

Confederation Line Project Overview Presentation to the International Federation of Municipal Engineers

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Director

Rail Implementation Office



**ON TRACK
SUR LA VOIE
2018**



The challenge





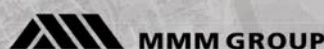
Project Overview

- Ottawa has embarked on the largest infrastructure project since the building of the Rideau Canal.
- The City of Ottawa will be the ultimate Owner.
- Rideau Transit Group will assume the responsibility for the ongoing maintenance of the Confederation Line on behalf of the city as Rideau Transit Maintenance.
- OLRT Constructors is the group within RTG responsible for the build of the system.

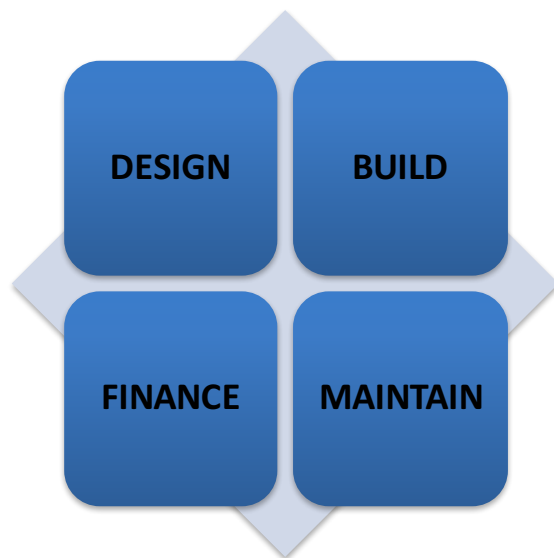
Scope of the Design and Construction

- Highway 417 widening
- Belfast Yard Maintenance and Storage Facility
- 13 Stations (9 at grade and 4 underground)
- 10-km Guideway (Civil Works, Structures, Trackworks)
- 2.5-km Underground Downtown Tunnel
- Vehicles and Systems (Train Control, Communications, Overhead Catenary System, Traction Power)
- Control Centre

Design-Build-Maintain-Operate Team



Ottawa Procurement Model – P3



- Design, Build, Finance, Maintain project
- 5 years of construction with fixed-price and delivery date
- 30-year maintenance contract ties to strong motivation for quality maintenance of the system over the long term

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 **Train**

Ligne de la
Confédération
Line

2015-005



Schedule

CONSTRUCTION SCHEDULE

Stations	SUMMER 2015				FALL 2017	
Tunnel	SUMMER 2013				FALL 2017	
MSF	SPRING 2013		SUMMER 2015			
Vehicle	SPRING 2013				WINTER 2018	
417 Widening	SPRING 2013		SUMMER 2015			
Testing				WINTER 2015		SPRING 2018
Full Project	SPRING 2013				SPRING 2018	
	2013	2014	2015	2016	2017	2018

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Works Completed to Date



Belfast Yard Maintenance and Storage Facility



Belfast Yard Maintenance and Storage Facility



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Light Rail Vehicle



- 34 Alstom Citadis LRVs; fully accessible.
- Each train will consist of 2 modular vehicles, totalling a capacity of 600 passengers and 98 metres in length
 - Length of a football field!

