Welcome!

Valley Line West
Lewis Farms - Downtown

Edmonton

Public Engagement Session

Valley Line West LRT will play an essential role in connecting Edmonton's communities, and we are working to have it ready to go as soon as funding becomes available for construction.

Since our last public engagement sessions in November 2017, some elements of the concept plan have undergone further technical review. We welcome your input on the results.

Purpose of this engagement

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Project update and input opportunity

- **Inform:** Provide a status update on refinements to the LRT preliminary design and report on what we heard in previous engagements
- **Consult:** Report on new developments in the concept plan review and obtain further advice and input

Your input will help to inform City Council as it considers options and recommendations in March 2018

LRT vision

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Edmonton's future LRT network

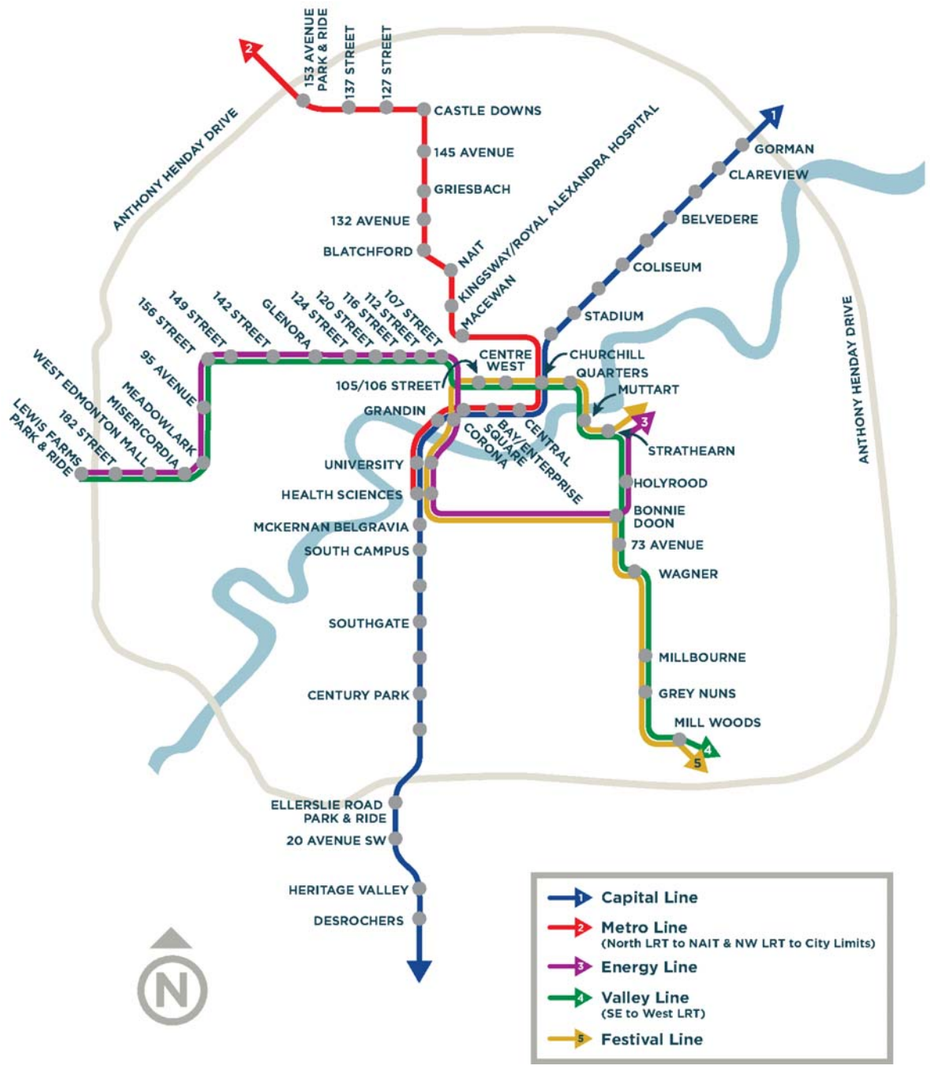
Over the next several years, the City's LRT network will grow to make light rail accessible to more and more Edmontonians. With Valley Line Southeast now under construction, the next LRT priorities are:

<u>Construction</u>

- Valley Line West (Lewis Farms to Downtown)
- Metro Line north to Blatchford

<u>Further developmental work (listed alphabetically)</u>

- Capital Line south to Ellerslie—to update preliminary engineering
- Centre LRT (previously known as Downtown Circulator or Downtown Connector)—for concept planning
- Metro Line from North Blatchford to Campbell Road—for preliminary engineering



