

Valley Line West LRT Crossing Assessment Summary of Results - Stony Plain Road and 142 Street

Stony Plain Road and 142 Street Intersection

The intersection of Stony Plain Road and 142 Street is located between the Grovenor and Glenora communities. With the introduction of LRT on Stony Plain Road, the roadway configuration will be reduced to 1 lane in each direction. Approaching this intersection, the current Valley Line West LRT alignment travels along the north side of Stony Plain Road, crossing 142 Street at-grade, and transitioning to center alignment at 143 Street. The nearest LRT Stop is located just east of 142 Street, directly adjacent to the future West Block development in the northeast corner of the intersection. The West Block DC2 Zoning Bylaw 17558, prescribes an at-grade LRT stop integrated with the development.

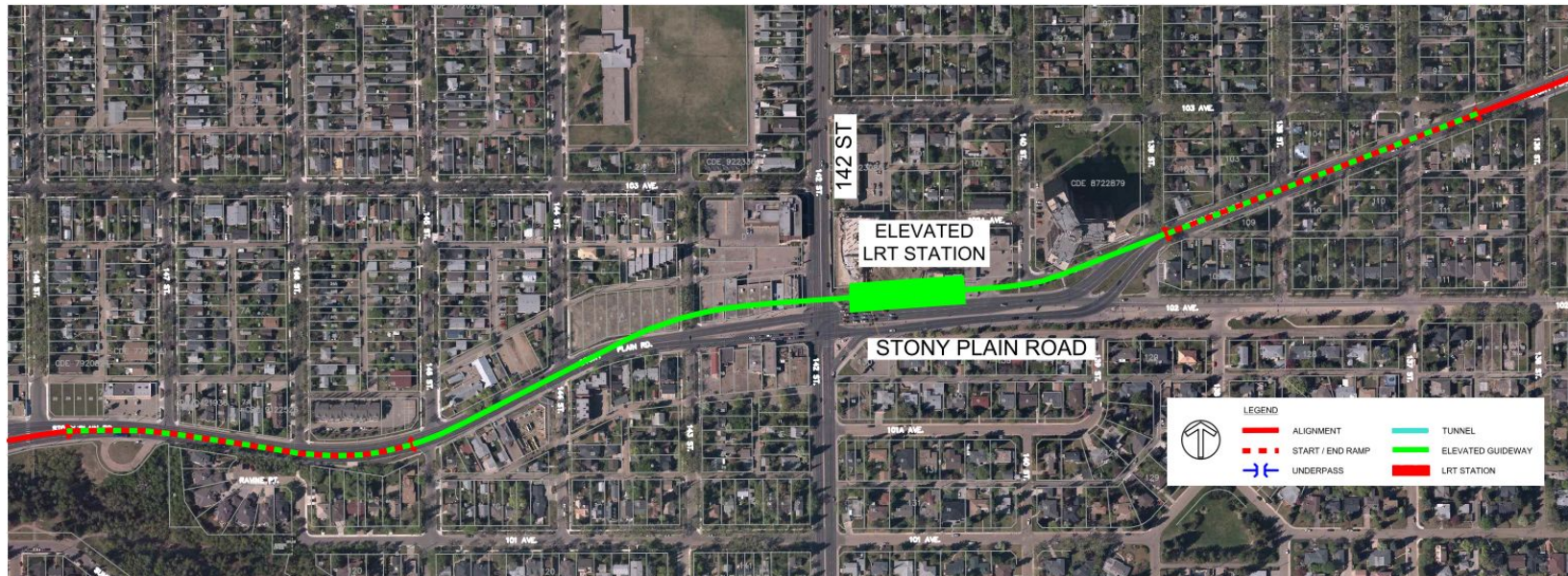
Different design options were considered. The three options that performed the best against assessment criteria are: 1) at-grade LRT, 2) elevated LRT guideway and 3) underground LRT. Each of these options would follow the same alignment as the approved concept plan. The elevated LRT guideway and the underground LRT designs would require an elevated or underground LRT station. Options 2 and 3 deviate from the approved LRT concept plan.

The below table summarizes performance of the top three design options in response to each of the assessment criteria.

