent with the Final SEIS during the Sunday PM peak hour). Additionally, the same eight intersections that would operate at non-compliant LOS during the summer Sunday PM peak hour with SEIS Alternative 6 would operate at non-complaint LOS with the Revised Proposal.

As identified previously for the summer weekday PM peak hour, although overall intersection delay may increase at some locations with the Revised Proposal, there would be no new intersections that would operate at non-compliant LOS during the summer Sunday PM peak hour compared to SEIS Alternative 6. Therefore, the overall impacts of the Revised Proposal identified in this Addendum are consistent with the analysis of impacts in the SEIS.

Roadway LOS

Roadway capacity was also evaluated on roadways within the 47° North project vicinity. The roadway capacity evaluation is consistent with the City of Cle Elum LOS policy for roadways and assumptions identified in the *City of Cle Elum 2019-2037 Comprehensive Plan* (Capital Facilities element, Table 404). Roadway LOS analysis results with the Revised Proposal for future years 2031 and 2037 during the weekday PM peak hour in the peak summer period are summarized in **Table 3.6-3**. See Tables G.2 and G.9 in Appendix G of **Appendix C** for the 2031 and 2037 Friday and Sunday summer PM peak hour roadway capacity results.

**TABLE 3.6-3
ROADWAY WEEKDAY PEAK HOUR VOLUME AND LEVEL OF SERVICE**

						Year 2031 Weekday												Year 2037 Weekday											
						'Baseline'			With Alt 6			'Baseline' ³			With Revised Proposal			'Baseline' ³			With Alt 6			'Baseline' ³			With Revised Proposal		
Functional Class	Road Name	Direction of (E/O, W/O, S/O, N/O)	Nearest Crossroad	Number of Lanes	Idealized Roadway Capacity (vph) ¹	PM Peak Hour Vol (vph)	% of Peak Volume vs Roadway Capacity	Level of Service (LOS) ²	PM Peak Hour Vol (vph)	% of Peak Volume vs Roadway Capacity	Level of Service (LOS) ²	PM Peak Hour Vol (vph)	% of Peak Volume vs Roadway Capacity	Level of Service (LOS) ²	PM Peak Hour Vol (vph)	% of Peak Volume vs Roadway Capacity	Level of Service (LOS) ²	PM Peak Hour Vol (vph)	% of Peak Volume vs Roadway Capacity	Level of Service (LOS) ²	PM Peak Hour Vol (vph)	% of Peak Volume vs Roadway Capacity	Level of Service (LOS) ²	PM Peak Hour Vol (vph)	% of Peak Volume vs Roadway Capacity	Level of Service (LOS) ²	PM Peak Hour Vol (vph)	% of Peak Volume vs Roadway Capacity	Level of Service (LOS) ²
Freeways	I-90 Eastbound Off-ramp (Exit 84)	to	W 1 st Street	1	1,200	530	44%	A	542	45%	A	--	--	--	545	45%	A	590	49%	A	604	50%	A	--	--	--	605	50%	A
	I-90 Westbound On-ramp (Exit 84)	from	W 1 st Street	1	1,200	320	27%	A	328	27%	A	--	--	--	331	28%	A	360	30%	A	371	31%	A	--	--	--	371	31%	A
	I-90 Westbound Off-ramp (Exit 84A)	to	N Oakes Ave	1	1,200	340	28%	A	390	33%	A	--	--	--	392	33%	A	400	33%	A	448	37%	A	--	--	--	452	38%	A
	I-90 Eastbound On-ramp (Exit 84A)	from	N Oakes Ave	1	1,200	240	20%	A	267	22%	A	--	--	--	280	23%	A	280	23%	A	318	27%	A	--	--	--	320	27%	A
	I-90 Eastbound On-ramp (Exit 80)	from	Bullfrog Road	1	1,200	245	20%	A	269	22%	A	270	23%	A	303	25%	A	335	28%	A	367	31%	A	360	30%	A	393	33%	A
	I-90 Westbound Off-ramp (Exit 80)	to	Bullfrog Road	1	1,200	355	30%	A	405	34%	A	400	33%	A	459	38%	A	555	46%	A	610	51%	A	600	50%	A	659	55%	A
Major Collector	SR 903 (W 1 st St) (Eastbound Only)	W/O	N Pennsylvania Ave	1	1,000	430	43%	A	483	48%	A	--	--	--	466	47%	A	460	46%	A	495	50%	A	--	--	--	496	50%	A
	SR 903 (W 2 nd St)	W/O	N Oakes Ave	2	2,000	1,040	52%	A	1,301	65%	B	--	--	--	1,246	62%	B	1,320	66%	B	1,514	76%	C	--	--	--	1,526	76%	C
	SR 903	W/O	N Stafford Ave/ S Cle Elum Way	2	2,000	1,130	57%	A	1,537	77%	C	--	--	--	1,478	74%	C	1,310	66%	B	1,638	82%	D	--	--	--	1,658	83%	D
	W 1 st St	E/O	N Pine St	2	2,000	1,000	50%	A	1,000	50%	A	--	--	--	1,059	53%	A	1,130	57%	A	1,185	59%	A	--	--	--	1,189	59%	A
	N Pennsylvania Ave	N/O	SR 903	2	2,000	240	12%	A	290	15%	A	--	--	--	293	15%	A	300	15%	A	350	18%	A	--	--	--	353	18%	A
	N Oakes Ave	N/O	Railroad Ave	2	2,000	670	34%	A	747	37%	A	--	--	--	764	38%	A	810	41%	A	898	45%	A	--	--	--	904	45%	A
Bullfrog Road	S/O	SR 903	2	2,000	480	24%	A	625	31%	A	710	36%	A	904	45%	A	500	25%	A	686	34%	A	730	37%	A	924	46%	A	

