

Preliminary Design for  
**Valley Line (SE to West) Light Rail Transit**

September 18, 2013 - Areas 5 and 6 Centre West to Lewis Farms



Welcome

The City has undertaken a naming exercise for the existing and future LRT lines. The SE to West LRT, as the project has been called to date, is now called the Valley Line.

We are here to present the final recommended preliminary design of the Valley Line to you, and to answer any questions you may have.



## Meeting Purpose

- To provide an update on project progress
- To present the **recommended preliminary design** and other key components, built upon previous public input
- To receive feedback on the **recommended preliminary design**
- To respond to your questions

There are number of things we plan to achieve at this meeting – all of it in support of determining how best to fit the LRT into your neighbourhood. We have taken the information provided to us in 2012 and 2013, have incorporated this information where possible and now present to you the recommended preliminary design. There will be a Capstone Meeting in November 2013, displaying highlights of the entire 27 km project.

## Tonight's Agenda

- Valley Line Overview
- Public Involvement
- Preliminary Design—Areas 5 and 6
- Project Schedule
- Next Steps
- Question and Answer

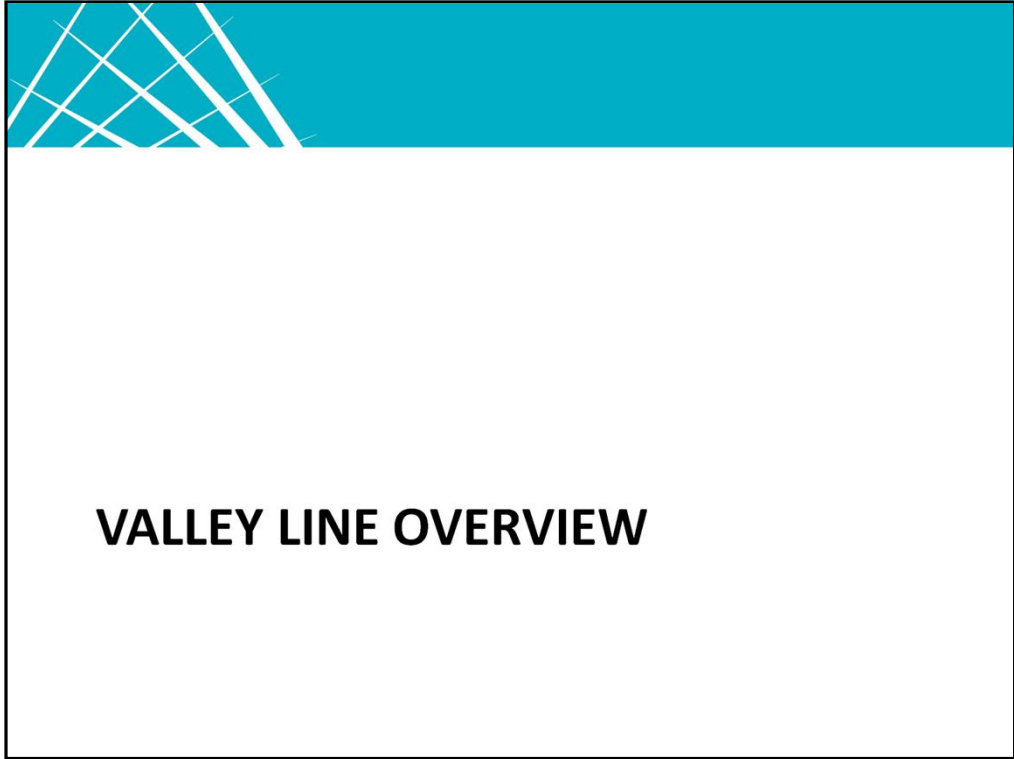


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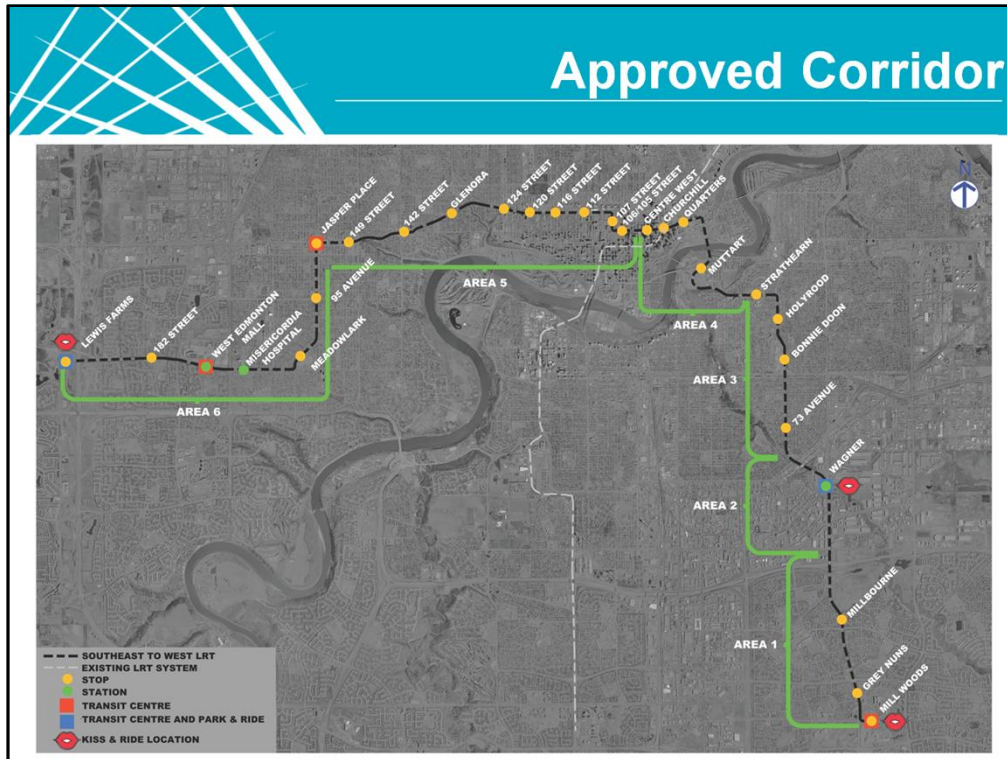
Our agenda will include these items – some as background information for any new attendees and some as new information to update you as to where we are and what we have undertaken since we last met in June 2013.

We will bring to your attention what the next steps are.

There will be an opportunity for questions and answers at the end of the presentation.



**VALLEY LINE OVERVIEW**



This is the Council approved Corridor.

Fixed elements include:

- Corridor and Alignment
- Low floor urban style
- Stop and Station locations

