



COEUR TERRE ADDENDUM – SELTICE ANALYSIS

July 11, 2022

Mr. Chris Bosley
City Engineer
City of Coeur d'Alene
710 East Mullan Avenue
Coeur d'Alene, Idaho 83814
Email: cbosley@cdaid.org

RE: SELTICE ADDITIONAL ANALYSIS – COEUR TERRE ADDENDUM

Dear Mr. Bosley:

CivTech coordinated a meeting with the Kootenai Metropolitan Planning Organization (KMPO) and the City of Coeur d'Alene (the "City") staff on Friday, June 24, 2022. Attending the meeting included Senior Transportation Planner Ali Marienau from KMPO, City Engineer Chris Bosley from the City, and Sean Messner from CivTech. The discussion lasted for just over an hour and focused on the 2045 KMPO travel demand model specifically on Interstate 90 (I-90) and Seltice Way between State Highway 41 (SH-41) and Atlas Road.

Through the discussion it was confirmed that the model used for the traffic analysis of the Coeur Terre project included I-90 as a three-lane in each direction facility and that the model showed I-90 being over capacity. Discussions ensued and confirmed that the model is likely shifting some traffic from I-90 to Seltice Way, which is also over capacity in the 2045 models – both with and without the Coeur Terre development. It was also discussed that the 2035 models used showed a similar effect, although to a lesser degree based on regional growth.

Ms. Marienau mentioned that the most recent KMPO models may include I-90 as a four-lane section between SH-41 and Northwest Boulevard, which is east of Atlas Road. Ms. Marieunau indicated that the model shows that the capacity improvements help both I-90 and Seltice Way – resulting in slightly lower volumes projected on Seltice Way than in the models used for the Coeur Terre modeling. However, the model still showed Seltice Way being over capacity.

Concluding the discussion CivTech offered to perform a specific analysis of Seltice Way, looking at both the travel time along the corridor between Huetter Road and Atlas Road and looking at what improvements may be necessary specifically at the intersection of Seltice Way and Atlas Road to accommodate the projected growth by 2045 – both with and without Coeur Terre. This memorandum will serve as an addendum to the Coeur Terre Traffic Impact Analysis (TIA).

TRAVEL TIME ANALYSIS

CivTech utilized the Synchro and SimTraffic software to conduct an Arterial Level-of-Service analysis along Seltice Way between Huetter Road and Atlas Road for all the study scenarios. The results of the analysis are summarized in **Table 1**.

TABLE 1 – TRAVEL TIME SUMMARY

Scenario	Corridor Travel Time (seconds / mph)			
	AM		PM	
	Eastbound	Westbound	Eastbound	Westbound
Existing	117.0 / 29	191.3 / 30	176.3 / 30	201.5 / 28
With Huetter Bypass				
2035 Background	189.7 / 28	205.1 / 28	172.6 / 30	278.8 / 20
2035 Total	187.9 / 28	204.6 / 28	174.5 / 30	568.7 / 14
2045 Background	253.4 / 21	207.2 / 27	171.9 / 30	1174.2 / 13
2045 Total	492.7 / 11	207.8 / 27	163.2 / 32	1376.9 / 14
Without Huetter Bypass				
2035 Background	187.0 / 28	204.8 / 28	176.2 / 30	234.9 / 24
2035 Total	187.9 / 28	204.6 / 28	174.5 / 30	568.7 / 14
2045 Background	202.3 / 26	211.0 / 27	171.2 / 31	585.3 / 14
2045 Total	193.1 / 27	213.4 / 26	176.5 / 30	777.9 / 14

The travel time analysis revealed that the intersection of Seltice Way and Atlas Road significantly impacts the travel time along the corridor. As described in the Coeur Terre TIA, the dual lane roundabout is projected to fail by the horizon year 2035 without the addition of the Coeur Terre site utilizing the projections provided by KMPO. The travel time results indicated that the average speed along Seltice Way without any changes to the network would range from 13 miles per hour (mph) to 24 mph in the westbound direction during the PM peak hour.

MODELING REVIEW

CivTech further reviewed the 2035 and 2045 travel demand model outputs received from the KMPO in conjunction with the *Atlas Waterfront / Riverstone Traffic Impact Study*, prepared by Welch-Comer dated January 2019.

Upon further review of the Atlas Waterfront /Riverstone TIS it was noticed that a 1.5% annual growth rate was applied to the 2018 traffic counts conducted as part of the study to obtain the 2028 future background traffic volumes. This 1.5% annual growth rate equates to a multiplier of 1.16 being applied to the existing traffic counts.

The 2035 KMPO model used for Coeur Terre analyses resulted in a multiplier of 2.55 being applied to the existing traffic counts, or 6% annual growth rate per year – over 3-time higher growth rate than what was applied and approved in the Atlas Waterfront / Riverstone TIS.

The 2045 KMPO model used for Coeur Terre resulted in a multiplier of 2.99 being applied to the existing traffic counts, or 4.3% annual growth rate per year – almost 3-times higher growth rate than what was applied and approved in the Atlas Waterfront / Riverstone TIS.

