

# NORTHWEST LRT RECOMMENDED CONCEPT PLAN

APRIL 2013

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On July 7, 2010, City Council approved a surface-running (street-level) corridor for the Northwest Light Rail Transit (LRT). This LRT line will be an extension of the North LRT line to NAIT that is currently under construction. The Northwest LRT will extend from NAIT to serve the communities of northwest Edmonton.

The project is currently in the concept planning phase to define:

- Track and station locations
- Pedestrian and cyclist connections
- Social and environmental benefits and impacts
- Road and vehicle access changes

#### Highlights

- Length: 11 km (NAIT to northwest city limits)
- Number of Stations: 9
- LRT Vehicles: Existing high-floor style

No funding is currently in place to build the Northwest LRT line. This concept plan will be presented to Council in spring 2013.



## CONNECTING BUSES TO LRT



Creating good connections between buses and LRT is a priority for the entire Northwest LRT route. New transit centres are proposed at the 137 Avenue station, Castle Downs station and at the Park and Ride located at Campbell Road. Significant local bus connections are also proposed at the 132 Avenue, 145 Avenue, 127 Street and 137 Street stations. The Park and Ride is the only station with formal parking facilities proposed along the Northwest LRT route.

## LRT NETWORK PLAN

In June 2009, City Council adopted a long-term LRT Network Plan that defines the future size, scale and operation of the city's LRT system. Eventually, the LRT network will extend to the northwest, northeast, east, southeast, south and west, making downtown Edmonton the focal point of the LRT system.

As part of the LRT Network Plan, a vehicle technology review was completed to help choose the style of LRT vehicles most appropriate to meet long-term transportation goals. The review recommended new low-floor vehicles be used for any new lines, such as the Southeast to West LRT. Extensions to the existing system such as the Northwest LRT will continue to use the existing high-floor LRT vehicles.

The two LRT systems will connect downtown at the Churchill station, allowing passengers to move to any other line.



## URBAN-STYLE LRT

Benefits of urban LRT include:

- Direct transit, pedestrian and cycle connections
- Reduced property requirements
- Use of landscaping, streetscaping and architectural features
- Use of embedded track (where appropriate) instead of rock/railway ties

The LRT Network Plan also features a change from the existing suburban style system to a more urban-style LRT.

Urban style means:

- Smaller-scale stations closer together
- Reduced speeds through residential areas
- Generally surface running (street level)
- Safe operation in pedestrian-oriented communities
- Reduced requirements for crossing arms, lights, bells, gates and barriers

As with the existing system, the LRT will have priority at intersections and occupy a dedicated space within the road so it will not mix with traffic.

The proposed stations along the Northwest LRT route will require minimal infrastructure, similar to the McKernan/Belgravia station on the existing LRT line. Stations integrated with a transit centre will be comparable to the South Campus station, also on the existing line.

SOUTH CAMPUS



MC KERNAN / BELGRAVIA



## RECOMMENDED CONCEPT PLAN

The recommended concept plan for the Northwest LRT was developed considering technical requirements for the system, the LRT Network Plan and significant public input.

The draft concept plan was reviewed by the public and stakeholders in September 2012. Based on the feedback received, the team re-examined several elements to improve the LRT's technical performance, mitigate potential impacts and better meet the needs of the local community.

This included a revised concept plan for the 153 Avenue corridor that creates greater flexibility for the City to develop and deliver the system design and operation. The benefits of this new design is that LRT could operate at a higher speed on this portion of the corridor; should it operate at higher speed it would require gates and bells.

Below is a list of resulting key adjustments:

- Revised access arrangement provided at 134 Avenue
- Left turn provided into Castle Downs Shopping Centre north of 137 Avenue from Castle Downs Road
- Continuity of shared-use path at 137 Avenue improved
- Arrangement of 137 Avenue Transit Centre refined
- Kiss and Ride provided at 137 Avenue station
- Equipment room location for 145 Avenue station moved to west side of Castle Downs Road
- Kiss and Ride provided southbound on Castle Downs Road at 145 Avenue station
- Length of left turn lanes increased at 145 Avenue and 153 Avenue
- Kiss and Ride provided at Castle Downs station
- Arrangement of Castle Downs Transit Centre refined
- Revised concept developed for 153 Avenue west of Castle Downs Station

## NAIT STATION

The Northwest LRT will be an extension of the North LRT line which is scheduled to open in 2014. A temporary station for the North LRT, suitable for three-car trains, is currently under construction adjacent to the NAIT campus and Princess Elizabeth Avenue.

This station will be the North LRT's final station and the point of extension for the Northwest LRT. When the Northwest LRT is constructed, the NAIT Station will be shifted to the west to allow for five-car trains and to better serve NAIT, the town centre planned for the Blatchford Redevelopment, as well as the communities of northwest Edmonton.