These elements are not up for discussion in our meeting. Decisions around these have already been made. What we can take away from you tonight is have we provided information to you showing how the LRT will be integrated into your neighbourhood.

## Valley Line Facts

- 27 km route – Mill Woods to Lewis Farms
  - 3 stations – elevated
  - 25 stops – at street level
  - Integrated with 5 transit centres
  - 2 Park 'N' Ride sites (Wagner, Lewis Farms)
  - Kiss 'N' Ride drop-off sites



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These are some of the basic facts of the Valley Line.

Stops are at the similar level or grade as the sidewalk – the platform is not raised as we have now in some of the other lines in the City.

Stations are elevated above the road where major conflict points exist, like the CP and CN rail lines.

Transit Centres in the west include: Lewis Farms.

Kiss'N'Ride drop off sites, usually two or three parallel parking stalls near a stop, are used to drop off or pick up passengers.

## Valley Line Facts

- Vertical connection to existing LRT at several stations
- Low floor technology – curb access, less intrusive
- “Edmonton” urban style
- Trains run on 5 minute intervals in peak hours
- Trains share traffic signals



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Here are some more facts about the Valley Line (SE to West LRT) that describe the project.

A vertical connection is made with stairs, elevators and/or escalators – this will occur at Churchill, West Edmonton Mall Station, Misericordia Station and Wagner Station.

Low floor technology is where the floor of the LRT vehicle is approximately 1 foot (300mm) above the road, not 3 feet (1 metre) above the ground like on the existing system. This is made possible by choosing vehicles that have the mechanical components on top of the vehicle rather than underneath as we have in our current LRT system.

Edmonton is developing an urban style system that is unique to our City and addresses items such as snow clearing.

