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Consulting Engineers of Alberta

February 27-28, 2023

Upgrading a Constrained Circle Drive West to Freeway Standards

Presented by
Henry Devos, P. Eng.



City of Saskatoon Circle Drive West Functional Planning Study

➤ Study Area

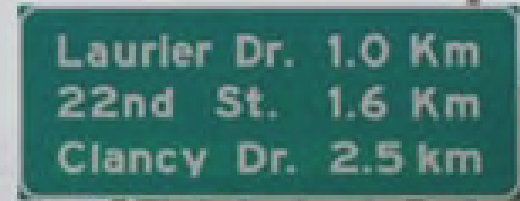


Circle Drive West Functional Planning Study



➤ Key Tasks

- ✓ Roadway Planning
- ✓ Traffic Engineering
- ✓ Geometric Design
- ✓ Public Engagement





Presentation Outline

1. Background
2. Regional Road Network
3. Existing Conditions
4. Option Development
5. Future City Planning

01

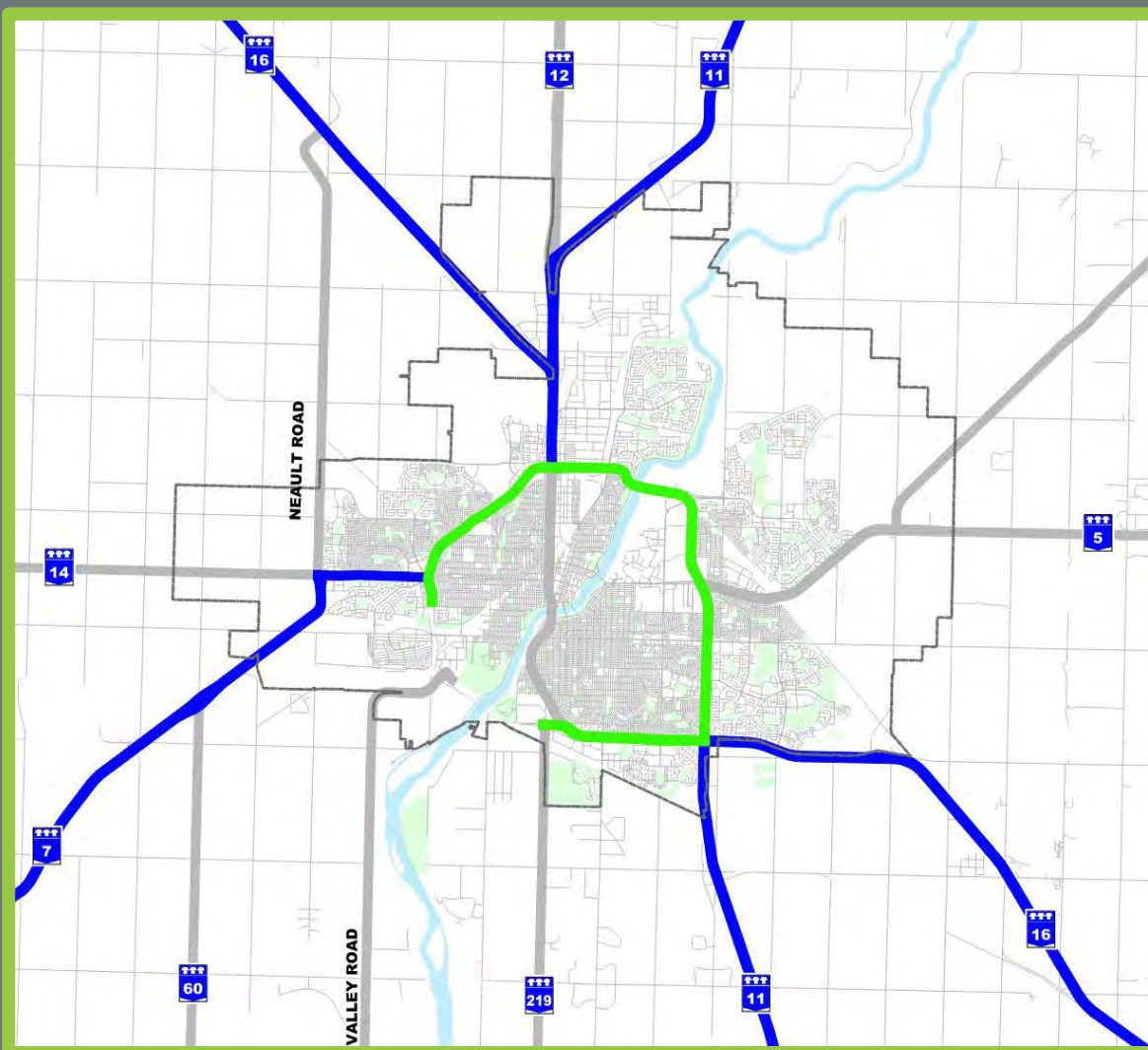
Background

Existing Road Network



Circle Drive Corridor

- **Before 2013**
 - No southwest leg, or river crossing



Circle Drive West

➤ Interim Plan

- Early 1960's - Alternating interchanges and intersections
- Local access retained, intended to be interim