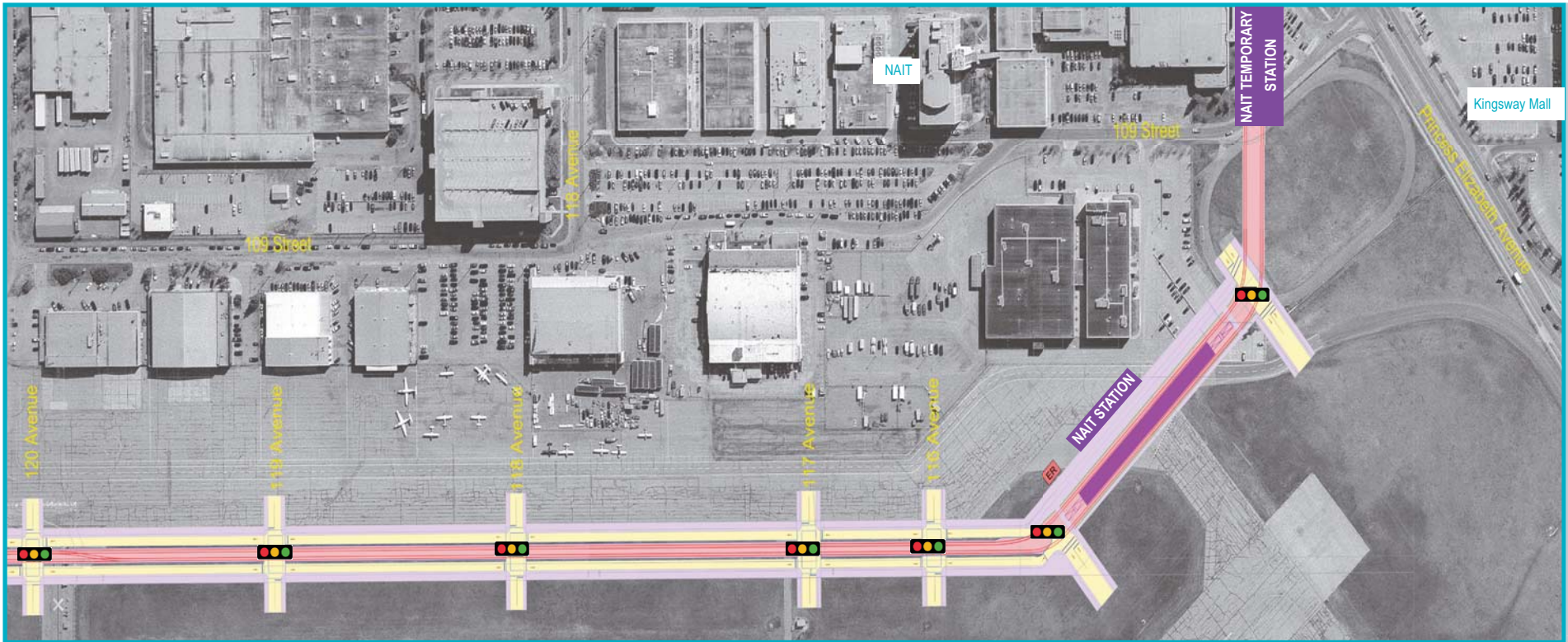
Continuing north from this permanent NAIT station location, the route runs along a new street to be developed with the Blatchford Redevelopment.

### Features

- Provides future five-car LRT train capability at the permanent NAIT station
- Serves the expanding NAIT campus
- Connects with Kingsway Mall
- Serves the town centre area of the Blatchford Redevelopment
- Provides access to a future park within the Blatchford Redevelopment

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	Street-Level LRT		Underground LRT		Elevated LRT		LRT Station
	Roadwork		Shared-Use Path		Sidewalk		On-Street Parking
	Property Required		Existing Bus Stop		Signal Intersection		Access Closed
	Pedestrian Crossing		LRT Equipment Room		Bicycle Parking		Signal Bungalow
	Pedestrian Refuge		Potential Noise Attenuation				

## BLATCHFORD REDEVELOPMENT STATION

The route continues north along a proposed new street in the Blatchford Redevelopment. A station is proposed to serve the development towards the north end of the site and the existing communities to the east. The station location will be focused around higher density development and facilities in the community.

The route then crosses Yellowhead Trail and CN's Walker Yard on a proposed bridge that includes pedestrian and cycle paths, connecting communities north of the Yellowhead Trail with the Blatchford Redevelopment.

The LRT descends from the bridge on the east side of 113A Street along the edge of Grand Trunk off leash dog park. The LRT will be fenced and landscaped adjacent to the park.