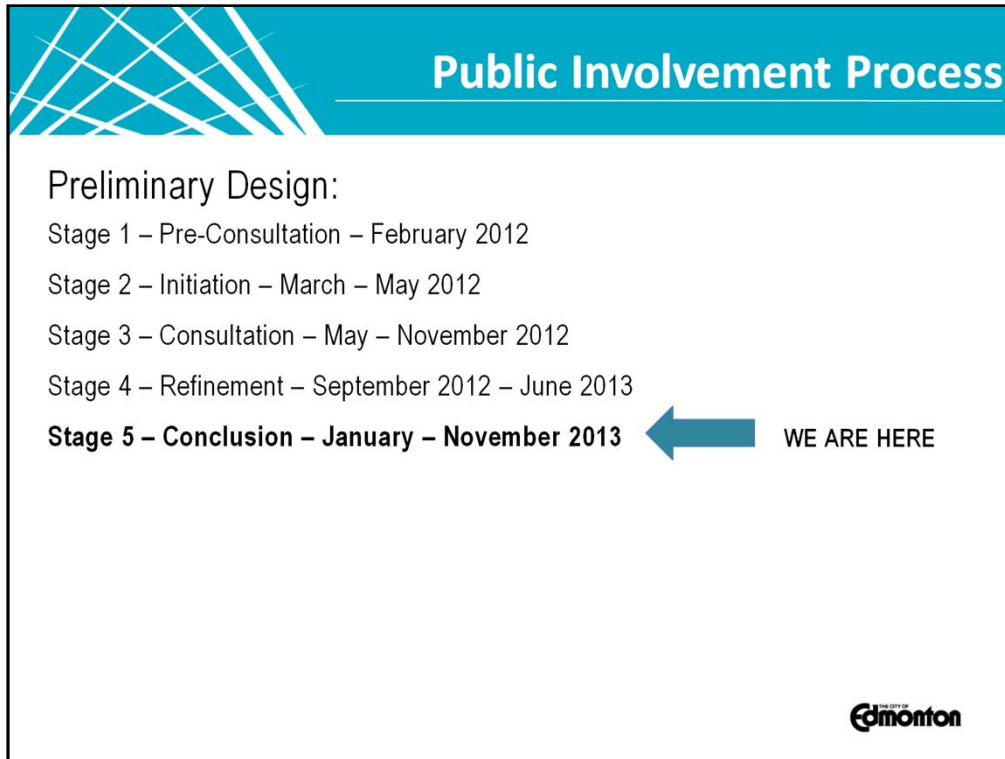
The anticipated peak hours timing between trains will be 5 minutes.

Trains will share the same traffic signals as other road vehicles, but it operates within its own right-of-way so that it does not compete for space with car traffic.



**PUBLIC INVOLVEMENT**






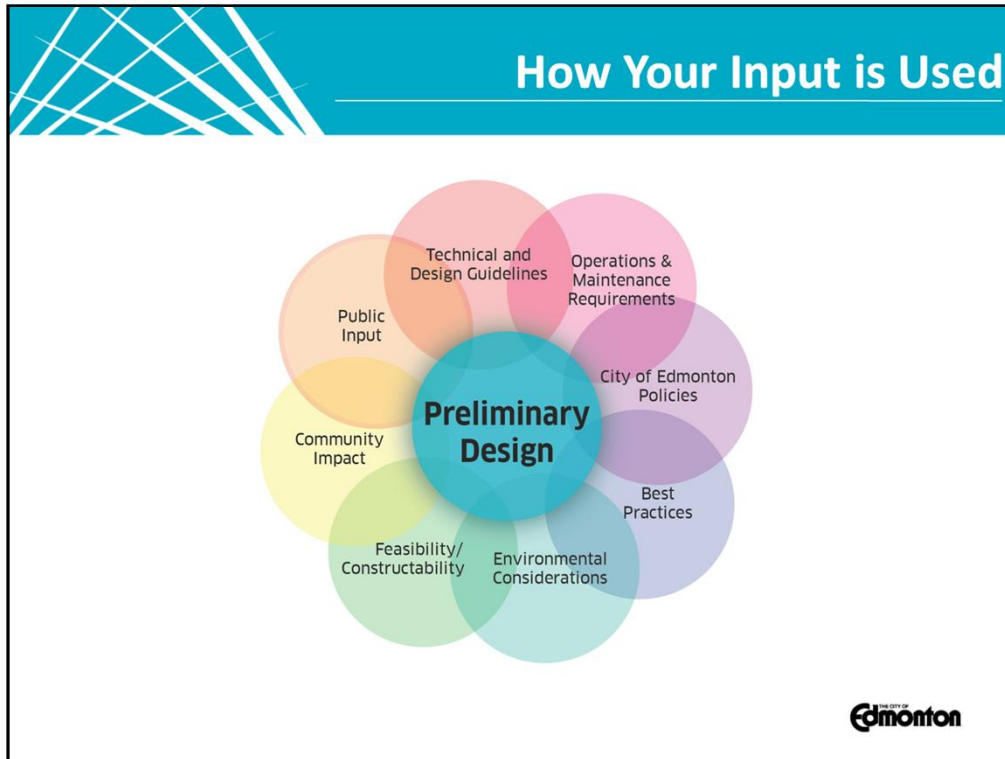
**Public Involvement Process**

Preliminary Design:

- Stage 1 – Pre-Consultation – February 2012
- Stage 2 – Initiation – March – May 2012
- Stage 3 – Consultation – May – November 2012
- Stage 4 – Refinement – September 2012 – June 2013
- Stage 5 – Conclusion – January – November 2013** ← **WE ARE HERE**



Just a reminder that five stages of public involvement have been designed into the process. We are now at Stage 5 for the west segment of the Valley Line. This is where we ask that you confirm the refinements in the design incorporated from your Stage 4 comments and from further technical investigations.