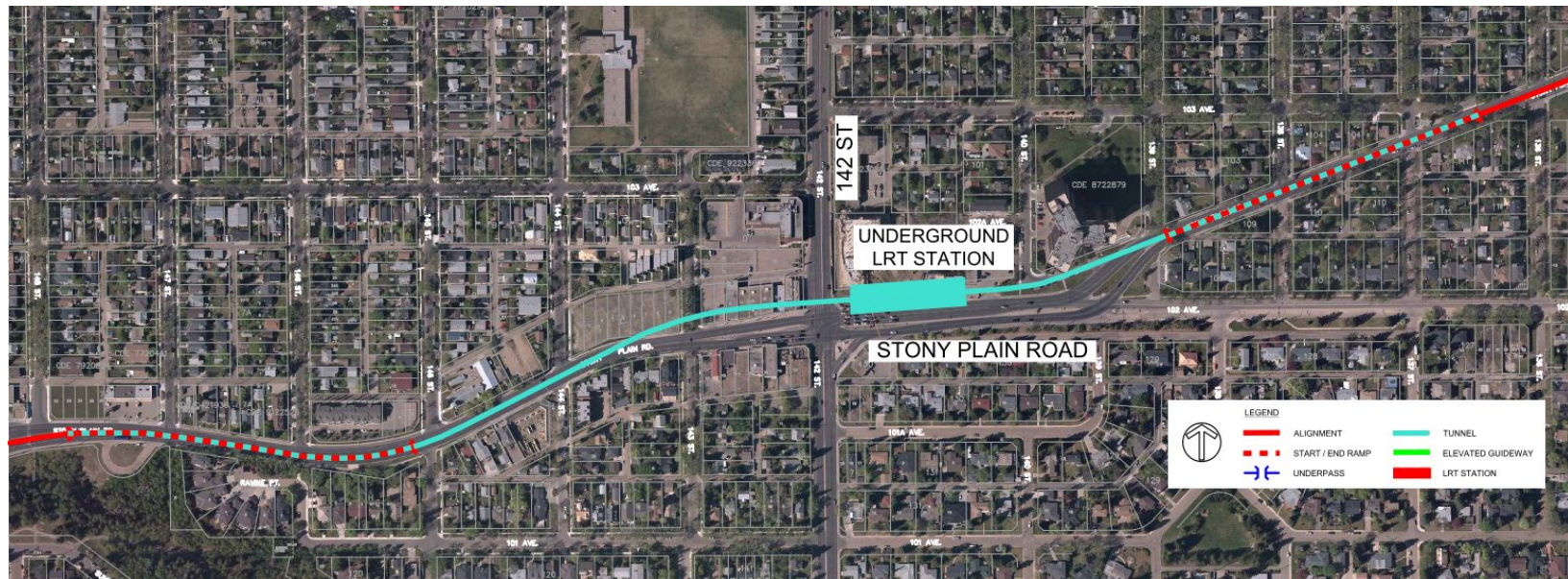
Based on the assessment, an at-grade LRT crossing of 142 Street along the north side of Stony Plain Road is recommended.



At-Grade LRT, North Alignment



Elevated LRT Guideway, North Alignment



Underground LRT, North Alignment

	At-Grade LRT, North Alignment	Elevated LRT Guideway, North Alignment	Underground LRT, North Alignment
Accessibility	✓✓✓	✓✓	✓✓
Considerations	<ul style="list-style-type: none"> • The elevated LRT guideway option would require an elevated LRT Station, which is less desirable from a pedestrian accessibility perspective due to increased walking distance. • The underground LRT option would require an underground LRT Station, which is less desirable from a pedestrian accessibility perspective due to increased walking distance. 		

Network Operations	✓	✓✓✓	✓✓✓
Considerations	<ul style="list-style-type: none"> • Both the elevated and the underground options would improve LRT operations by removing conflict points between LRT and vehicles at the intersection. • On average, the travel time savings for vehicles through the grade separation of LRT crossing at 142 Street would be minimal. Due to reduced roadway capacity along Stony Plain Road, traffic signal green time allocation would favor east-west vehicle movements over 142 Street even with a LRT crossing grade separation. 		
Urban Design and Social Environment	✓✓✓	✓	✓✓
Considerations	<ul style="list-style-type: none"> • The elevated LRT guideway option will introduce an overhead LRT structure and an elevated LRT Station approximately 8m to 12m respectively above roadway between 139 Street and 144 Street. • Both the elevated and the underground options would require an amendment to Bylaw 17558, in particular clause 10.d.iii of the (DC2) Site Specific Development Control Provision for the 142 Street northeast corner property, where it indicates that “the future LRT station along Stony Plain Road shall be integrated with the Urban Square at Grade”. 		
Feasibility and Construction	✓✓✓	✓✓	✓
Considerations	<ul style="list-style-type: none"> • The underground LRT option with the underground station is the highest cost of the three options. • The underground LRT option would have higher cost and greater constructability challenges, such as additional property requirements to accommodate tunnel ramps, property impacts due to access constraints, stormwater storage facilities, underground LRT Station and underground utility conflicts. 		
Relative Ranking	1	3	2
Order of Magnitude Cost Estimate (+/-30%)	-	An additional \$185 million	An additional \$420 million