Background

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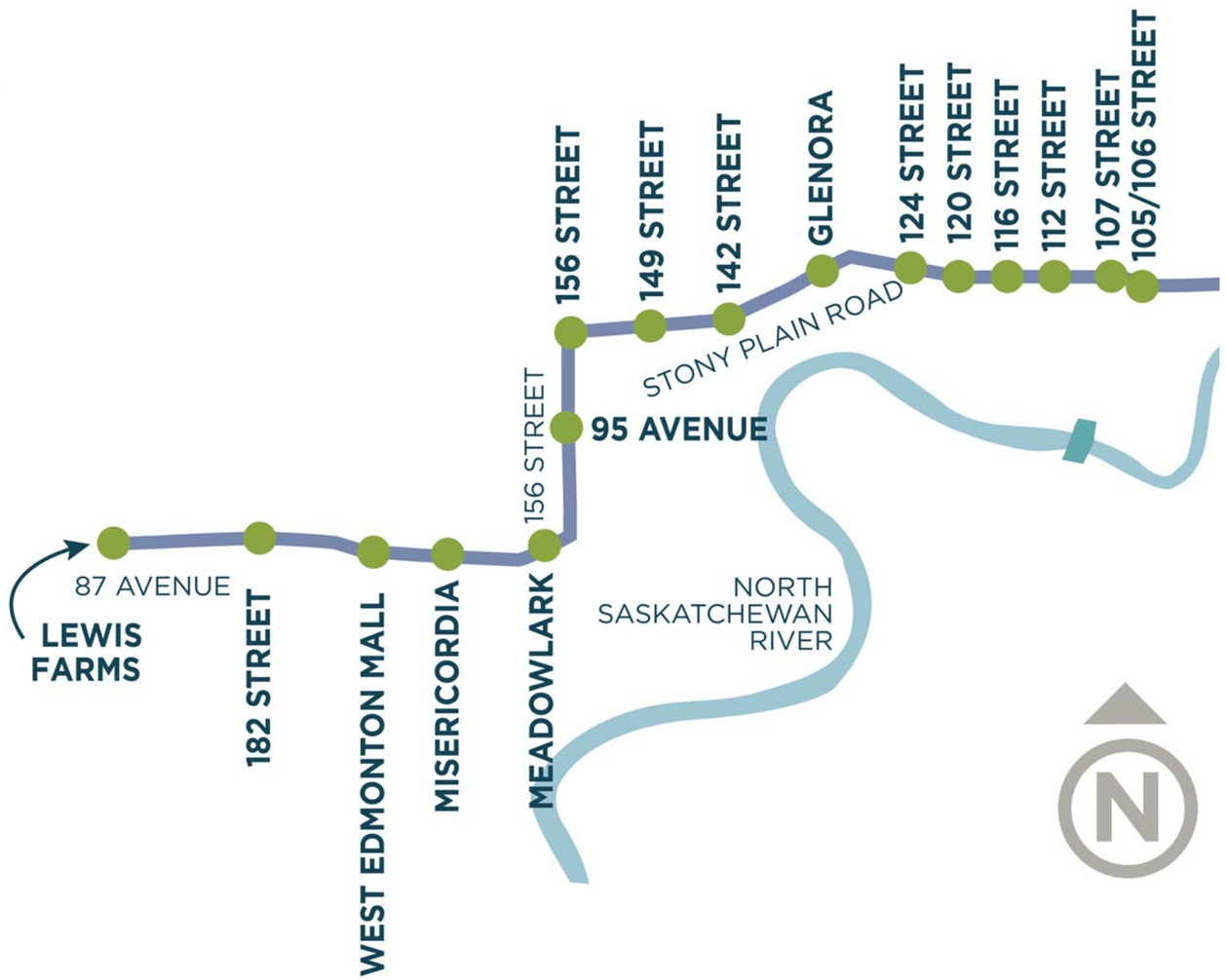
Valley Line West corridor highlights

- 14 kilometres
- 14 street-level stops & two elevated stations
- Transit centres at Jasper Place,
  West Edmonton Mall & Lewis Farms
- Park & Ride at Lewis Farms
- Travel time 30-35 minutes from Lewis Farms to downtown
- Trains every 5 minutes during peak periods
- Concept plan approved by Council in 2012
- Preliminary design completed in 2013; currently under review for refinements to prepare for possible procurement in 2018



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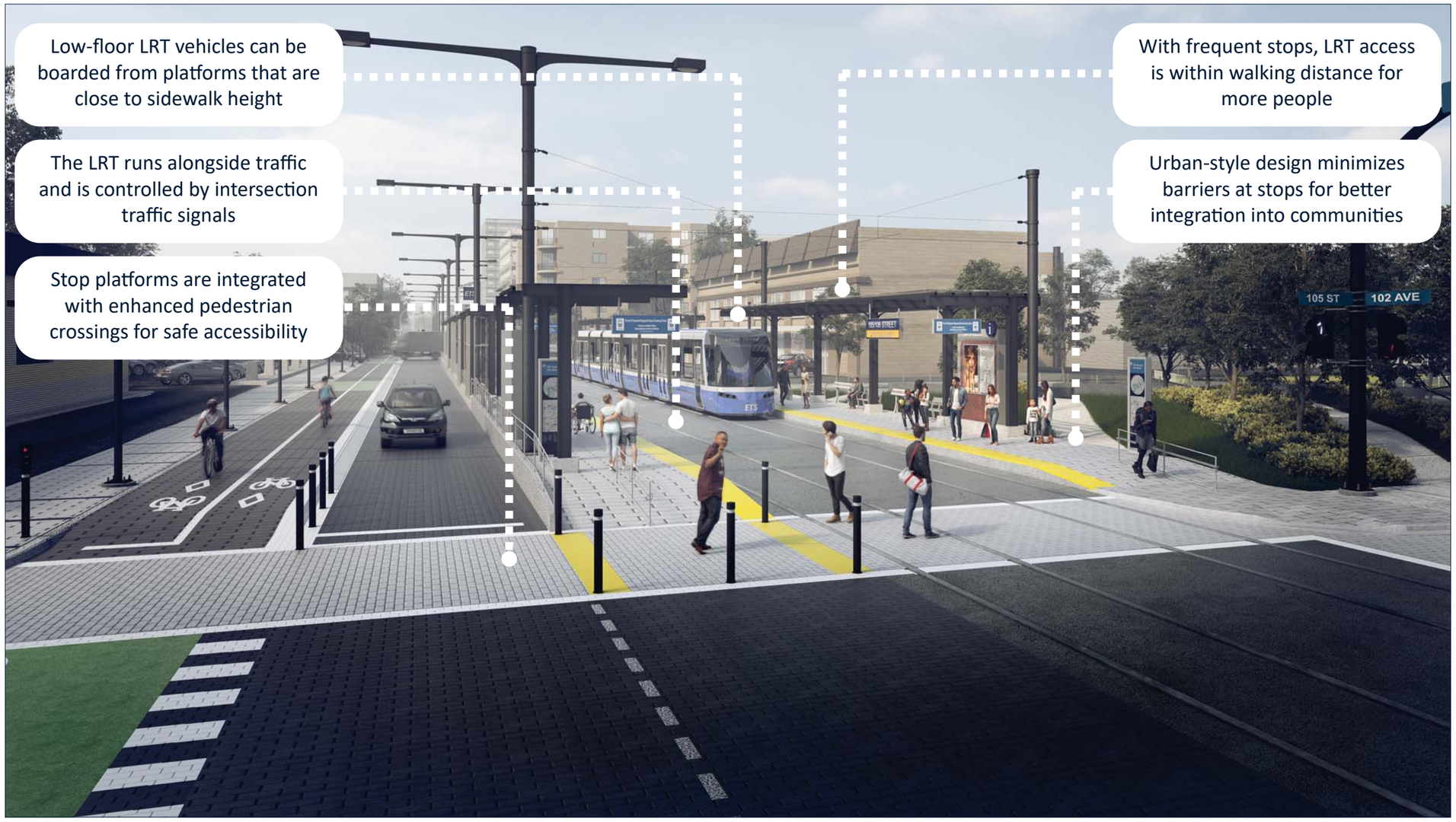
New urban-style and low-floor LRT



Rendering of a typical Valley Line LRT stop (pictured: 105/106 Street Stop at Alex Decoteau Park)