This is mentioned as a way of comparison to how the KMPO model is shifting traffic from I-90 to Seltice Way. Typical growth rates in the area range from 1.5% to 2.0%, as what was used and approved in the Atlas Waterfront / Riverstone TIS. The KMPO models reflect a 4.3% - 6.0% increase – much higher than the regional rates typically used.

ALTERNATE CORRIDOR ANALYSIS

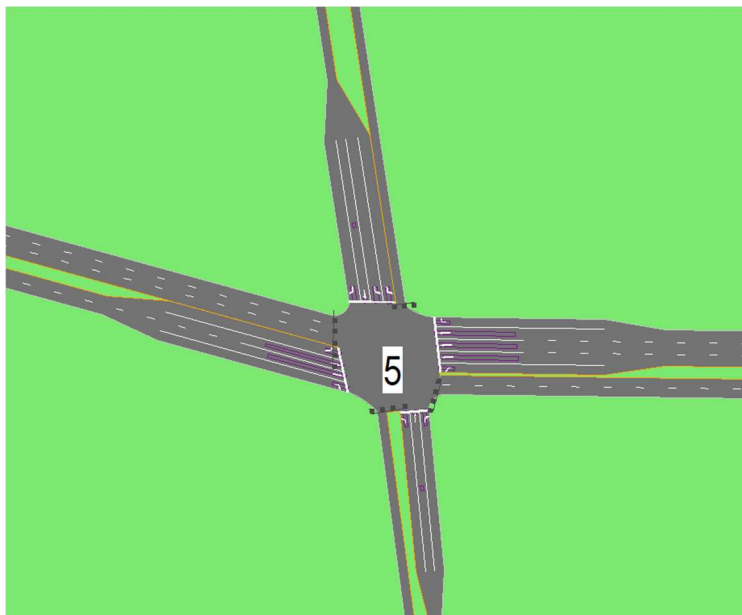
CivTech utilized the Atlas Waterfront / Riverstone TIS traffic volumes at the intersection of Seltice Way and Atlas Road to reflect the added site traffic from the development as the 4th leg (south leg) to the Seltice Way/Atlas Road intersection.

The site volumes from the Atlas Waterfront / Riverstone site in conjunction with the KMPO modeled volumes for 2035 and 2045 only worsened the Seltice Way/Atlas Road intersection. The fourth leg to the existing 2-lane roundabout added delay to the already failing intersection.

CivTech reviewed the alternatives of adding slip lanes in all directions, which aided in the flow of right-turn movements, but the high projected volumes primarily in the westbound direction during the PM peak hour still resulted in poor/failing level-of-service.

Based on the traffic volumes projected along Seltice Way – again obtained from the KMPO models – three-through lanes in the westbound direction are needed along Seltice Way between Atlas Road and Huetter Road. The addition of the 3rd through lane in the westbound direction requires the roundabouts at Atlas Road and Idlewild Loop to be converted to traffic signals and be coordinated upstream and downstream. In addition, appropriate turn lanes are needed based on volume warrants and level-of-service. The intersection of Seltice Way and Atlas Road would look like similar to **Figure 1**.

FIGURE 2 – SELTICE WAY & ATLAS ROAD TRAFFIC SIGNAL CONFIGURATION



Each right turn-lane would require overlap phasing and the southbound approach requires dual left-turn lanes. Using this configuration, the resulting level of service is shown in **Table 2**.

