City of Edmonton

Welcome

Downtown LRT

97 Street to 95 Street

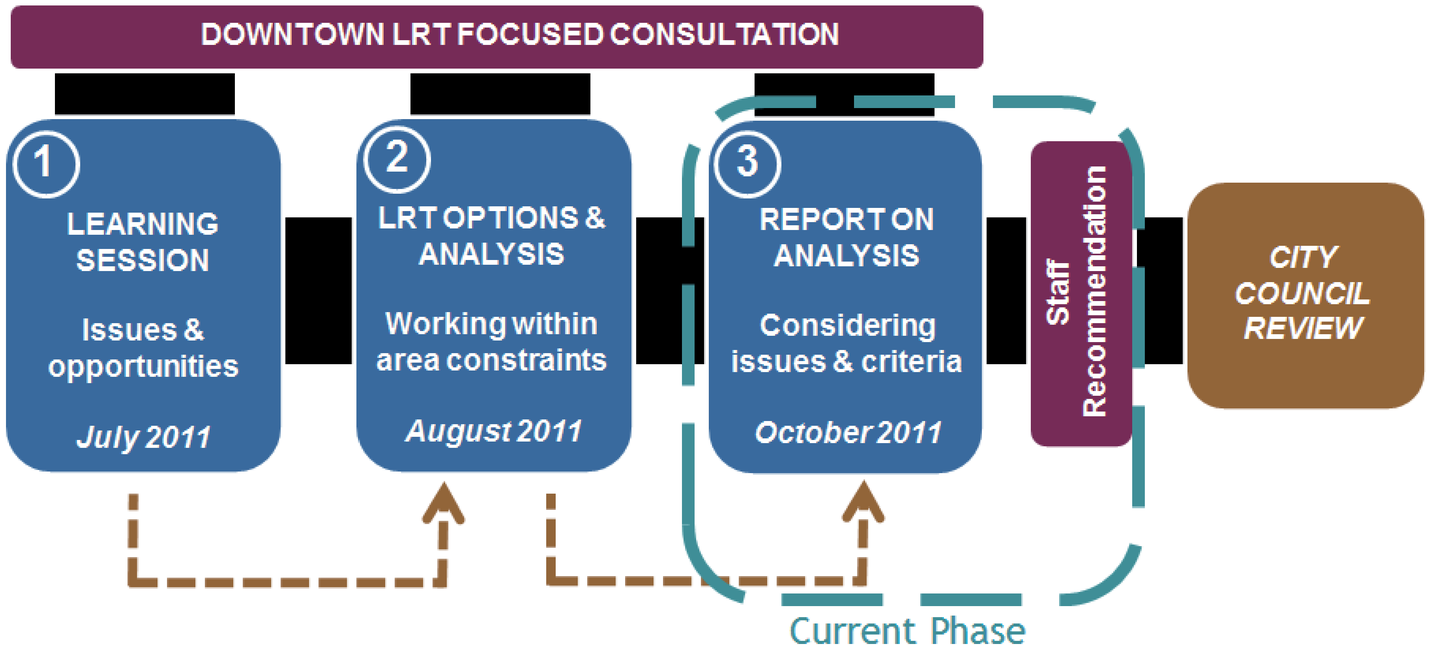
Information Session

October 5, 2011

THE CITY OF Edmonton

Focused Consultation Process

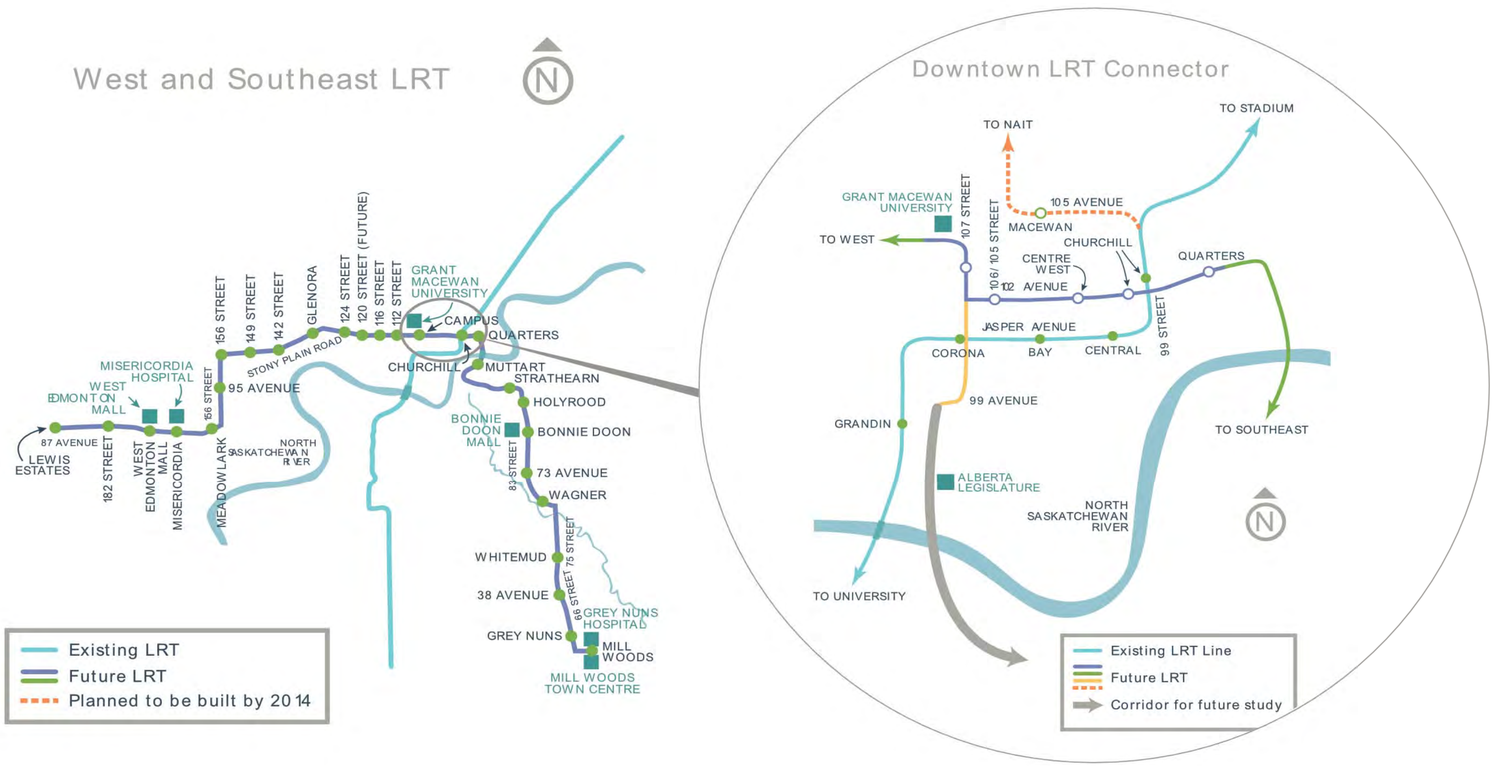
Council directed City administration to undertake further consultation and evaluation of the possible options for the Downtown LRT route between 97 and 95 Streets on both the 102 and 102A Avenue corridors