Source: TENW, 2023.

1. The City of Cle Elum's major collector idealized capacities are 1,000 vph/ln, with 400 vph for two-way left-turn (TWLT) lanes.

2. LOS = Level of Service. Bold indicates does not meet LOS standard. (LOS A = 0.60 V/C, LOS B = 0.61 to 0.70 V/C, LOS C = 0.71 to 0.80 V/C, LOS D = 0.81 to 0.90 V/C, LOS E = 0.91 to 1.0 V/C, LOS F = >1.0 V/C).

3. DASHES indicate baseline volumes are consistent with the FSEIS and did not change with this update.

In general, the LOS results shown in **Table 3.6-3** are consistent with impacts shown in the 47° North FSEIS in that there would be traffic congestion throughout the city, primarily along W 2nd Street (SR 903); congestion is anticipated to be highest on summer weekends and would be expected to continue to deteriorate over time if no improvements are made.

The results in **Table 3.6-3** show that the evaluated roadway sections are anticipated to operate at compliant levels of service (LOS C or better) during the summer weekday PM peak hour with SEIS Alternative 6 and the Revised Proposal by 2031. However, W 2nd Street (SR 903) west of N Stafford Ave is anticipated to operate at LOS D by 2037 during the summer weekday PM peak hour with either SEIS Alternative 6 or the Revised Proposal.

Site Access Intersection LOS

The LOS analyses results at the site access intersections for future years 2025, 2031, and 2037 with the Revised Proposal are summarized in **Table 3.6-4** for the weekday PM peak hour, Friday PM peak hour, and Sunday PM peak hour (all for the summer peak period).

Site access locations forecast to operate at non-compliant LOS (LOS D, E, or F for the SR 903/Main Access Road site access and LOS E or F for the proposed Bullfrog Road site accesses) are shown in bold text in **Table 3.6-4**. Site access locations forecast to operate at non-compliant LOS with the Revised Proposal that were not identified to operate at a non-compliant LOS with SEIS Alternative 6 are shown as bold, purple text and purple highlight in **Table 3.6-4**. The LOS results are discussed below.