Circle Drive Segment			Design Standard	Length (km)
Circle Drive East (Highway 11 South)	to	11 th Street	Freeway	10
11 th Street	to	22 nd Street	Signalized: Clancy	1
Crossing 22 nd Street			Interchange	1
22 nd Street	to	33 rd Street	Signalized: Laurier	1
Crossing 33 rd Street			Interchange	2
33 rd Street	to	Idylwyld Drive (Highway 11 North)	Signalized: Airport & Avenue C	1



22nd Street Interchange

➤ Unconventional Configuration

- Primary connectivity between Circle Drive North and 22nd Street West



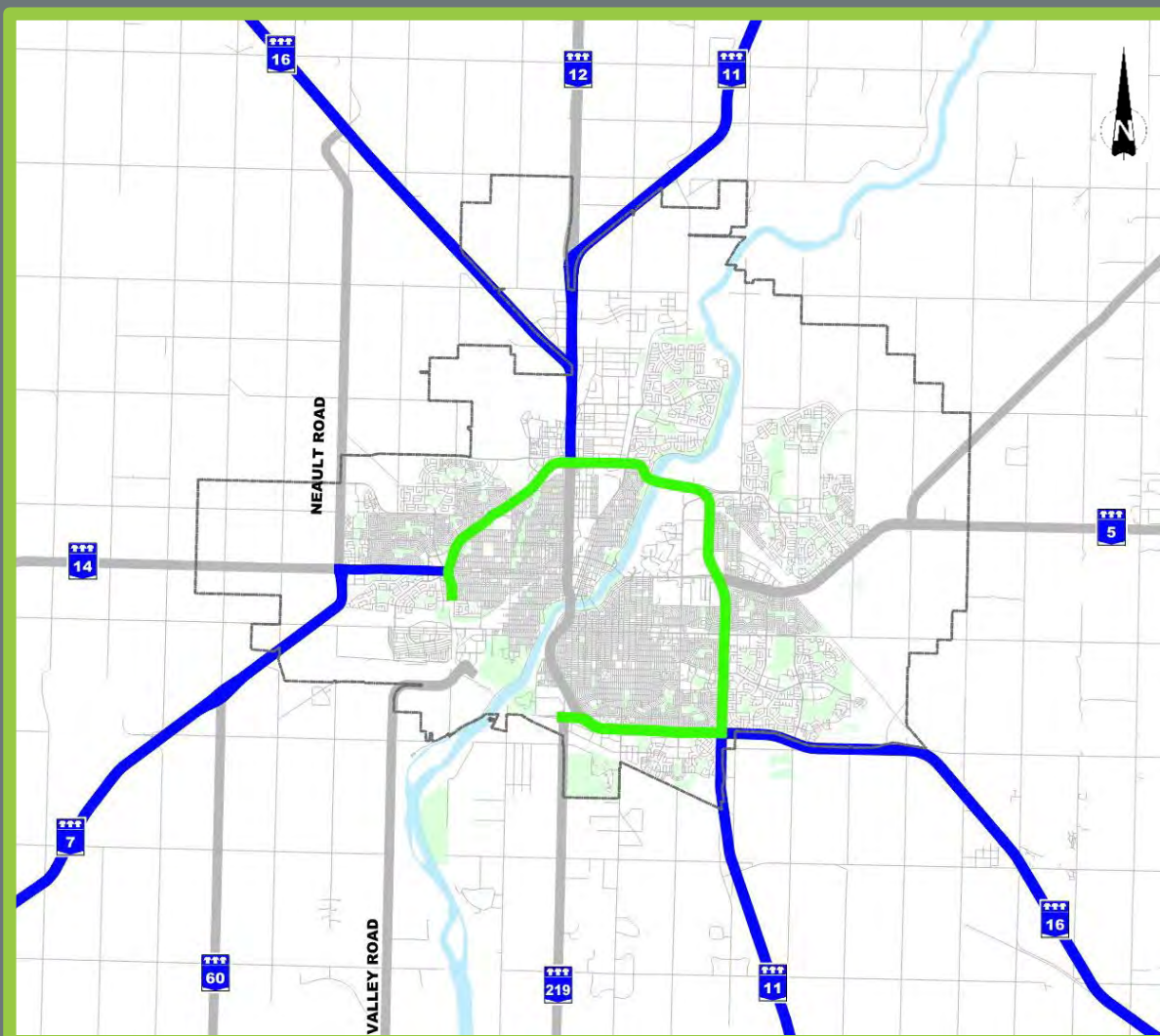
Road Network



- Local road connections crowd the interchange location
- 22nd Street is a former highway corridor