Where we are in the process

Valley Line West
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Timeline

2008: City Council approves planning criteria for future LRT

2009: City commits to urban-style LRT to enable better fit into neighbourhoods

2009: Council selects Valley Line West corridor, from list initially containing 15 options, as best supporting redevelopment opportunities, encouraging density and achieving a more compact urban form

2012: City Council approves Valley Line West concept plan

2013: Preliminary design completed

2016: Public Transit Infrastructure Fund support provided to review preliminary design and prepare Valley Line West for procurement

2017: Review of Valley Line West preliminary design

Next steps

2017-18: Review public input & complete review of preliminary design

2018: Recommendations to City Council

2018: Complete procurement-readiness

The following steps are subject to funding

2019: Possible start of construction

2024: Possible start of operation

Review & update

Valley Line West
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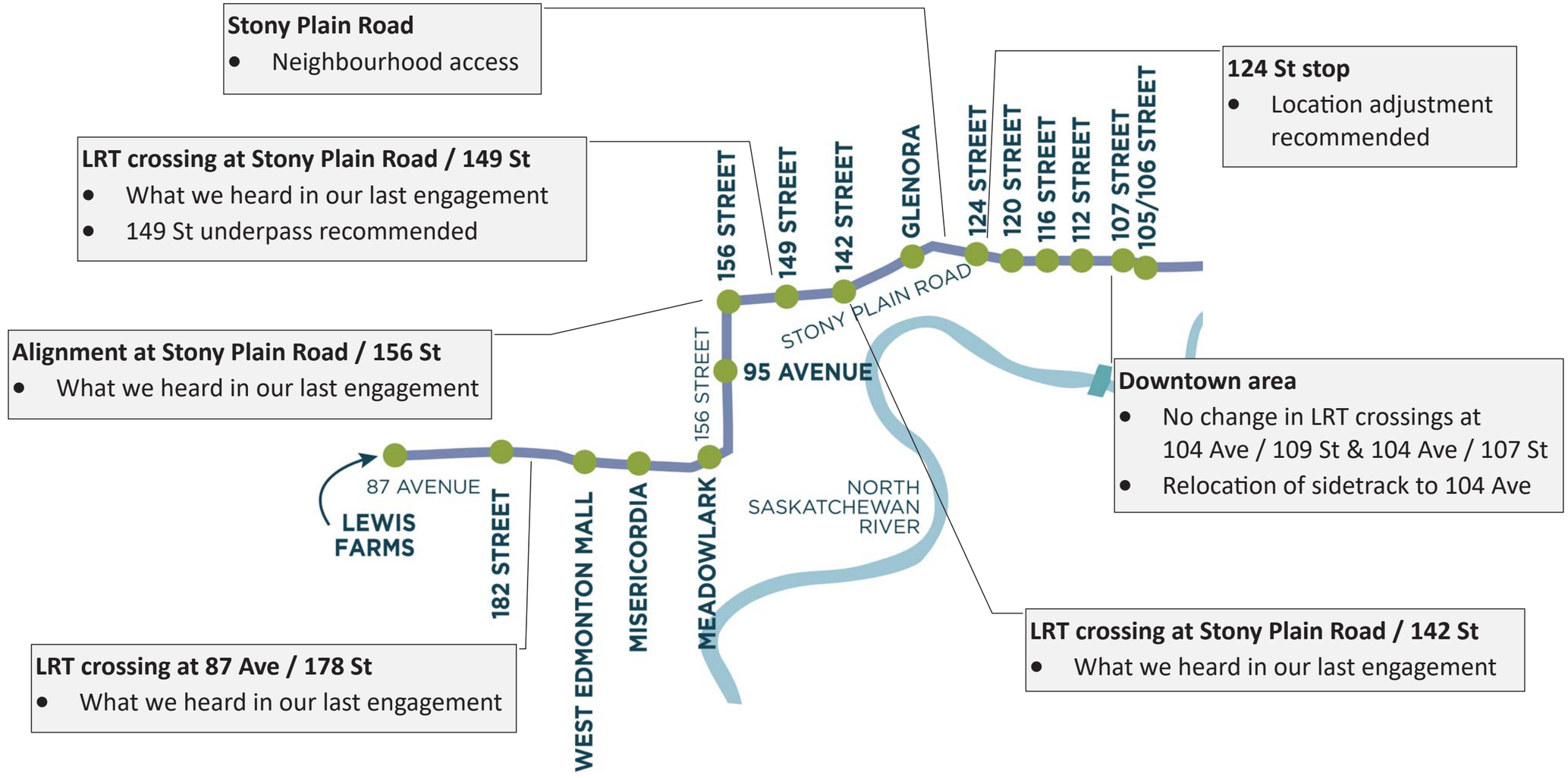
Locations highlighted in this session



Design update

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87 Avenue / 178 Street crossing (recommended change)

Recommended change: elevated LRT crossing

- Based on the assessment, an elevated crossing at 178 Street is recommended
- With this alignment, the LRT track would leave the elevated station at West Edmonton Mall, and cross 87 Avenue as with the previous design, but it would remain elevated over 178 Street and come back to ground level just east of 182 Street

Reasons for recommendation

- Reduced impact on 178 Street traffic
- Eliminates 178 Street impact on LRT run-time
- Lowest-cost of grade-separated options
- Maintains pedestrian connection along south side of 87 Avenue

Update: what we heard

- In public and stakeholder engagement during 2017, elevation of this crossing was strongly supported

Considerations

- LRT would be more visible from adjacent properties on south side of 87 Avenue due to elevated guideway

Other grade-separated options considered

- North side alignment: would be more visible from north side properties and has more constructability, traffic and access issues
- Median alignment: involves greater constructability and traffic issues

Design update

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Stony Plain Road / 156 Street (recommended change)

Recommended change: 90-degree turn

- With this change, the alignment would continue down the middle of Stony Plain Road and turn onto the west side of 156 Street
- The LRT stop would be just a few steps away from the Jasper Place Transit Centre, which would remain in its existing location

Reasons for recommendation

- Places LRT stop closer to existing transit centre for a more direct and efficient bus-LRT transfer with no street crossings required
- Better urban form and potential for transit-oriented development

Update: what we heard

- Reaction has been mixed but mostly positive, with general support for better connections to the transit centre

Considerations

- Increases LRT run-time due to sharper turn
- Higher impact on road traffic with greater restrictions on intersection turning movements

Other options considered

- Tunnel alignment: would have much higher cost than at-grade options and require underground station, making access to LRT less convenient

North-to-west, west-to-south and south-to-east left turns will be restricted. Other movements will be retained.

