

# Terwillegar Drive Concept Plan Update

## Guide to Design Options

### Planning for the Future

Terwillegar Drive was constructed in the 1980s with the long-term goal of a free-flow freeway. This means that there will ultimately be no traffic signals between Whitemud Drive and Anthony Henday Drive. There will be three northbound lanes and three southbound lanes, with the possibility of service or frontage roads to better serve surrounding neighbourhoods.

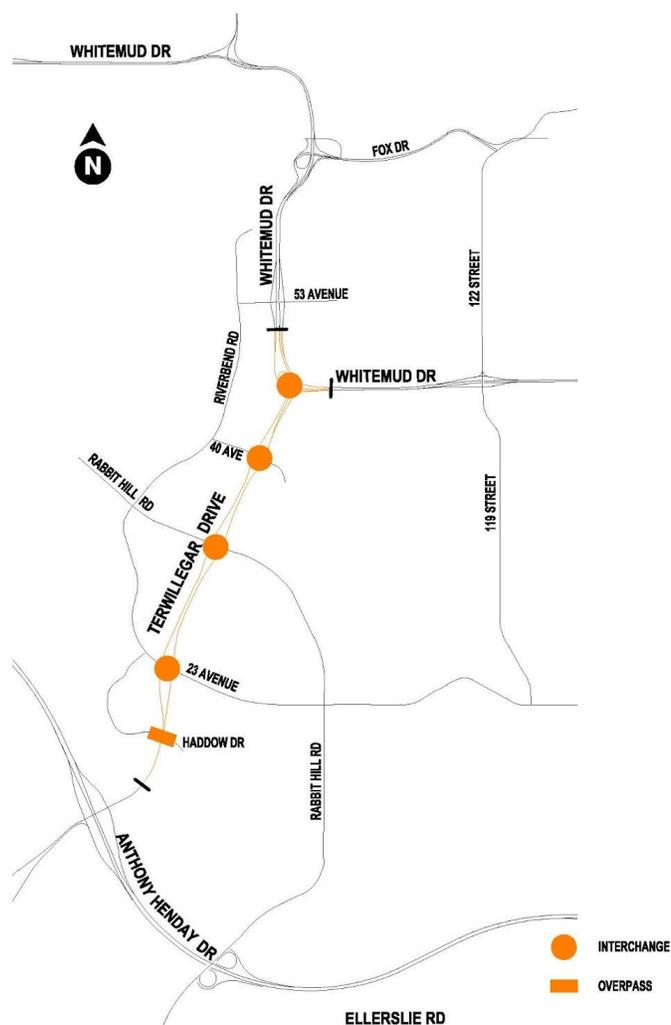
### Current Plan

The 2001 approved freeway plan calls for free-flow interchanges at 40 Avenue/Bulyea Road, Rabbit Hill Road and 23 Avenue.

In 2012, the Haddow Drive interchange was modified to an overpass due to the impacts of the expanded interchange plan at Anthony Henday Drive and Terwillegar Drive.

The 2001 freeway plan is being updated to consider current roadway design standards and future traffic projections.

A series of design options is being considered, including two different configuration options for the Whitemud Drive interchange, full or partial service roads along the corridor, as well as a vehicle or pedestrian/cycle-only overpass at Haddow Drive.



Study Area Map

## Design Challenges

A combination of bridges and ramps are used to allow for free-flow movements in freeway interchanges. These require significant land and space.

While the Terwillegar Drive corridor may seem sizeable, there are limitations of both land and space—a restricted right-of-way width and inadequate space between the proposed interchange locations.

The future freeway design must work within the existing right-of-way.

In addition, two kilometres (2000 metres) is generally the desired distance between freeway interchanges to allow for appropriate space to safely merge between one interchange off-ramp and the next interchange on-ramp.

This is called weaving distance.

The challenge on Terwillegar Drive is that the distance between the current intersections is significantly less than 2000 metres:

- 40 Avenue to Rabbit Hill Road is less than 1000 metres
- Rabbit Hill Road to 23 Avenue is about 1300 metres
- 23 Avenue to Haddow Drive is less than 700 metres

Design options are being explored that include a combination of service or frontage roads and interchange on/off-ramps.