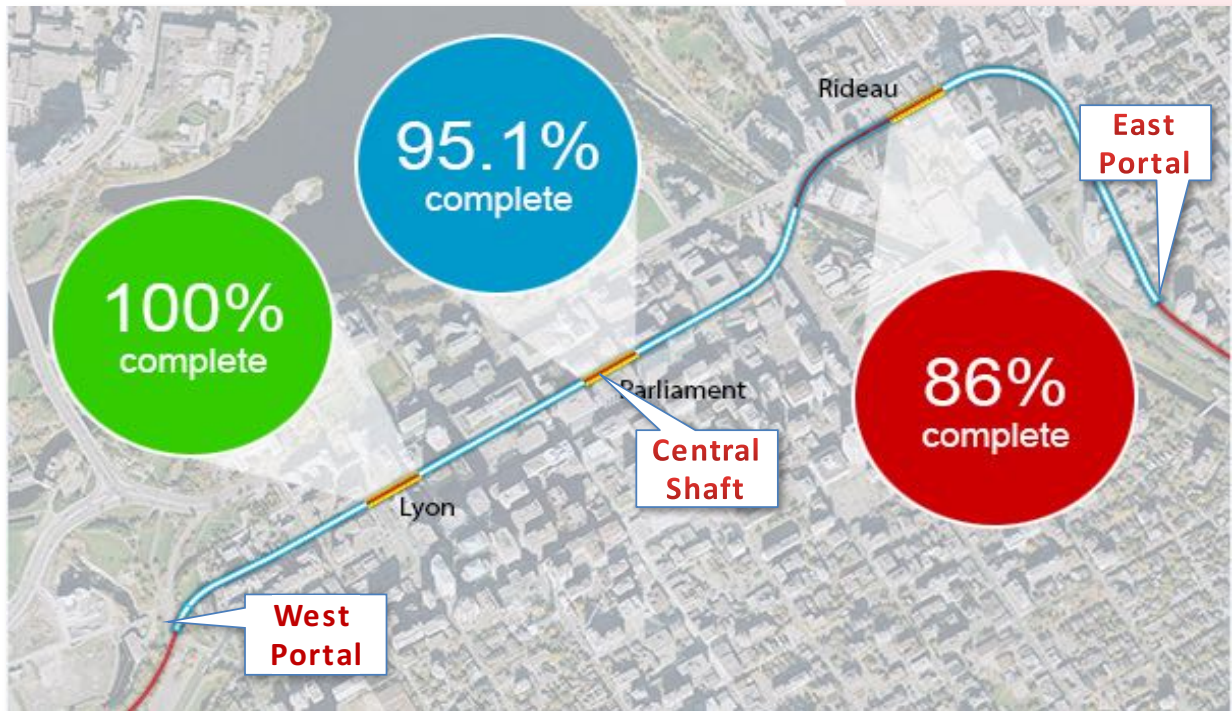
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Tunnel



Tunnel excavation commenced summer 2013 and is scheduled for completion fall 2017

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Tunnel-Sequential Excavation Method (SEM)



2018

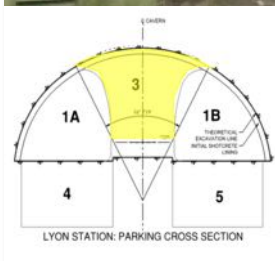
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Line

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Tunnel Construction

Cavern Drift Excavation



Mining in drifts in Rideau Station Cavern

West Portal (Looking SE)



West Portal



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West portal



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West Running Tunnel



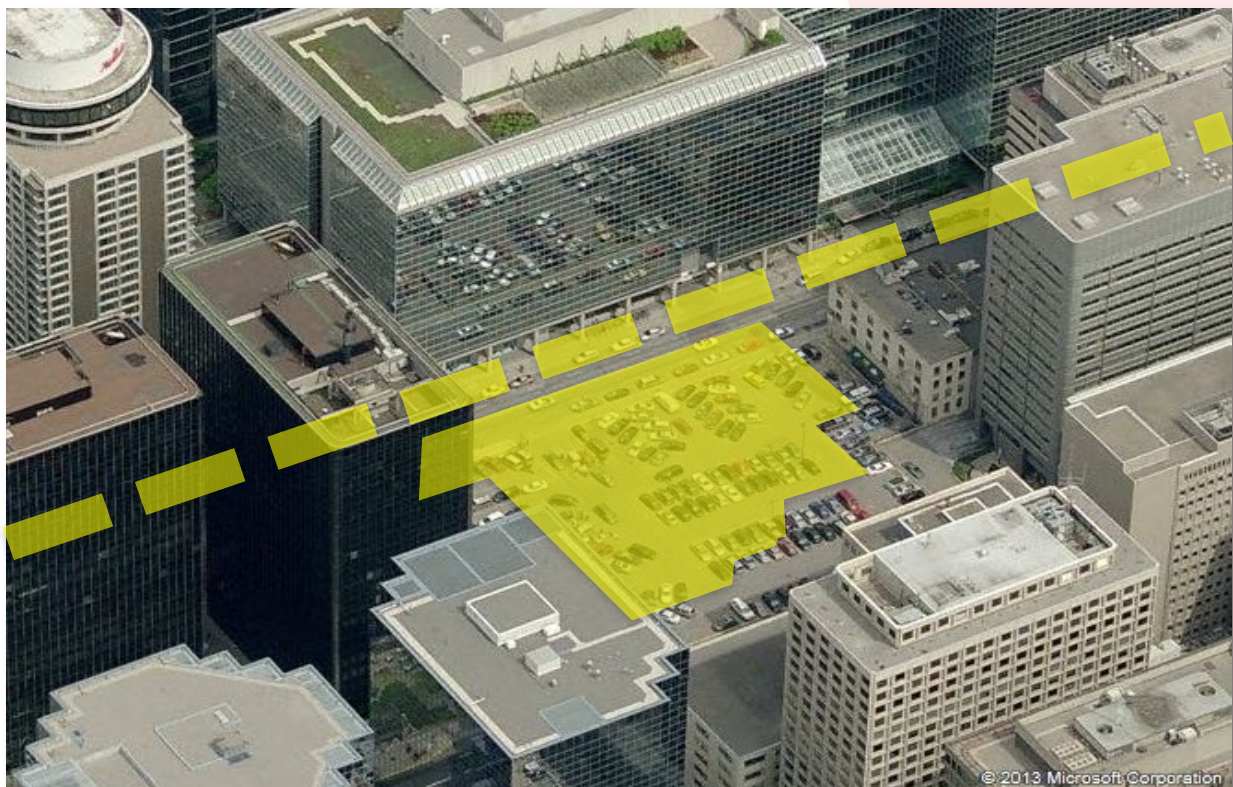
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Central Shaft