2013 Concept

Design update

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Stony Plain Road / 142 Street (no change recommended)

Current design description

- Under the 2013 preliminary design, the LRT track follows a median alignment down Stony Plain Road and crosses 142 Street at ground level
- It is recommended that the current design remain unchanged

Reasons for recommendation

- Supports integration of at-grade LRT stop at this location with ongoing development currently underway
- Better integration into neighbourhood

Update: what we heard

- In previous public and stakeholder engagement, concerns were expressed over traffic impacts, with views on at-grade vs. grade-separated options fairly evenly divided

Considerations

- Current design has higher impact on traffic crossing the tracks at 142 Street than a grade separation
- Public concerns regarding congestion

Other options considered

- Elevated crossing: has higher cost than at-grade option; requires elevated station with less convenient access; inconsistent with local development requirements
- Tunnel alignment: has much higher cost than at-grade; requires underground station with less convenient access; also inconsistent with local development requirements

Design update

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Stony Plain Road / 149 Street crossing (current)

Current design description

- Under the 2013 preliminary design, the LRT track follows a median alignment down Stony Plain Road and crosses 149 Street at ground level

Update: what we heard

Public engagement in June 2017 for the crossing assessment at this location revealed:

- General concern over road congestion
- Impacts on local residential neighbourhoods, including access, non-resident parking and short-cutting
- Visual impacts if the LRT were elevated
- Business impacts, including access and parking
- Support for a grade separation was somewhat stronger than support for the at-grade crossing
- At the November 2017 public engagement session, which included a new option to construct an underpass for 149 Street traffic, respondents continued to express a general preference for an elevated crossing, followed by support for the underpass option

Design update

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Stony Plain Road / 149 Street crossing (recommended change)

Recommended change: 149 Street underpass

- Based on the assessment and public input, this new urban interchange option is recommended
- With this arrangement, the LRT and Stony Plain Road would remain at ground level, with 149 Street passing underneath

Reasons for recommendation

- Free flow for 149 Street through traffic under Stony Plain Road will improve road network operations
- Improved LRT run-time

Considerations

- Cost and constructability challenges
- Arrangement has larger footprint, requiring additional property acquisition and affecting local access

Other options considered

- At-grade LRT: assessment indicated minor additional impacts at the intersection
- Elevated or below-grade LRT: assessment showed negligible travel time savings for vehicles through the intersection

Design update

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Stony Plain Road / 149 Street underpass—a closer look

What it would entail

- Larger footprint than existing intersection, impacting business access
- Some visual impact mitigation opportunities with landscaping
- Major movements to the south of Stony Plain Road are retained
- Some reduction in movements from the north side of 149 Street to/from Stony Plain Road
- Will require major connection to underground drainage system in MacKinnon Ravine, involving some work in re-naturalized area

149 Street would have free flow under Stony Plain Road and LRT

Aerial view—facing northeast

Street level view—facing north

Design update

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124 Street stop (location adjustment recommended)

Current design description

- In the 2013 design, the split stop was centred on 124 Street
- It is recommended that both platforms be located one block further east

Reasons for recommendation

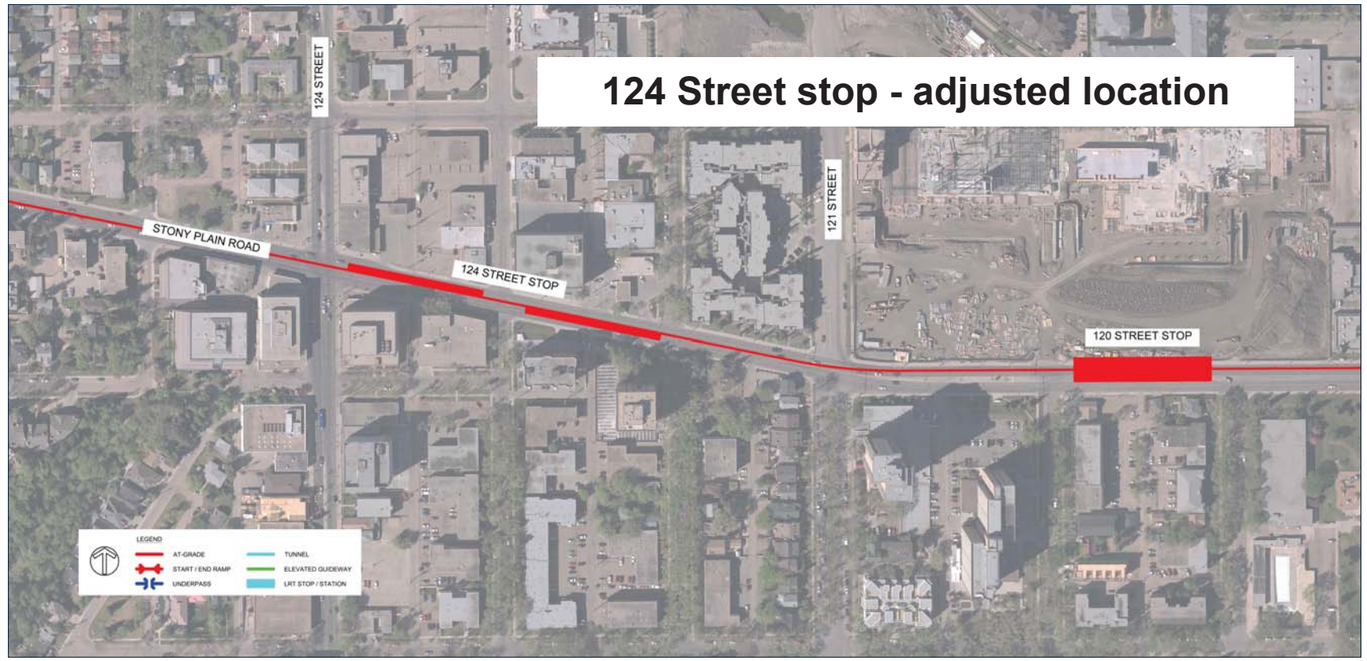
- The relocation is necessary to achieve a level platform while maintaining an appropriate height in relation to the adjacent roadway and properties

Considerations

- Distance to residences west of 124 Street will be greater
- Closer proximity to 120 Street stop
- The relocation will support transit-oriented development
- The 124 Street business area will continue to be well-served