*Aerial view of Terwillegar Drive from 40 Avenue/Bulyea road looking south*

**A decision about one freeway design element will have a cascading effect on other elements of the configuration.**

## Service or Frontage Roads

One-way, two-lane service or frontage roads could be located on both the east and west sides, along the entire length or portions of the freeway. The six free-flow lanes would run through the middle of the corridor and the service roads on either side.

The service roads would have an approximate operating speed of 60 km/h, providing neighbourhood-to-neighbourhood access without using the freeway through lanes, and allowing for neighbourhood access from Terwillegar Drive to be consolidated. Traffic into the neighbourhoods would be managed with signalized intersections.

The alignment of these service roads may be similar to the existing Terwillegar Drive lanes. However, due to the limited right-of-way, the roads could be located closer to neighbourhoods in some cases. This detail will be determined later in the study.



Even using a service road concept, there is insufficient space to develop both on-and off-ramps at all interchange locations.

*Example of a freeway service road.*

## Neighbourhood Access

A solution to improve the freeway operation is to consolidate the accesses from Terwillegar Drive to the neighbourhoods. For example, between 40 Avenue and Rabbit Hill Road, it may only be possible to provide direct access to 40 Avenue from the south (travelling northbound) or direct access to Rabbit Hill Road from the north (travelling southbound).

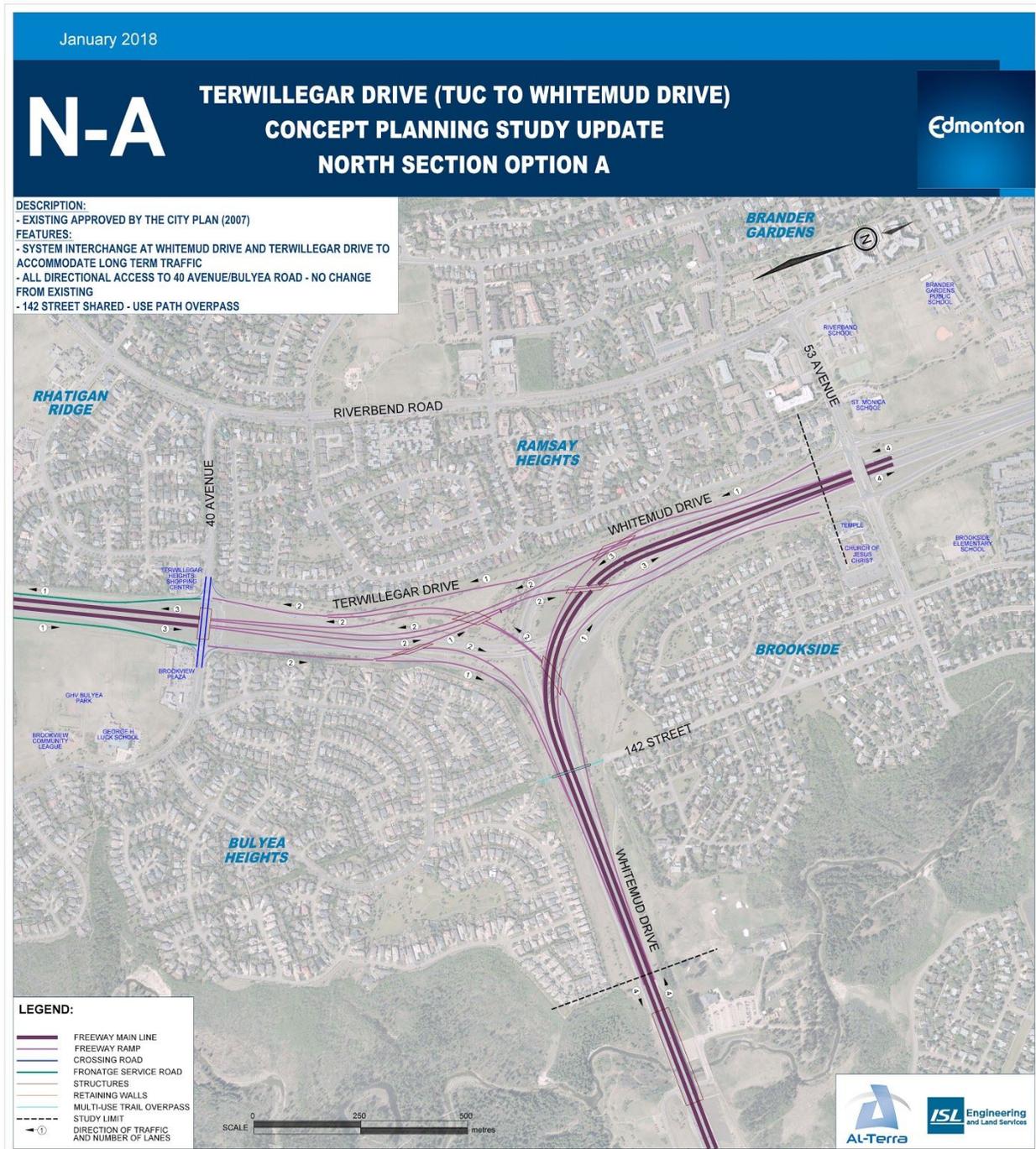
Similarly, the space between Rabbit Hill Road and 23 Avenue is limited, meaning the operation of the freeway would be improved if access was only provided in one of the following directions: direct access to Rabbit Hill Road from the south, travelling northbound, or direct access to 23 Avenue from the north, travelling southbound.