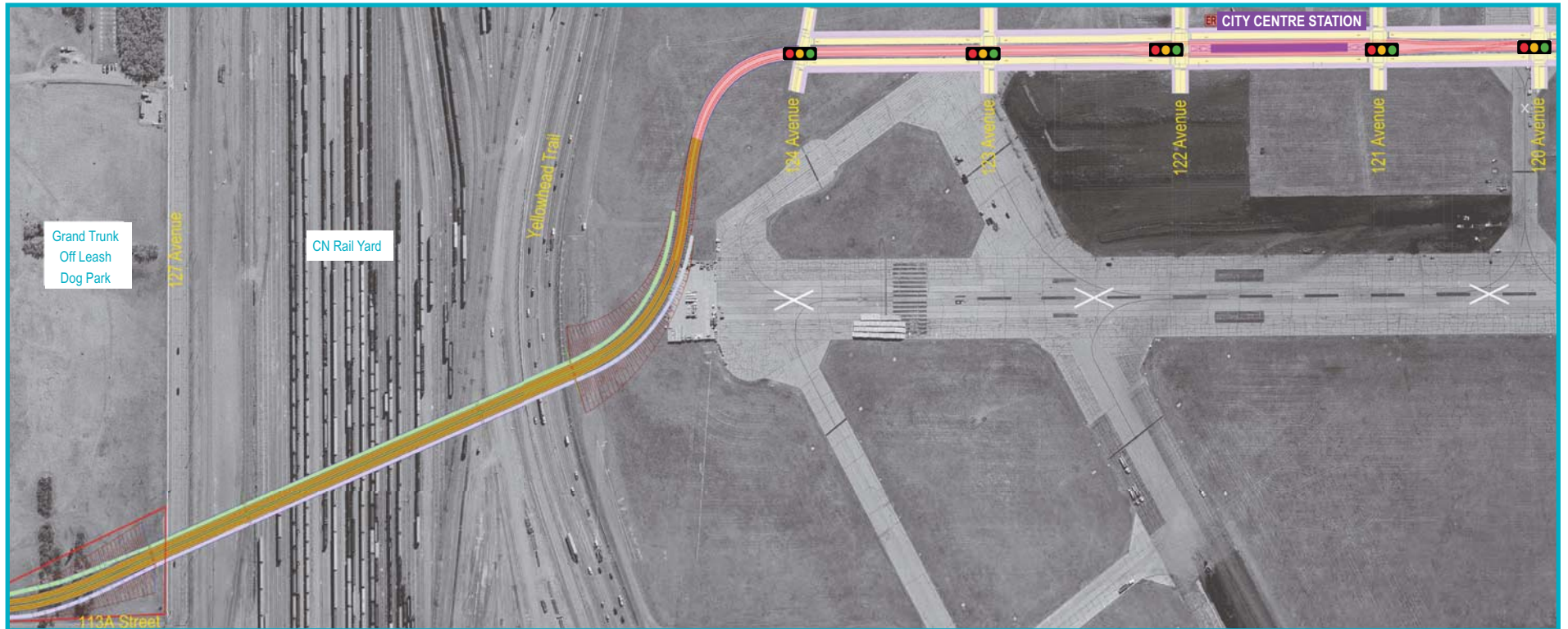
### Features

- Serves high residential densities
- Connects communities to the east
- Provides access to the future Blatchford Redevelopment park
- Connects pedestrians and cyclists from the north to the development



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## 132 AVENUE STATION

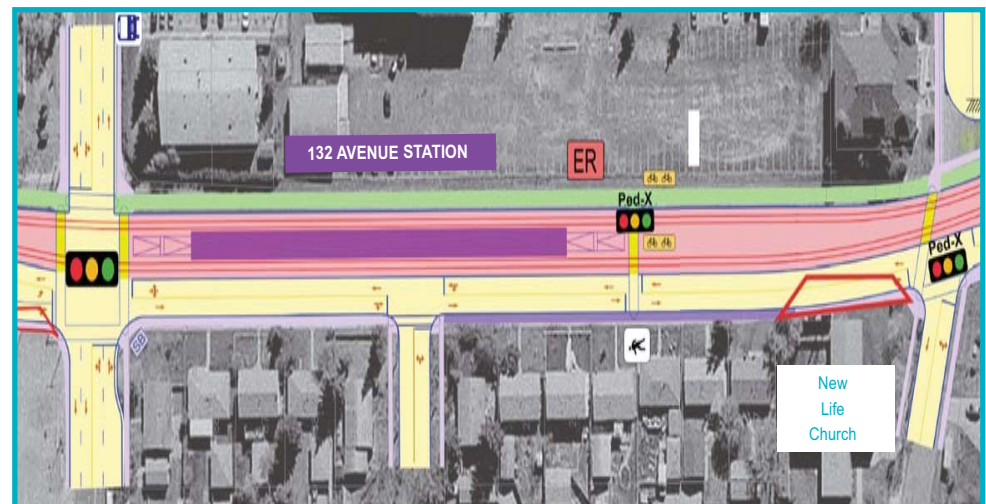
The LRT continues north along the east side of 113A Street. The properties on the east side of 113A Street between 129 and 130 Avenues will be required to make room for the LRT track while allowing 113A Street to remain open to two-way traffic. At 130 Avenue the east arm of the intersection will be closed to through traffic and a cul-de-sac will be created.

A station is proposed to be located on the east side of 113A Street between 130 and 132 Avenues. Pedestrian crosswalks are provided at both ends of the platform, providing connectivity to the surrounding communities, retail and facilities including places of worship and schools.

A shared-use path for both pedestrians and cyclists is provided along the full length of the LRT route on the east side of 113A Street.

### Features

- Retains tree line street between 129 and 130 Avenues
- Retains through traffic on 113A Street
- Between 132 and 134 Avenue, road is reduced to a single lane in each direction
- South of 137 Avenue, the traffic lanes on 113A Street are reduced to provide space for the LRT and decrease traffic travelling through the community
- Retains frontage parking for homes along 113A Street
- Provides shared-use path along the east side of 113A Street