Weekday Summer PM Peak Hour

As shown in **Table 3.6-4**, during the weekday summer PM peak hour with the Revised Proposal, the following site access intersections are anticipated to operate at non-compliant LOS:

- #28 - Bullfrog Road / RV Access Road – LOS E by 2031 (*identified as compliant LOS D with SEIS Alternative 6*)
- #30 - SR 903 / Main Access Road – LOS F by 2025

Friday Summer PM Peak Hour

As shown in **Table 3.6-4**, during the Friday summer PM peak hour with the Revised Proposal, the following site access intersections are anticipated to operate at non-compliant LOS:

- #28 - Bullfrog Road / RV Access Road – LOS F by 2031
- #30 - SR 903 / Main Access Road – LOS F by 2025

**Table 3.6-4
SITE ACCESS LOS SUMMARY – REVISED PROPOSAL & SEIS ALTERNATIVE 6**

		Future Conditions (Summer Peak)											
		2025				2031				2037			
		With SEIS Alt 6		With Revised Proposal		With SEIS Alt 6		With SEIS Alt 6 Revised		With SEIS Alt 6		With Revised Proposal	
Site Access Intersection ¹	LOS Standard	LOS ¹	Delay ¹	LOS ¹	Delay ¹	LOS ¹	Delay ¹	LOS ¹	Delay ¹	LOS ¹	Delay ¹	LOS ¹	Delay ¹
WEEKDAY PM PEAK HOUR CONDITIONS													
28. Bullfrog Road / RV Access Road	D	C	16.6	C	18.6	C	24.0	E	40.1	D	28.6	F	65.1
29. Bullfrog Road / Main Access Road	D	B	13.5	C	18.5	C	16.2	D	33.8	C	23.2	D	33.0
30. SR 903 / Main Access Road	C	F	55.9	F	> 100	F	> 100	F	> 100	F	> 100	F	> 100
FRIDAY PM PEAK HOUR CONDITIONS													
28. Bullfrog Road / RV Access Road	D	D	25.2	C	22.0	F	53.7	F	64.2	F	65.1	F	> 100
29. Bullfrog Road / Main Access Road	D	C	16.2	C	17.2	C	24.8	D	32.5	D	34.7	D	31.6
30. SR 903 / Main Access Road	C	F	82.6	F	> 100	F	> 100	F	> 100	F	> 100	F	> 100
SUNDAY PM PEAK HOUR CONDITIONS													
28. Bullfrog Road / RV Access Road	D	E	48.9	E	35.2	F	> 100	F	> 100	F	> 100	F	> 100
29. Bullfrog Road / Main Access Road	D	D	29.4	E	35.5	F	> 100	F	> 100	F	> 100	F	> 100
30. SR 903 / Main Access Road	C	F	89.7	F	> 100	F	> 100	F	> 100	F	> 100	F	> 100

Source: TENW, 2023.

¹LOS = Level of Service. Delay = average control delay expressed in seconds per vehicle. LOS analysis at site access intersections assumes two-way stop control with major roadway (Bullfrog Road and SR 903) being free flow. Bold indicates does not meet LOS standard. Bold, purple text with purple highlight indicates changes in non-compliant LOS intersections compared to the Final SEIS.

Sunday Summer PM Peak Hour

As shown in **Table 3.6-4**, during the Sunday summer PM peak hour with the Revised Proposal, the following site access intersections are anticipated to operate at non-compliant LOS:

- #28 - Bullfrog Road / RV Access Road – LOS E by 2025
- #29 - Bullfrog Road / Main Access Road – LOS E by 2025 (*identified as LOS F by 2031 with SEIS Alternative 6*)
- #30 - SR 903 / Main Access Road – LOS F by 2025

3.6.3 Mitigation Measures

Overall, the significant adverse impacts on transportation that would occur from the Revised Proposal are consistent with those identified in the *Final SEIS*. Additionally, no new off-site mitigation measures are required for the Revised Proposal. See **Appendix F** for a complete list of the mitigation measures under the Revised Proposal. See the Introduction to **Chapter 3** for a description of the different categories of mitigation (e.g., proposed, required, other possible).