Neighbourhoods where direct access is removed from Terwillegar Drive would achieve access from the next interchange location.

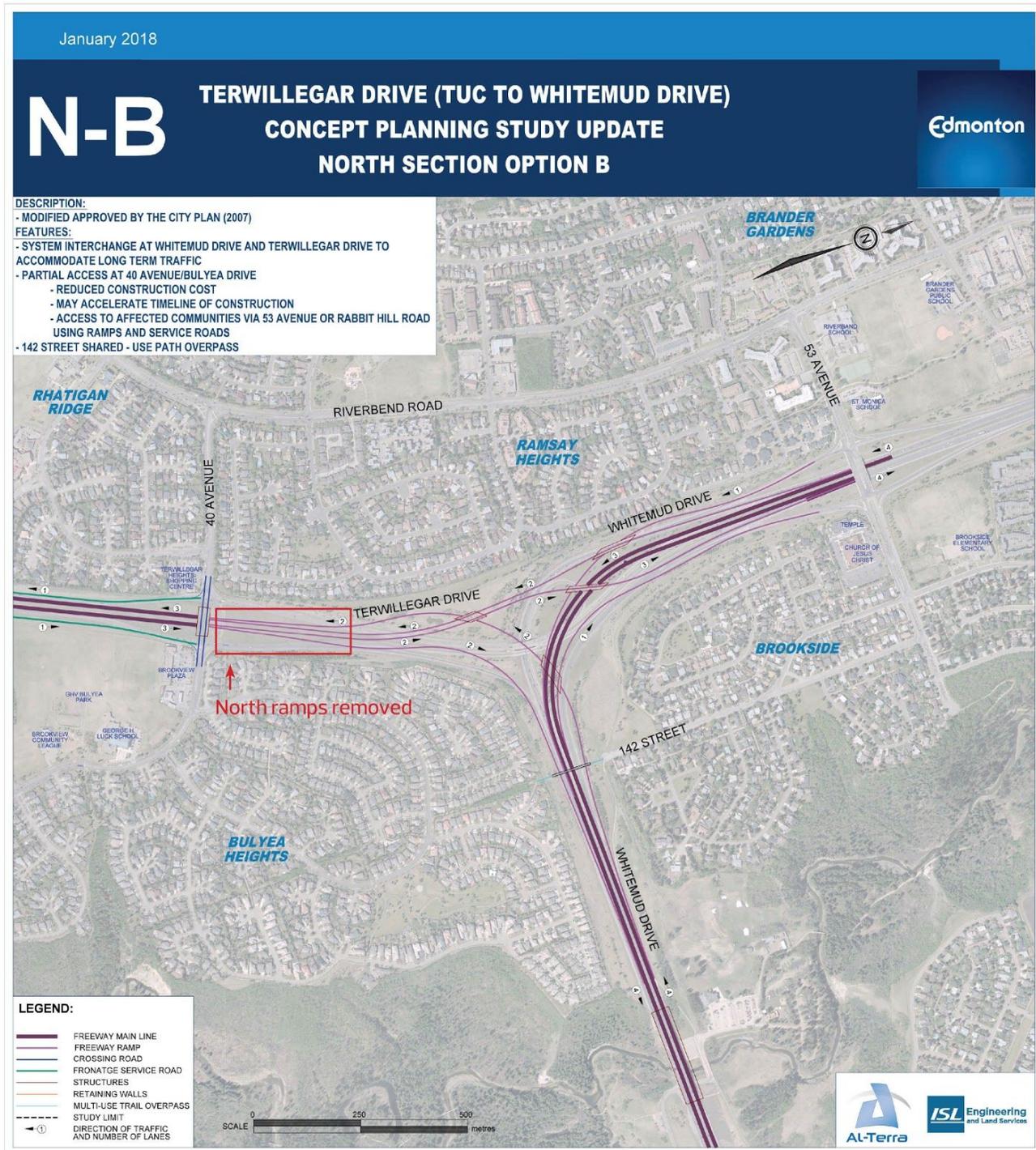
## North Segment: 40 Avenue to Whitemud Drive

