

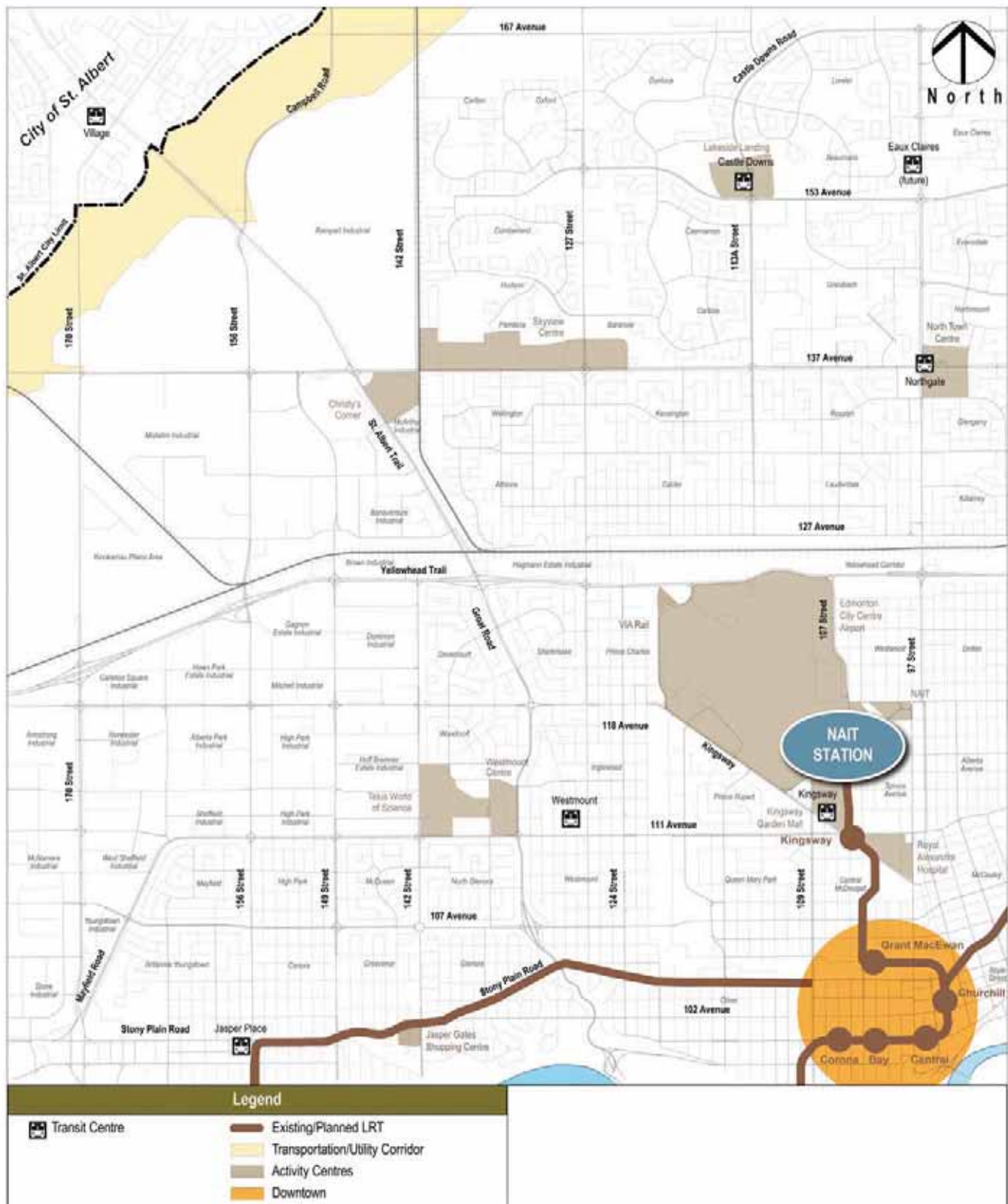


**City of Edmonton  
Transportation Planning**

*Welcome*

**Northwest LRT  
Corridor Planning**

# Study Area Overview



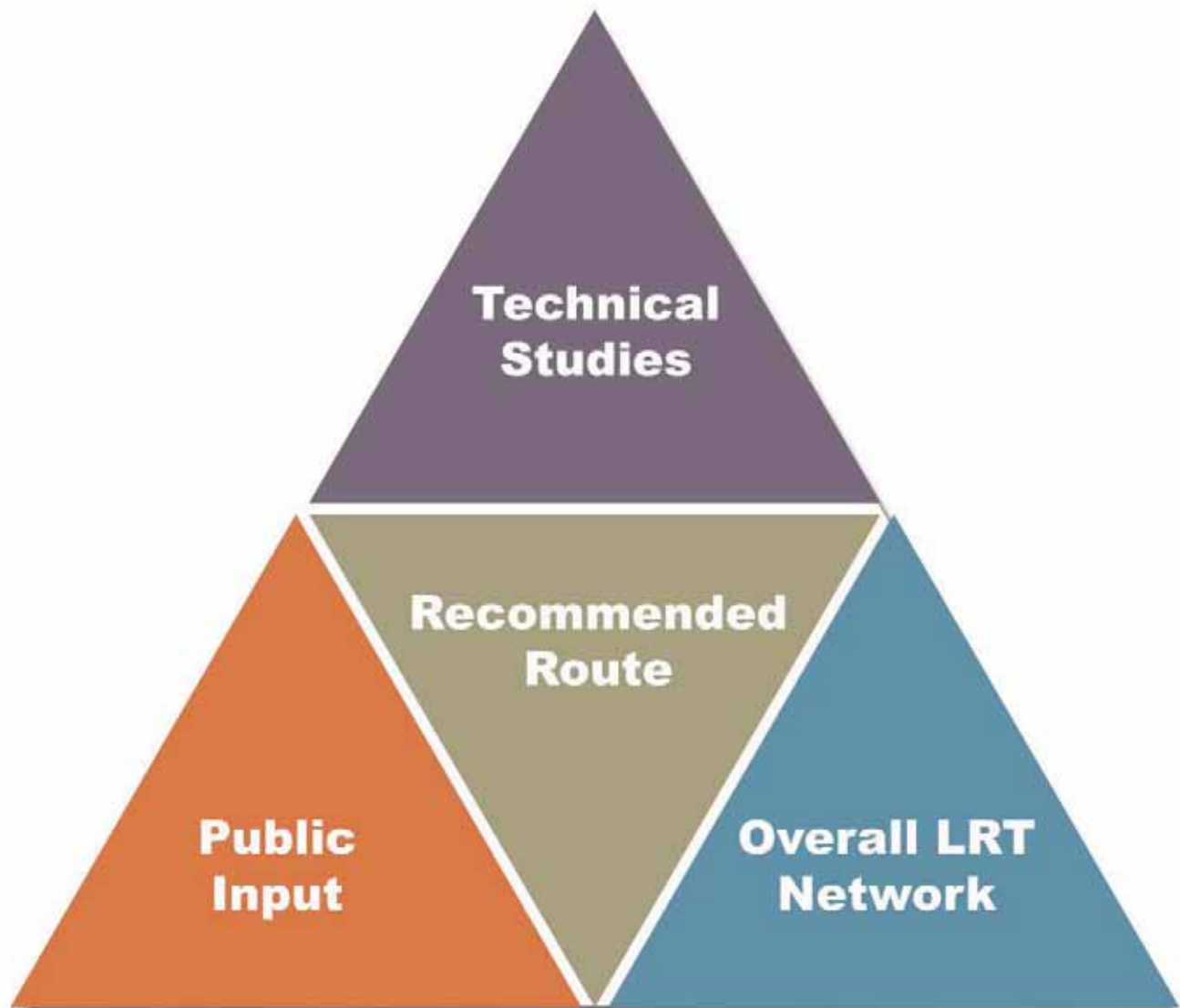
# LRT Network Plan Findings

**A separate LRT Network Plan developed by the City of Edmonton provides the following direction:**

- **Northwest sector has need for LRT**
- **Adopt urban style elements within appropriate context**
- **Accommodate future expansion to St. Albert**



# LRT Corridor Planning Process





# Policy Guidance

## MDP

- **Accommodate a 2040 population of 1+ million people**
- **Manage growth to become a sustainable, healthy and compact city**
- **Grow within an evolving regional context**
- **Design complete, healthy and livable communities**
- **Align medium and higher density development with key transit node and corridor locations including LRT**
- **Protect, preserve and enhance the natural environment**

## TMP

- **Provide a comprehensive transit system as a cornerstone of the transportation system, offering travel choice and encouraging a shift in people's mode of transportation**
- **Expand LRT to all sectors of the city to increase ridership and spur the development of compact, urban communities**
- **Integrate transportation and land use to optimize transportation investment and create an accessible, efficient and urban city form**
- **Provide an effective regional transportation system, including transit, for the movement of people and goods**