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## 137 AVENUE STATION

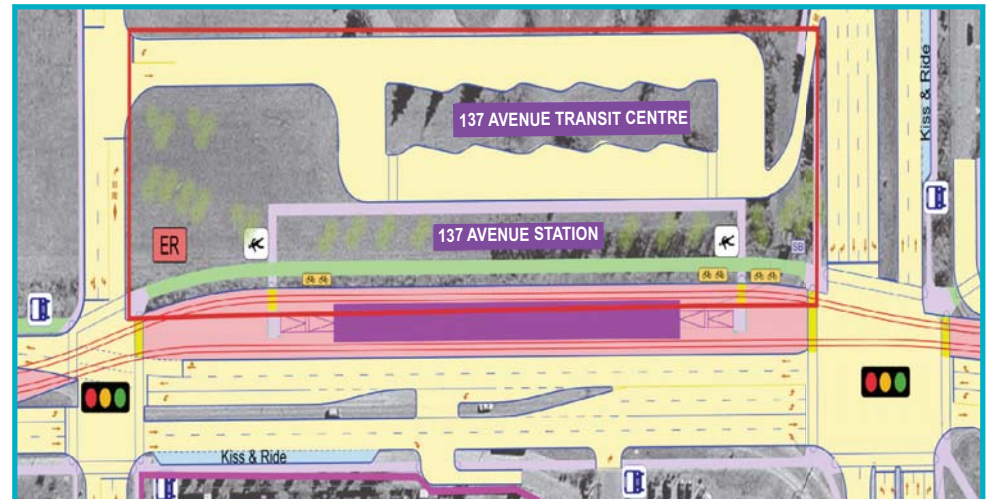
The LRT continues across 137 Avenue along the east side of 113A Street. A station is proposed to be located on the north side of 137 Avenue, adjacent to a new transit centre to provide bus connections. The LRT and transit centre will provide an opportunity for future development (potentially retail and housing).

The LRT continues north and transitions from the east to the centre of Castle Downs Road. The existing two traffic lanes in each direction are retained north of 137 Avenue.

Southbound traffic is focused to turn either east or west at 137 Avenue to connect with 97 Street or 127 Street. South of 137 Avenue, the road is reduced to one lane in each direction to accommodate the LRT and provide a more locally focused road network.

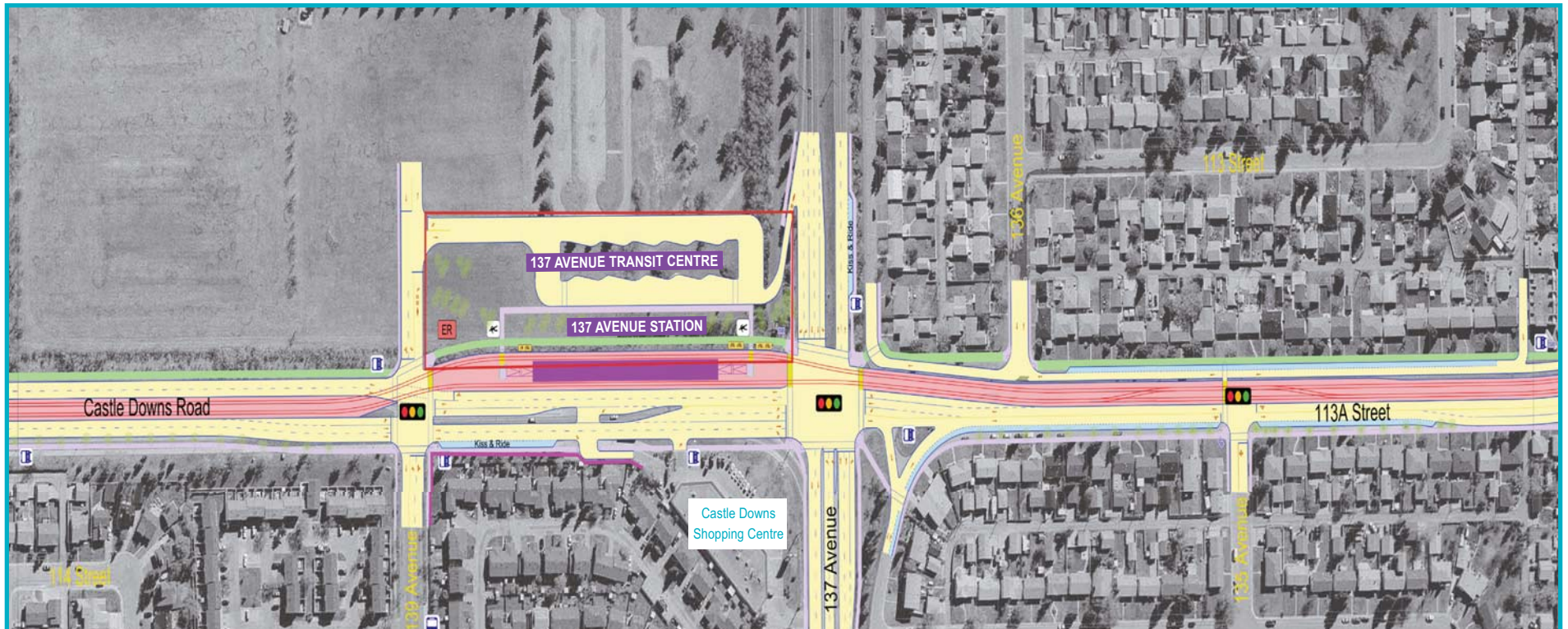
### Features

- Serves communities around 137 Avenue
- Provides bus interchange at the proposed transit centre
- Retains traffic capacity north of 137 Avenue on Castle Downs Road
- Provides a community-focused road network south of 137 Avenue
- Provides a shared-use path along the east side of 113A Street