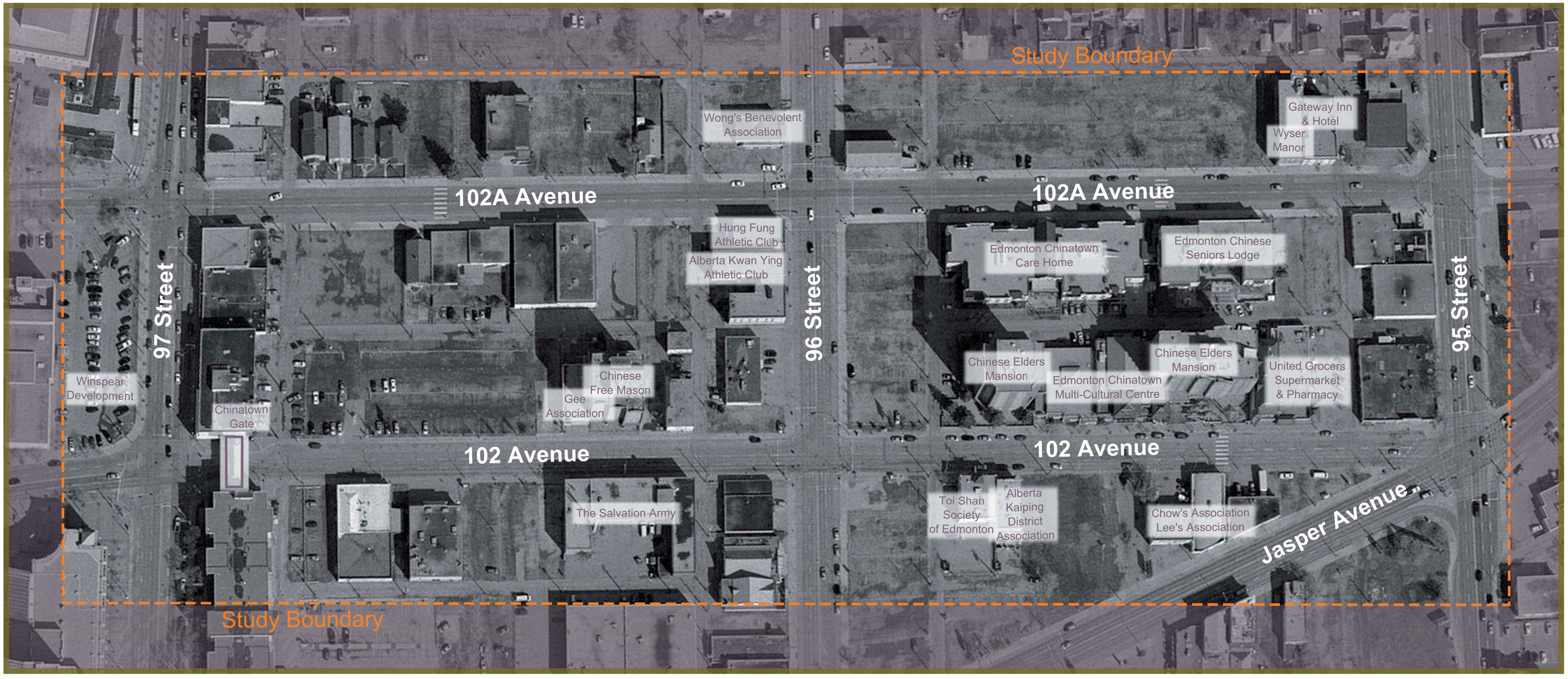
West, Downtown and Southeast LRT Corridor

The Downtown LRT Connector forms part of the wider Southeast to West low-floor LRT project

The 97 Street to 95 Street segment represents 600 metres of the total 27 kilometres of planned low-floor LRT route



Study Area


Study Boundary
Wong's Benevolent Association
Gateway Inn & Hotel
Wyser Manor
102A Avenue
102A Avenue
Hung Fung Athletic Club
Alberta Kwan Ying Athletic Club
Edmonton Chinatown Care Home
Edmonton Chinese Seniors Lodge
97 Street
96 Street
95 Street
Winspear Development
Chinatown Gate
Chinese Free Mason
Gee Association
Chinese Elders Mansion
Edmonton Chinatown Multi-Cultural Centre
Chinese Elders Mansion
United Grocers Supermarket & Pharmacy
102 Avenue
102 Avenue
The Salvation Army
Toi Shan Society of Edmonton
Alberta Kaiping District Association
Chow's Association Lee's Association
Jasper Avenue
Study Boundary

Session 1 - Learning Session

On July 24th, a walking tour followed by round table discussions was undertaken with residents, business owners, property owners, and other stakeholders from the community and surrounding study area.