## LRT Network Plan

- **Expand the LRT to serve six sectors of Edmonton: Northeast, Northwest, West, South, Southeast and East**
- **Take advantage of urban style LRT to better integrate transit within communities**
- **Integrate LRT with existing and future communities by directly serving people and place, using a surface running LRT with more community focused stops**



# Purpose Statement

**The purpose of the Northwest LRT Project is to establish an LRT connection between the downtown and northwest Edmonton (with a feasible future connection to the City of St. Albert).**

**The guiding principles supporting this purpose include:**

- **Maximize cost effectiveness**
- **Maximize transit system ridership**
- **Maximize use of existing transportation corridors**
- **Protect goods movement corridors (road and rail)**
- **Connect existing and future activity centres**
- **Provide consistency with:**
  - **Transportation Master Plan (TMP)**
  - **Municipal Development Plan (MDP)**
  - **City's strategic direction**
  - **LRT System Network Plan**
  - **St. Albert's TMP**
  - **Integrated land use framework**
  - **Capital Region Plan**
- **Provide opportunities for future system expansion**
- **Increase transit system effectiveness**
- **Shape land use to promote a more compact urban form**
- **Respect neighbourhoods**
- **Respect parklands**
- **Promote economic development/redevelopment**

# Urban Style Design Elements

- **Smaller scale stations spaced closer together**
- **More direct transit, pedestrian and cyclist connections to a greater number of destinations**
- **Open space maximized to provide a safer transit environment**
- **Reduced speed in pedestrian-oriented areas**
- **Investment in aesthetics, such as landscaping, streetscaping, and architectural features**



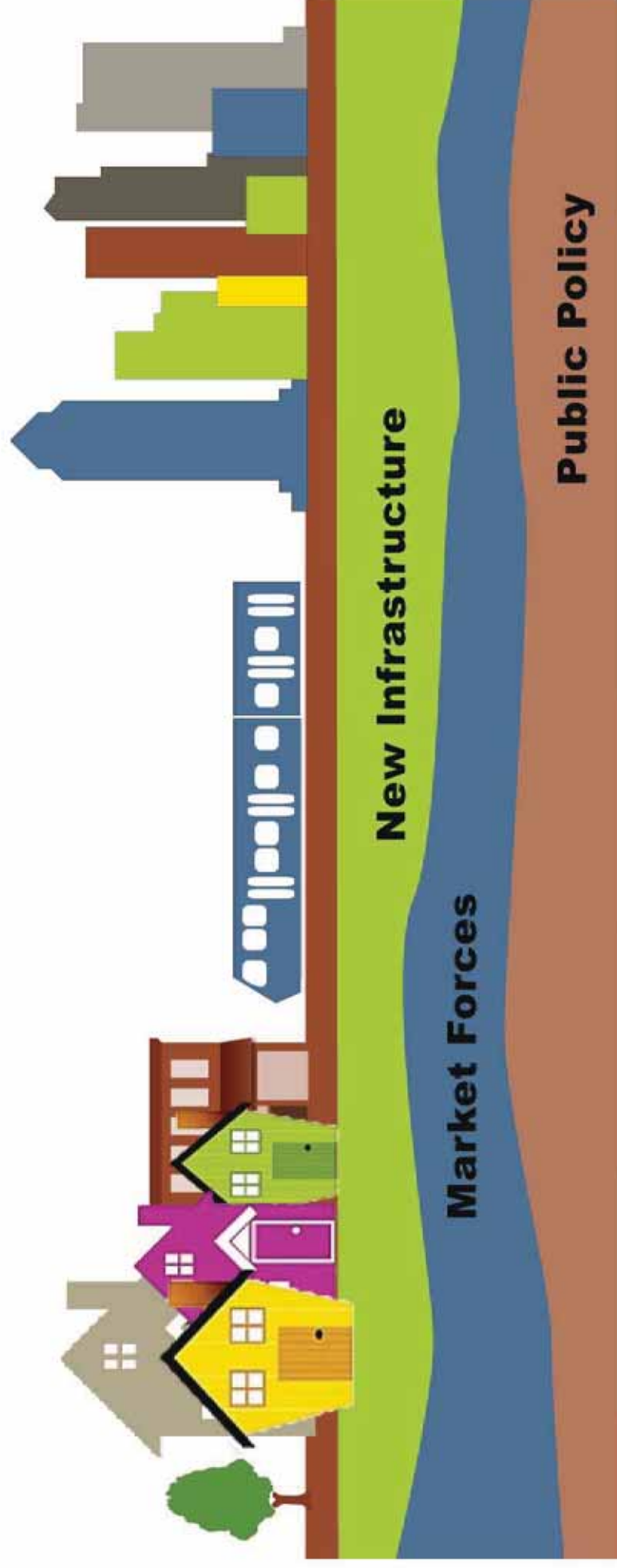
# Transit access affects location decisions

