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of Central Oklahoma

RTA West and Airport Corridors:
RTA Board Update

Prepared for the Regional Transportation Authority of Central Oklahoma Board of Directors

Prepared by Kimley-Horn and Associates

October 18, 2023

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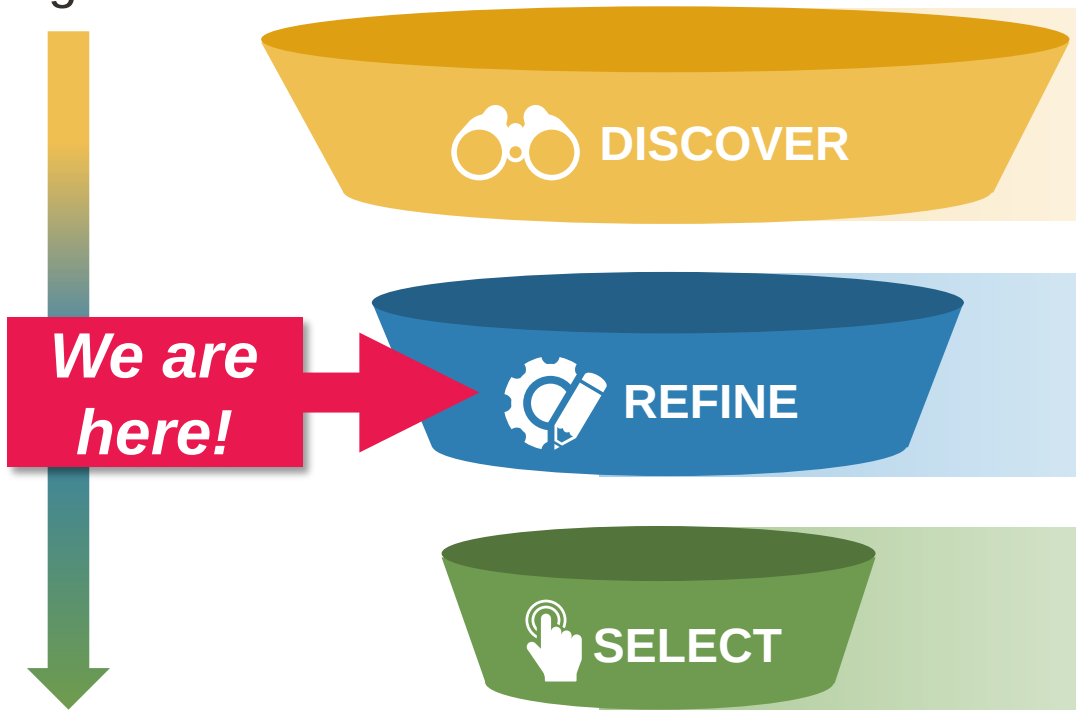
Agenda

- August Board Meeting Recap
- Equity Index
- Detailed Evaluation
  - Methodology
  - Key Metrics: *Constraints to Dedication, Travel Time Estimates*
- Engagement Updates

Alternatives Analysis Process

Spring 2023



- Define all reasonable alternatives
- Screen against goals & objectives

- Advance remaining alternatives
- Perform detailed technical analysis

- LPA Selections
- Board Consideration of LPA

Summer 2024

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Project Schedule

Discover Phase

Refine Phase

Select Phase

TWG & Board Meetings

Online Survey

Targeted Stakeholder Engagement

Open House & Town Halls

August Board Meeting Recap

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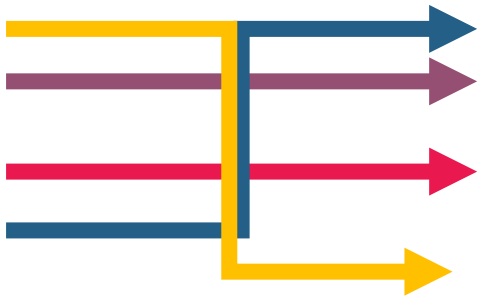
Alternative Screening Criteria