Table 3.6-5 identifies potential mitigation measures at the 11 study intersections that are anticipated to operate at a non-compliant LOS under future weekday summer PM peak hour conditions in 2025, 2031, or 2037 due to ‘Baseline’ conditions or the Revised Proposal project traffic. These are the same intersections that were forecast to operate at non-compliant levels with full buildout of SEIS Alternative 6 in the same years and peak period.

As in the Final SEIS, **Table 3.6-5** also identifies two different approaches to calculating pro-rata shares to fund the identified mitigating improvements. Method A (Solely Developer Responsibility) and Method B (Shared City/Developer Responsibility) are both presented. The alternative methodologies, which reflect different principles of engineering practice and SEPA policy, are discussed in greater detail in **Appendix C**. The pro-rata shares identified in **Table 3.6-5** have been updated to reflect the updated ‘Baseline’ traffic volumes at the six study intersections on Bullfrog Road, the updated trip generation of the Revised Proposal, and incorporation of the commercial parcel into the project.

As described in the Final SEIS, the specific form of mitigation, the pro-rata share cost of the mitigation, and the timing of the improvements will be evaluated and discussed by the Applicant, the city, and affected agencies and jurisdictions, including WSDOT, Kittitas County, and the City of Roslyn. The selected mitigation improvement for each affected intersection, pro-rata share methodology, and timing of the mitigation will be incorporated into conditions of approval and a new or updated Development Agreement between the Applicant and the City of Cle Elum. Improvement needs and mitigation will also be addressed in subsequent updates to the appropriate jurisdiction’s transportation plans and capital improvement programs.

**Table 3.6-5
SUMMARY OF MITIGATION MEASURES AND PRELIMINARY ESTIMATED PRO-RATA SHARE – REVISED PROPOSAL**

Off-Site Study Intersection	Estimated Year Improvement Required (Forecast LOS)	Potential Improvement to Mitigate Weekday PM Peak Hour LOS Deficiency ¹	Estimated Pro-Rata Share			
			METHOD A ²		METHOD B ²	
			Background Share ³	47° North Share (Revised Proposal)	Background Share ³	47° North Share (Revised Proposal)
IMPROVEMENTS NEEDED FOR “BASELINE”/BACKGROUND CONDITIONS						
#2 – Bullfrog Road / I-90 WB Ramps ^{5,6}	2037 (LOS D)	Compact Roundabout	n/a	n/a	82.9%	17.1%
#8 – Ranger Sta Rd / Miller Ave / W 2 nd St (SR 903)	2025 (LOS E)	Restrict Northbound and Southbound Left-Turns	68.7%	31.3%	68.7%	31.3%
#11 – Douglas Munro Blvd / W 1 st Street	2025 (LOS E)	Signalization ⁹	94.4%	5.6%	94.4%	5.6%
#12 – N Pine St / W 1 st Street	2025 (LOS D)	Compact Roundabout	95.5%	4.5%	95.5%	4.5%
#13 – N Stafford Ave / W 2 nd Street (SR 903)	2025 (LOS E)	Compact Roundabout ¹⁰	74.7%	25.3%	74.7%	25.3%
IMPROVEMENTS NEEDED FOR CONDITIONS WITH REVISED PROPOSAL ⁴						
By Year 2025:						
#7 – Denny Ave / W 2 nd Street (SR 903) ⁷	2025 (LOS D)	Restrict Northbound Left/Southbound-Left Turns	n/a	100%	64.1%	33.9%
#9 – N Pine Street / W 2 nd Street (SR 903)	2025 (LOS F)	Compact Roundabout	n/a	100%	69.9%	30.1%
#15 – N Oakes Ave / W 2 nd Street (SR 903)	2025 (LOS E)	Compact Roundabout	n/a	100%	78.4%	21.6%
By Year 2031:						
#1 – Bullfrog Road / I-90 EB Ramps	2031 (LOS F)	Compact Roundabout	n/a	100%	77.2%	22.8%
#3 – Bullfrog Road / Tumble Creek Dr ⁶	2031 (LOS F)	Refuge/merge lane on Bullfrog Rd	n/a	100%	78.0%	22.0%
#21 – Pennsylvania Ave / 1 st Street (SR 903)	2031 (LOS E)	All-Way Stop	n/a	100%	84.9%	15.1%
By Year 2037: ⁵						
N/A ⁸	--	--	--	--	--	--

Source: TENW, 2023.