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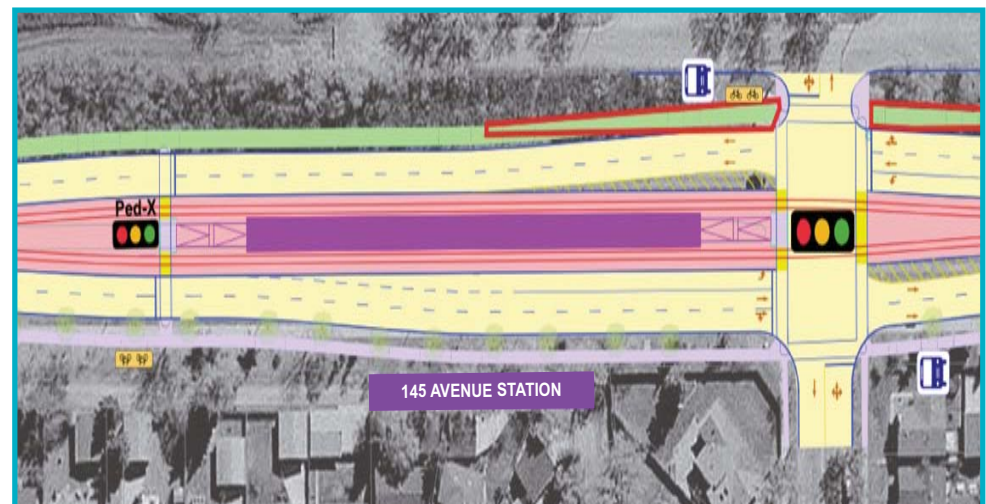
## 145 AVENUE STATION

The LRT continues north in the centre of Castle Downs Road. A station is proposed north of the 145 Avenue intersection to serve the existing community on the west and the growing Griesbach development to the east. Signalled pedestrian crosswalks will be located at both ends of the station, providing strong pedestrian connections into the community.

The LRT continues north in the centre of Castle Downs Road through to the 153 Avenue intersection.

### Features

- Serves communities, primarily passengers walking to station
- Provides a shared-use path along the east side of 113A Street



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## CASTLE DOWNS STATION

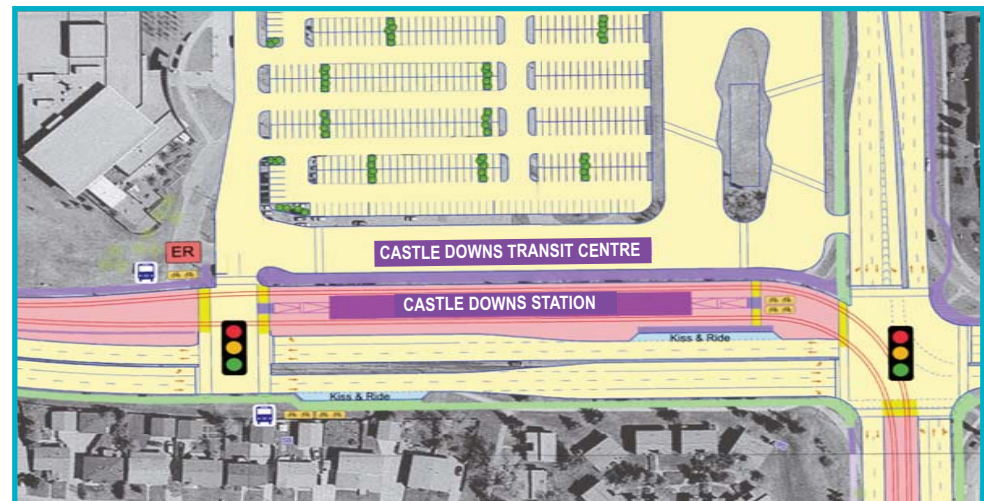
The LRT turns west on 153 Avenue at the intersection of Castle Downs Road. A station is proposed to integrate with a new transit centre adjacent to the YMCA facility. This transit centre will replace the transit centre currently located on the east side of Castle Downs Road just north of 153 Avenue, providing strong connections to the surrounding community, retail and public facilities.

To improve the pedestrian environment, channelized right turns have been removed at the Castle Downs intersection. Channelized right turns refer to the right turn lanes that allow vehicles to move even when the signal is red, for traffic continuing through the intersection. The channelized right turns cause conflicts between turning vehicles and pedestrians. Signalled pedestrian crosswalks will also be provided at the entrances to both the YMCA and Castle Downs Park.

As it continues west, the LRT transitions from the north side of 153 Avenue to the centre of the road, and runs within a revised LRT corridor to provide greater separation from traffic. A shared-use path is provided on the south side of 153 Avenue.