Other options considered

- A westward shift was examined, but due to space and geometry constraints, it did not prove to be feasible



Design update

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104 Avenue / 109 Street (surface option recommended)

Current design description

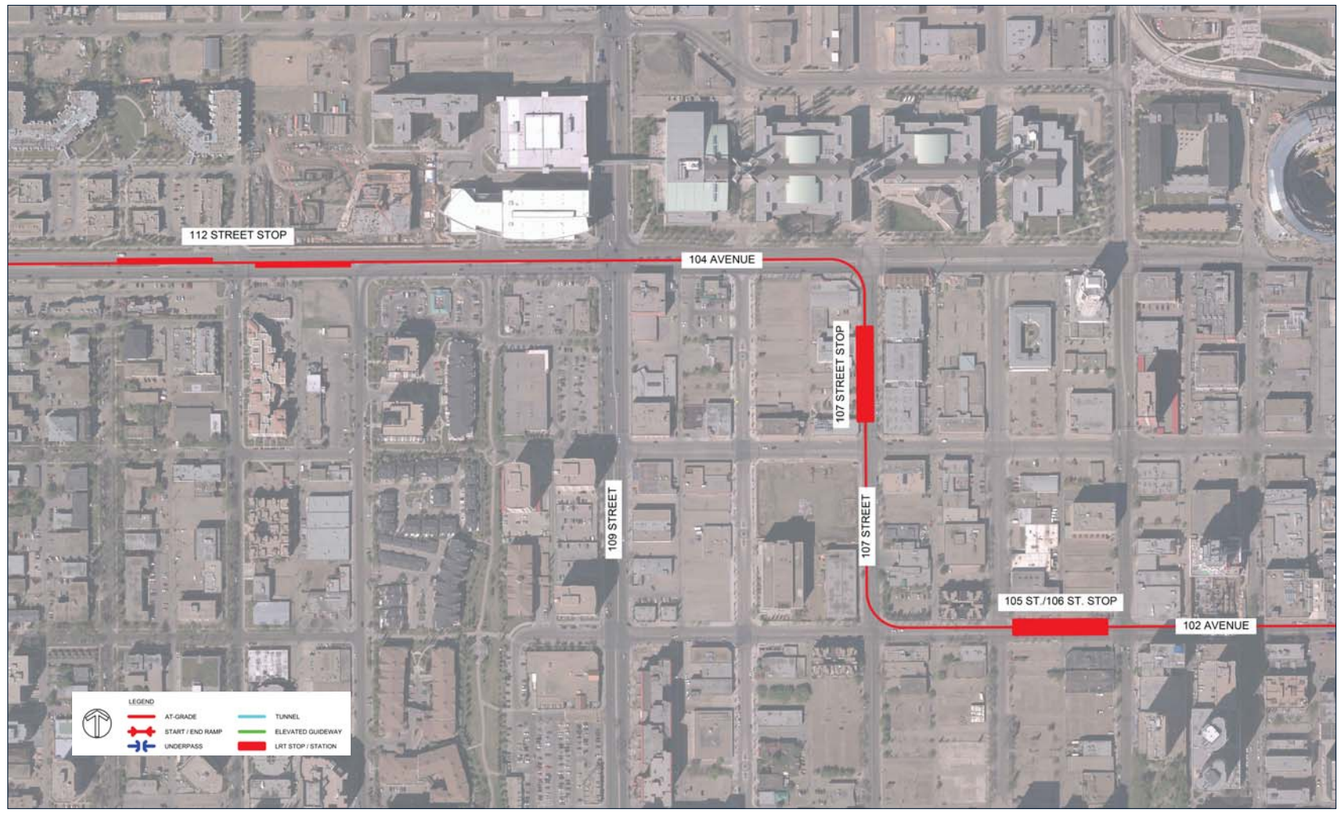
- Under the 2013 preliminary design, the LRT track crosses 109 Street at grade
- It is recommended that the current alignment remain unchanged

Reasons for recommendation

- A grade separation at 109 Street would also affect the 107 Street intersection and require either elevation or tunneling between 107 Street (beginning at 103 Avenue) and 111 Street
- Grade separation would be costly and change the character of the downtown urban environment

Considerations

- Current design has higher impact on traffic crossing the tracks at 109 Street than a grade separation; however a grade separation would not improve overall *network* traffic



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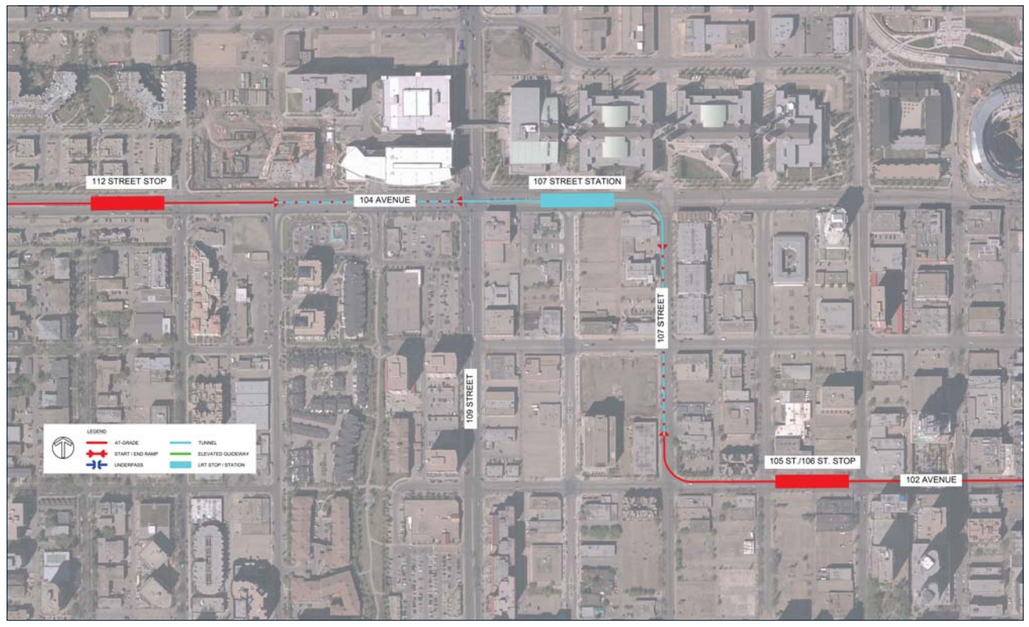
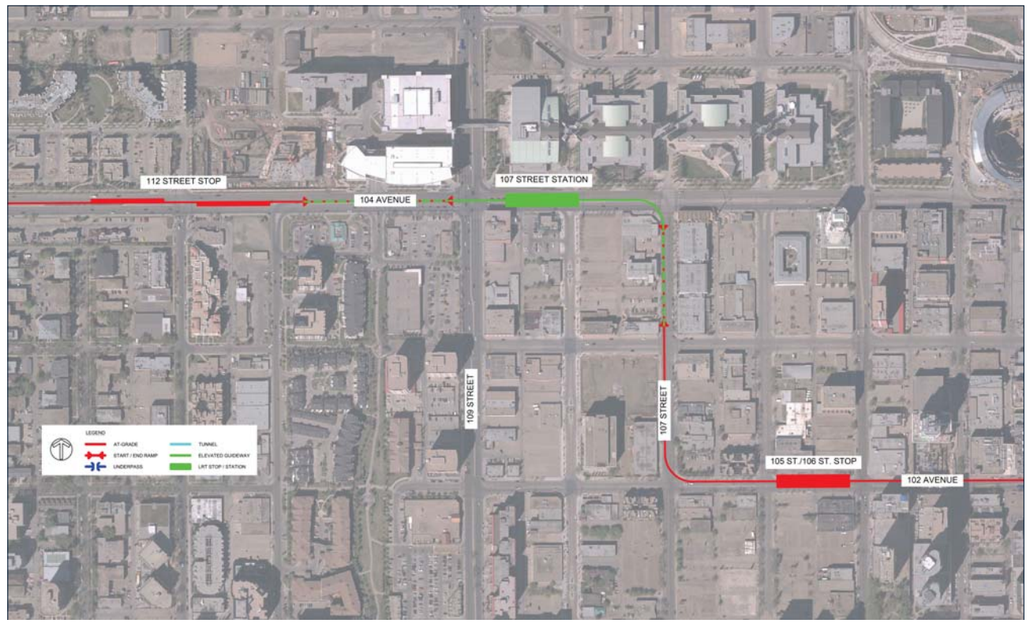
104 Avenue / 109 Street—other options considered