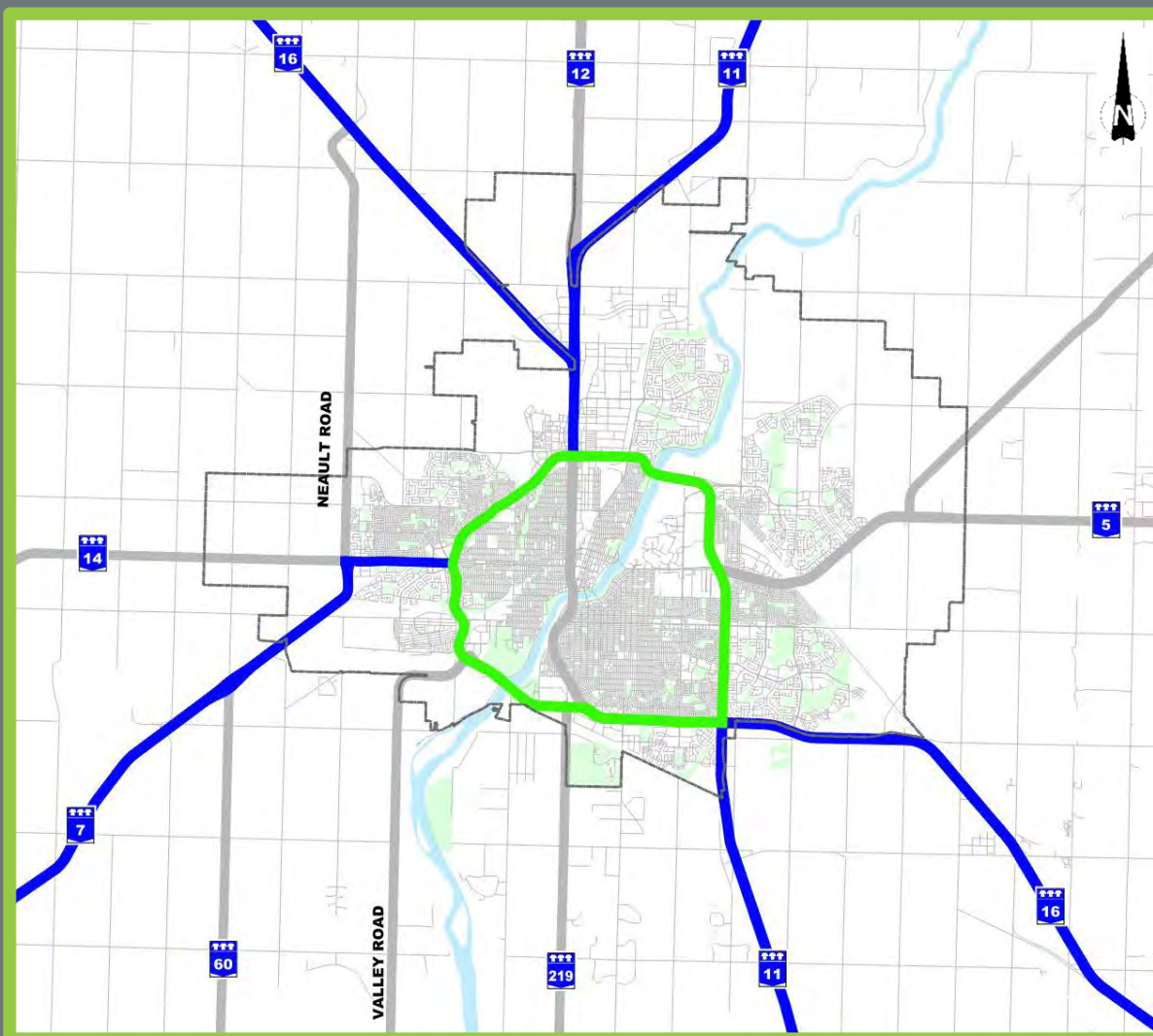
Circle Drive Corridor

- 2013: Completion of Southwest Leg



Circle Drive Corridor

- 2013: Completion of Southwest Leg
 - New river crossing
 - New traffic patterns



Study Purpose

- To prepare a long-term functional plan for Circle Drive West
- To achieve free-flow travel by removing the left-hand exits and entries (removing the traffic signals)