Your public input is valuable to us and, as we mentioned earlier, is considered in the preliminary design development along with other areas of influence or consideration. As an example, in some parts of the design, your input will have priority, and in others the environment, or constructability will have a stronger influence in how an element is designed. Your information, where feasible, has been incorporated into the materials presented tonight.

## What We Heard – Stage 4

### What We Heard

- Confirmation of stop themes
- Value for pedestrian realm and LRT access
- Bicycle parking at stops and stations, and connections to the existing and planned bike network are priorities
- Concerns about vehicular movements and accesses
- Concerns about loss of parking
- Concerns about noise from LRT during operation

### Actions Taken

- Stop themes presented tonight
- Pedestrian access is priority—new and retained crossings on corridor plans
- Bicycle parking located at all stops/stations; connections to the existing and planned bike network included in design
- New, retained and relocated vehicle accesses on corridor plans
- New and retained vehicle parking on corridor plans
- Noise studies completed. Proposed noise barriers noted on plans

We have identified several major themes from your Stage 4 comments and other input you have provided to date. These ideas or themes were given to the design team and we can report tonight that many of your ideas have been incorporated into the design. Some of these are part of a continuing discussion from Stages 1 through 4 – providing a refinement of the preliminary design and assisting the team in developing the recommended preliminary design.

## What We Heard – Stage 4

(continued)

### What We Heard

- Concerns about vibration during construction and operation
- Elevated guideway over 178 Street required
- Concerns about LRT users parking and shortcutting in residential neighbourhoods
- Desire for larger or additional Park 'N' Rides

### Actions Taken

- Vibration studies completed and pre-construction assessments will be conducted of structures along route
- This is not part of the approved Concept Plan. May be reviewed at time of implementation
- City will review and determine strategy once LRT is operational
- Park 'N' Ride options under review

Here is a second slide to cover off on what we heard from Stage 4 public meetings. A more detailed board is presented in the room for your review.

## Stage 5 - What We Need From You

- Your feedback on **recommended** preliminary design presented tonight
- Your feedback on the public engagement process throughout the preliminary design stage



Again, we need your feedback – have we understood the information and/or concerns you provided us in earlier meetings?

Previously, we called the design the preferred design – however it is now considered the recommended preliminary design, to be used in detailed design and construction.



**PRELIMINARY DESIGN  
AREAS 5 AND 6**

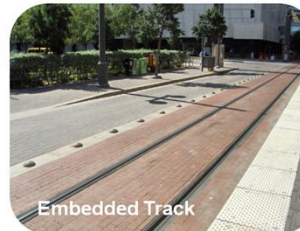
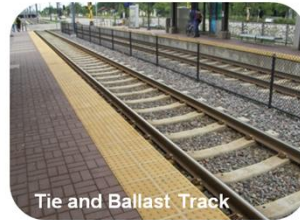
## Basic Principles

- Stops/stations
  - Good connections with bus network
  - Kiss 'N' Ride where possible
  - Bicycle parking at, or near, each stop/station
  - Scale of infrastructure based on ridership projections
- Community and business accesses are priority
  - Vehicle
  - Pedestrian
  - Bicycle
- Limit property impacts
- Keep it green



At a high level, these are the principles that we have gathered from the public involvement meetings. These have been provided by the stakeholders, i.e the residents of Edmonton.

- Locations of Traction Power Sub Stations (TPSS)
- Vehicle selection
- Track types
- Land requirements
- Noise/vibration studies



TPSS – Preliminary requirements have been determined and locations have been added to Corridor and Access plans.

Vehicles Selection – This process is still ongoing with the final selection to happen in Detailed Design. They will be low floor vehicles.

Track types – Two types will be used: embedded in most urban situations and tie and ballast in industrial and some suburban locations

Land requirements – The preliminary land requirements are shown as purple on the Corridor and Access Plans. This information shows the requirements to provide the preliminary design.

Noise and Vibration – Preliminary studies are now completed. The Urban Traffic Noise Policy was recently updated and has been considered in the noise modeling for this project. Mitigation of noise will meet the new policy.