**When transit makes a location more accessible, more people will choose to live, work and shop there**





# Transit, markets, and policies must work together

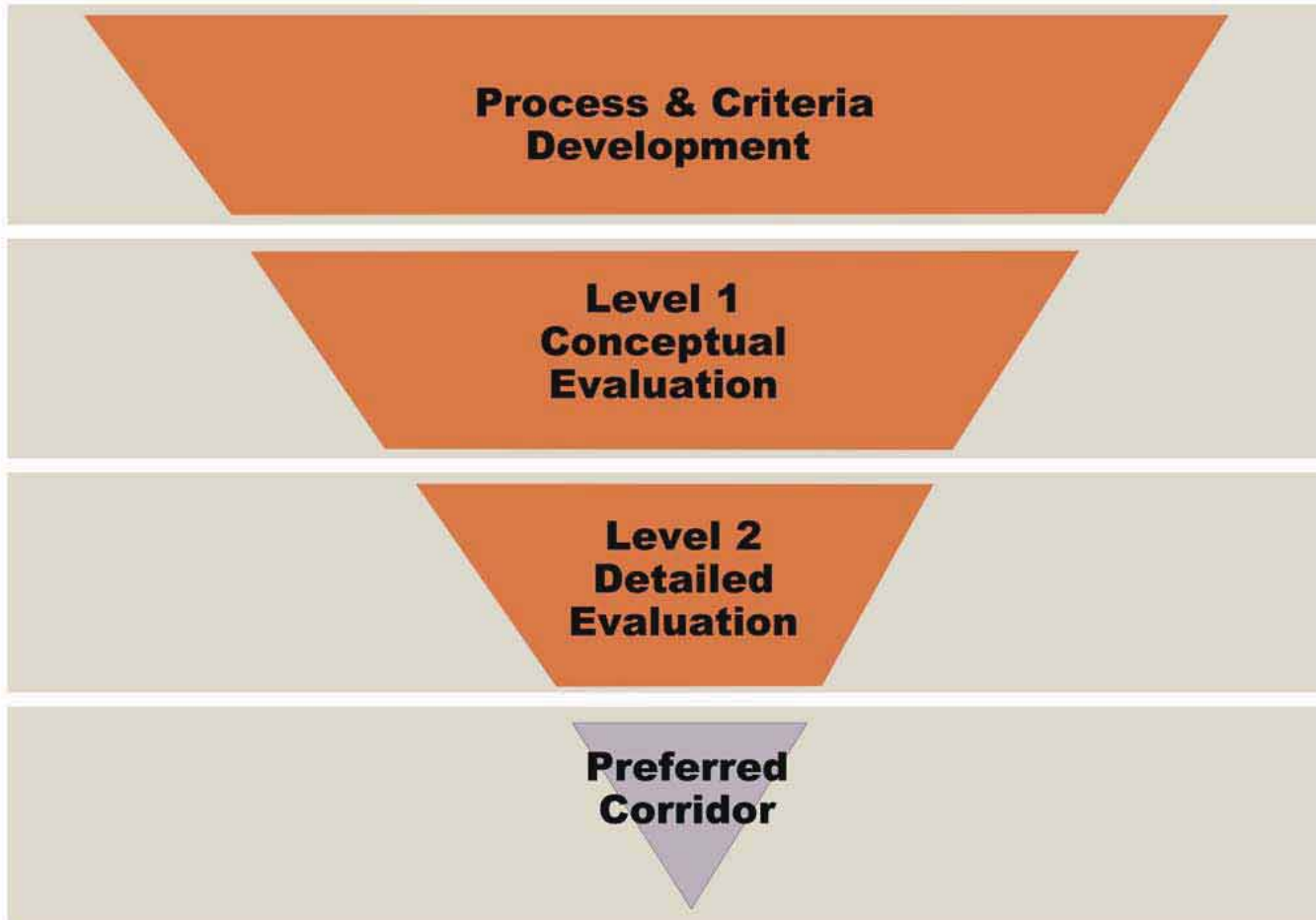


**New Infrastructure = transit**

**Market Forces = demand for office and residential space**

**Public Policy = planning, and zoning**

# Corridor Alternatives Analysis Process



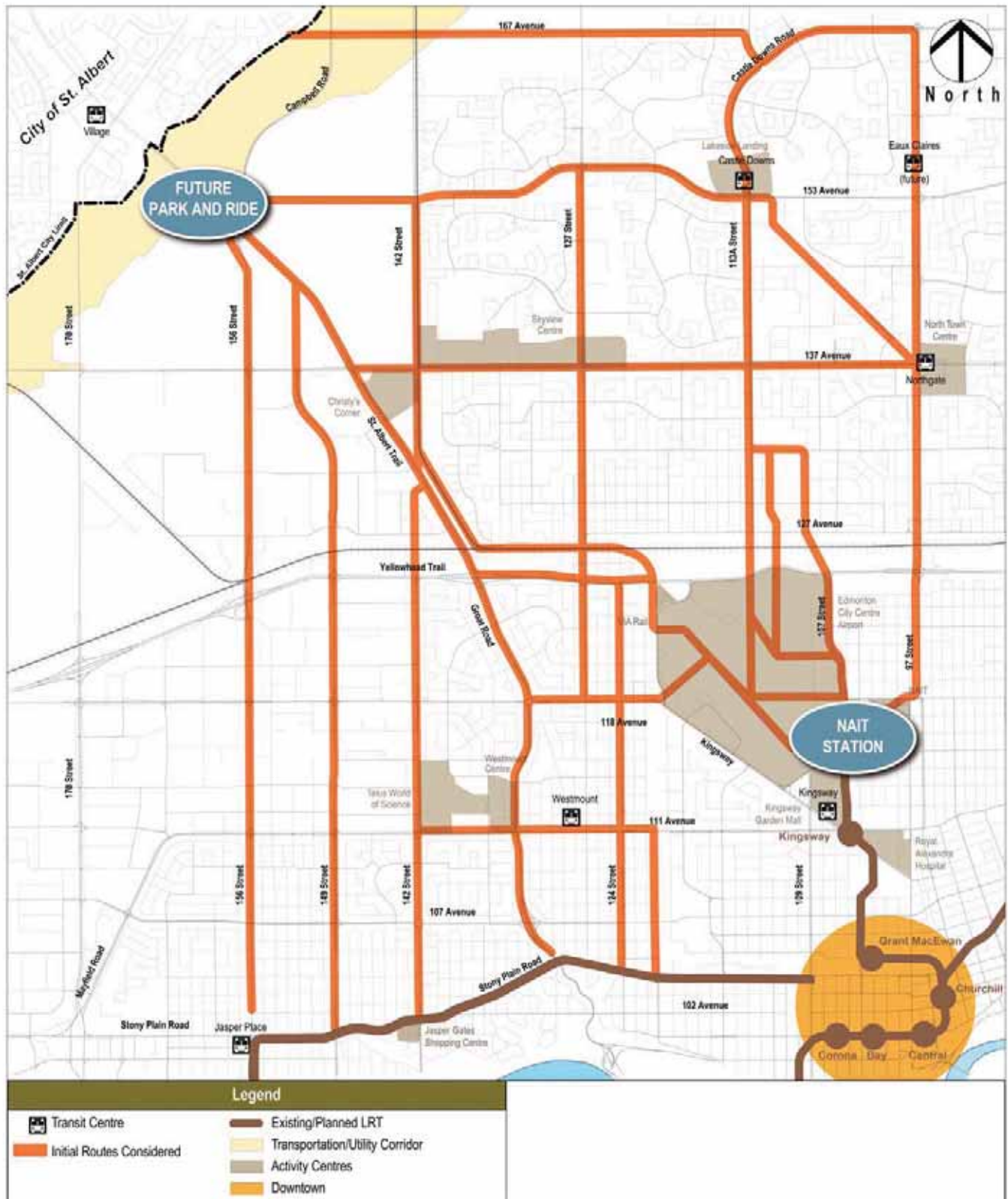
**Stakeholders from key City of Edmonton Departments identified potential LRT corridor options based on key issues and opportunities within the study area. These options were analyzed using evaluation and screening criteria approved by City Council in December 2008.**

**Two levels of evaluation were used. Level 1 is screening focused on “fatal flaws” with respect to feasibility, community, or environmental impacts. Screened options were removed from further consideration.**

**Level 2 screening included more details relating to financial, operational, social, and environmental issues. The criteria were grouped into categories and given a relative weighting. City Council approved categories and weightings were used to evaluate options to develop the preferred alternative.**

**Once the preferred alternative is approved for further study by the City Council, additional planning and conceptual engineering will be done to finalize the route alignment, station locations and neighbourhood accesses.**

# Initial Routes Considered



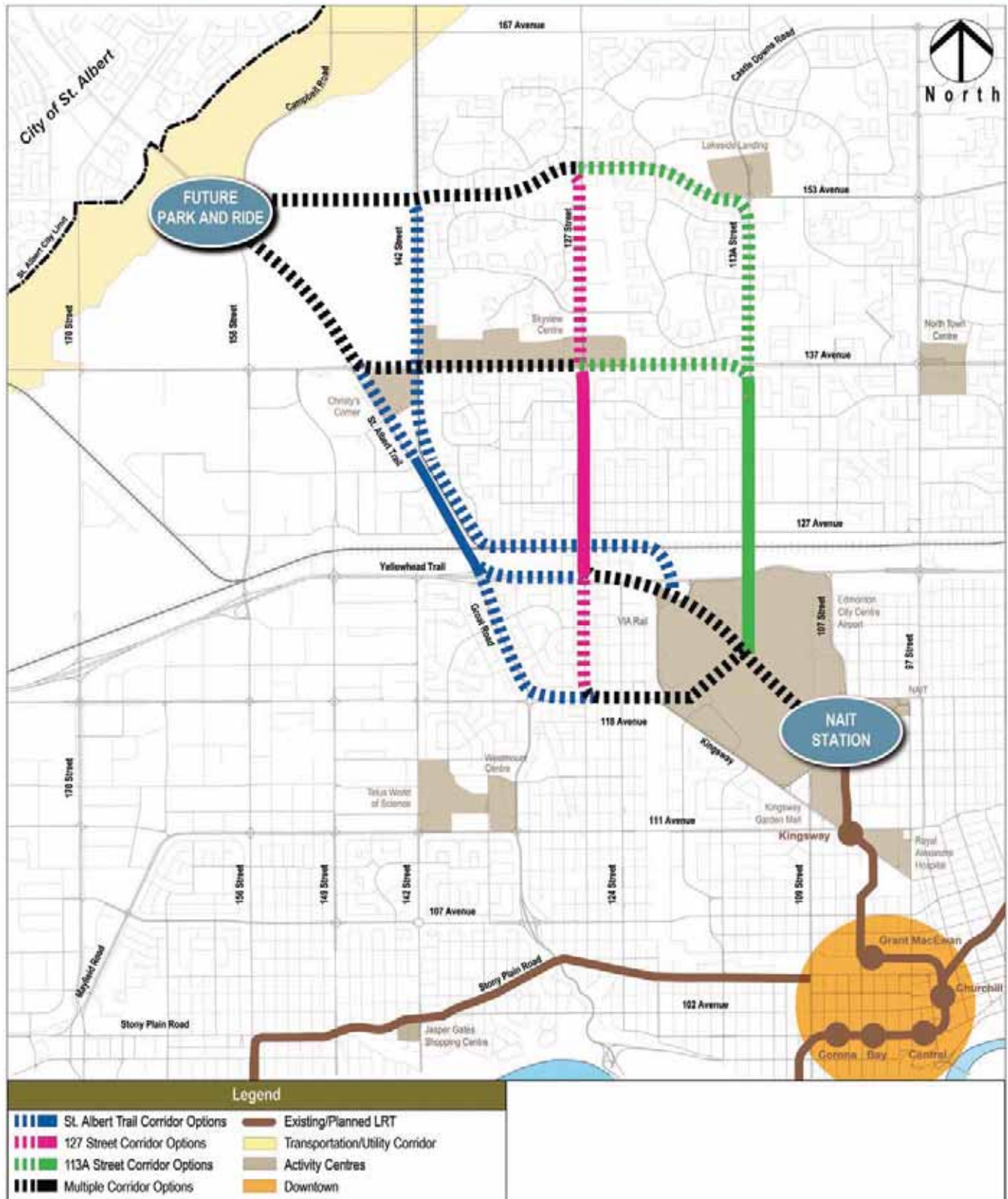


# Level 1 Screening Criteria

**Level 1 screening is focused on “fatal flaws” with respect to feasibility, community, or environmental impacts. All routes initially identified were analyzed and the results were carried forward into detailed evaluation.**