TUNNEL



- A tunnel alignment is up to ten times costlier than the surface option
- It requires an underground station with less convenient access

ELEVATED



- An elevated crossing costs up to three times as much as the surface option
- It requires the additional infrastructure of an elevated station with less convenient access
- Visual impact is significant

Design update

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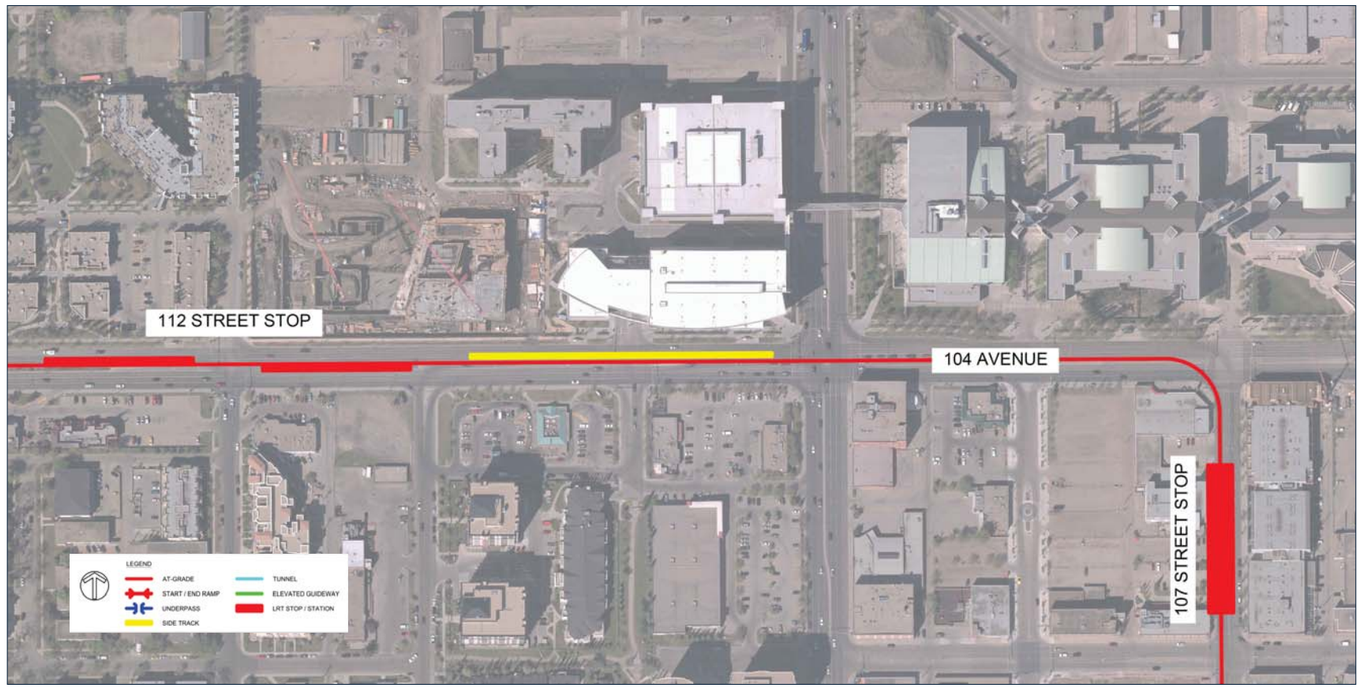
104 Avenue—relocation of sidetrack

Adjustment to design—sidetrack relocation

- The 2013 preliminary design included a short spur on 107 Street for the temporary (i.e. up to a few hours) storage of light rail vehicles to add capacity for special events or breakdowns
- It is recommended that the occasional need to store light rail vehicles be met with a relocated sidetrack on 104 Avenue between 109 Street and 111 Street



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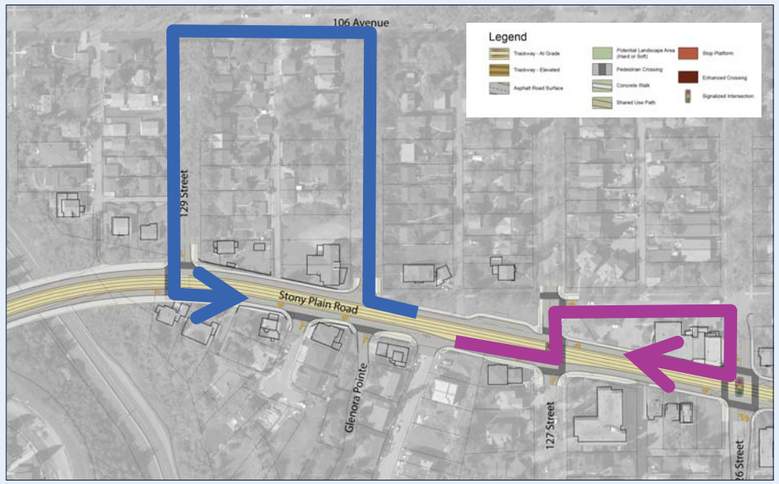
Neighbourhood access from Stony Plain Road