Goals	Screening Criteria
Mobility and Connectivity	**Alternative connects:** • To other planned high-capacity transit projects • Major activity centers and employment centers
Equity and Accessibility	**Alternative reasonably serves:** • Areas with high equity index • Areas of persistent poverty • Justice 40 communities
Land Use & Economic Development	**Alternative reasonably serves:** • Areas with high activity index • Areas projected for future growth • Areas with capacity for future growth
Sustainability and Viability	**Alternative minimized costs by:** • Utilizing existing high-capacity transportation infrastructure • Minimizing right-of-way expansions

Alternatives Screening Process

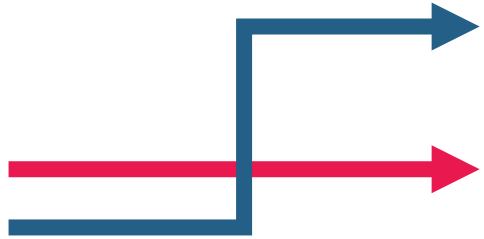
Universe of Alternative
All reasonable routes for high-capacity transit



Universe screened through Goals

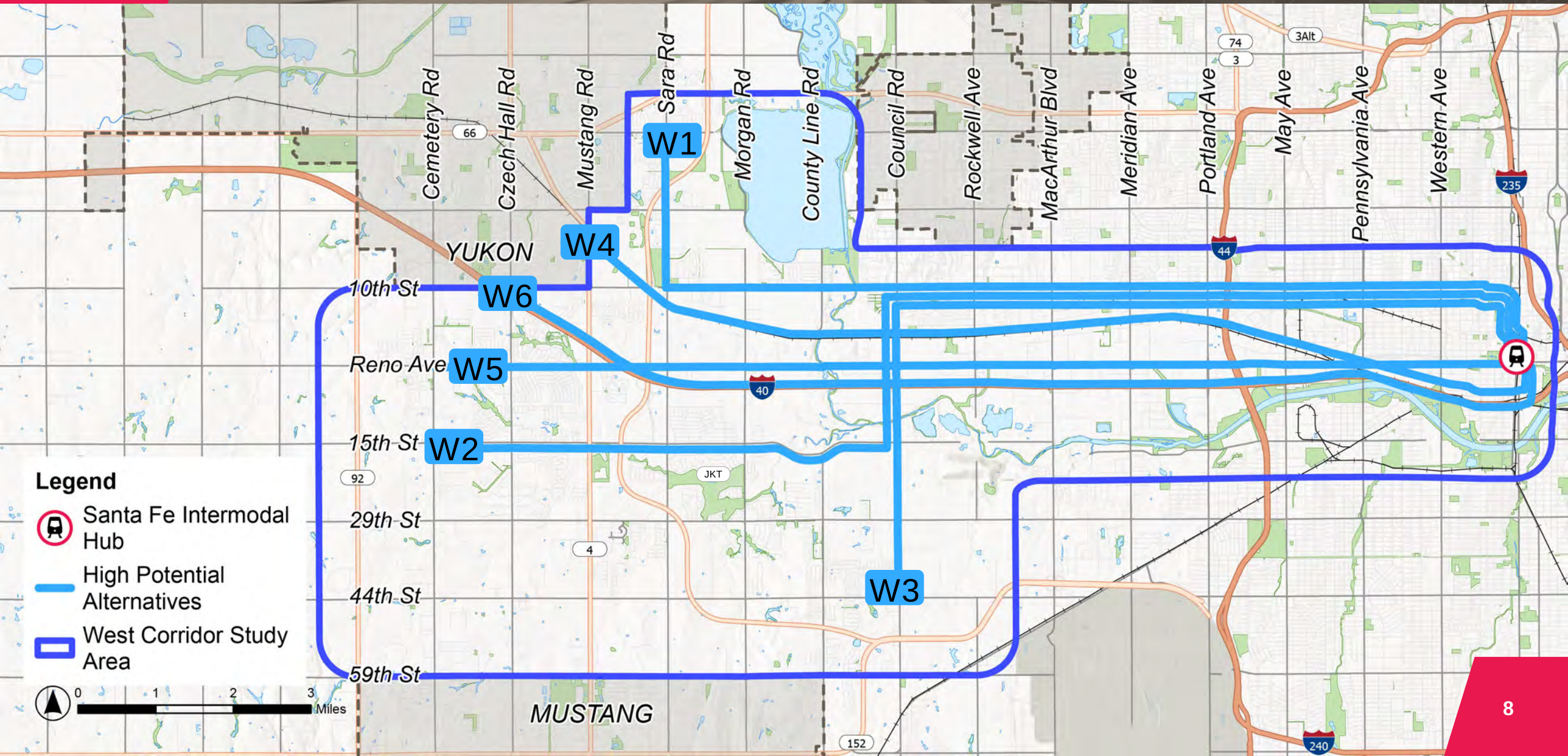
- **Mobility and Connectivity**
- **Equity and Accessibility**
- **Land Use & Economic Development**
- **Sustainability and Viability**