Many issues and opportunities were identified by study area stakeholders. Key themes identified included:

- The Chinatown Gate's historic & cultural significance
- The critical community & cultural identity of 102 Avenue area (core of the Chinese community)
- The importance of 102 Avenue carrying many pedestrians, buses & traffic
- That there are fewer activity centres and multiple vacant lots are located along 102A Avenue
- That an underground LRT option mitigates potential negative impacts
- That there is potential for the benefits of more development and activity to draw people to the area
- The critical importance of emergency access
- That it is crtical to maintain vehicular access and parking
- The importance of the pedestrian realm and mid block crossings (seniors & local businesses)

What is Low-floor Urban Style LRT ?

Monitor with Rolling Presentation

Session 2 - Options Developed by Stakeholders

On August 21st, the second in a series of three meetings was held at the Winspear Centre with residents, business/land owners and community group representatives from the community surrounding 102 Avenue and 102A Avenue, between 95 Street and 97 Street.

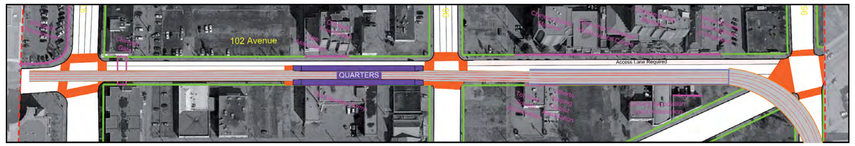
Participants attending this session were split into five groups, with each group given the opportunity to design four LRT options within the study boundary.

The four options included:

- 102A Avenue Surface
- 102A Avenue Underground
- 102 Avenue Surface
- 102 Avenue Underground

102 Ave Surface Options

Group 1



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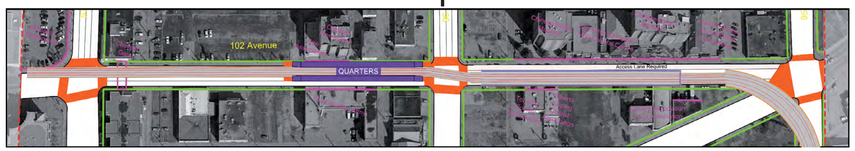

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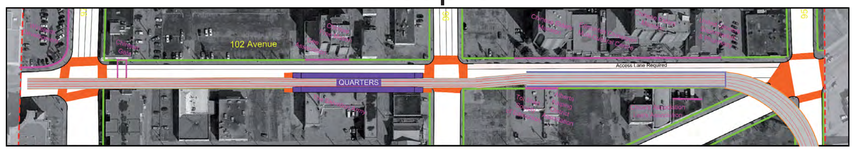

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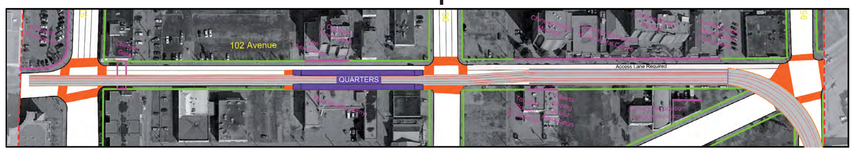
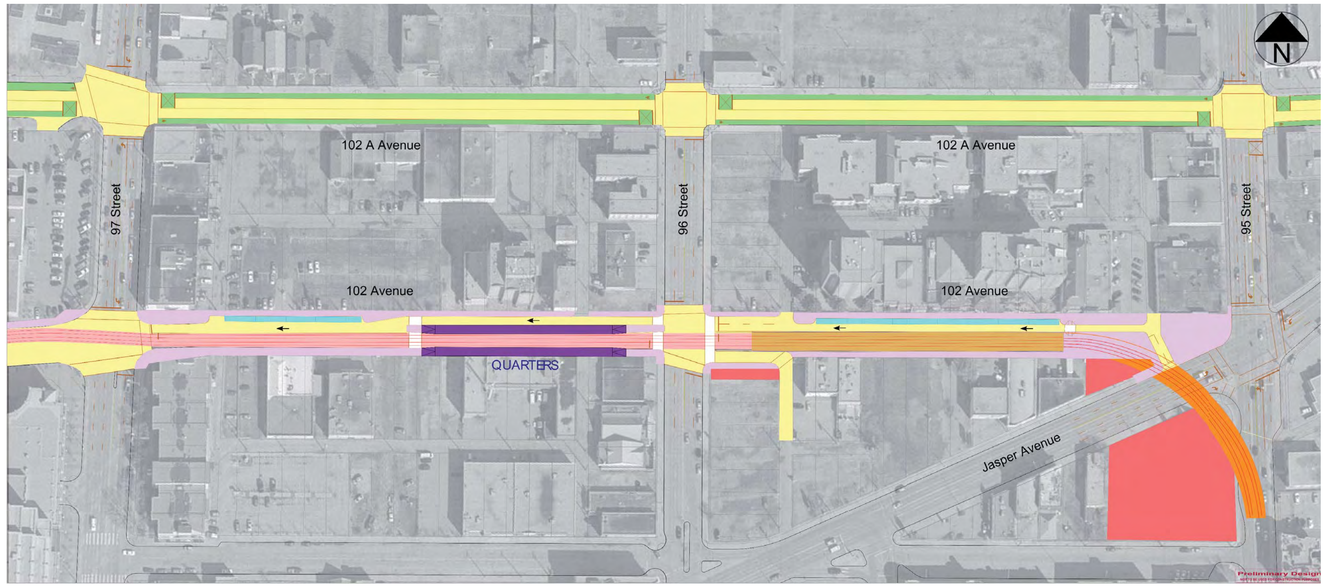