02

Regional Road Network

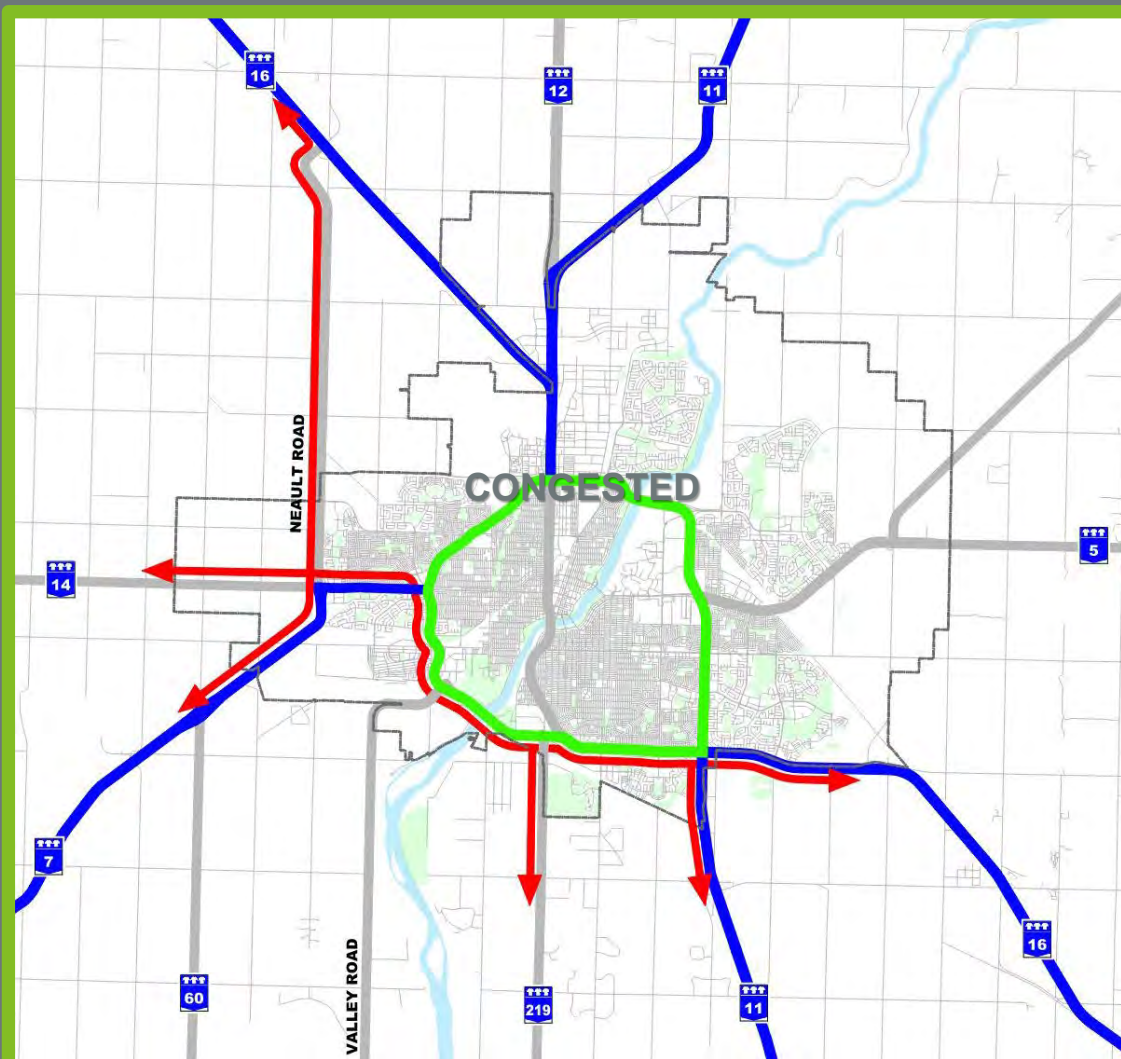
Saskatoon Freeway



Existing Regional Network

➤ Inter-Regional Flows

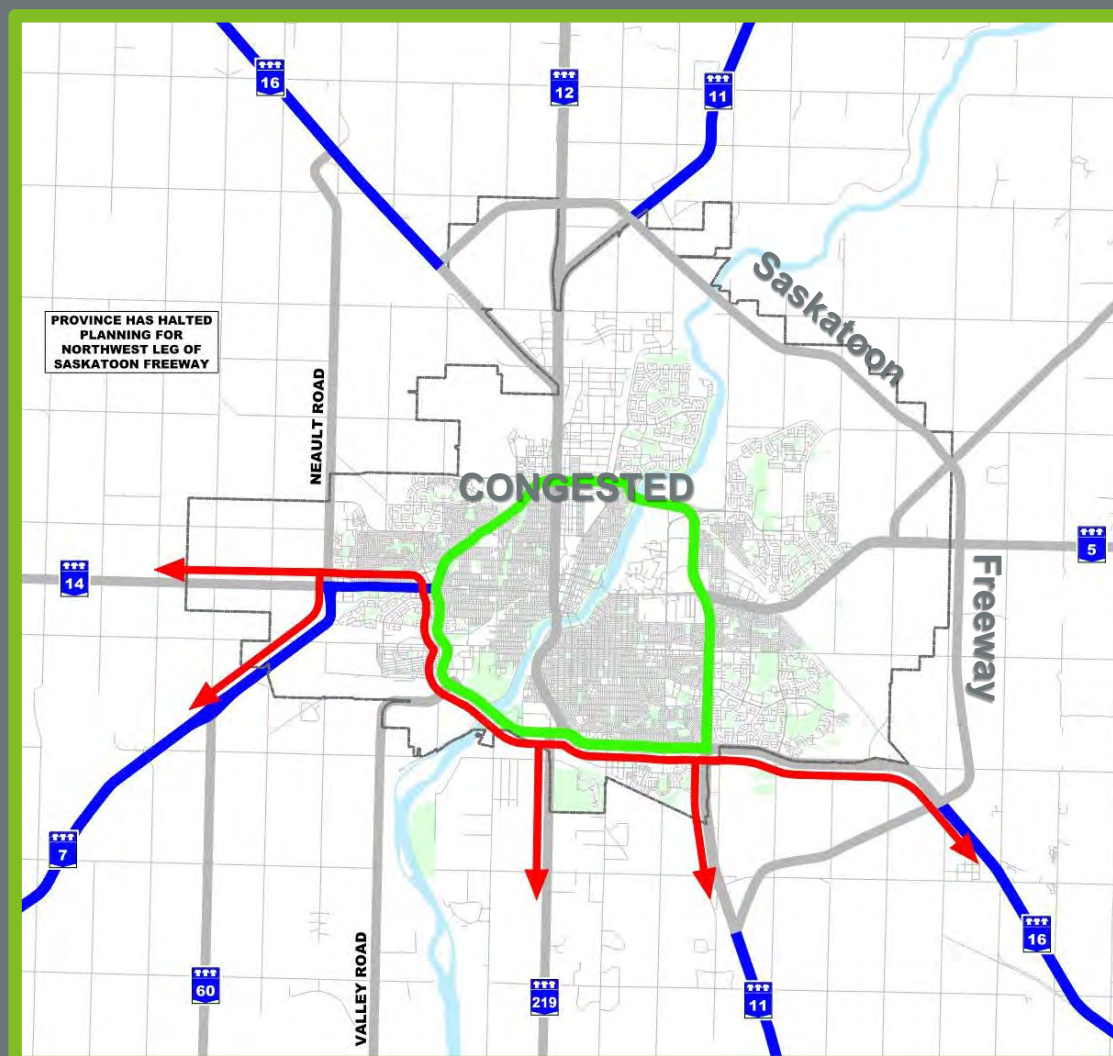