Two options are being considered for this segment.

**North Option A:** This design follows the approved 2001 design which retains access to 40 Avenue and Bulyea Road from both eastbound and westbound Whitemud Drive, and access to both eastbound and westbound Whitemud Drive from 40 Avenue/Bulyea Road.



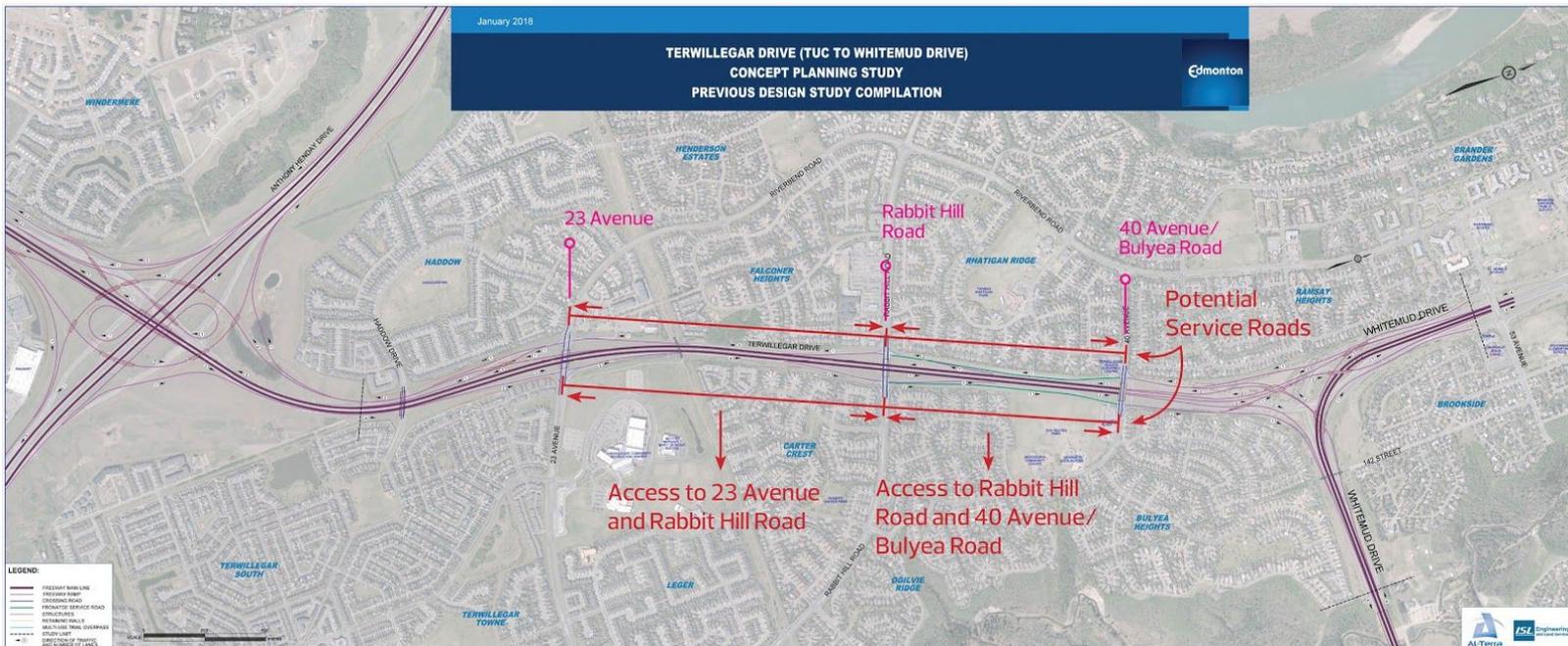
**North Option B:** An alternative interchange design could be constructed for significantly less cost than Option A, which means it could potentially be built sooner, be simpler to build and provide better construction detours. The trade-off is that it removes direct southbound access to 40 Avenue and Bulyea Road from Whitemud Drive. Access to the adjacent communities would exist from 53 Avenue or Rabbit Hill Road.