Example Criteria	
<b>Feasibility</b>	<ul style="list-style-type: none"> <li>Meets project purpose</li> <li>Technically feasible</li> <li>Primarily uses existing transportation corridors</li> <li>Minimizes conflict with goods movement</li> <li>Multimodal: Connects with bus, existing LRT</li> <li>Allows future extension</li> <li>Route is primarily at grade</li> </ul>
<b>Community</b>	<ul style="list-style-type: none"> <li>Consistent with Transportation Master Plan and Municipal Development Plan</li> <li>Connect priority revitalization areas</li> <li>Provide needed service to the area</li> <li>Connect to current and/or future activity centers</li> <li>Adjacent to transit supportive planned land use</li> <li>Current, future population along alignment</li> <li>Current, future employment along alignment</li> <li>Create irresolvable neighborhood barrier</li> <li>Potential for Station “fit” within neighborhoods</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>Does not create irresolvable social impacts</li> <li>Does not create irresolvable environmental impacts</li> <li>Is not adjacent to multiple parks, open spaces, river valley or other protected areas</li> </ul>

# NWLRT Corridor Options

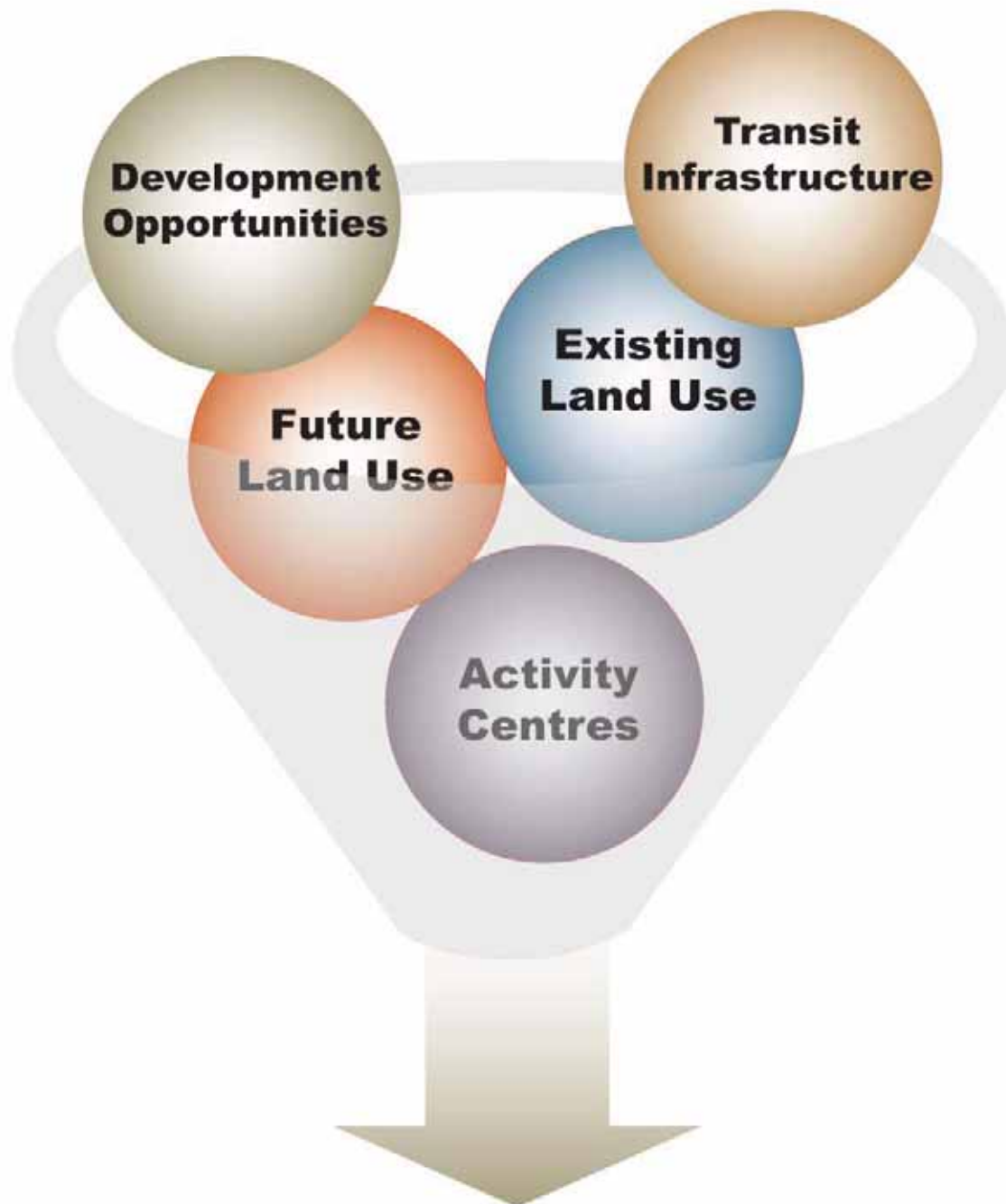


# Level 2 Evaluation Criteria

Level 2 evaluation involves rating and ranking remaining route options based on a number of quantitative and qualitative criteria such as land use opportunities, ridership, constructability, neighbourhood integration, environmental challenges. Specific criteria under each of the main categories are defined in consideration of area specific needs. The findings from the second phase are weighted.

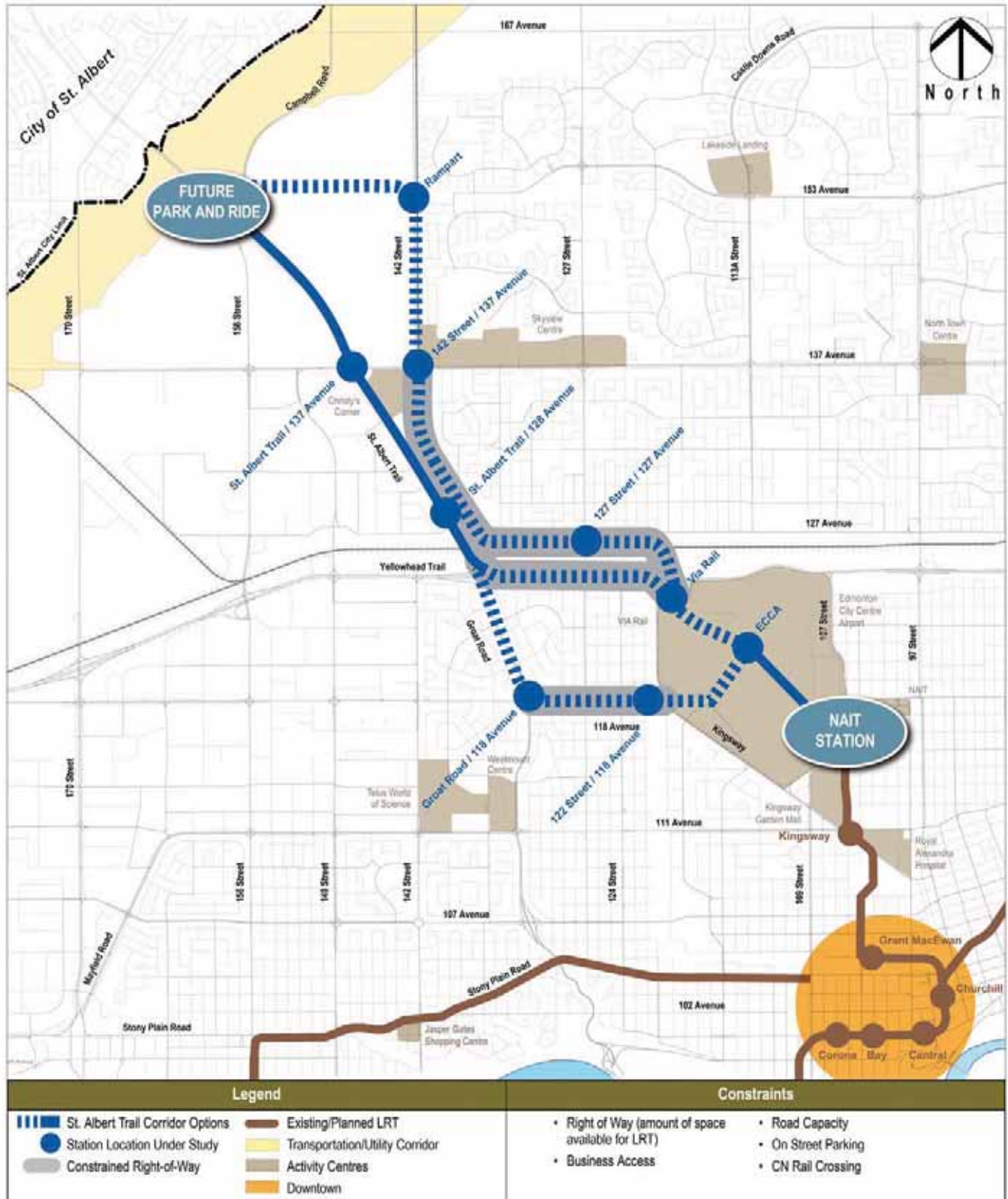
Category/Weighting		Typical Criteria
Land Use/Promoting Compact Urban Form	4	<ul style="list-style-type: none"> <li>Existing transit centres/park and ride</li> <li>Existing/future activity centres/destinations</li> <li>Land available with potential for redevelopment</li> <li>Existing/future population density</li> <li>Existing/future employment density</li> <li>Existing/future mix of housing/zoning/land use types</li> <li>Number of large development proposals under review or construction</li> <li>Existing land-use plans/bylaws support development/redevelopment</li> </ul>
Movement of People/Goods	3	<ul style="list-style-type: none"> <li>Percentage within existing public/rail right-of-way</li> <li>Projected ridership</li> <li>Estimated cost/rider</li> <li>Projected travel time</li> <li>Potential changes in roadway capacity within existing transportation corridors</li> <li>Includes existing/future bicycle/pedestrian facilities</li> <li>Potential for park and ride locations</li> </ul>
Feasibility/Constructability	2	<ul style="list-style-type: none"> <li>Estimated capital/operating cost per kilometer</li> <li>How much of route is at grade (and grade-separated)?</li> <li>Complexity to extend route in future</li> <li>Proximity to LRT maintenance facility</li> <li>Number of at-grade crossings</li> </ul>
Parks, River Valley, and Ravine System	2	<ul style="list-style-type: none"> <li>Impacts/benefits to parks/open space/river valley access</li> <li>Need to acquire public land for the route</li> </ul>
Social Environment	2	<ul style="list-style-type: none"> <li>Need for private property acquisition</li> <li>Impact on local property values</li> <li>Ability to avoid, minimize, or mitigate neighbourhood impacts</li> <li>Potential for noise/vibration impacts</li> <li>Adjacent known cultural resource/heritage sites</li> <li>Student population near stations</li> <li>Number of low-income, no car, senior households near stations</li> </ul>
Natural Environment	2	<ul style="list-style-type: none"> <li>Impact on riparian habitat</li> <li>Number of river/stream crossings</li> <li>Potential for disruption due to construction</li> </ul>