### Features

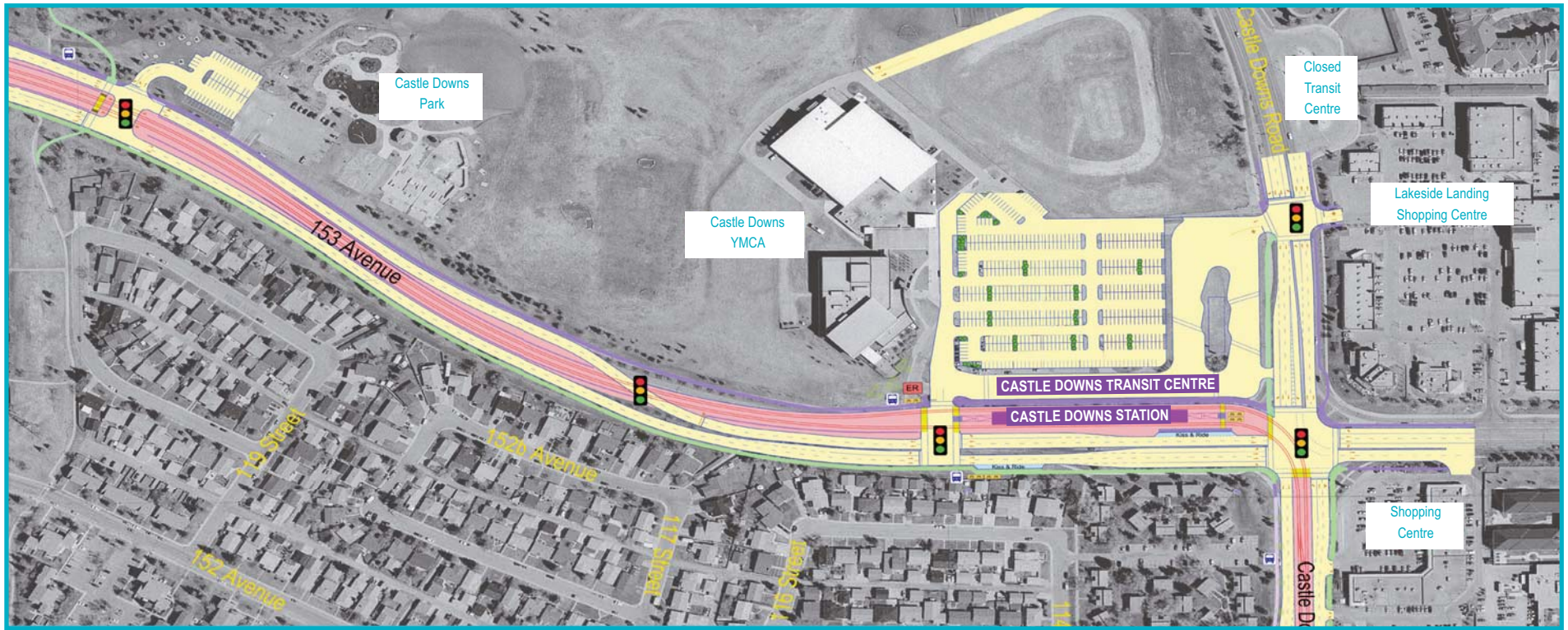
- Serves communities around Castle Downs
- Provides direct connections for LRT and bus at the new transit centre
- Provides a shared-use path on the south side of 153 Avenue
- Creates strong connectivity to local amenities
- Improves pedestrian environment and connections





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## 127 STREET STATION

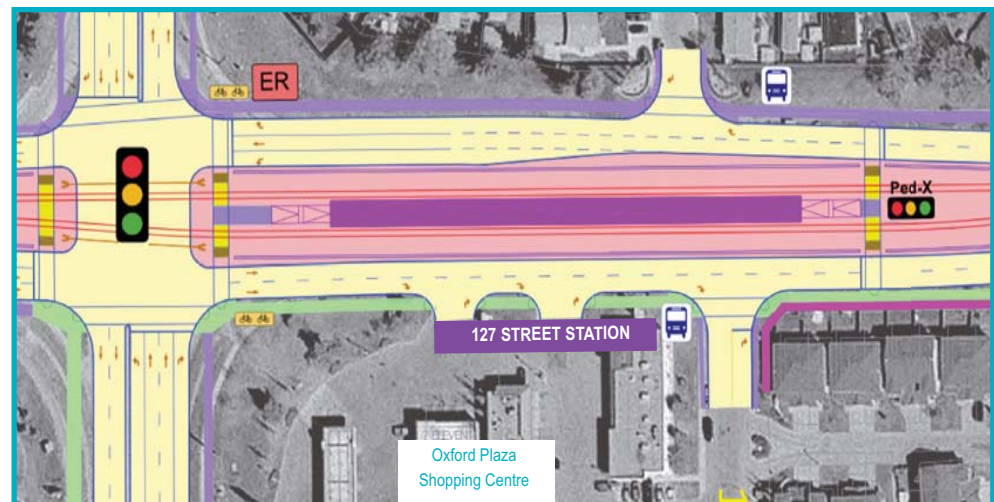
The LRT continues west down the centre of 153 Avenue. The pedestrian crossing east of 121 Street is retained and combined with a revised signal controlled access to Castle Downs Water Park. A new shared-use path is provided on the south side. New pedestrian connection into the adjacent communities are proposed.

The LRT continues west to a centre station just east of the 127 Street intersection. A station at 127 Street provides connectivity to the surrounding communities and local amenities. Signalled pedestrian crosswalks will be provided at each end of the station platform.

At the 127 Street intersection, the channelized right turns have been removed to improve the walkability to the station and surrounding area. Channelized right turns refer to the right turn lanes that allow vehicles to continually move even when the signal is red for traffic continuing through the intersection. The channelized right turns cause conflicts between turning vehicles and pedestrians. At 127 Street, the shared-use path turns south to connect with the multi-use trail running within the utility corridor.