Group 5

Evaluation Option



New and Recommended Elements

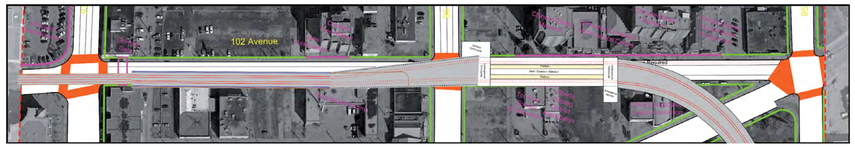
- LRT at street level
- Underground LRT
- LRT stop platform
- Roadworks
- Cycle facilities
- Sidewalk
- On-street parking
- Tunnel portal
- Property requirement

Stakeholder Elements Included in Design

- The stop is located on the south side of 102 Ave
- The stop is located between 96th Street and 97th Street
- On street parking is provided on 102 Ave

102 Ave Underground Options

Group 1



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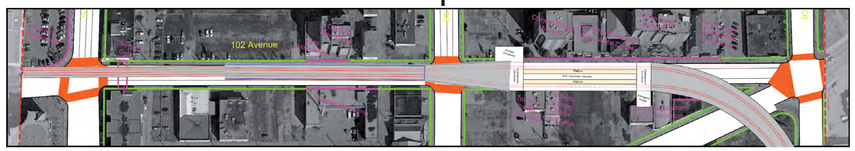

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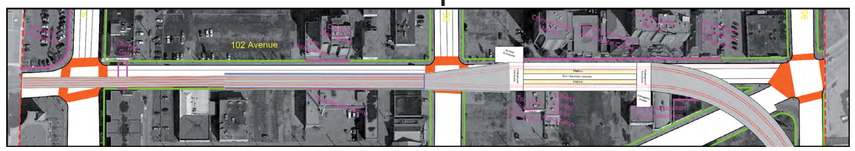

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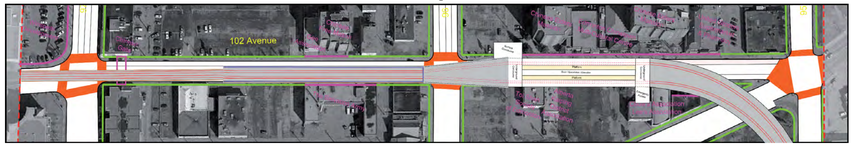

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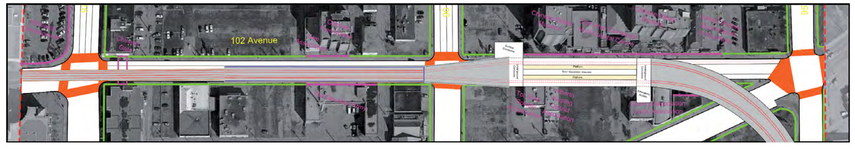

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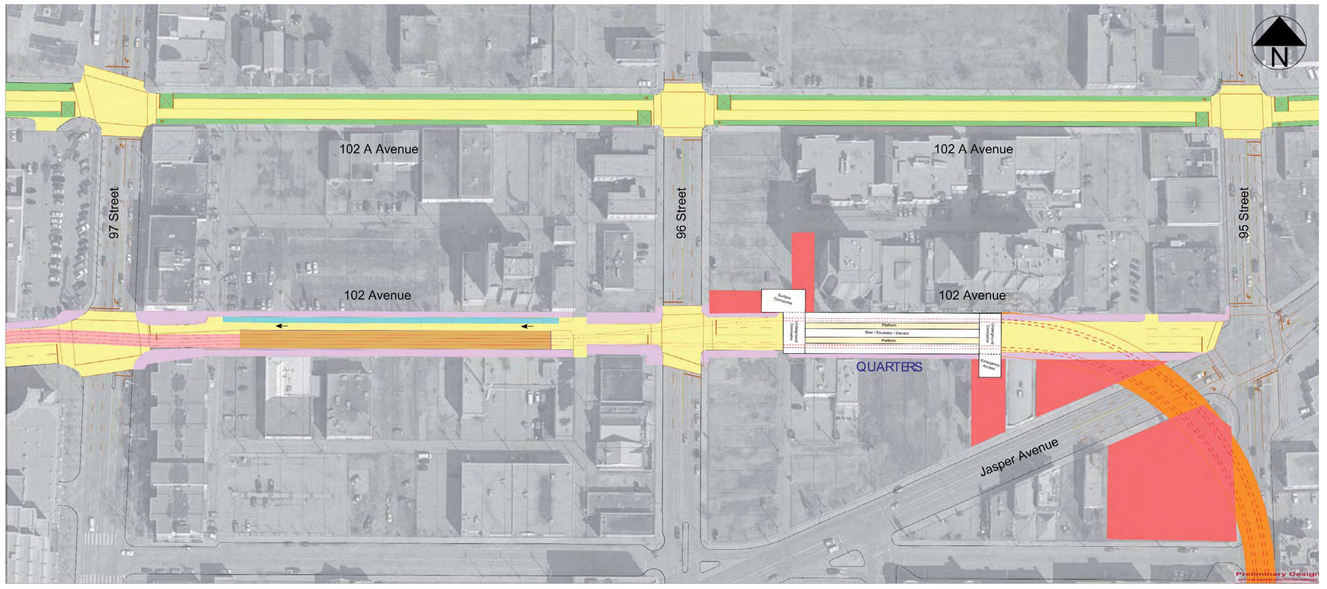

New and Recommended Elements

- LRT at street level
- Underground LRT
- LRT stop platform
- Roadworks
- Cycle facilities
- Sidewalk
- On-street parking
- Tunnel portal
- Property requirement

Stakeholder Elements Included in Design

- Traffic lanes and parking above underground stop
- The stop is located between 95th Street and 96th Street
- Sidewalk and traffic lanes are provided with portal