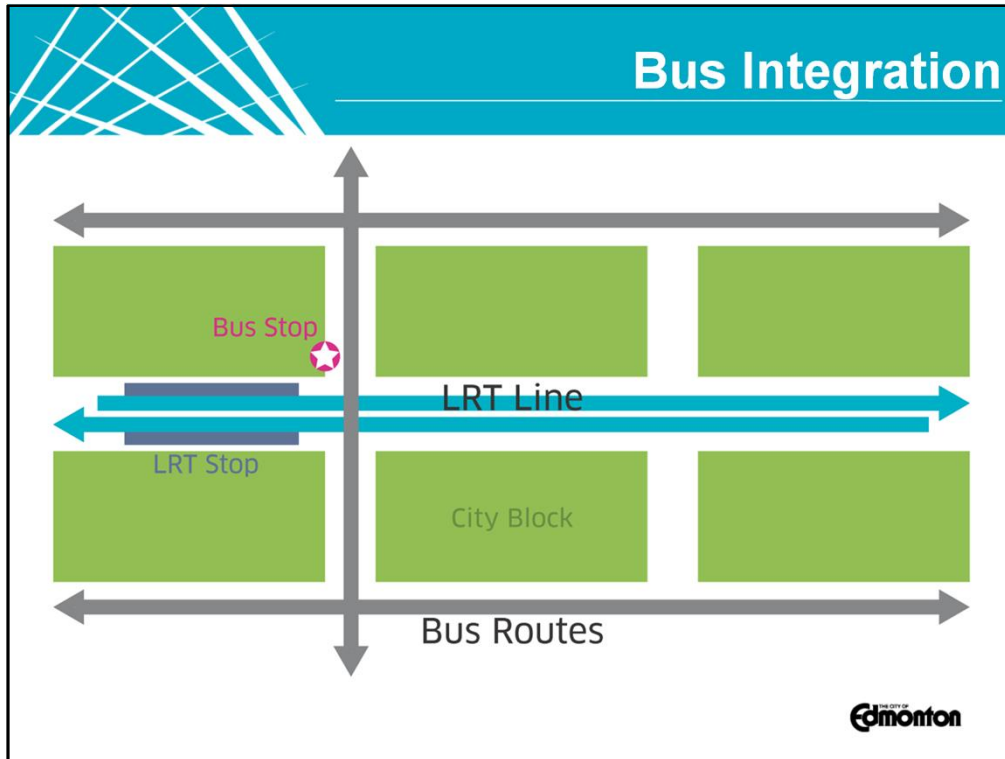


## Preferred Stop Canopy – Organic

- Steel Structure
- Metal and wood canopy
- Glass shelters
- Unique concrete finishing



The large image is the preferred canopy for most stops - the organic canopy. However, in the downtown, the flat roof was preferred (shown in the inset).



A number of comments and questions have come up about the integration of the LRT and bus services. Here is a conceptual drawing that we hope will clarify how these will work together. The green represents city blocks. The white in between the blocks represents roads. The turquoise lines represent the LRT. The grey lines represent the bus routes. The bus routes, in most cases, will intersect the LRT line near stops and stations. This is how transfer will occur between the two types of transit. The bus routes will not run along the same corridor as the LRT for any great distance. The design of the routes is now ongoing to ensure the best integration between the two types of transit. Remember, the same ticket system is used for both and transfers can occur.

## 102 Avenue Roadway Layout

- From 107 to 99 Street - under review
  - Bike lanes
  - Pedestrians
  - Vehicles
  - LRT
- In Quarters - redesigned
  - Fire
  - EMS



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The 102 Avenue roadway layout in the downtown area is being reviewed to ensure that all safety requirements are being met. There are many ways that the public can move through the downtown and the project must accommodate all users safely.

102 Avenue in the Quarters area has been redesigned to meet the needs of the fire department and Emergency Services. This requires the removal of parking and trees to accommodate the large vehicles need to access the high rise apartments in an emergency.