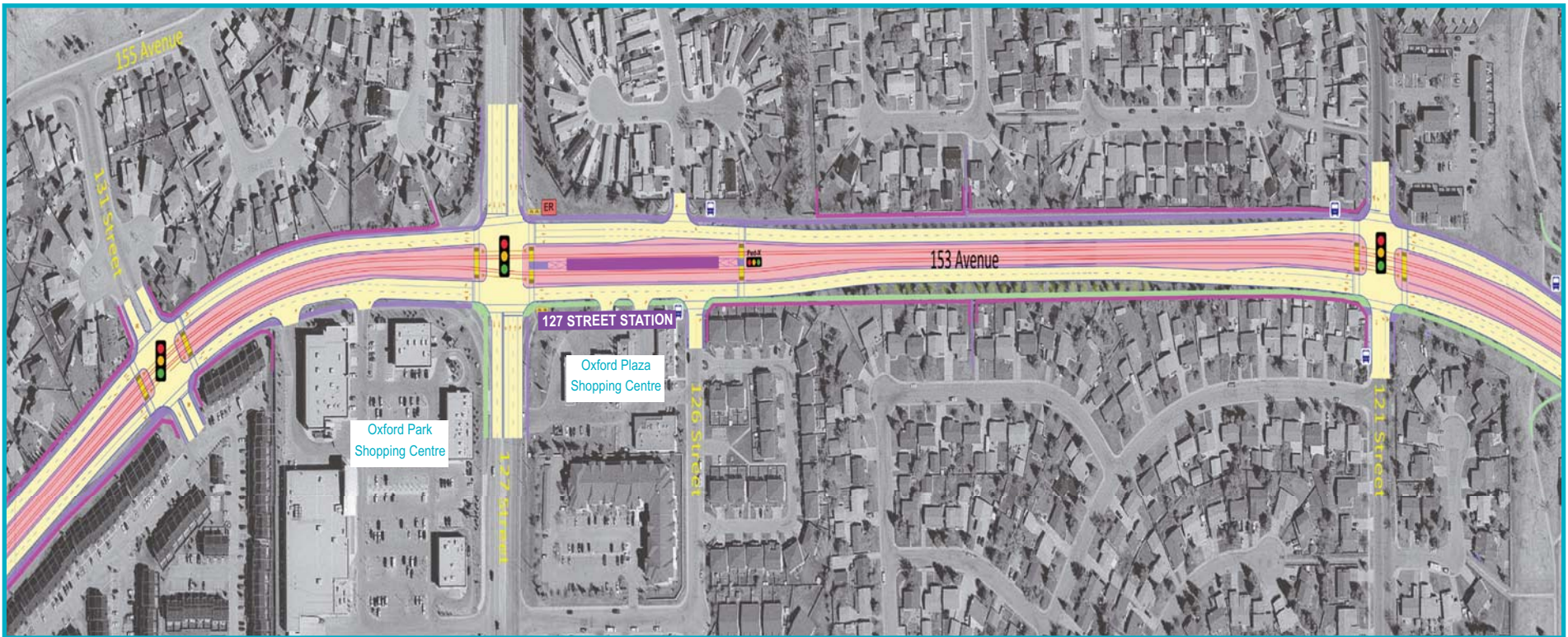
### Features

- Creates connectivity with surrounding communities
- Provides strong connections to bus services on 127 Street
- Connects to local amenities
- Provides a shared-use path



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## 137 STREET STATION

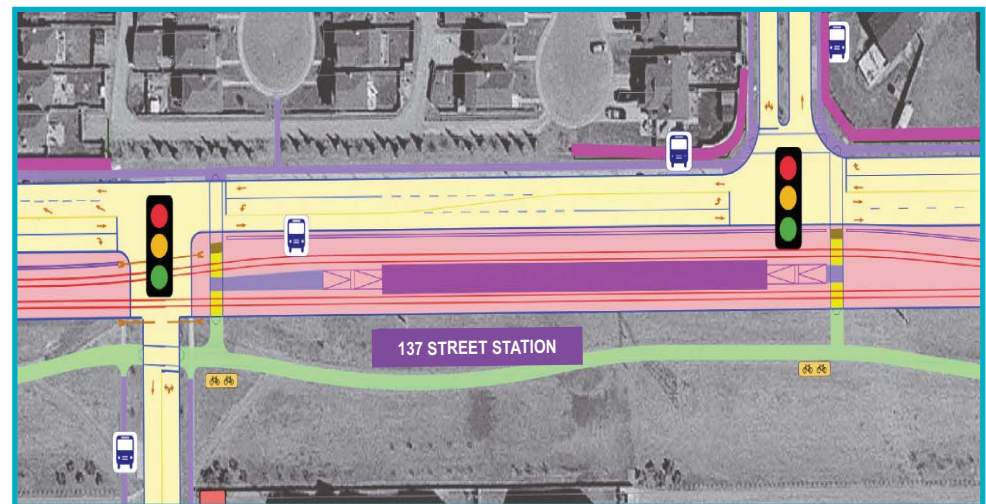
The LRT route continues along 153 Avenue, crosses 134 Street and transitions from the centre to the south side of 153 Avenue. The LRT continues west to a proposed station between 137 and 139 Streets, providing strong connectivity with the surrounding communities.

The station is adjacent and connected to the multi-use trail/dog park running within the parallel utility corridor.

The route continues west descending under the CN rail line and returning to surface at 142 Street.