# Potential Station Identification Process



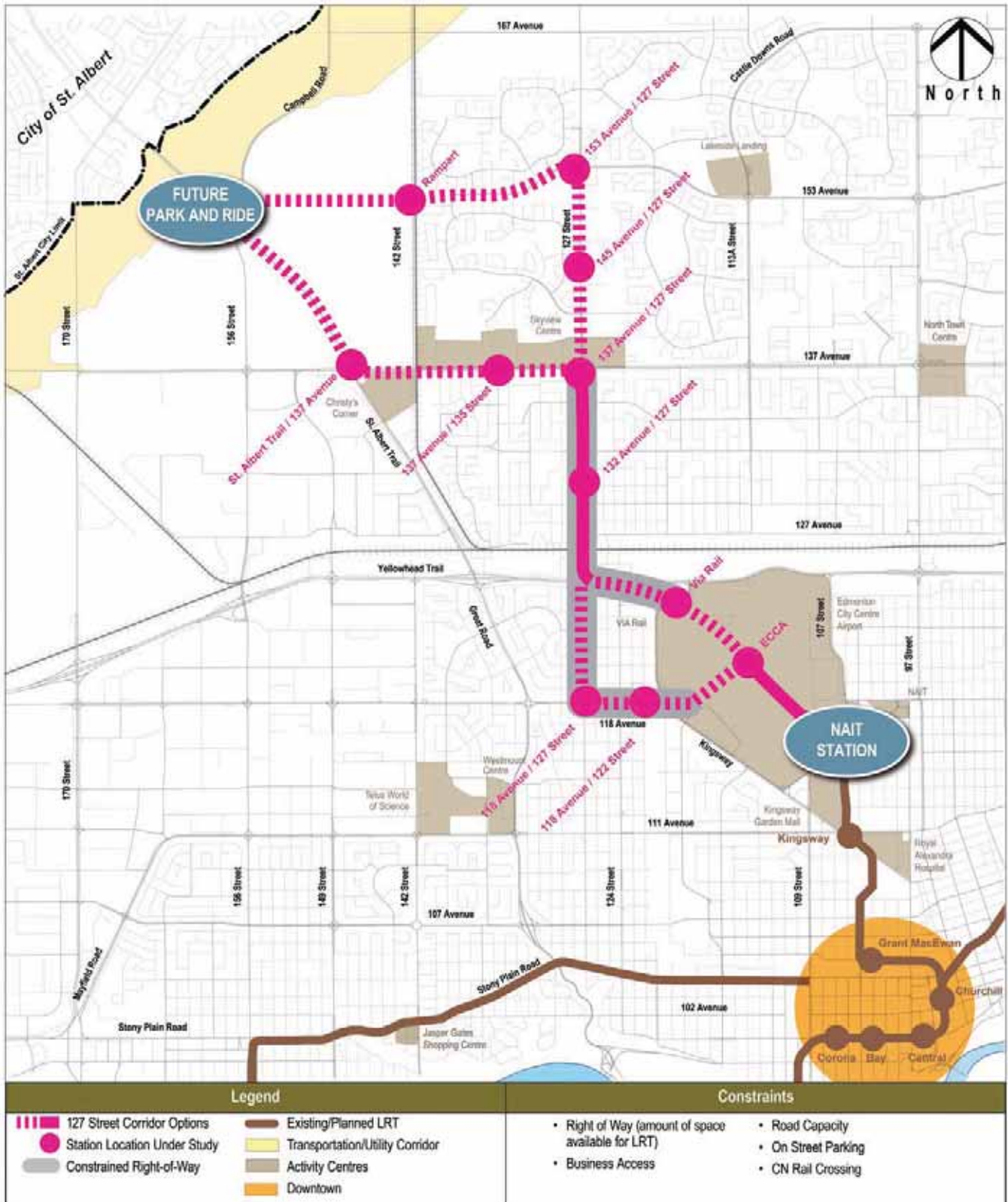
**Station Locations for Comparison Purposes**

# St. Albert Trail Corridor





# 127 Street Corridor

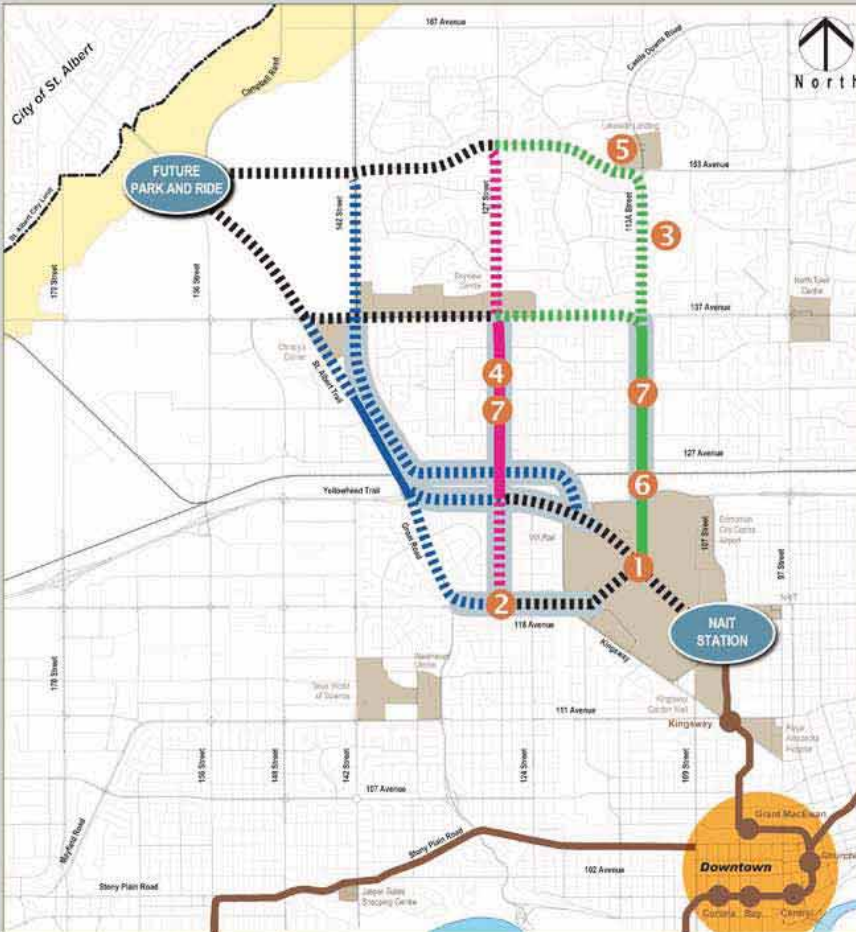


# 113A Street Corridor



# Level 2 Evaluation Highlights

SUBJECT TO CHANGE



## Highlights

- 1 **Edmonton City Centre Airport**  
Redevelopment opportunities under review
- 2 **118 Avenue Area**  
Analyzed for redevelopment potential
- 3 **Griesbach**  
Redevelopment under way
- 4 **127 Street Area**  
Analyzed for redevelopment potential
- 5 **Castle Downs**  
Activity centre and transit supportive area
- 6 **New Connection**  
Corridors provide new connection over / under Yellowhead Trail and CN Rail Yards
- 7 **Enhanced Service**  
Corridors provide enhanced service to NW Edmonton



## Statistics

Corridors	Estimated Travel Time – Park and Ride to NAIT
<b>St. Albert Trail</b>	13 to 15 minutes
<b>127 Street</b>	18 to 19 minutes
<b>113A Street</b>	16 to 18 minutes

Corridors	Projected Future Daily Boardings
<b>St. Albert Trail</b>	30,000 to 31,000
<b>127 Street</b>	33,000 to 40,000
<b>113A Street</b>	42,000 to 45,000

## Comparative Costs



**St. Albert Trail**  
\$700 million to \$800 million



**127 Street**  
\$800 million to \$1.0 billion




**113A Street**  
\$1.0 billion to \$1.1 billion





















- Land costs were not included in comparative estimates; land requirements are specifically analyzed in a separate criteria
- Refined cost estimates will be developed at the completion of concept engineering
- Detailed costs for budget purposes will be developed during the preliminary engineering phase

# Summary of Level 2 Evaluation Process

The corridor scoring is generalized by category. The categories and criteria within the categories are endorsed by City Council. Each category was evaluated based on responsiveness to the criteria.