## 107 Avenue Stop

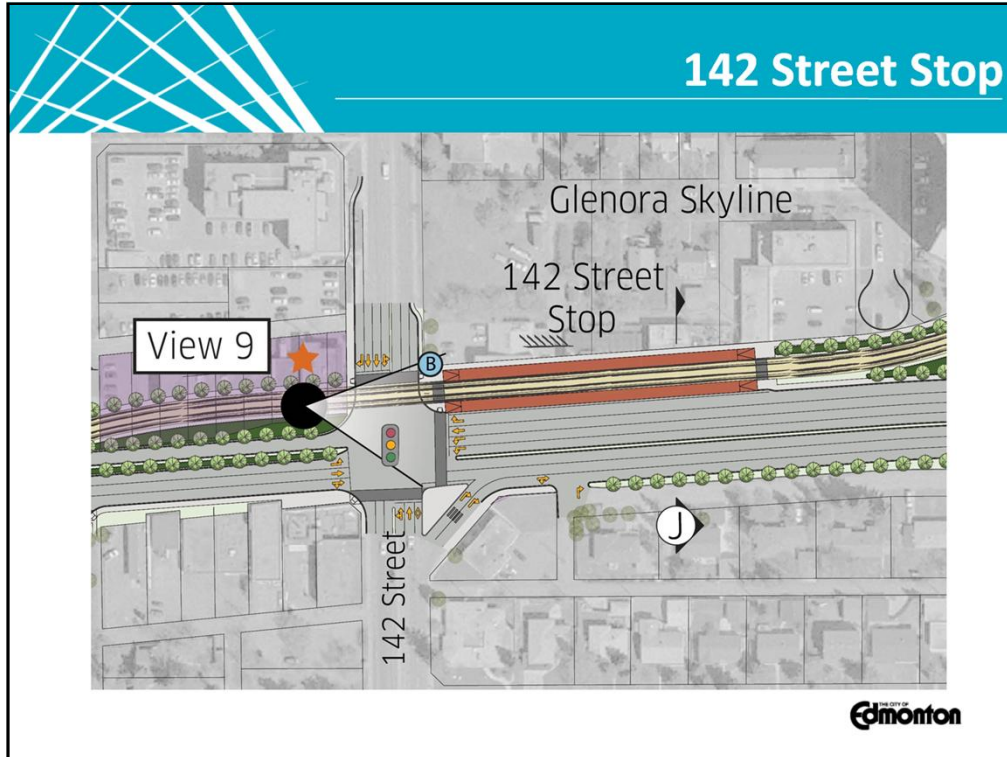
- Stop/station design
- 107 Avenue - two options



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Stop / Station design – The canopy preference is determined. In the west, West Edmonton Mall Station, Misericordia Station, and Lewis Farms Stop designs are ongoing. Jasper Place (156 Street) Stop and Stony Plain Road Stop are being developed in association with other projects.

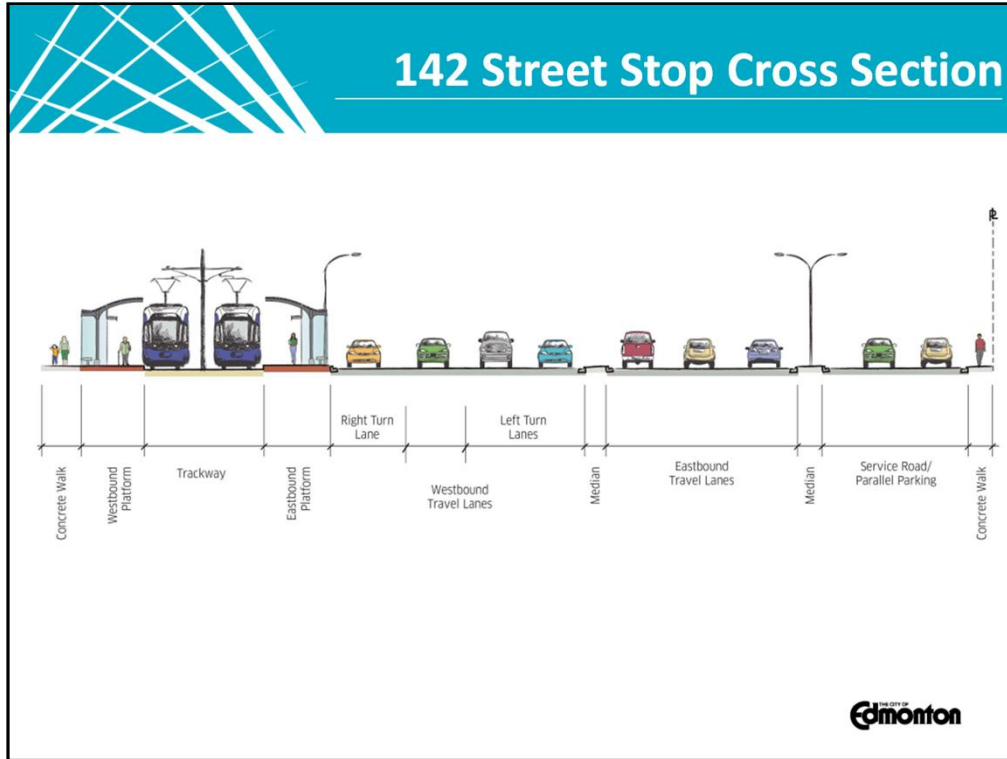
107 Avenue – two options are provided. Council provided direction that two options be developed for this location. One keeps the LRT following the road alignment while the second cuts across several lots that now contain Norquest College and some other businesses. The second option provides opportunity for some transit oriented development (TOD). TOD concentrates housing, shopping and employment along a network of walkable and bikeable streets within a five-minute walk in any direction of a transit station (or 400 metres). This type of development increases the density of the City. A Council decision will not be made as to which option will be developed further until detailed design and additional stakeholder consultation (including Norquest College and MacEwan University), further technical review and preliminary cost estimates are completed.