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Central Shaft



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Central Shaft



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East Portal



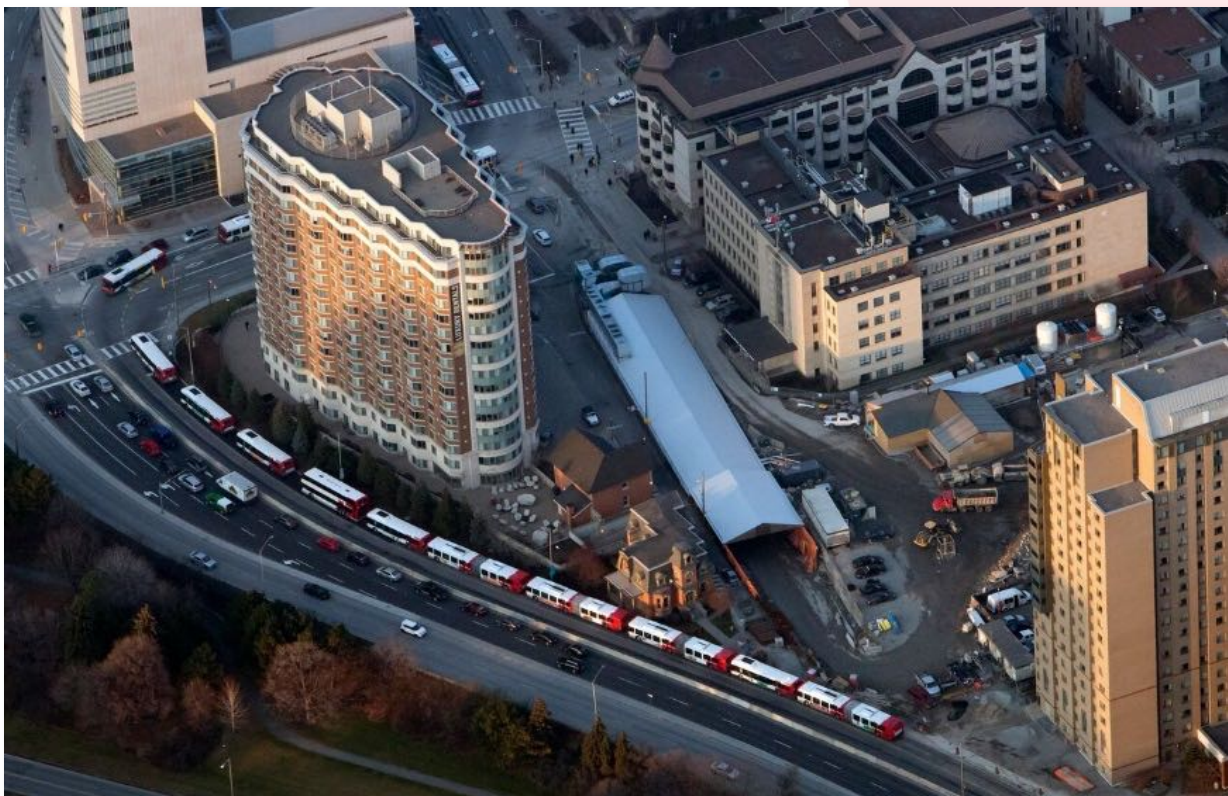
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East Portal



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Station Features

- Simple attractive designs
- Eye-catching architectural themes throughout
- Inviting and safe public spaces
- Intuitive passenger flows
- Integrated with pedestrian pathways
- Extensive features for cyclists
- Accessibility best practices
- Design incorporating Ash Borer Timber
- Public art showcases



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Changing Centretown streets from this...