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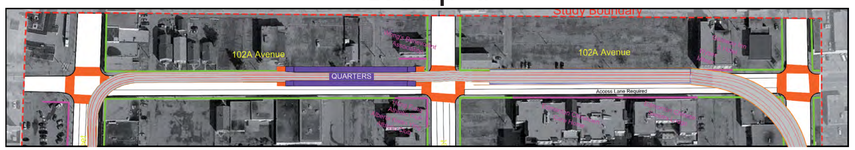
102 A Ave Surface Options

Group 1

Group 2

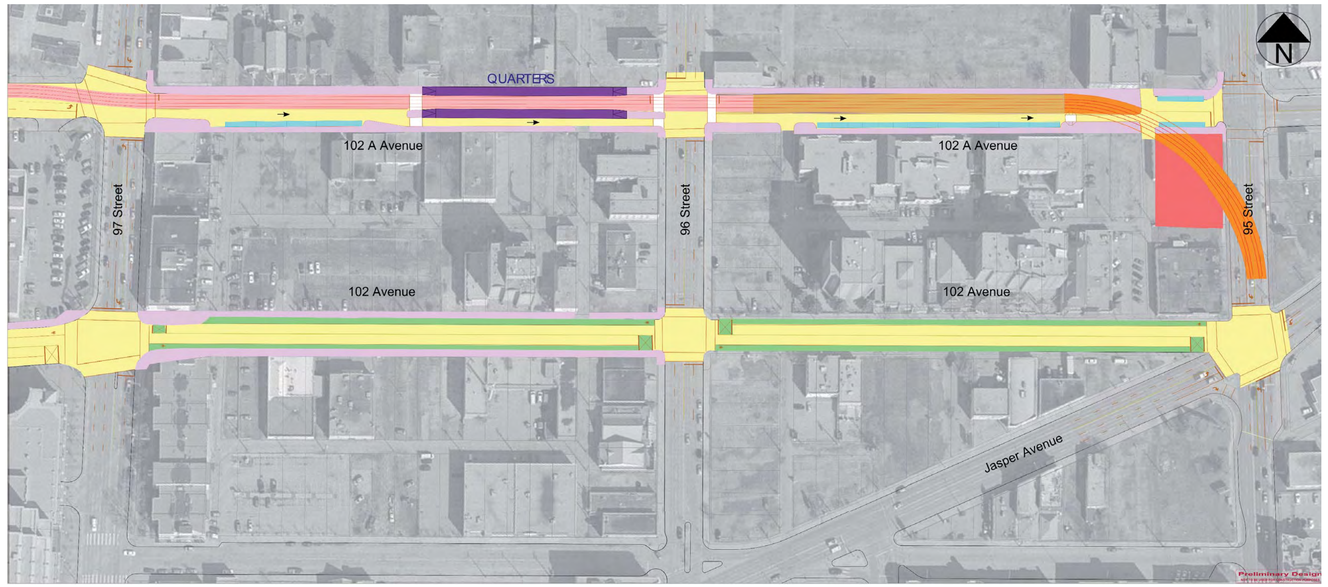
Group 3



Group 4

Group 5

Evaluation Option



New and Recommended Elements

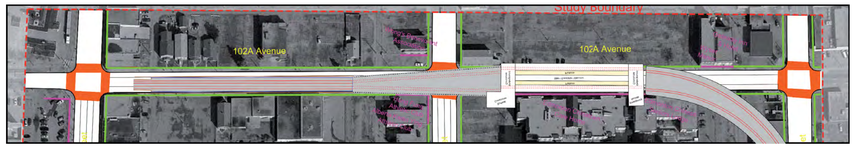
- LRT at street level
- Underground LRT
- LRT stop platform
- Roadworks
- Cycle facilities
- Sidewalk
- On-street parking
- Tunnel portal
- Property requirement

Stakeholder Elements Included in Design

- The stop is located on north side of 102A Ave
- The stop is located between 96th Street and 97th Street
- Traffic lanes and sidewalk are provided south of the stop

102 A Ave Underground Options

Group 1



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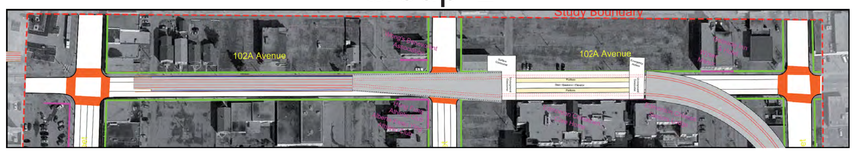

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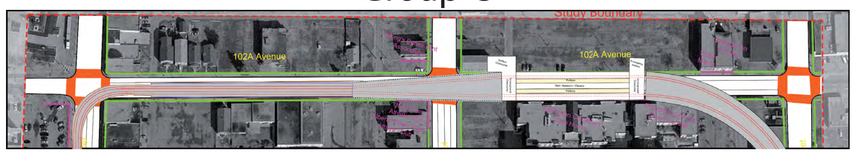

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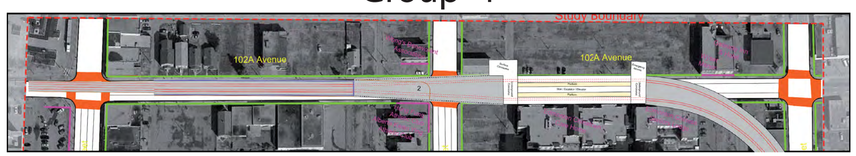

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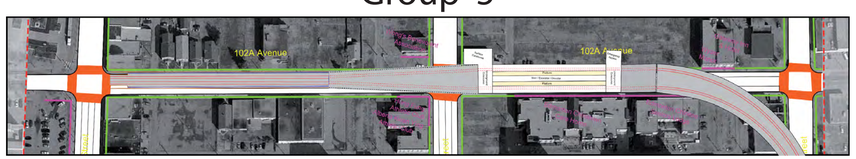