- Circle Drive Southwest accommodates inter-regional flows
- Through-flows avoid the north end of Circle Drive



Future Regional Network

➤ Saskatoon Freeway Phases 1 & 2

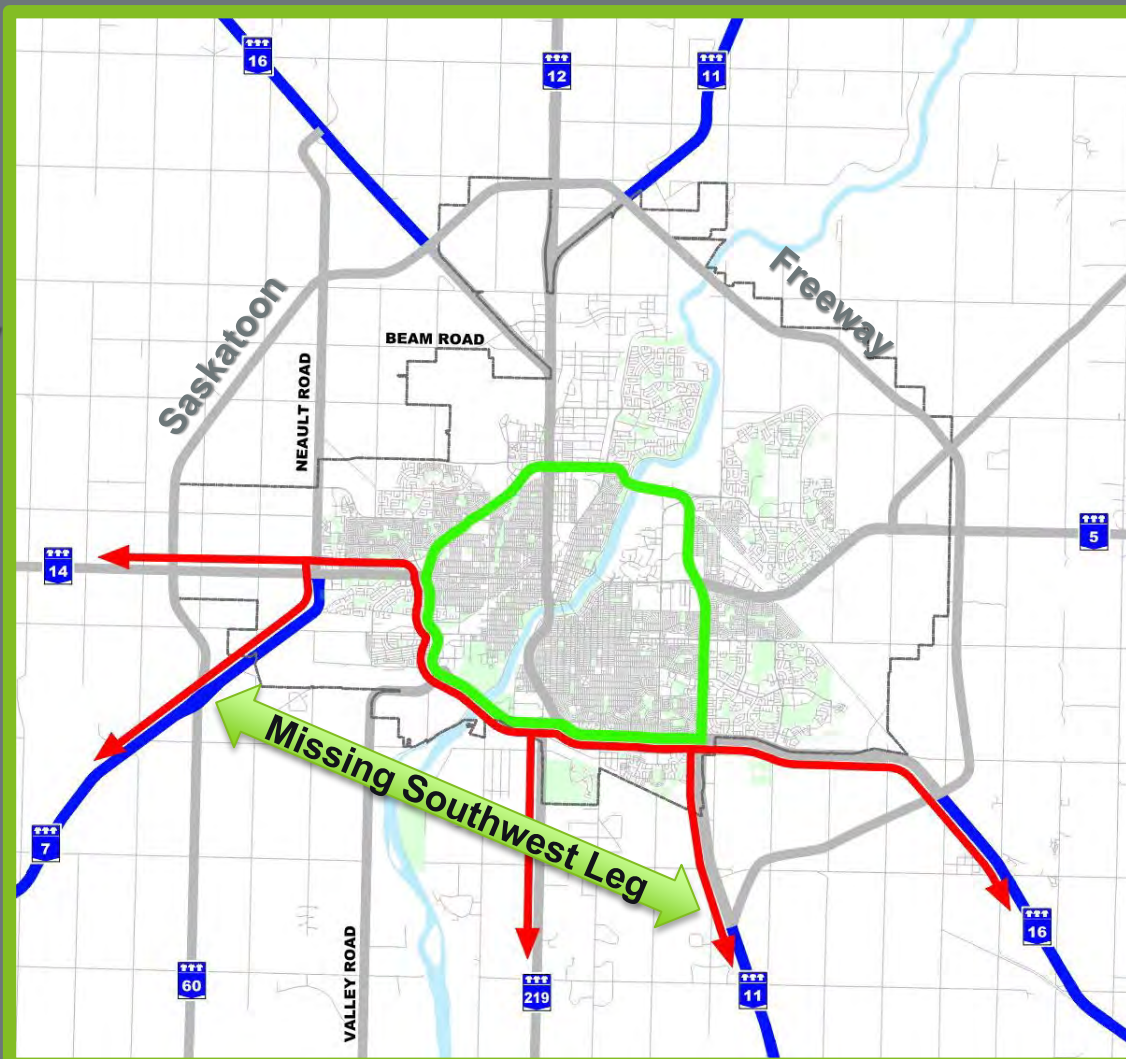
- No west or southwest legs
- Circle Drive West still accommodates southwest inter-regional flows
- Potentially 10 to 20 or more years