¹ Improvement needed to mitigate non-compliant LOS during weekday PM peak hour; LOS results with mitigation are included in **Table 3.7-6**. WSDOT preference is a roundabout which is assumed unless identified otherwise.

² Estimated pro-rata share for 47° North is preliminary and will be adjusted based on a future Monitoring Program. The pro-rata share for Method A would be the full responsibility of 47° North for any improvements needed with the Revised Proposal. The pro-rata share for Method B would be shared between the background traffic and the Revised Proposal project traffic.

³ Share of future traffic volumes associated with ‘Baseline’/background traffic growth, excluding Revised Proposal.

⁴ Mitigation not triggered by ‘Baseline’ conditions but triggered by traffic generated by Revised Proposal.

⁵ The Revised Proposal is anticipated to be built out by 2031. Thus, the pro-rata share for Method A would not be applicable for intersection #2 which is estimated to be non-compliant in 2037 under the ‘Baseline’ scenario.

⁶ Non-compliant by Year 2037 with SEIS Alternative 6 in the *Final SEIS*.

⁷ Reported as non-compliant by Year 2031 with SEIS Alternative 6 in the *Final SEIS*.

⁸ No additional intersections would operate at non-compliant levels of service by 2037 with the Revised Proposal.

⁹ The City has plans to install a traffic signal at intersection #11.

¹⁰ The City has plans to install a compact roundabout at intersection #13.

To assist in identifying the type of appropriate improvements for study intersections that require mitigation and are within WSDOT's jurisdiction (i.e., SR 903 and Bullfrog Road at I-90 interchange), Intersection Control Evaluations (ICE) have been performed and technical reports have been submitted to WSDOT. Criteria addressed in the ICE documents include LOS operations, safety, right-of-way acquisition, engineering criteria and feasibility, and context for sustainable design. WSDOT has stated its preference for construction of compact roundabouts rather than traffic signals on SR 903.

Mitigation Measures for 'Baseline' Conditions

As shown in **Table 3.6-5**, five study intersections are anticipated to operate at a non-compliant LOS under future weekday summer PM peak hour 'Baseline' conditions (without the Revised Proposal). The City of Cle Elum has recently received grant funding to install a full traffic signal at study intersection #11 (Douglas Munro Boulevard /W 1st Street) and a compact roundabout at intersection #13 (N Stafford Avenue / W 2nd Street (SR 903)). However, no improvements are currently identified at the other three study intersections by the City of Cle Elum or WSDOT.

Potential improvements to mitigate non-compliant LOS at the other three study intersections under future weekday summer PM peak hour 'Baseline' conditions are identified in **Table 3.6-5** and include a compact (single-lane) roundabout or left-turn restrictions.

For the five intersections where improvements would be needed based on forecast 'Baseline' conditions, the 47° North project would contribute a pro-rata share towards intersection improvements because some additional traffic would be added by the project even though it would not trigger the improvement.

Mitigation Measures for Revised Proposal

As shown in **Table 3.6-5**, six study intersections are anticipated to operate at a non-compliant LOS due to the Revised Proposal in either 2025, 2031, or 2037 during the summer weekday PM peak hour in addition to those that are non-compliant in the Baseline (without project) condition.

Potential improvements to mitigate non-compliant LOS at the six study intersections under future weekday summer PM peak hour conditions with the Revised Proposal are identified in **Table 3.6-5** and include a compact (single-lane) roundabout, all-way stop control, roadway widening to add refuge/merge lanes, or left-turn restrictions.

The 47° North project would complete the intersection improvements or contribute a pro-rata share.