## Central Segment Design Options: 23 Avenue to 40 Avenue

The following simplified drawings illustrate the potential combination of elements being considered as solutions for the central segment of the freeway as explained on the previous page.

As noted previously, design elements chosen for one section of the freeway may have a cascading effect on the overall design. For example, a decision on the Whitemud Drive interchange will impact the configuration of the central section.



## South Segment: Anthony Henday Drive to 23 Avenue

An overpass replaces the current signalized intersection at Haddow Drive in both south segment options, which means there will be no direct access to Haddow or South Terwillegar from Terwillegar Drive. This is a result of the future plan for the Anthony Henday Drive/Terwillegar Drive interchange. **South Option 1:** Option 1 is the currently approved plan (2012) which retains a vehicle, cyclist and pedestrian connection between Haddow and South Terwillegar over the freeway. (see image on next page)

January 2018

# S-A

## TERWILLEGAR DRIVE (TUC TO WHITEMUD DRIVE) CONCEPT PLANNING STUDY UPDATE SOUTH SECTION OPTION A

Edmonton

**DESCRIPTION:**

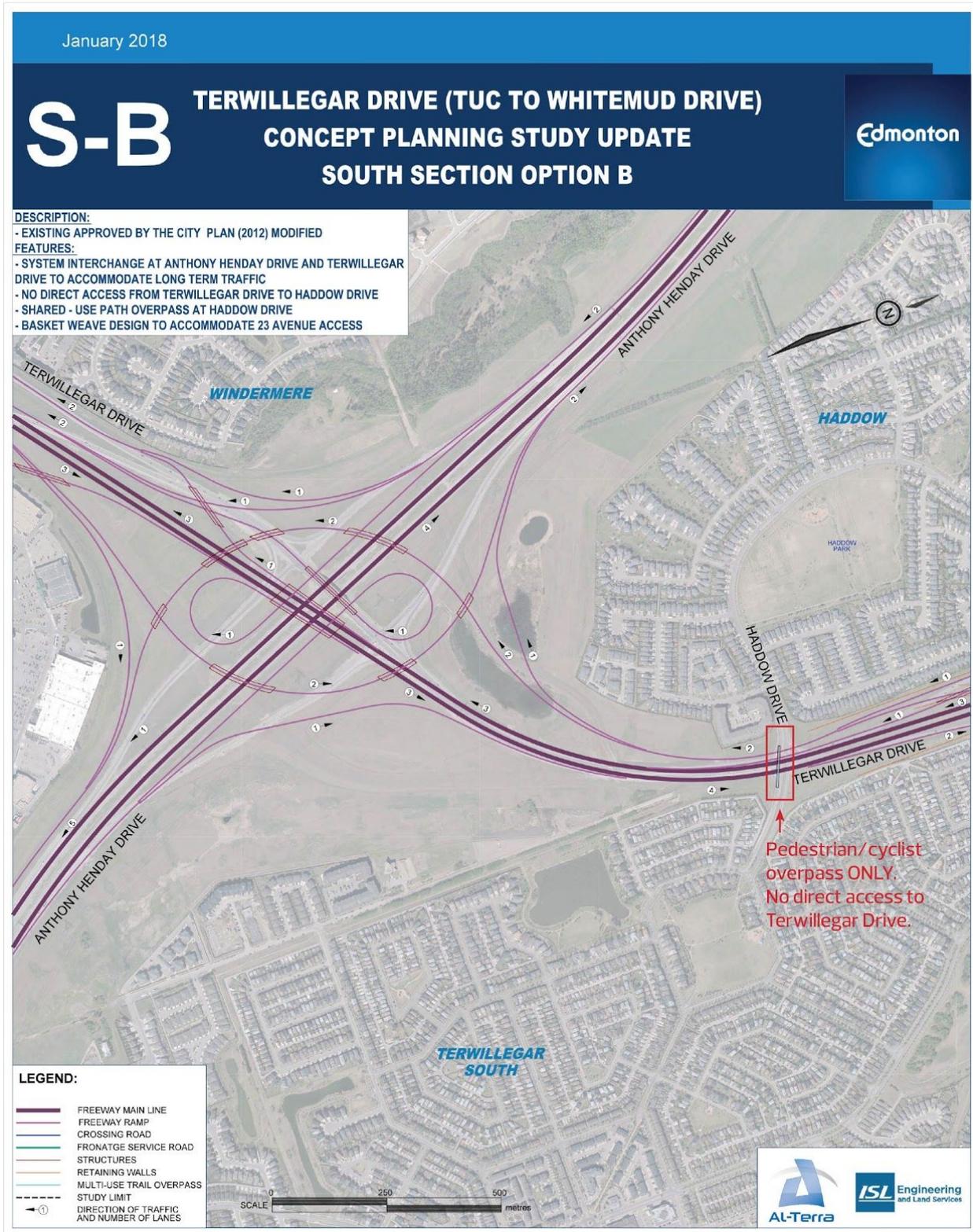
- EXISTING APPROVED BY THE CITY PLAN (2012)

**FEATURES:**

- SYSTEM INTERCHANGE AT ANTHONY HENDAY DRIVE AND TERWILLEGAR DRIVE TO ACCOMMODATE LONG TERM TRAFFIC
- NO DIRECT ACCESS FROM TERWILLEGAR DRIVE TO HADDOW DRIVE
- ROAD OVERPASS AT HADDOW DRIVE
- BASKET WEAVE DESIGN TO ACCOMMODATE 23 AVENUE ACCESS



South Option 2: Option 2 would provide only a pedestrian/cyclist connection between Haddow and South Terwillegar which would significantly reduce the construction costs. This is considered a viable solution as the traffic and transit volume between these two neighbourhoods is very low.



## Share Your Voice

We invite your comments to help inform the final freeway configuration. Complete our survey in hard copy format tonight or online at [edmonton.ca/terwillegardrivestudy](http://edmonton.ca/terwillegardrivestudy) until **February 7, 2018**.

## Questions?

Visit [edmonton.ca/terwillegardrivestudy](http://edmonton.ca/terwillegardrivestudy) for more information and to get your questions answered via our online Q/A



*Aerial view of Terwillegar Drive/Haddow Drive intersection looking west.*