Future Regional Network

➤ Saskatoon Freeway Phase 3

- Still no southwest leg
- Circle Drive West still accommodates southwest inter-regional flows
- Potentially 20 to 30 or more years



03

Existing Conditions

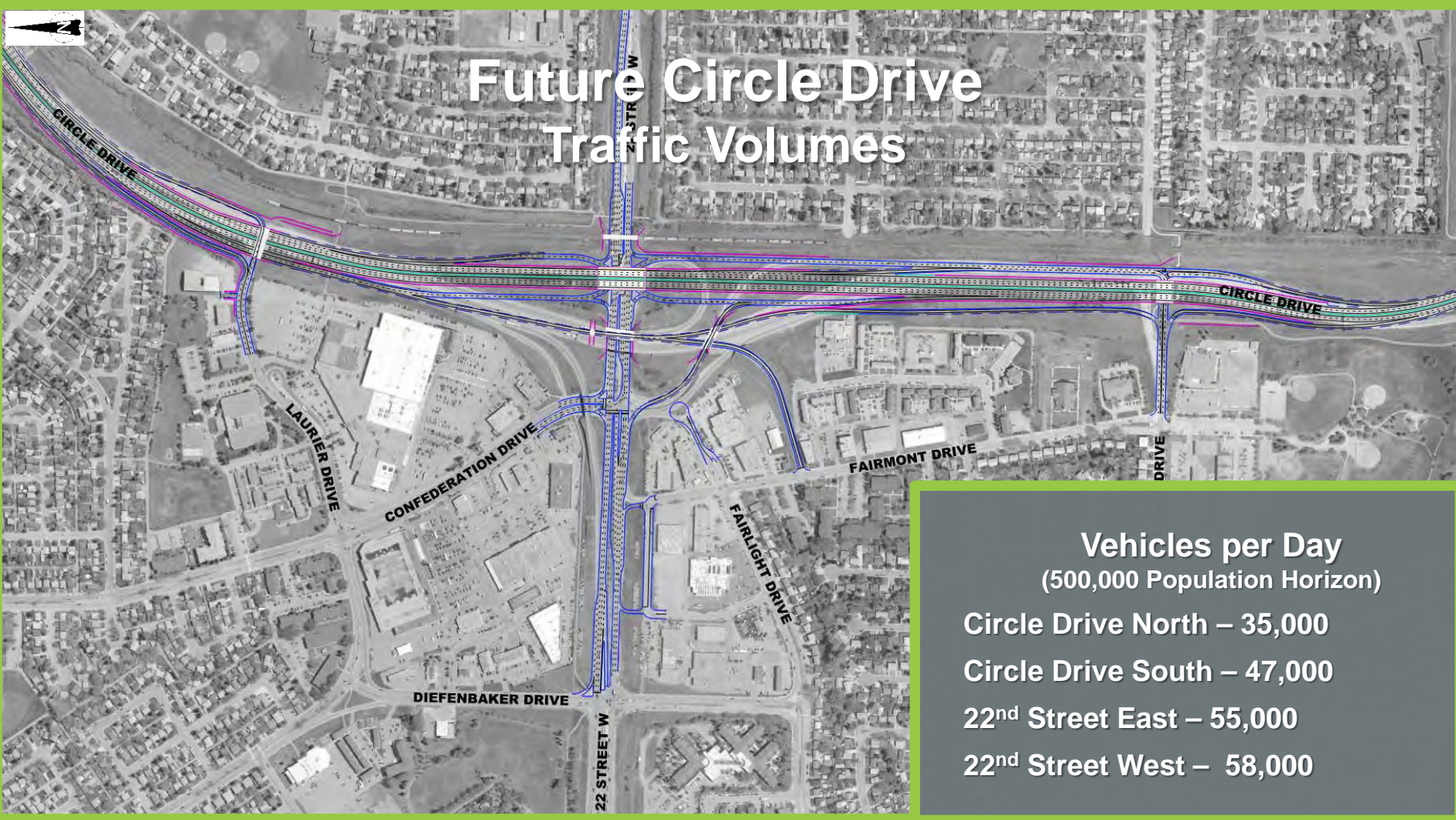
Mixed Freeway/Expressway Standards



Existing Constraints



Future Circle Drive Traffic Volumes



Vehicles per Day
(500,000 Population Horizon)

- Circle Drive North – 35,000
- Circle Drive South – 47,000
- 22nd Street East – 55,000
- 22nd Street West – 58,000

04

Option Development

Circle Drive / 22nd Street Interchange



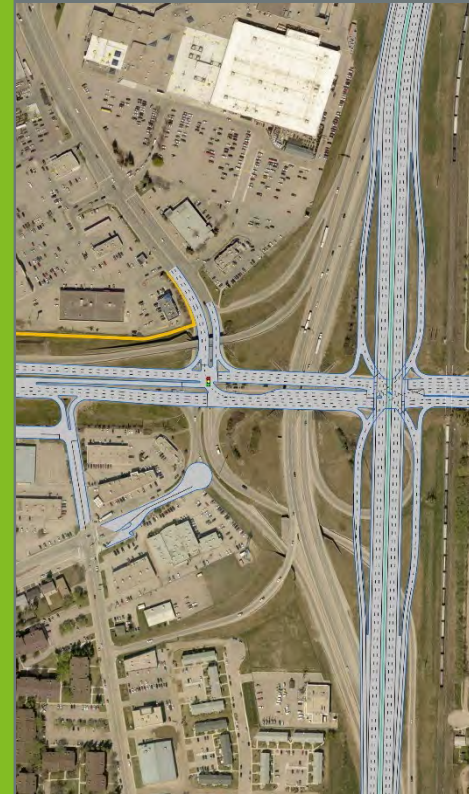
From Diverging Diamond (DDI) to Single Point Urban (SPUI)

DDI / CD Rd 1

DDI / CD Rd 2

CD Rd SPUI

Full SPUI



Preferred Plan

Best Practices: Two Half-Diamond Interchanges



Approved Plan

Retaining Greater Current Access





Single Point Urban Interchange Separate Freeway System Design

- ✓ Improves mainline geometry & safety
- ✓ Establishes North-South Circle Drive route continuity/priority
- ✓ Repurposes two existing structures
- ✓ Minimal impact to rail & transmission lines
- ✓ Separates access to Confederation Drive
- ✓ Retains most local travel paths