Mitigation Measures Identified in the SEIS Addendum vs in the Final SEIS

The Final SEIS identified the same 11 off-site study intersections included in **Table 3.6-5** that are forecast to operate at non-compliant LOS in future years 2025, 2031, or 2037 without or with full buildout of 47^o North during the weekday summer PM peak hour.

The key differences between **Table 3.6-5** and the Final SEIS are:

- **#2 – Bullfrog Road / I-90 WB Ramps** is anticipated to operate at a non-compliant LOS under future 2037 ‘Baseline’ conditions instead of with SEIS Alternative 6 conditions.
- **#3 – Bullfrog Road / Tumble Creek Drive** is anticipated to operate at a non-compliant LOS under Revised Proposal conditions in 2025 instead of 2031.
- **#7 – Denny Avenue / W 2nd Street (SR 903)** is anticipated to operate at a non-compliant LOS under Revised Proposal conditions in 2031 instead of 2037.

Intersection LOS with Mitigation

To test the effectiveness of identified improvements, intersection LOS was evaluated with implementation of potential improvements identified in the updated analysis. These improvements would mitigate the 11 study intersections and two site access intersections that are anticipated to operate at non-compliant LOS under future weekday summer PM peak hour conditions. LOS analysis results for weekday, Friday, and Sunday summer PM peak hour conditions in 2031 with the Revised Proposal are summarized in **Table 3.6-6**.

As shown in **Table 3.6-6**, the potential improvements identified at the 11 off-site study intersections and two site access intersections are expected to improve conditions to compliant LOS at all intersections during the weekday and Friday summer PM peak hours. During the Sunday summer PM peak hour, the potential improvements are expected to improve conditions to compliant levels of service at the majority of intersections, with the following exceptions:

- **#7 – Denny Avenue / W 2nd Street (SR 903)**: with northbound and southbound left-turn restrictions, the off-site intersection is anticipated to operate at LOS D under the Revised Proposal in 2031 during the Sunday summer PM peak hour.
- **#8 – Ranger Station Road / Miller Avenue / W 2nd Street (SR 903)**: with northbound and southbound left-turn restrictions, the off-site intersection is anticipated to operate at LOS D under the Revised Proposal in 2031 during the Sunday summer PM peak hour.
- **#9 – N Pine Street / W 2nd Street (SR 903)**: as a compact roundabout, the off-site intersection is anticipated to operate at LOS E under the Revised Proposal in 2031 during the Sunday summer PM peak hour.
- **#30 – SR 903 / Main Access Road**: as a compact roundabout, the site access intersection is anticipated to operate at LOS F under the Revised Proposal in 2031 during the Sunday summer PM peak hour.