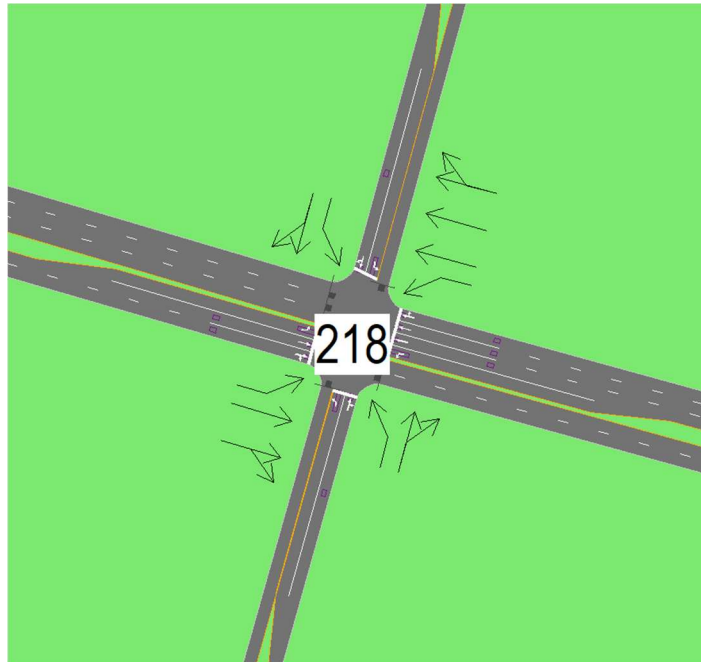
TABLE 2 – 2045 LEVEL OF SERVICE AT SELTICE WAY & ATLAS ROAD

ID	Intersection	Intersection Control	Approach/Movement	Without Huetter Parkway		With Huetter Parkway	
				Background	Total	Background	Total
				AM (PM)	AM (PM)	AM (PM)	AM (PM)
5	Atlas Road & Seltice Way	Roundabout	NB	F (F)	F (F)	F (F)	F (F)
			SB	F (F)	F (F)	F (F)	F (F)
			EB	A (A)	A (A)	A (A)	A (A)
			WB	A (F)	A (F)	A (F)	A (F)
5	Atlas Road & Seltice Way	Traffic Signal	NB	D (D)	D (D)	D (D)	D (D)
			SB	D (D)	D (D)	D (D)	D (D)
			EB	D (D)	D (D)	D (D)	D (D)
			WB	C (C)	C (C)	C (D)	C (D)

The results of the traffic signal configuration and additional third westbound through lane are favorable and provide acceptable level of service for all approaches, with and without the Coeur Terre site and with and without the implementation of the Huetter Parkway. The results also indicate that the third through lane is needed with and without the Coeur Terre site traffic.

The three westbound lanes would need to be carried through between Atlas Road and Huetter Road, requiring the dual lane roundabout at Idlewild Loop to be converted to a traffic signal as well. The lane configurations at the Seltice Way/Idlewild Loop would look similar to **Figure 2**.

FIGURE 2 – SELTICE WAY & IDLEWILD LOOP TRAFFIC SIGNAL CONFIGURATION



IMPROVEMENT TIMING

The existing dual lane roundabout at Seltice Way and Atlas Road is likely to fail prior to 2035, assuming the growth as projected in the KMPO model. This is due to the high east-west through volumes along Seltice Way. Changing to a traffic signal and allowing dedicated time for the through movements, along with the high southbound right-turn movements, will provide a benefit to the intersection by 2035.

Assuming a more moderate growth rate along Seltice Way of 2% annually suggests that the dual lane roundabout at Seltice Way and Atlas Road will accommodate the future traffic in 2035, both with and without Coeur Terre and with or without the Huetter Parkway, with the addition of right-turn slip lanes in all directions (all four approaches). However, even with this more moderate growth rate of 2% annually, the dual lane roundabout is projected to break down by 2045, with and without the Coeur Terre site traffic – negating the need to change to a traffic signal system along the corridor and implementation of three-lanes in the westbound direction of travel along Seltice Way.

RECOMMENDATIONS AND CONCLUSIONS

The following conclusions are documented in this memorandum:

- The KMPO model suggests that aggressive growth will occur along Seltice Way, equating to approximately 6% annual growth between 2019 and 2035 and 4.3% growth through 2045.
- The regional growth rate, and the growth rate approved through the previous Atlas Waterfront / Riverstone TIS, is between 1.5% and 2% annual growth.
- The existing dual lane roundabout at Seltice Way and Atlas Road is likely to fail prior to 2035, assuming the growth as projected in the KMPO model. This is due to the high east-west through volumes along Seltice Way and the high southbound left-turn movements.
 - ❑ Changing to a traffic signal and allowing dedicated time for the through movements, along with the high southbound left-turn movements, will provide a benefit to the intersection by 2035.
- The traffic signal layout at Seltice Way and Atlas Road, as shown in **Figure 1**, will accommodate the future traffic volumes as projected by the KMPO model, with and without the Coeur Terre site, and with and without Huetter Parkway, with acceptable levels-of-service through the study year of 2045.
- Assuming the KMPO modeled growth comes to fruition, three (3) westbound through lanes will be required along Seltice Way between Atlas Road and Huetter Road.
 - ❑ This will require the dual lane roundabout at Idlewild Loop to be changed to a traffic signal as shown in **Figure 2**.
 - ❑ The third westbound through lane can be dropped at Huetter Road as a right-turn lane, thus carrying two (2) through lanes in the westbound direction into Post Falls.
- Assuming a more moderate growth rate along Seltice Way of 2% annually suggests that the dual lane roundabout at Seltice Way and Atlas Road will accommodate the future traffic in 2035, with the addition of right-turn slip lanes in all directions (all 4 approaches).

- However, even with this more moderate growth rate of 2% annually, the dual lane roundabout is projected to start breaking down by 2045, with and without the Coeur Terre site traffic – negating the need to change to a traffic signal system along the corridor and prepare for three-lanes in the westbound direction of travel.
- It is recommended that the City plan for three-lanes in each direction along Seltice Way between Northwest Boulevard and Huetter Road to accommodate the future regional demands. This is a long-term plan and is contingent on additional east-west corridors north of I-90 and south of Hanley Road.
 - It is also recommended that the City plan for changing the existing dual lane roundabouts along the Seltice Way Corridor to provide traffic signals, with appropriate through and turn lanes, to accommodate the future demands.
 - It is anticipated that these improvements, withstanding additional east-west corridor improvements immediately north of I-90 and south of Hanley Road, will be needed by 2045.

Please contact me with any questions you may have on this statement.

Sincerely,
CivTech



Sean Messner, PE
Project Manager

Attachments

Levels of Service Reports