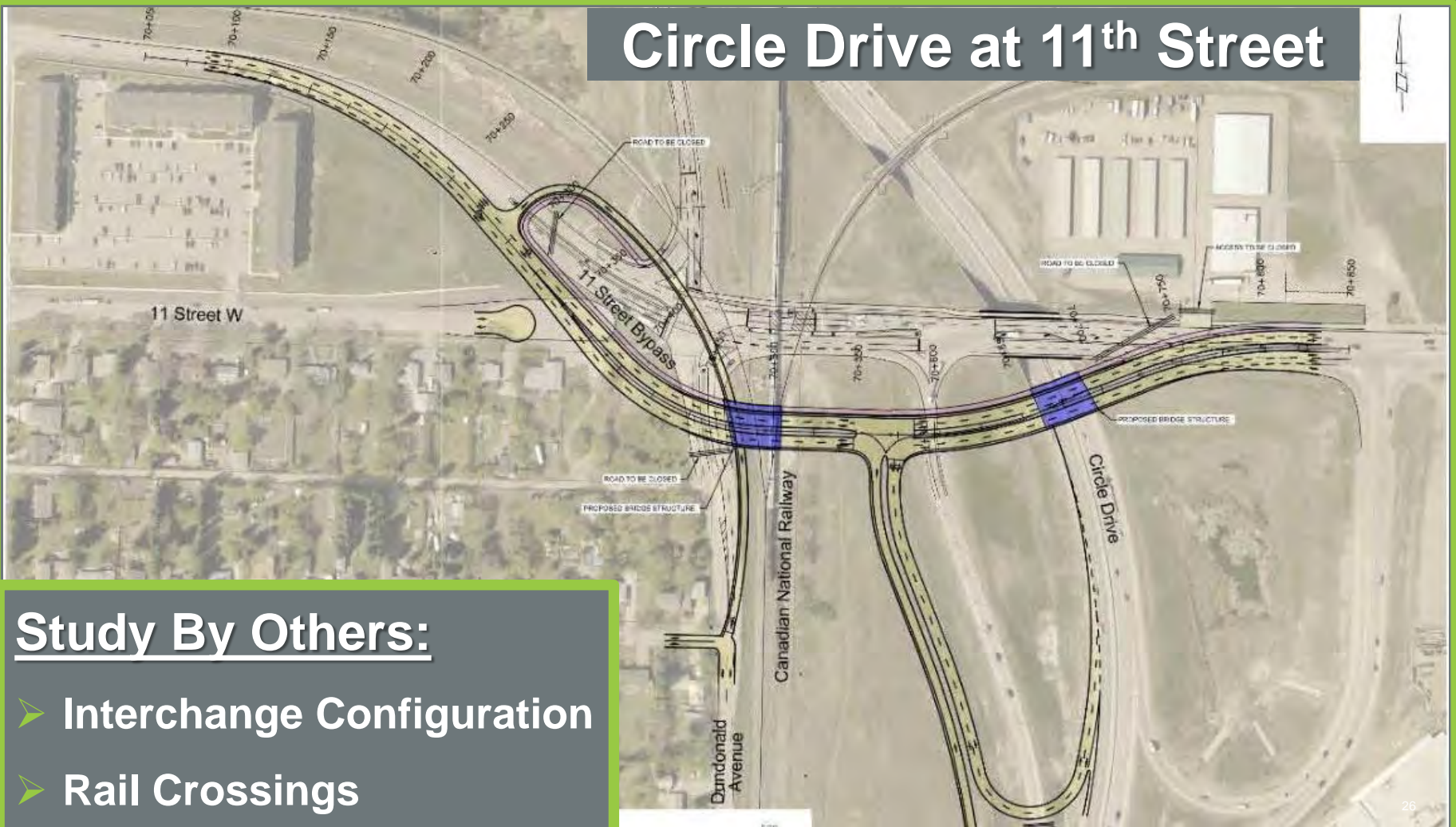
05

Future City Planning

1. Circle Drive / 11th Street Interchange
2. 22nd Street / Diefenbaker Road Intersection
3. Bypass 22nd Street West



Circle Drive at 11th Street



Study By Others:

- Interchange Configuration
- Rail Crossings

22nd Street at Diefenbaker Drive

Future Study:

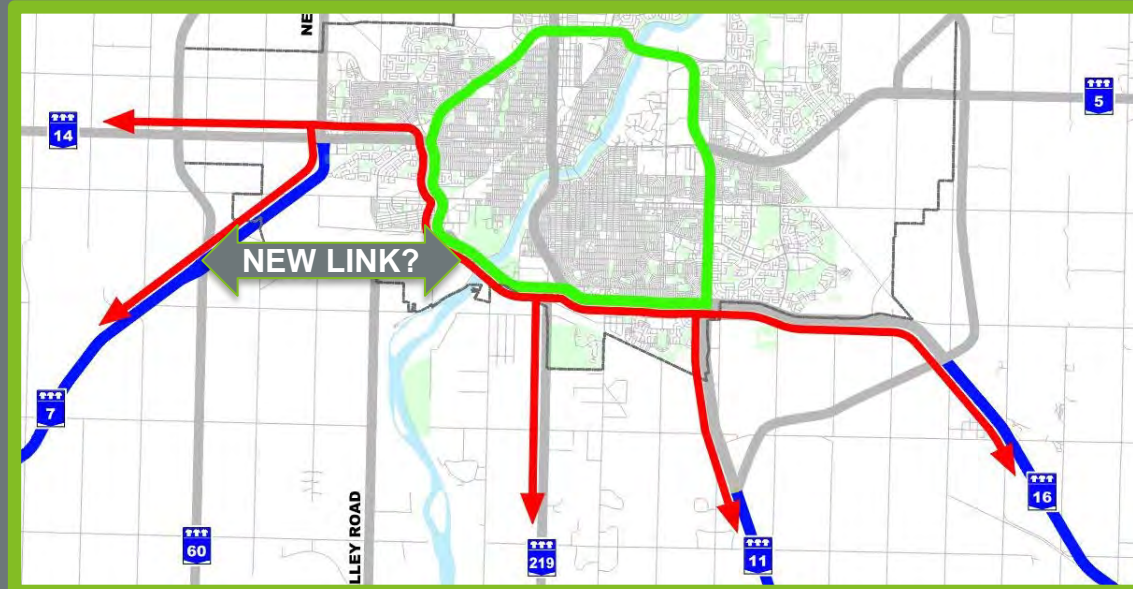
- Intersection configuration to accommodate high turning volumes



Bypass 22nd Street West

Conceptual Only

- 22nd Street reclassified to Complete Streets standard.
- City to work with its regional partners to develop an alternative connection between Highway 7 and Circle Drive Southwest.
- Link south end of the Saskatoon Freeway with Circle Drive.
- Bypass an urban 22nd Street.



Thank you!

Questions?