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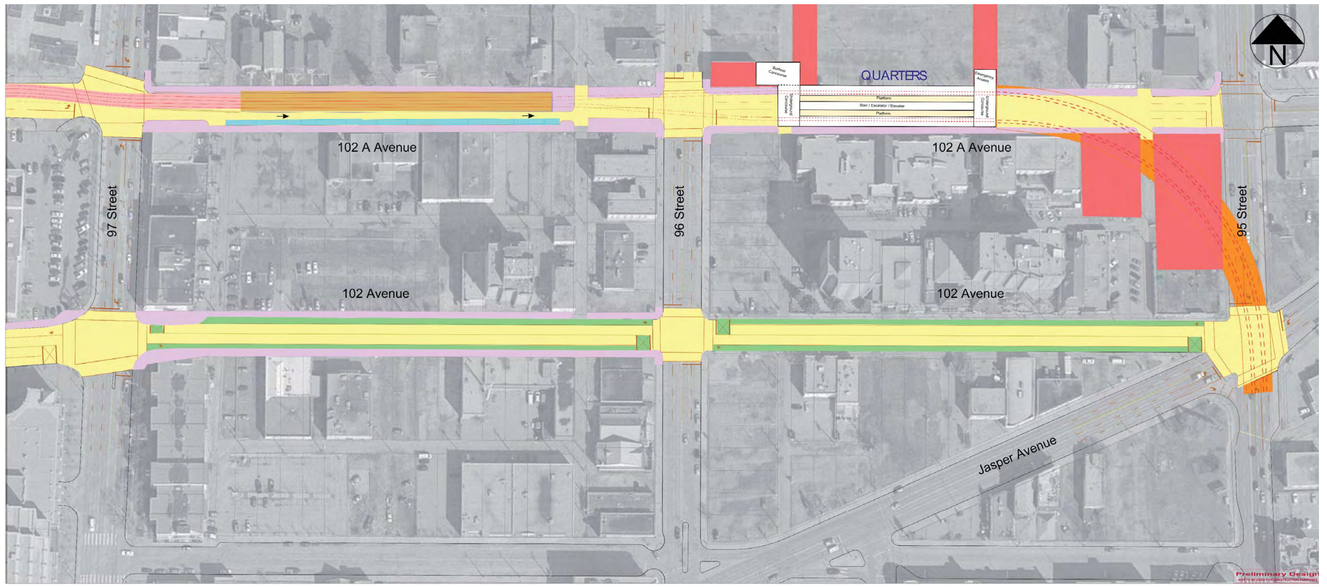

New and Recommended Elements

- LRT at street level
- Underground LRT
- LRT stop platform
- Roadworks
- Cycle facilities
- Sidewalk
- On-street parking
- Tunnel portal
- Property requirement

Stakeholder Elements Included in Design

- Stop location and orientation between 95th Street and 96th Street
- Sidewalks provided on both sides of portal
- One way traffic provided on south side of portal

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Session 3 - LRT Project Evaluation - Evaluation Criteria

The following Council-adopted evaluation criteria are used to evaluate all City of Edmonton LRT routes.

LRT Criteria	Individual Criterion
Feasibility / Constructability *Does the option provide a good solution?* *Is it cost effective?* *Can it be built?*	Capital cost Operating cost Grade separated intersections Impact on bus services Cost per rider Route length At grade intersections Number of stops Average stop spacing Connections to future routes
Land Use - Promoting Compact Urban Form *Does the option integrate with existing transit?* *Does it serve existing population / employment?* *Does it serve future population / employment?* *Does it serve activity centres, community centres, leisure etc?* *Will the option provide improved community connectivity?* *Will the option facilitate development?*	Transit integration Population within 400m Employment within 400m Student population within 400m Future population Future employment
	Number of activity centres (employment, theatres, colleges, residences, shopping, etc.) Supportive of Transportation Master Plan, Municipal Development plan, and Capital CIty Downtown Plan Housing density Zoning Development proposals Vacant land
	Opportunities for improved streetscape, boundary treatment, landscaping, planting, trees Community identity through the linking of CCDP-designated zones or neighbourhoods Ability to facilitate TOD Impetus for redevelopment Facilitation of increased density/mixed use development

LRT Criteria	Individual Criterion
Movement of People & Goods *Does the option impact on existing transportation?* *Does the option integrate with existing transportation?*	Integration of right of way with street Increase in transit ridership Integration with transit Integration with bicycles Integration with pedestrians Transit network impacts Road network impacts
Natural Environment *Does the option impact on the natural environment?*	Impact on riparian habitat Stream / rivers crossed Consistent with regulations governing natural areas Area disturbed during construction
Parks, River Valley & Ravine System *Does the option impact on parks and open space?* *Does option provide improvements to parks and open space?*	Opportunities for improved streetscape, boundary treatment, landscaping, planting, trees Impacts on parks / open space
Social Environment *Does the option impact on property?* *Does it impact heritage building?* *Does it impact cultural sites?* *Is there an solution which mitigates the impact?* *Does it support employment, transit dependant users?*	Property and land impacts Heritage building impacts Cultural / heritage sites adjacent to route
	Ability to mitigate neighbourhood impacts Creation of physical barriers or severance Noise and vibration impacts
	Employment generated Student population within 400m Lower income / no car / seniors within 400m

Feasibility / Constructability - Evaluation

Feasibility / Constructability

	102 Avenue		102A Avenue		
	Surface	Underground	Surface	Underground	Comments
Capital cost	$50.9 mllion	$122.8 mllion	$63.2 million	$135.0 million	Concept design cost estimate
Operating cost	Low	High	Low	High	Underground stations have a significantly higher operating cost
Grade separated intersections	1 intersection	2 intersections	1 intersection	2 intersections	Underground options go under 96 Street
Impact on bus services	Bus service revised for all options considered				
Cost per rider	Low	High	Low	High	High capital cost options increase cost per rider
Route length	720 metres	720 metres	800 metres	800 metres	
At grade intersections	2 intersections	1 intersection	2 intersections	1 intersection	Surface options run across 96 & 97 Streets
Number of stops	One stop provided with all options				
Average stop spacing	Evaluated as equal for all options				
Connection to future routes	Evaluated as equal for all options				
Evaluation Result					102 Ave Surface option - Lowest cost, Short route