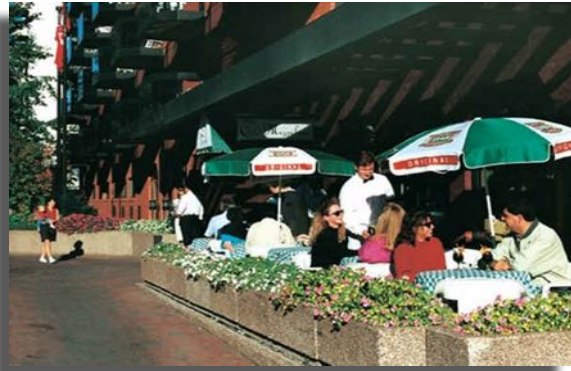
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 Train

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... to this!



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2018

Train

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Confédération
Line

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From this...
(Queen Street)



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... to this!



From this...
(Mackenzie King Bridge)





Stage 2

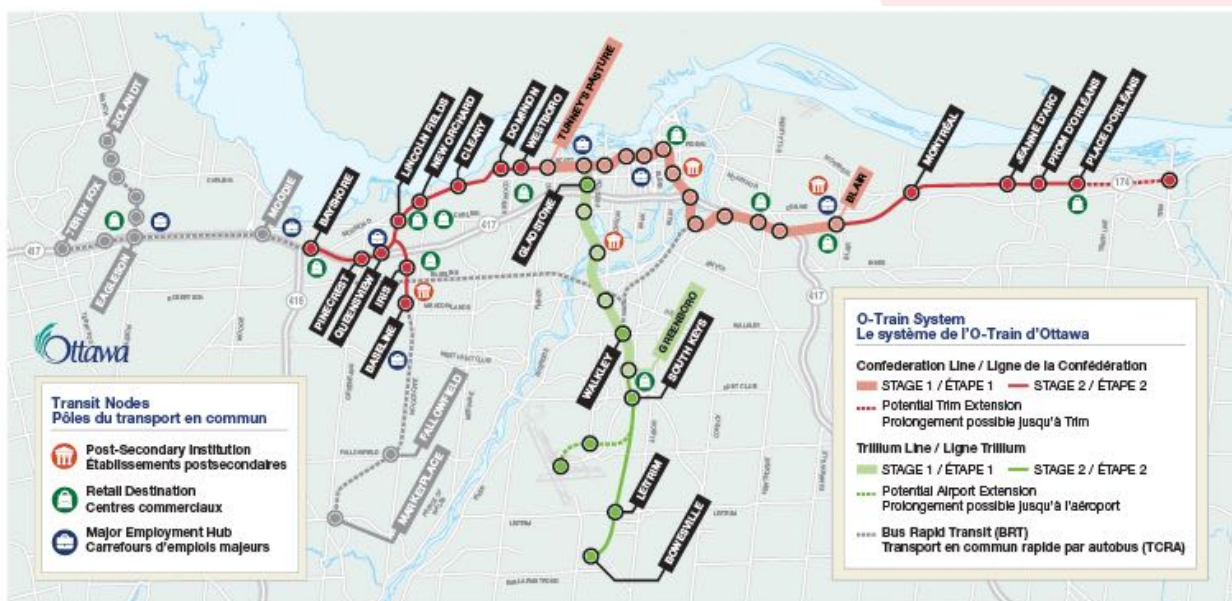


Stage 2 Background



- \$3-billion expansion approved unanimously by Ottawa City Council in 2013; EA for project approved in July 2015
- Includes three extensions to Stage 1 - going into suburbs to east, west and south
- Will go as far east as Place d'Orléans, as far west as Bayshore/Algonquin College, and as far south as Riverside South (also seeking funding to extend to Trim Rd. in east and to Ottawa International Airport)
- Includes 30 kilometers of new rail and 19 new LRT stations
- When done in 2023, total system will be more than 40 kilometers of rail and 36 stations