The Corridor and Access Plan show a number of pieces of information about each stop or station on the plan, plus other elements such as bridges.

This is a snapshot of 142 Street stop – showing a number of things for you to look for on the roll plans: Traction power sub stations (Star), land acquisition – from concept plan (purple colour), traffic movements (yellow arrows), traffic lights, stop location (red long rectangular blocks), bike parking (B in blue circle) and landscape (green).

Here the letter 'J' shows where the cross section is taken and View 9 indicates the view direction for a photo of the existing site and sketch of proposed stop.



This is the cross section identified as 'J' on the last slide. This shows the relationship of the LRT with the stop, adjacent traffic and pedestrian areas.

# 142 Street Stop Theme

Theme: Park-like



**Existing Conditions**



**Concept Rendering**



Bench



Recycling Bin



Paving



Column Wrap



Railing

**Stop Design Elements** (Based on your feedback, elements selected for project will be similar to images above.)



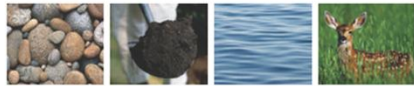
This slide shows View 9 identified on the stop plan as well as our understanding of the type of elements you are looking for at this stop. Note: these are not the exact elements but provide direction to the designers for final selection.

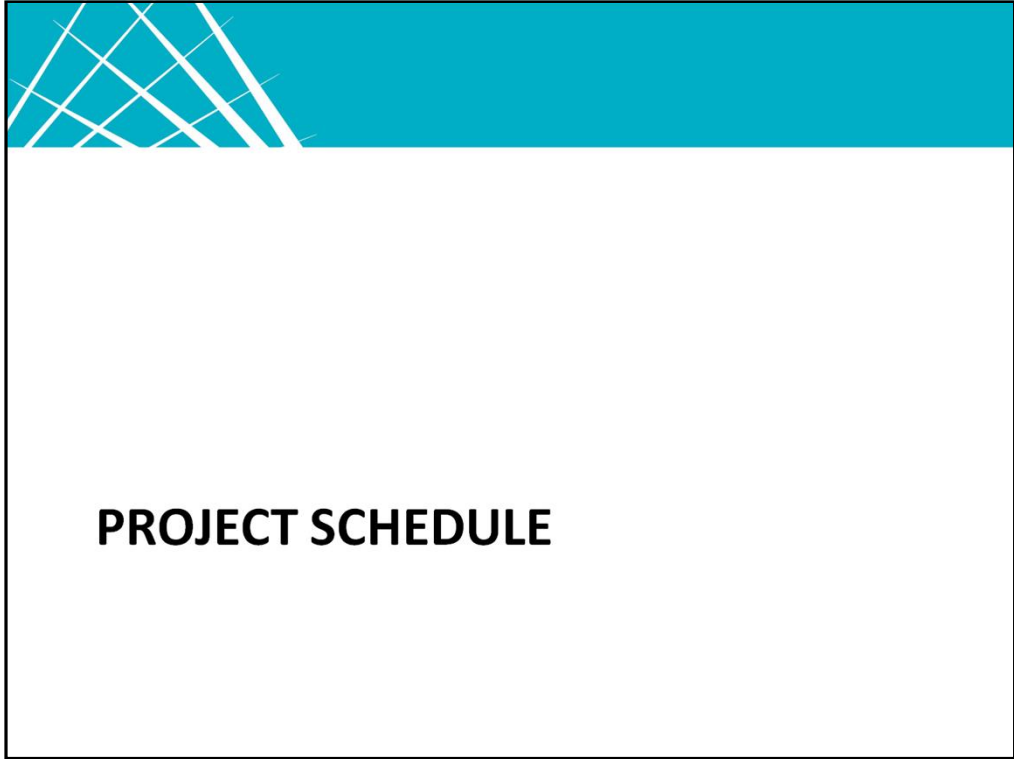


This bridge was approved by Council on February 20, 2013.