Land Use / Promoting Compact Urban Form - Evaluation

Land Use / Promoting Compact Urban Form		102 Avenue		102A Avenue		
		Surface	Underground	Surface	Underground	Comments
Land Use	Population within 400 metres	Medium	Medium	Low	Low	Population currently higher on 102 Avenue
	Future population	High	High	Medium	Medium	Future higher density focused on 102 Avenue
	Future employment	Medium	Medium	Medium	Low	Future higher density focused on 102 Avenue
	Number of activity centres	11 Centres	11 Centres	3 Centres	3 Centres	
	Supportive of Transportation, Municipal Development Plans	High	High	Medium	Medium	102 Ave supportive of planned higher density
	Housing density	Medium	Medium	Low	Low	
	Vacant land	Medium Area	Medium Area	Large Area	Large Area	102A Ave has significant adjacent vacant land
	Opportunities for streetscape improvements	High	High	Medium	Medium	102 Ave more cultural / vibrant street
	Community identity - Linking of neighbourhoods	High	High	Low	Low	102 Ave at centre of community
	Ability to facilitate Transit Oriented Development	High	High	Low	Low	102 Ave supportive of planned higher density
	Impetus for redevelopment	High	High	Low	Low	102 Ave supportive of planned higher density
	Facilitation of increased density - mixed use development	High	High	Low	Low	102 Ave supportive of planned higher density
	Transit Integration, employment and student population within 400m, zoning, and development proposals	Evaluated as equal for all options				
	Evaluation Result					102 Ave with existing and future density

Population

Medium Density

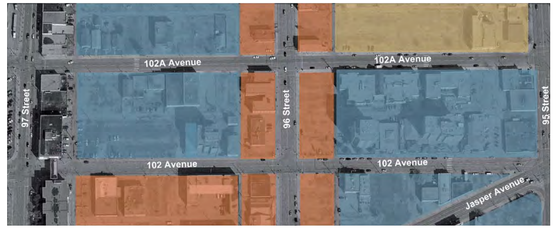
Low Density

Activity Centres & Vacant Land

Activity Centres

Vacant Land

Future Population / Employment Density



High Density

Medium Density

Low Density

Movement of People/Goods and Parks, River Valley, and Ravine System - Evaluation

		102 Avenue		102A Avenue		
		Surface	Underground	Surface	Underground	Comments
Movement of People/Goods	Integration of right of way with street	High	Medium	Medium	Medium	102 Ave surface route integrates well with street
	Increase in transit ridership	Medium	Medium	Low	Low	102 Ave will benefit from increased ridership due to activity centres
	Integration with transit system	Evaluated as equal for all options				All routes will connect to the LRT system
	Integration with bicycles	Medium	Medium	Low	Low	102 Ave routes are closer to planned bike routes
	Integration with pedestrians	High	Medium	Medium	Medium	102 Ave currently has more pedestrian activity
	Transit network impacts	Evaluated as equal for all options				All routes will impact the transit network
	Road network impacts	Medium	Medium	High	High	102 A Ave routes will need to rejoin 102 Ave west of 97th St
	Evaluation Result					No route has significant student population
Parks, River Valley and Ravine System	Opportunities for improved streetscape, boundary treatment, landscaping, planting trees	High	Medium	Medium	Medium	102 Ave surface construction will present an opportunity for streetscape improvement
	Impacts on parks / open space	Evaluated as equal for all options				No routes deliver significant impacts on parks
	Evaluation Result					102 Surface route represents opportunity for improvement with little negative impact

Social Environment - Evaluation

		102 Avenue		102A Avenue		
		Surface	Underground	Surface	Underground	Comments
Social Environment	Property and land impacts	$5.3 million	$8.7 million	$4.1 million	$10.3 million	Concept Design Cost Estimate
	Heritage building impacts	Evaluated as equal for all options				No option has impact on heritage buildings
	Cultural / heritage sites adjacent to route	1	1	0	0	The “Chinatown Gate” is located on 102 Ave
	Ability to mitigate neighbourhood impacts	Evaluated as equal for all options				All options require the development of a portal
	Creation of physical barriers or severance	High	Medium	Medium	Medium	102 Ave surface route may interfere with crossing
	Noise and vibration impacts	Evaluated as equal for all options				
	Employment generated	Evaluated as equal for all options				
	Student population within 400m	Evaluated as equal for all options				No route has significant student population
	Lower income / no car / seniors within 400m	High	High	Medium	Medium	102 Ave is located closest to more senior housing
	Evaluation Result					All routes received similar scores for social environment

Senior and Affordable Housing

Senior and Affordable Housing

Property and Land Impacts 102 Ave

Surface

Underground

Property and Land Impacts 102A Ave

Surface

Underground

Overall Evaluation

	102 Avenue Surface	102 Avenue Underground	102A Avenue Surface	102A Avenue Underground
Feasibility / Constructability				
Land Use / Promoting Compact Urban Form				
Movement of People / Goods				
Natural Environment	Not applicable to Downtown LRT			
Parks, River Valley, and Ravine System				
Social Environment				
Overall Evaluation				

Option Evaluation Comments

The 102 Ave surface option received the top score due to its economic feasibility, ability to integrate with present and future land use,accessibility to seniors and low income housing, and connection to current and future ridership.

The 102 Ave underground option scored lower due to high costs for the underground station, greater property impacts, and reduced potential to improve the surrounding streetscape.

The 102A Ave surface option scored lower due to higher costs caused by more right of way requirements, lower present and future population adjacent to the option, and decreased opportunities to connect seniors and lower income households to transit.

The 102A Ave underground scored the lowest as it would incur the highest cost.