 High Responsiveness
  Low Responsiveness

CATEGORY	CORRIDORS EVALUATED		
	St. Albert Trail	127 Street	113A Street
<i>Feasibility / Constructability</i>			
<i>Movement of People / Goods</i>			
<i>Land Use / Promoting Compact Urban Form</i>			
<i>Parks, River Valley, and Ravine System</i>			
<i>Natural Environment</i>			
<i>Social Environment</i>			

# Northwest LRT Recommended Corridor



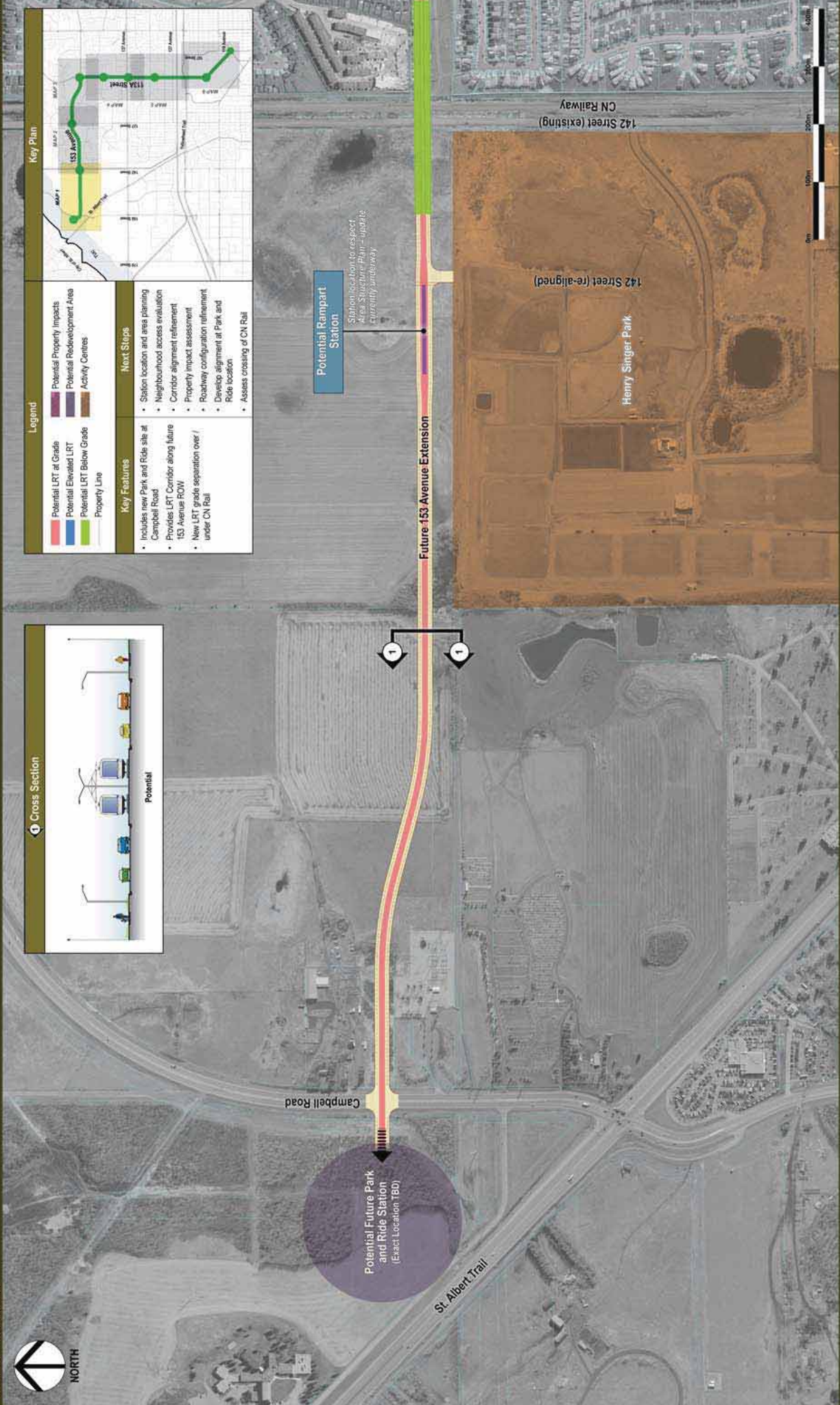
# Proposed Northwest LRT Corridor – Map 1

June 2010

SUBJECT TO CHANGE



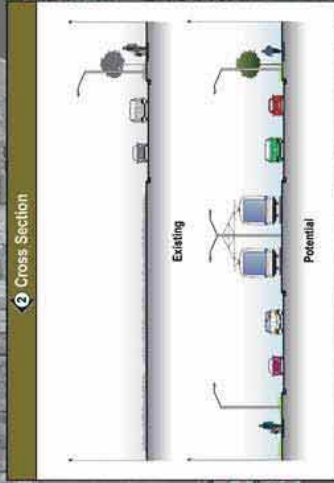
Legend	
<span style="color: red;">█</span>	Potential LRT at Grade
<span style="color: blue;">█</span>	Potential Elevated LRT
<span style="color: green;">█</span>	Potential LRT Below Grade
<span style="color: black;">█</span>	Property Line
<span style="color: purple;">█</span>	Potential Property Impacts
<span style="color: orange;">█</span>	Potential Redevelopment Area
<span style="color: yellow;">█</span>	Activity Centres
Key Features	
<ul style="list-style-type: none"> <li>Includes new Park and Ride site at Campbell Road</li> <li>Provides LRT Corridor along future 153 Avenue ROW</li> <li>New LRT grade separation over / under CN Rail</li> </ul>	Next Steps
	<ul style="list-style-type: none"> <li>Station location and area planning</li> <li>Neighbourhood access evaluation</li> <li>Corridor alignment refinement</li> <li>Property impact assessment</li> <li>Roadway configuration refinement</li> <li>Develop alignment at Park and Ride location</li> <li>Assess crossing of CN Rail</li> </ul>



# Proposed Northwest LRT Corridor – Map 2

June 2010

SUBJECT TO CHANGE



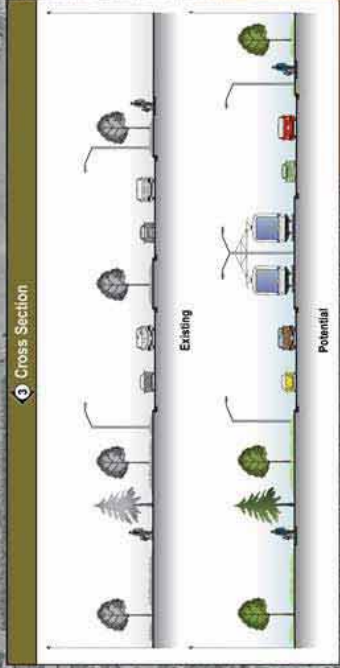
- Legend**
- Potential LRT at Grade
  - Potential Elevated LRT
  - Potential LRT Below Grade
  - Property Line
- Key Features**
- Provides service to established neighbourhoods
  - includes new LRT grade separation over / under CN Rail
- Next Steps**
- Station location and area planning
  - Neighbourhood access evaluation
  - Corridor alignment refinement
  - Property impact assessment
  - Roadway configuration refinement
  - Assess crossing of CN Rail
- Potential Property Impacts**
- Potential Redevelopment Area
  - Activity Centres



# Proposed Northwest LRT Corridor – Map 3

SUBJECT TO CHANGE

June 2010



**Legend**

- Potential LRT at Grade
- Potential Elevated LRT
- Potential LRT Below Grade
- Property Line