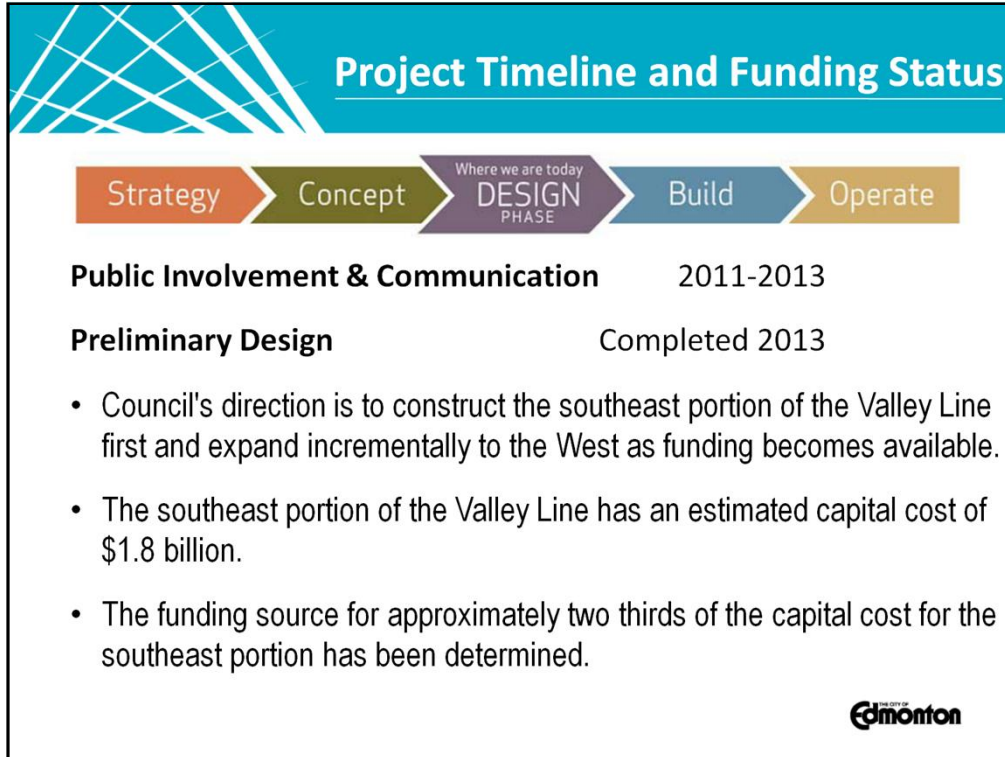


- Mitigating environmental impact is significant throughout all phases of project
- Environmental impact assessments have been submitted
- Presented at a public hearing to the Transportation Committee on September 11, 2013
- Will be going forward to City Council for approval





**PROJECT SCHEDULE**



We are at preliminary design stage of the Valley Line (SE to West) LRT project - This includes confirming and building on the approved concept plan as well as fine tuning the approved concept plan to prepare for construction

We are also at Stage 5 of Public Involvement – we have received lots of great input to date and thank you for that.

Public input is one of many sources of information we use to develop the design – and therefore it is important to note that not all of what we heard has been incorporated – your input is considered along with other elements

Tonight you will see the recommended preliminary engineering design.

As you are aware, the timeline and funding are still being determined.

## Project Timeline and Funding Status

(continued)

The diagram illustrates a project timeline with five sequential phases represented by arrows pointing right. The phases are: Strategy (orange), Concept (green), DESIGN PHASE (purple, with 'Where we are today' written above it), Build (blue), and Operate (yellow). The DESIGN PHASE is currently active.

- Council continues to work with its provincial and federal partners to secure the balance of funding.
- Utility relocation construction for the southeast portion is underway.
- If the balance of the funding can be secured by Spring 2014, then construction on the southeast portion could begin as early as Spring 2016, with a projected opening date in 2020.

The City of Edmonton logo is located in the bottom right corner of the slide.

As you are aware, the timeline and funding are still being determined.



**NEXT STEPS**

## Next Steps

- Present final preliminary design for the entire Valley Line to you – November 2013
- Utility relocations started in summer of 2013 and will go through to end of 2014 for SE portion of line
- Construction beginning as early as 2016, dependent upon funding for SE portion of line



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We are at the end of the preliminary design and have provided the recommended preliminary design to you tonight. This plan will provide the direction for the detailed design and construction of the Valley Line.

## P3 Approach

- P3 = Public-Private-Partnership
- P3 delivery method is being used for Stage 1 (Mill Woods to Centre West)
- Design, construction, operation, maintenance and partial financing
- Offers best value-for-money to City & tax payers
- Risks shared between City and private partners
- City will own the infrastructure and control service levels and fares
  - Fares standardized (bus and LRT)
  - Same transit pass (bus and LRT)



P3 (Private/Public Partnership) is the approved delivery method for Stage 1 of the Valley Line. It includes the design, construction, operation, maintenance and financing for the project and offers the best value for the money for this project. Risks are shared between the City and the private partners but the onus will be placed upon the private partners in a detailed description of the services and operations required for the LRT. The Valley Line LRT will be fully integrated into Edmonton's transit system and will have the same fare structure and use the same transit pass, with seamless passenger movement from one type of transit to the other.

The City will ensure that the feedback you have given to shape the design of the stops and stations and how the LRT will integrate into your community, will be used by the P3 team during detailed design and construction.



For more information, to fill in a web survey or to request more information, please contact the City.





## **QUESTIONS**