High-Potential Alternatives
Most feasible routes for high-capacity transit

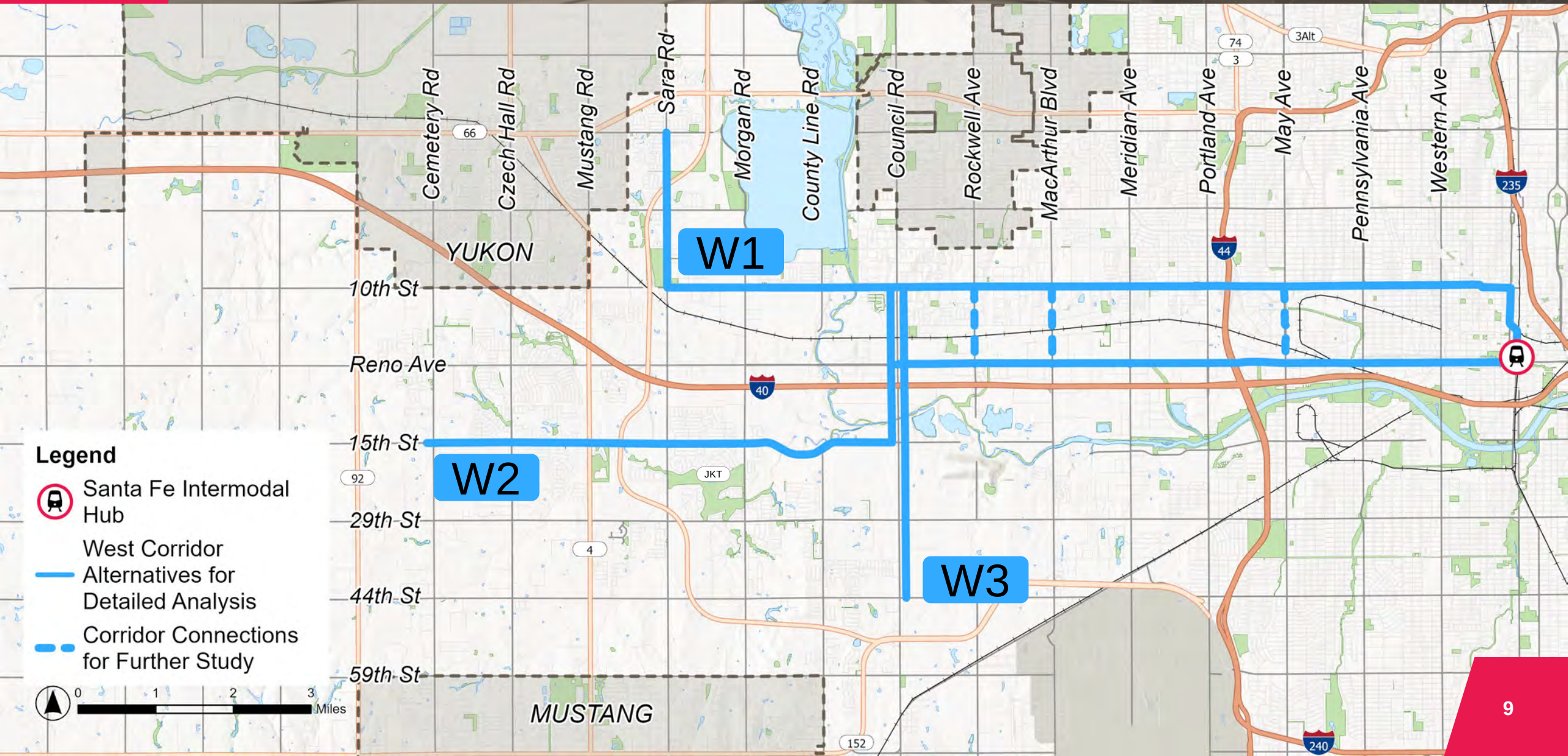


Technical Working Group and Stakeholder Feedback

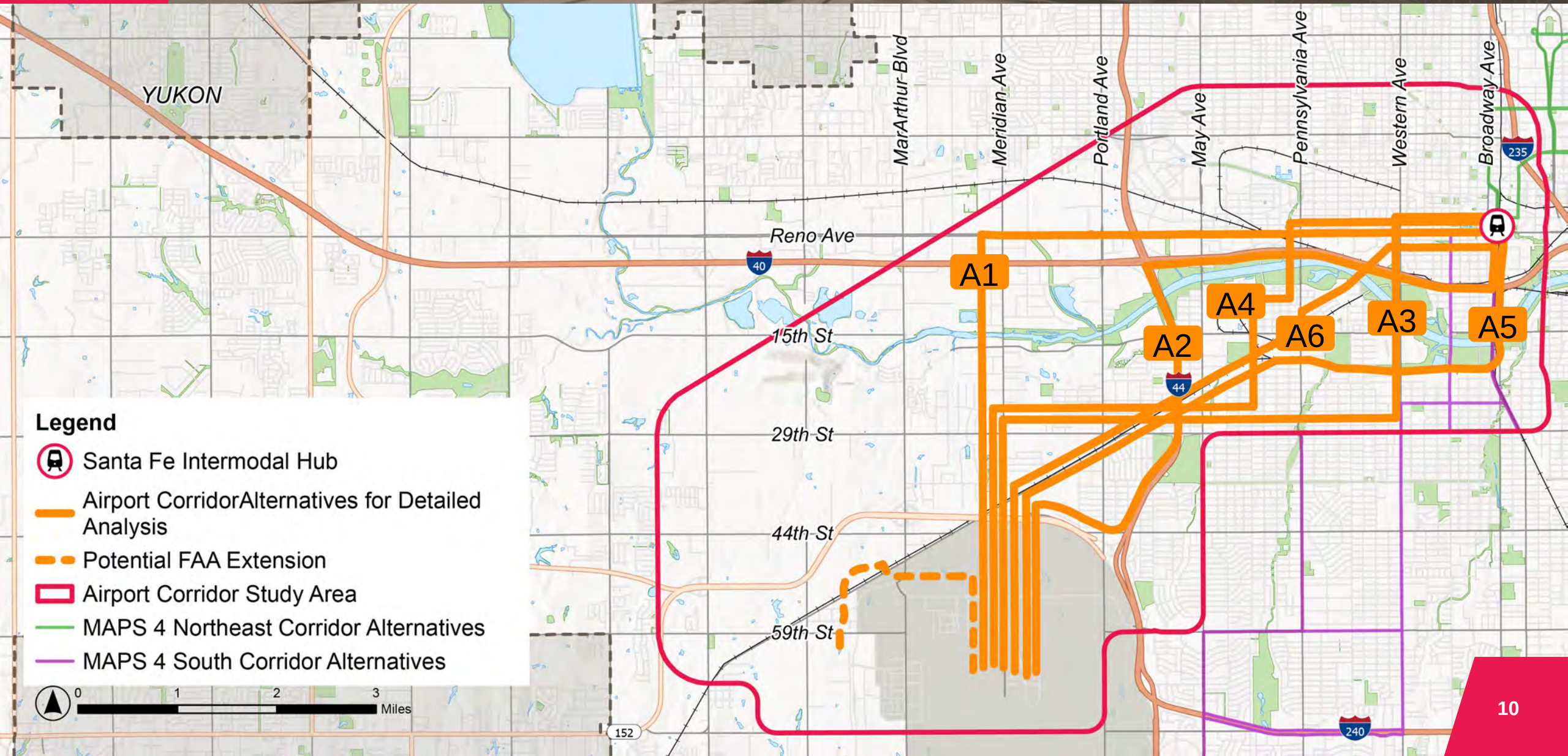
West Corridor Universe of Alternatives