Stage 2 Alignment



Stage 2 Tunnel

Western extension includes a **3-km tunnel** running along the Sir John A. Macdonald Parkway:

- Starts just west of Dominion Station
- Ends just south of Richmond Rd. overpass over the Parkway (Pinecrest Creek Corridor)

Stage 2 Benefits

GHG emissions

- Reduced by 155,500 tonnes for Stage 2 alone
- More than 200,000 tonnes combined Stage 1 and 2 over a 25-year period

Economy

- Will generate more than 24,000 person years of direct and indirect employment
- Economic impact of \$3.8 billion

Increased Ridership

- 13.5 million more trips/year by 2031

Decreased Congestion

- 14,000 fewer vehicles during rush hour; 450,000 annual bus trips eliminated from the Sir John A. Macdonald Parkway

With Stage 1 & 2 combined, 70% of Ottawa residents will live within five kilometres of a light rail station



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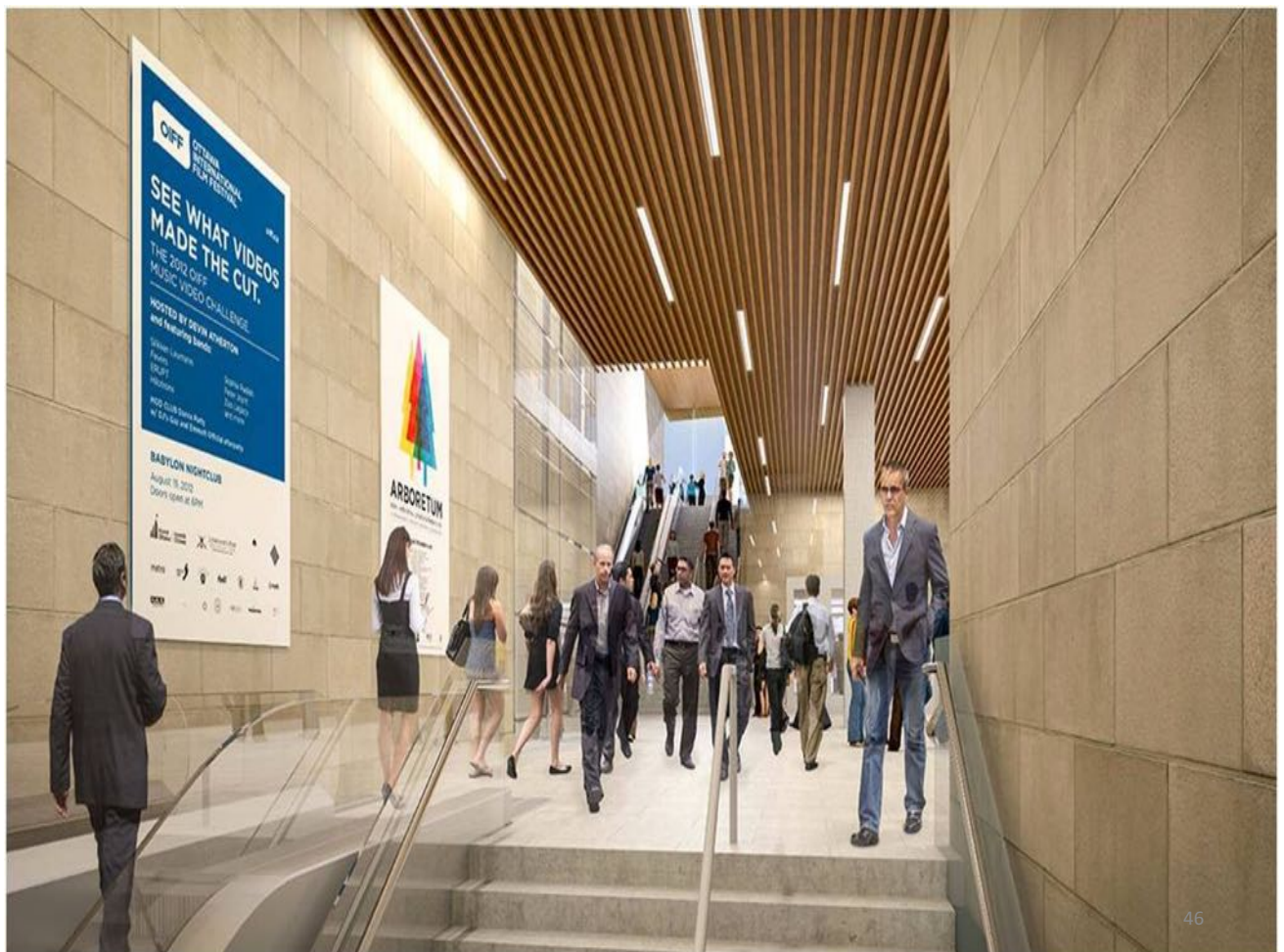