### Features

- Provides a community-focused station
- Creates strong pedestrian and bicycle connectivity



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## CAMPBELL ROAD STATION

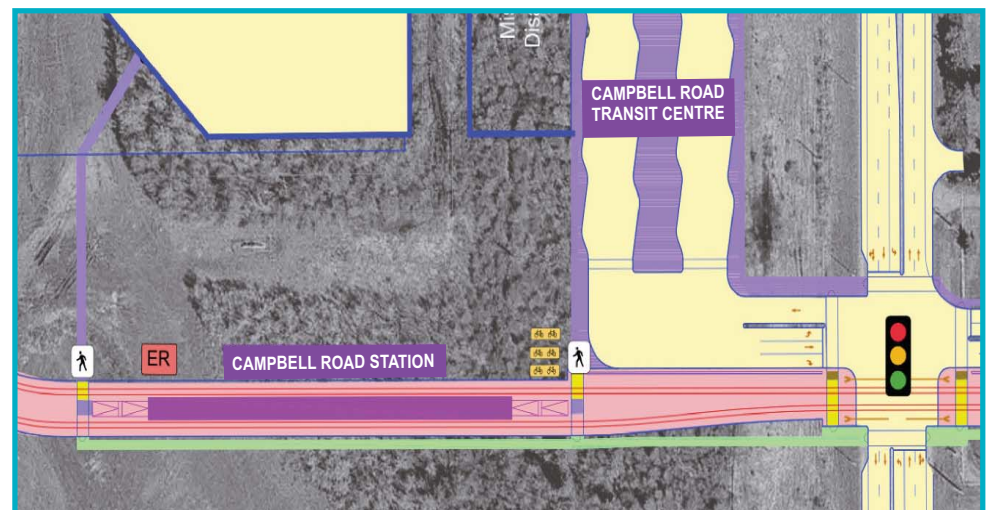
The route continues west. The proposed LRT returns to the surface after crossing the CN Rail line underground, crossing 142 Street at street level.

The LRT continues along the south side of 153 Avenue, crossing Campbell Road. Provision for a potential LRT maintenance facility is identified on the north side of 153 Avenue.

The Campbell Road Park and Ride, transit centre, and the final Northwest LRT station are located on the west side of Campbell Road.

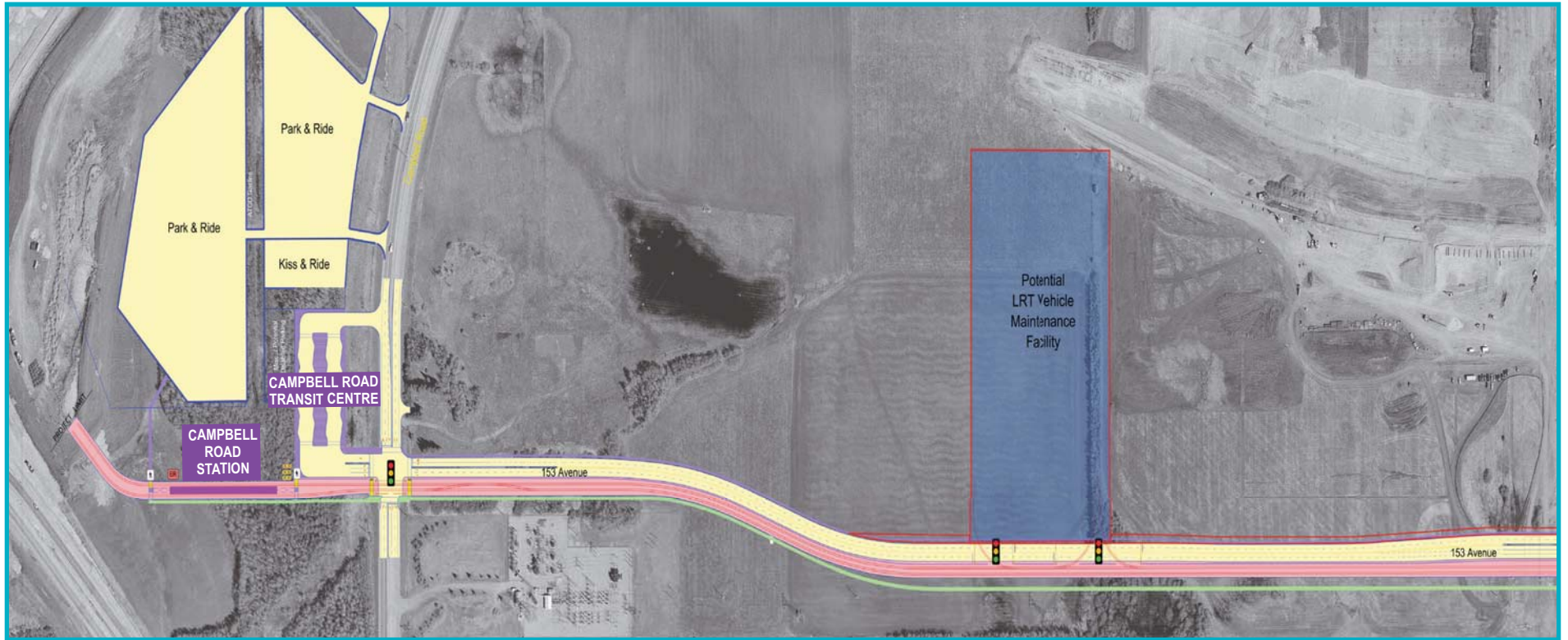
### Features

- Creates strong connectivity with the proposed Campbell Road Park and Ride
- Integrates the St. Albert and Edmonton bus services



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**For more information:**

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