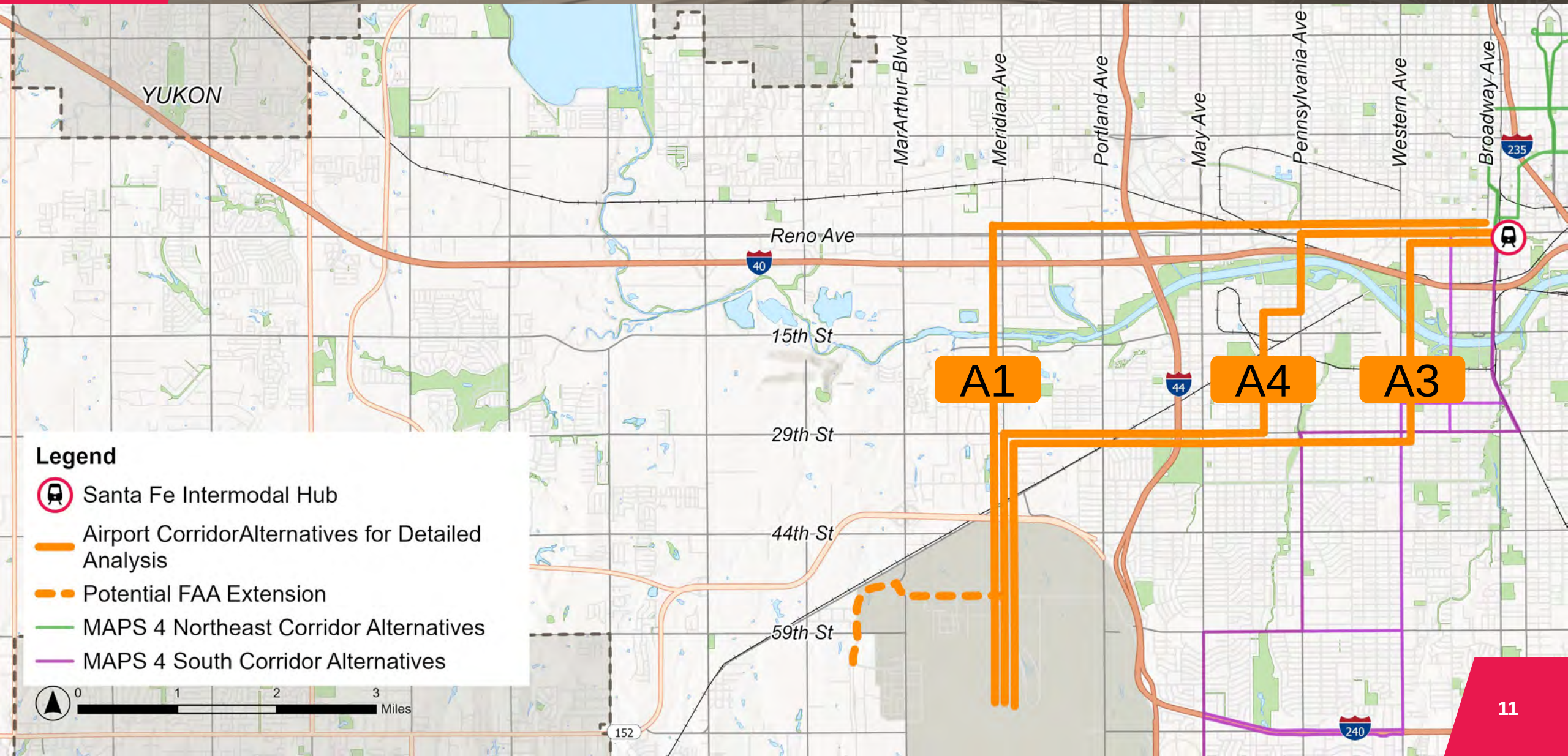
West Corridor Alternatives for Refine Phase



Airport Corridor Universe of Alternatives



Airport Corridor Alternatives for Refine Phase



High-Capacity Regional Transit Modes

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Modes for Detailed Analysis

Light Rail

Operates on exclusive, typically electrified, right of way

Bus Rapid Transit

Operates within designated lane or fixed guideway (50% or more)