**Key Features**

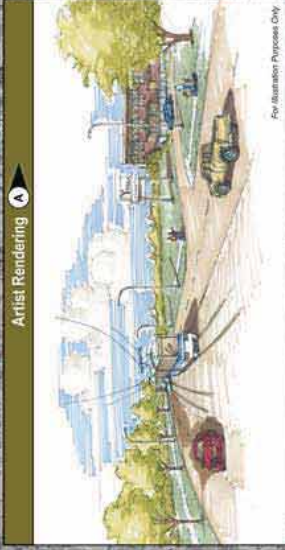
- Provides service to established neighbourhoods
- Provides service to Griesbach Redevelopment Area

**Next Steps**

- Station location and area planning
- Neighbourhood access evaluation
- Corridor alignment refinement
- Property impact assessment
- Roadway configuration refinement

**Potential Property Impacts**

- Potential Redevelopment Area
- Activity Centres

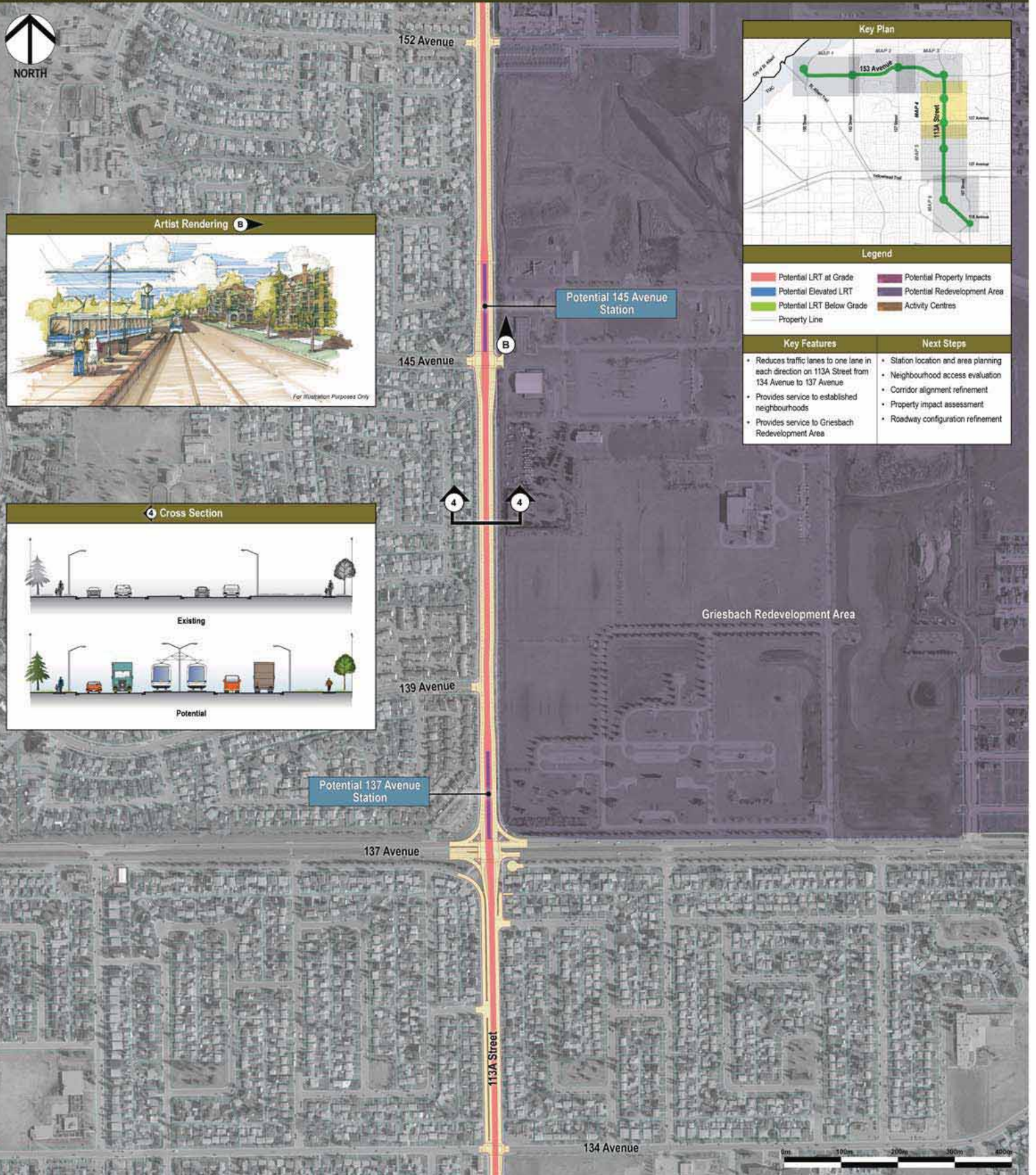
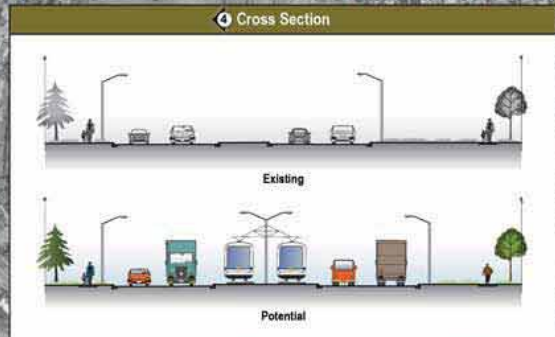




# Proposed Northwest LRT Corridor – Map 4

SUBJECT TO CHANGE

June 2010



**Legend**

Potential LRT at Grade	Potential Property Impacts
Potential Elevated LRT	Potential Redevelopment Area
Potential LRT Below Grade	Activity Centres
Property Line	

Key Features	Next Steps
<ul style="list-style-type: none"> <li>Reduces traffic lanes to one lane in each direction on 113A Street from 134 Avenue to 137 Avenue</li> <li>Provides service to established neighbourhoods</li> <li>Provides service to Griesbach Redevelopment Area</li> </ul>	<ul style="list-style-type: none"> <li>Station location and area planning</li> <li>Neighbourhood access evaluation</li> <li>Corridor alignment refinement</li> <li>Property impact assessment</li> <li>Roadway configuration refinement</li> </ul>

# Proposed Northwest LRT Corridor – Map 5

SUBJECT TO CHANGE

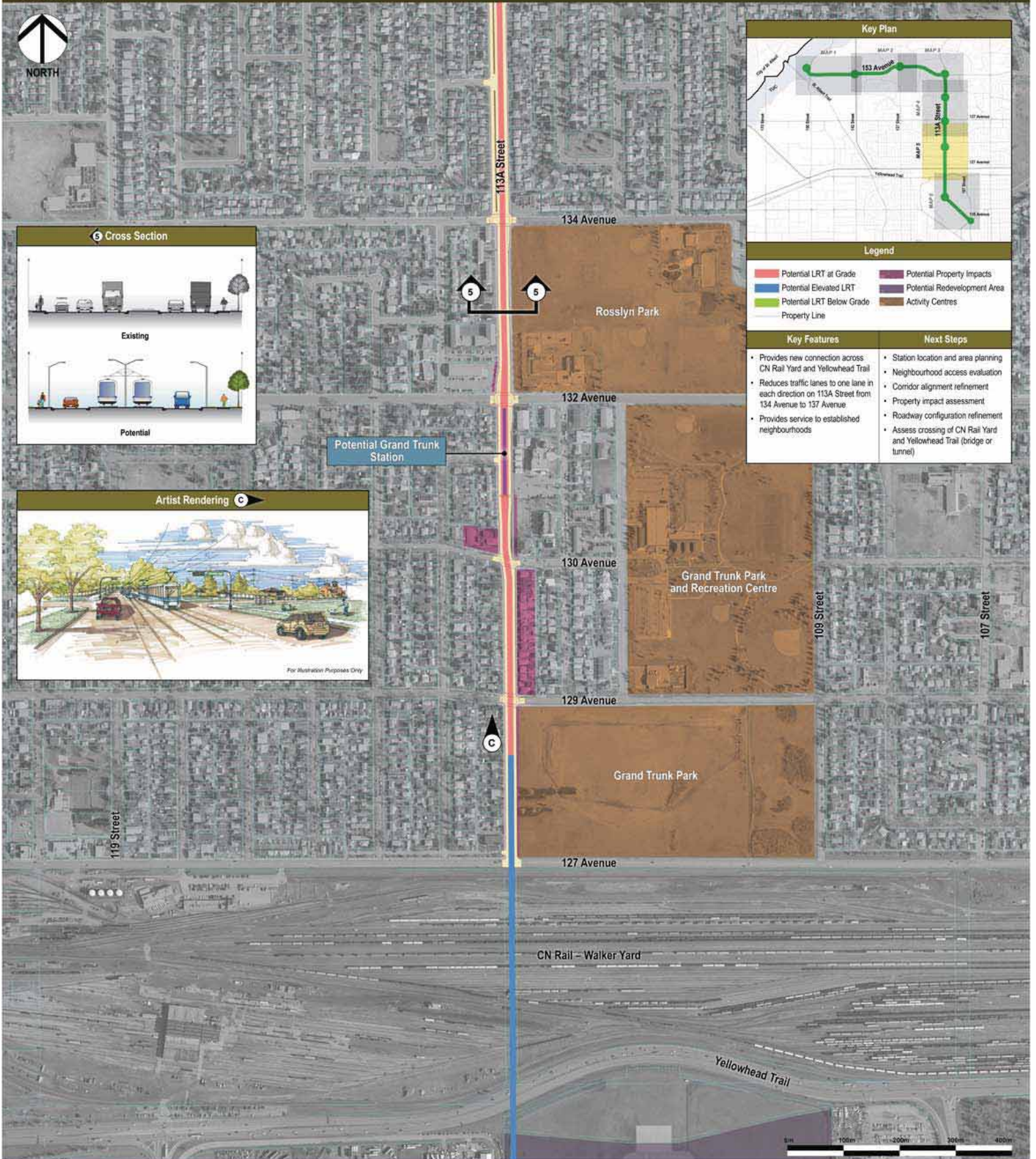
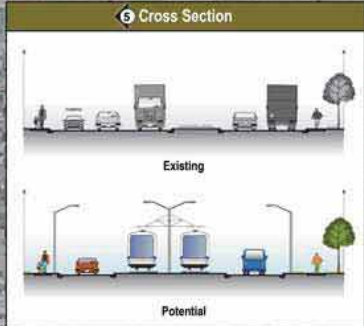
June 2010