Using jughandles

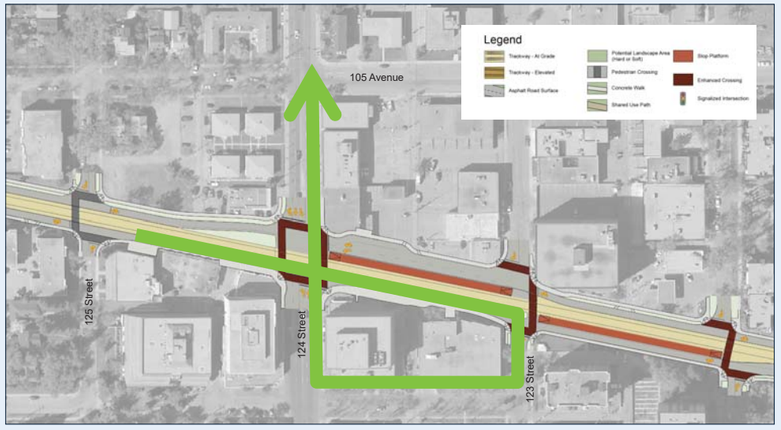
- For safety reasons, LRT tracks can only be crossed where there are signals
- For efficient movement of traffic, the number of signals on Stony Plain Road is limited, thereby reducing left-turn opportunities into and out of neighbourhoods
- Due to space constraints, not all signalized intersections permit left turn movements
- Designated turnaround loops at 129 Street and 127 Street are no longer being recommended due to safety and slope stability considerations
- By using a jughandle path around the block, motorists can continue to reach their destinations

The U-turn route for a westbound vehicle on Stony Plain Road would be right on 128 Street, left on 104 Avenue, left on 129 Street and left onto Stony Plain Road.

The U-turn route for an eastbound vehicle would be left at the signal at 127 Street, right on 105 Avenue, right on 126 Street and right again onto Stony Plain Road.



To head north onto 124 Street from eastbound Stony Plain Road, a vehicle can make a right turn at 123 Street, followed by consecutive right turns at 104 Avenue and 124 Street.



Design update

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Environmental Impact Assessment

- Two components of the Valley Line West will intersect with lands within the City of Edmonton's North Saskatchewan River Valley Area Redevelopment Plan (Bylaw 7188):

  1. The replacement bridge at Stony Plain Road crossing Groat Ravine

  2. Minor sidewalk widening, removal of a bus loop and a possible underground drainage connection in the area of Stony Plain Road and the terminus of MacKinnon Ravine

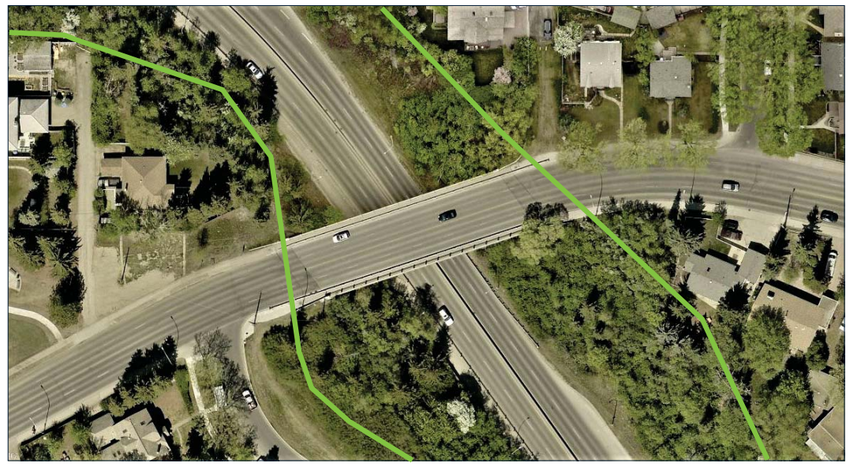
- To comply with Bylaw 7188 requirements, an Environmental Impact Assessment (EIA) will be prepared for the Groat Ravine crossing and an Environmental Review Report (ERR) will be prepared for work affecting MacKinnon Ravine

- Both reports:

  - Describe existing environmental conditions for relevant Valued Environmental Components (VECs)

  - Assess potential impacts

  - Describe mitigation measures intended to eliminate or reduce impacts to each VEC



Bylaw 7188 boundaries include the bridge over Groat Ravine

The lands covered by Bylaw 7188 extend to the top of MacKinnon Ravine

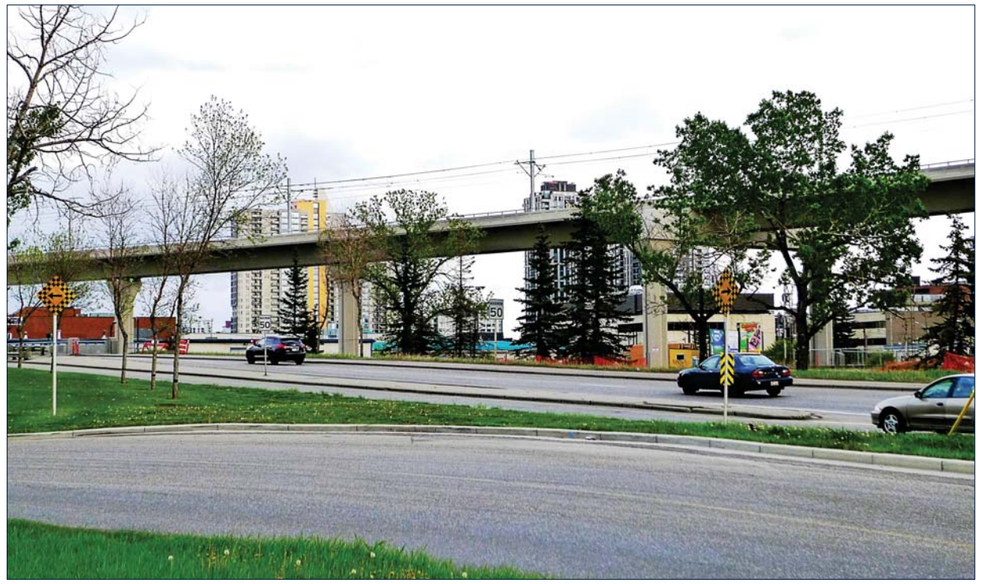
At-grade LRT crossings—typical characteristics