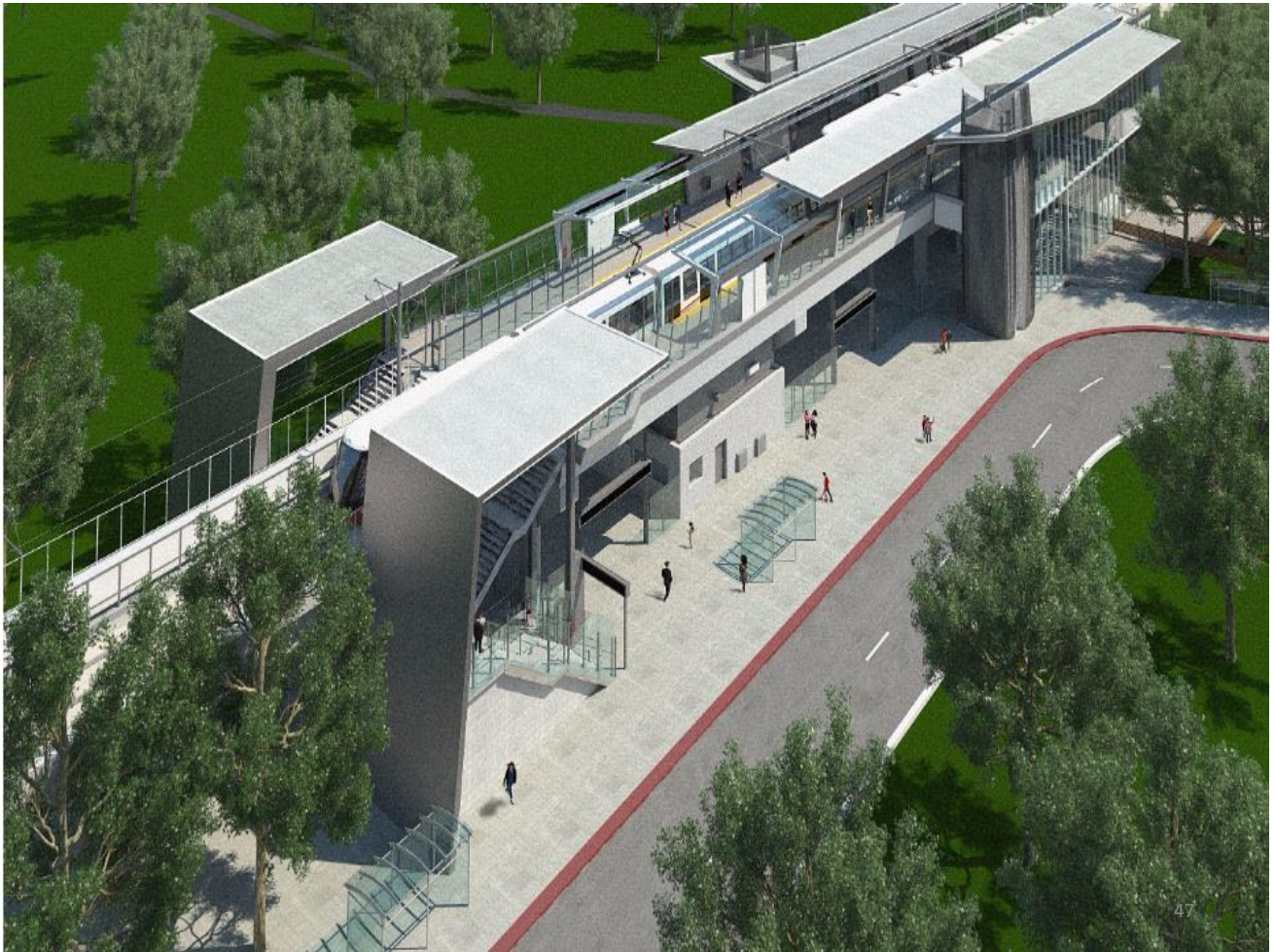
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Questions?

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