**Table 3.6-6
FUTURE YEAR INTERSECTION LOS SUMMARY WITH MITIGATION – REVISED PROPOSAL**

Location	Potential Improvement to Mitigate Weekday LOS Deficiency ¹	Weekday PM Peak Hour				Friday PM Peak Hour				Sunday PM Peak Hour			
		Mitigation Trigger		2031 With Project Mitigation		Mitigation Trigger		2031 With Project Mitigation		Mitigation Trigger		2031 With Project Mitigation	
		Year	Condition	LOS ²	Delay ²	Year	Condition	LOS ²	Delay ²	Year	Condition	LOS ²	Delay ²
Off-Site Study Intersection:													
#1 – Bullfrog Road / I-90 EB Ramps ⁶	Compact Roundabout	2031	Project	A	9.6	2025	Project	B	11.7	2037	Project	A	9.1
#2 – Bullfrog Road / I-90 WB Ramps ^{5,6,7}	Compact Roundabout	2037	'Baseline'	A	5.4	2031	'Baseline'	A	8.6	2037	Project	A	5.2
#3 – Bullfrog Road / Tumble Creek Dr ⁷	Refuge/merge lane on Bullfrog Rd	2031	Project	C	20.1	2037	Project	C	18.6	2031	Project	D	34.5
#7 – Denny Ave / W 2 nd Street (SR 903) ^{6,8}	Restrict Northbound Left/Southbound-Left Turns	2025	Project	C	16.1	2025	Project	C	18.7	2025	Project	D	28.5
#8 – Ranger Sta Rd / Miller Ave / W 2 nd St (SR 903) ⁶	Restrict Northbound Left/Southbound-Left Turns	2025	'Baseline'	C	18.8	2025	'Baseline'	C	22.5	2025	'Baseline'	D	26.2
#9 – N Pine Street / W 2 nd Street (SR 903) ⁶	Compact Roundabout	2025	Project	A	7.7	2025	Project	B	11.5	2025	'Baseline'	E	56.6
#11 – Douglas Munro Blvd / W 1 st Street	Signalization ³	2025	'Baseline'	--	--	--	--	--	--	--	--	--	--
#12 – N Pine St / W 1 st Street	Compact Roundabout	2025	'Baseline'	A	7.4	2025	'Baseline'	A	8.1	2025	'Baseline'	A	7.6
#13 – N Stafford Ave / W 2 nd Street (SR 903) ⁶	Compact Roundabout ⁴	2025	'Baseline'	--	--	--	--	--	--	--	--	--	--
#15 – N Oakes Ave / W 2 nd Street (SR 903) ⁶	Compact Roundabout	2025	Project	A	3.7	2025	Project	A	3.9	2025	'Baseline'	A	5.9
#21 – Pennsylvania Ave / 1 st Street (SR 903) ⁶	All-Way Stop	2031	Project	C	20.5	2031	Project	C	22.5	2031	Project	B	14.5
Site Access:													
#28 – Bullfrog Road / RV Access Road	Compact Roundabout	2031	Project	A	10.0	2031	Project	C	19.6	2025	Project	D	31.8
#30 – SR 903 / Main Access Road	Compact Roundabout	2025	Project	B	17.3	2025	Project	C	32.8	2025	Project	F	>100

Source: TENW, 2023.

¹ Improvement needed to mitigate non-compliant LOS during weekday PM peak hour; WSDOT preference is a roundabout which is assumed unless identified otherwise; DASHES indicate LOS was not evaluated because improvements are funded and planned by the City.

² LOS = Level of Service. Delay = average control delay expressed in seconds per vehicle. Bold indicates does not meet LOS standard.

³ The City has plans to install a traffic signal at intersection #11.

⁴ The City has plans to install a compact roundabout at intersection #13.

Site Access Mitigation Measures

The Revised Proposal would include new on-site roadways and intersections at its two access points with Bullfrog Road and its single access onto SR 903 (public roads). All on-site roads would be private and would be constructed and maintained by 47° North. The facilities would be constructed to City of Cle Elum standards, or standards that may be included in a new or updated Development Agreement. The Revised Proposal would also ensure that design of the new on-site roadways meets minimum requirements for emergency vehicle access and school bus access.

Based on the results of the weekday PM peak hour LOS analysis documented in Table 3.6-2 in **Appendix C** and the forecast LOS with proposed mitigation at the site access documented in **Table 3.6-6**, the traffic control at the new 47° North site access points on Bullfrog Road and SR 903 is proposed as follows:

- **#28 – Bullfrog Road / RV Access Road:** Proposed mitigation is a compact (single-lane) roundabout. (Note that this intersection was reported to operate at a compliant level of service in the Final SEIS, thus this is a new mitigation measure.)
- **#29 – Bullfrog Road / Main Access Road:** is anticipated to operate at complaint LOS during the weekday summer PM peak hour in 2025 and 2031 with the Revised Proposal as a side street stop-controlled intersection with the Main Access Road being stop-controlled.
- **#30 - SR 903 / Main Access Road:** Proposed mitigation is a compact (single-lane) roundabout.

Other Mitigation Measures

Other mitigation measures related to traffic monitoring, construction management program, and trail system and sidewalks still apply with the Revised Proposal and are consistent with mitigation measures in the *Final SEIS*. A complete list of mitigation measures is included in **Appendix F**.