Overall Evaluation Results

Feasibility / Constructability
- All the options include the need for a portal-
- Underground options are significantly more expensive
- Underground options more impactful during construction
- 102A options require more right of way and cost more

Land Use / Promoting Compact Urban Form
- Current and future population density is higher on 102 Ave corridor
- Number of present and future activity centres is greater on 102 Ave
- Greater opportunity to reinforce cultural identify on 102 Avenue due to substantive cultural buildings and resources on 102 Avenue

Movement of Goods and People
- 102 Ave has greater connectivity to both current and future population / ridership
- All options will impact the road network

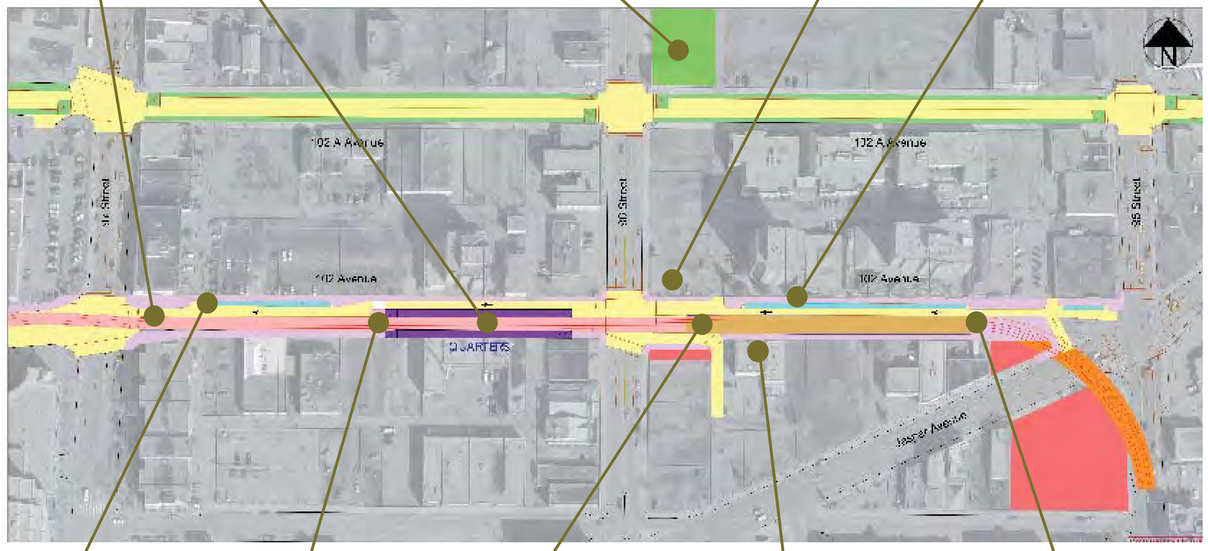
Park, River Valley and Ravine System
- 102 Ave surface option presents the greatest opportunity to improve the streetscape

Natural Environment
- These criteria were not applicable to any option

Social Environment
- Property impacts are higher for underground options due to increased construction
- Property impacts are similar on 102 Ave and 102A Ave
- There are more cultural heritage sites on 102 Avenue
- The Chinatown Gate on 102 Ave will be retained for all options - the 102 Ave options will run through it
- No option mitigates the need for a portal
- Potentially, the 102 Ave options' portal creates the greatest barrier
- Potentially, the 102 Ave portal barrier can be mitigated by retaining current pedestrian crossings
- Potential noise and vibration impacts are the same on both corridors
- 102 Avenue has greater connectivity to lower income and senior housing

Administration's Recommendation / Changes Incorporated From Feedback

Stop moved to south side of 102 Avenue
Chinatown Gate retained
Cultural identity to be reinforced
Quarters Plan - Future Park
Parking and access provided *1

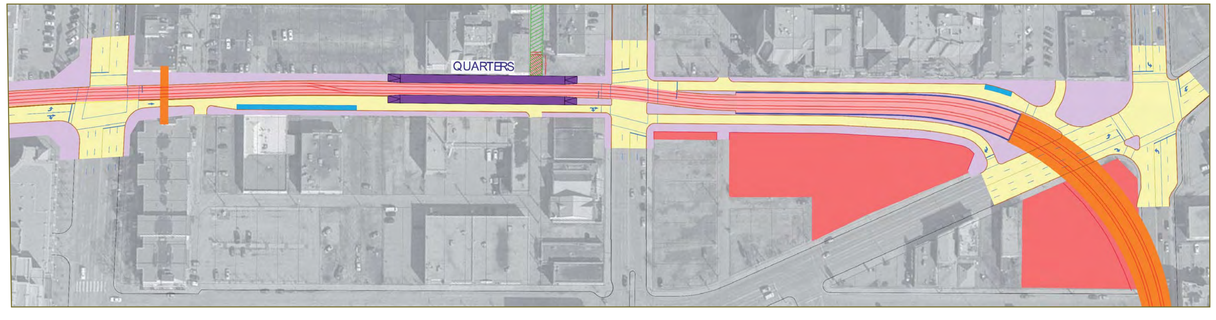


Parking and access provided on south side
Mid-block pedestrian crossing
Portal width reduced & portal moved
Eastbound traffic lane and property impact removed
Mid-block pedestrian crossing - 15m east of existing

New and Recommended Elements

- **LRT at street level**
- Underground LRT
- LRT stop platform
- Roadworks
- Cycle facilities
- Sidewalk
- On-street parking
- Tunnel portal
- Property requirement

Original LRT Route Proposal (Spring 2011)



*1 Frontage parking to be provided subject to design constraints

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Next Steps

The recommendation will be presented to the Transportation & Infrastructure Committee
November 15, 2011 9:30am - River Valley Room - City Hall

The recommendation will include:

- Public consultation contributions (including feedback from all sessions)
- Evaluation and recommendation
- Concept design

The public can register to speak at www.edmonton.ca/meetings