Legend	
<span style="color: red;">█</span> Potential LRT at Grade	<span style="color: purple;">█</span> Potential Property Impacts
<span style="color: blue;">█</span> Potential Elevated LRT	<span style="color: brown;">█</span> Potential Redevelopment Area
<span style="color: green;">█</span> Potential LRT Below Grade	<span style="color: orange;">█</span> Activity Centres
<span style="color: black;">█</span> Property Line	

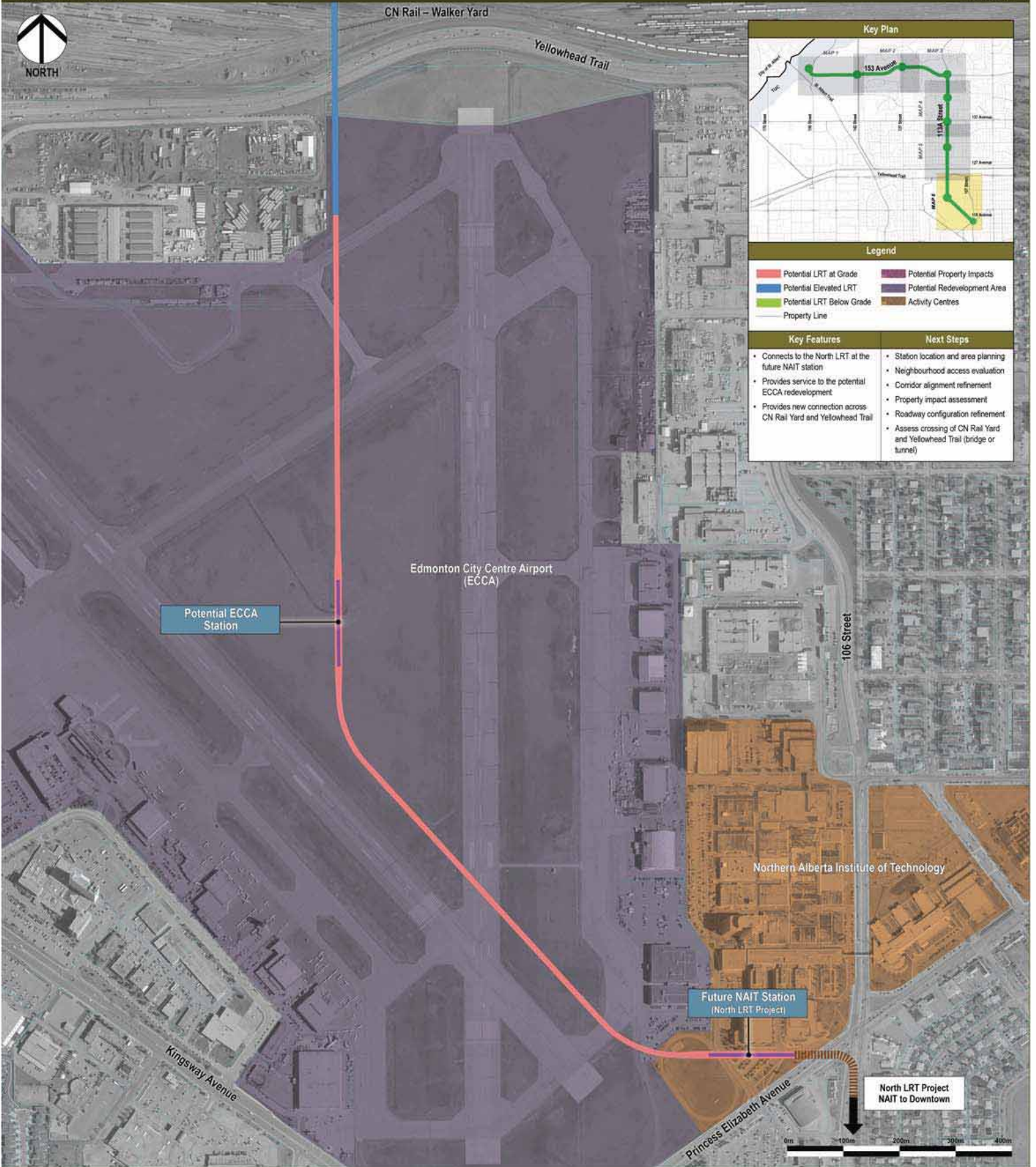
Key Features	Next Steps
<ul style="list-style-type: none"> <li>Provides new connection across CN Rail Yard and Yellowhead Trail</li> <li>Reduces traffic lanes to one lane in each direction on 113A Street from 134 Avenue to 137 Avenue</li> <li>Provides service to established neighbourhoods</li> </ul>	<ul style="list-style-type: none"> <li>Station location and area planning</li> <li>Neighbourhood access evaluation</li> <li>Corridor alignment refinement</li> <li>Property impact assessment</li> <li>Roadway configuration refinement</li> <li>Assess crossing of CN Rail Yard and Yellowhead Trail (bridge or tunnel)</li> </ul>



# Proposed Northwest LRT Corridor – Map 6

SUBJECT TO CHANGE

June 2010



Legend	
<span style="color: red;">—</span>	Potential LRT at Grade
<span style="color: blue;">—</span>	Potential Elevated LRT
<span style="color: green;">—</span>	Potential LRT Below Grade
	Property Line
<span style="background-color: purple; color: white;"> </span>	Potential Property Impacts
<span style="background-color: brown; color: white;"> </span>	Potential Redevelopment Area
<span style="background-color: orange; color: white;"> </span>	Activity Centres

Key Features	Next Steps
<ul style="list-style-type: none"> <li>Connects to the North LRT at the future NAIT station</li> <li>Provides service to the potential ECCA redevelopment</li> <li>Provides new connection across CN Rail Yard and Yellowhead Trail</li> </ul>	<ul style="list-style-type: none"> <li>Station location and area planning</li> <li>Neighbourhood access evaluation</li> <li>Corridor alignment refinement</li> <li>Property impact assessment</li> <li>Roadway configuration refinement</li> <li>Assess crossing of CN Rail Yard and Yellowhead Trail (bridge or tunnel)</li> </ul>

Future NAIT Station  
(North LRT Project)

Potential ECCA Station



# NAIT LRT Project Background

## September 25, 2008

**City Council approved the Concept Plan for a North LRT Extension from Downtown to NAIT.**

## July 8, 2009

**City Council instructed the Transportation Department to submit plans for the realignment of NW (NAIT)-LRT based on available access to lands currently impacted by 16-34 runway.**

## September 30, 2009

**City Council instructed the Transportation Department to prepare an amendment to the Transportation System Bylaw 15101 to include the revised alignment.**

## December 15, 2009

**City Council approved the realignment of the North LRT to extend across Princess Elizabeth Avenue west of 106 Street to a point east of 109 Street near the NAIT campus, with the alignment to the northwest beyond NAIT to be determined under a separate study.**



NAIT Campus



Demonstration Plan  
for the ECCA Lands



Princess Elizabeth Avenue



# City of Edmonton Transportation Planning

*Thank you for  
your participation  
and input!*

**Your comments are being collected for possible summary reports to City Council and the civic administration regarding opinions expressed at this Open House. Information is being collected under the authority of Section 33(C) of the Freedom of Information and Protection of Privacy Act (F.O.I.P). It is protected by the privacy provisions of F.O.I.P.**