- In an at-grade crossing, the LRT crosses through the intersection when the light is green (and waits when the light is red), just like a car
- At some intersections, the green light may be extended briefly until the LRT passes through
- At typical intersections on the Valley Line, there will be no crossing arms, flashing lights or bells

At-grade intersection crossings of Portland MAX (low-floor LRT)
(TravelPortland.com 2013)

Elevated LRT crossings—typical characteristics

- Above-grade or elevated LRT crossings require a bridge to clear the intersection
- The bridge consists of a single, large beam that is strong enough to support the weight of the bridge, trains, snow, wind, etc.
- Depending on location, the guideway may be supported by a single pedestal or a wide-legged structure
- Side railings are required for safety of maintenance staff
- If a station is needed near the intersection, it will be elevated as well



Calgary, AB

Rendering of east ramp at 165 St

Burnaby, BC

Richmond, BC

Crossing options

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Below-grade LRT crossings—typical characteristics

- A below-grade LRT crossing has the LRT travelling below the intersection in a tunnel
- The tracks need to ramp downward towards the entrance of the tunnel (the portal)
- The ramps begin as far as two blocks away from the intersection on each side
- The ramp down to the portal is typically an open, excavated area with walls and safety railings at surface level

Rendering of Valley Line LRT tunnel portal in the Quarters
(Architectural theme is specific to this location)

Pedestrian entrance at Grandin station

Portal for Capital Line on 111 Street south of 63 Avenue, looking north

Crossing options

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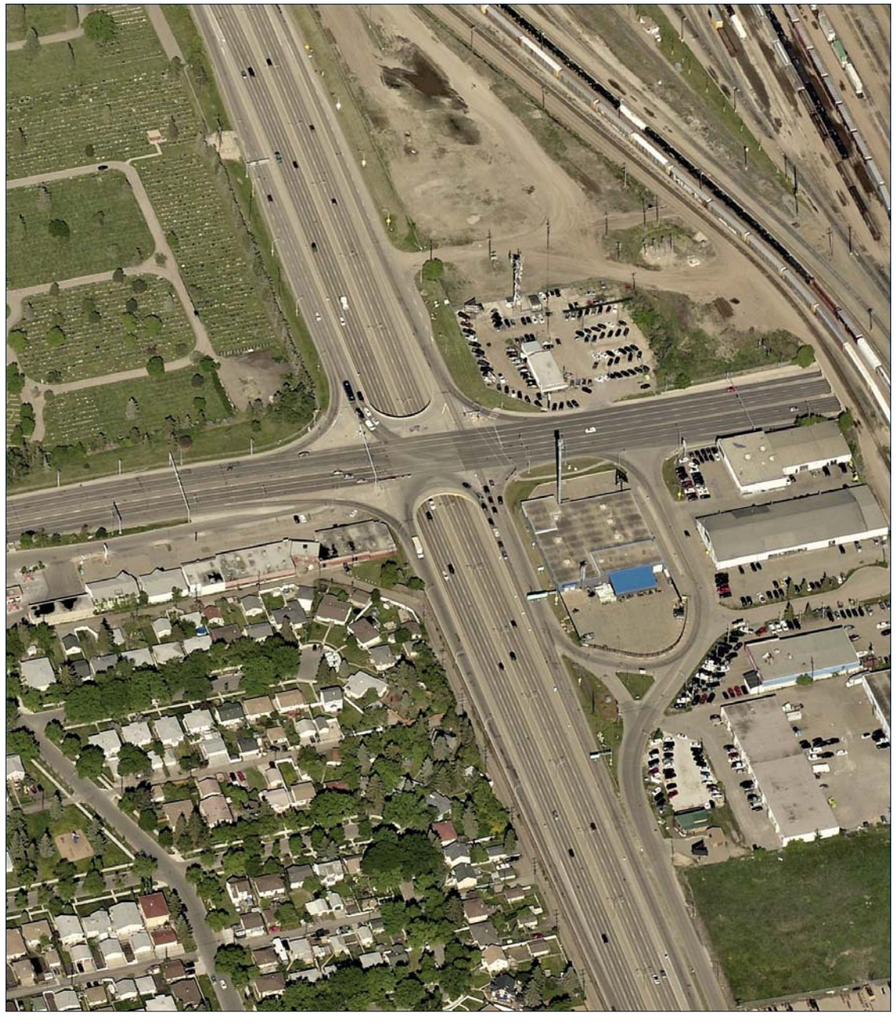
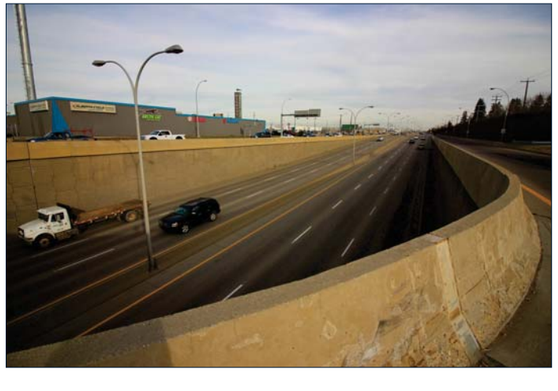
Road underpass crossings—typical characteristics

- For a road underpass, the cross-street is lowered to pass under a bridge that carries the LRT and the street beside it
- To retain the turns to and from the cross-street, a small interchange can be built, which increases the footprint compared to the original intersection
- The arrangement would be similar to the single-point interchange at Yellowhead Trail and 97 Street, but more compact





Single-point interchange at Yellowhead Trail and 97 Street

Feedback & information

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What Do You Think?

COMPLETE A FEEDBACK FORM

- Tell us your views on the LRT crossing assessment results and the design refinements

LEARN MORE ABOUT VALLEY LINE WEST AND TELL US WHAT YOU THINK

- Visit us at www.edmonton.ca/valleylinewest
- Email us at LRTprojects@edmonton.ca
- Contact the LRT Projects Information Centre by phone at 780-496-4874