Characteristics of Light Rail

Yellow Line, Dallas Area Rapid Transit, Dallas, TX

TRAX, Utah Transit Authority, UT

Key Features:

Station spacing: 0.75 – 1 miles
Seating capacity: ~75 to 130+ seats per car
Economic development: Significant around stations

Operations

Typical Frequency: Every 15 to 60 minutes
Maximum operating speeds: 59mph

Costs

Capital Costs: High
Operating cost: Medium

Characteristics of Bus Rapid Transit

Key Features:

Station spacing: 0.5 – 1 miles
Seating capacity: 30 to 60 seats per car
Economic development: Significant along corridor

Operations

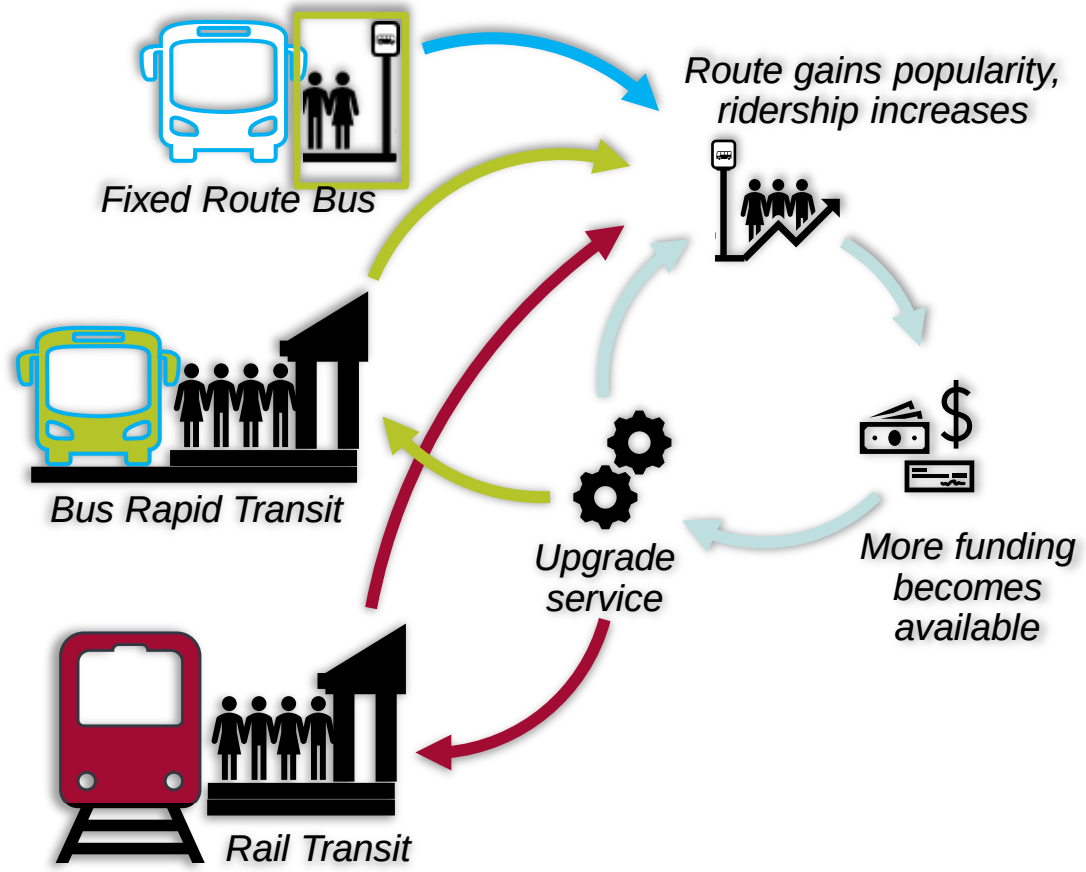
Typical Frequency: Every 5 to 15 minutes
Operates either in dedicated guideway or mixed-traffic

Costs

Capital Costs: Medium to High
Operating cost: Medium to High

Transition from Bus Rapid Transit to Rail Transit

- **BRT Investment**
  - Growth in ridership opportunity
  - Establish a transit culture
  - Spur economic growth along corridor
- **Does Not Preclude Rail**
  - As ridership grows and funding is available
  - Ability to leverage an existing RR corridor



Equity Index

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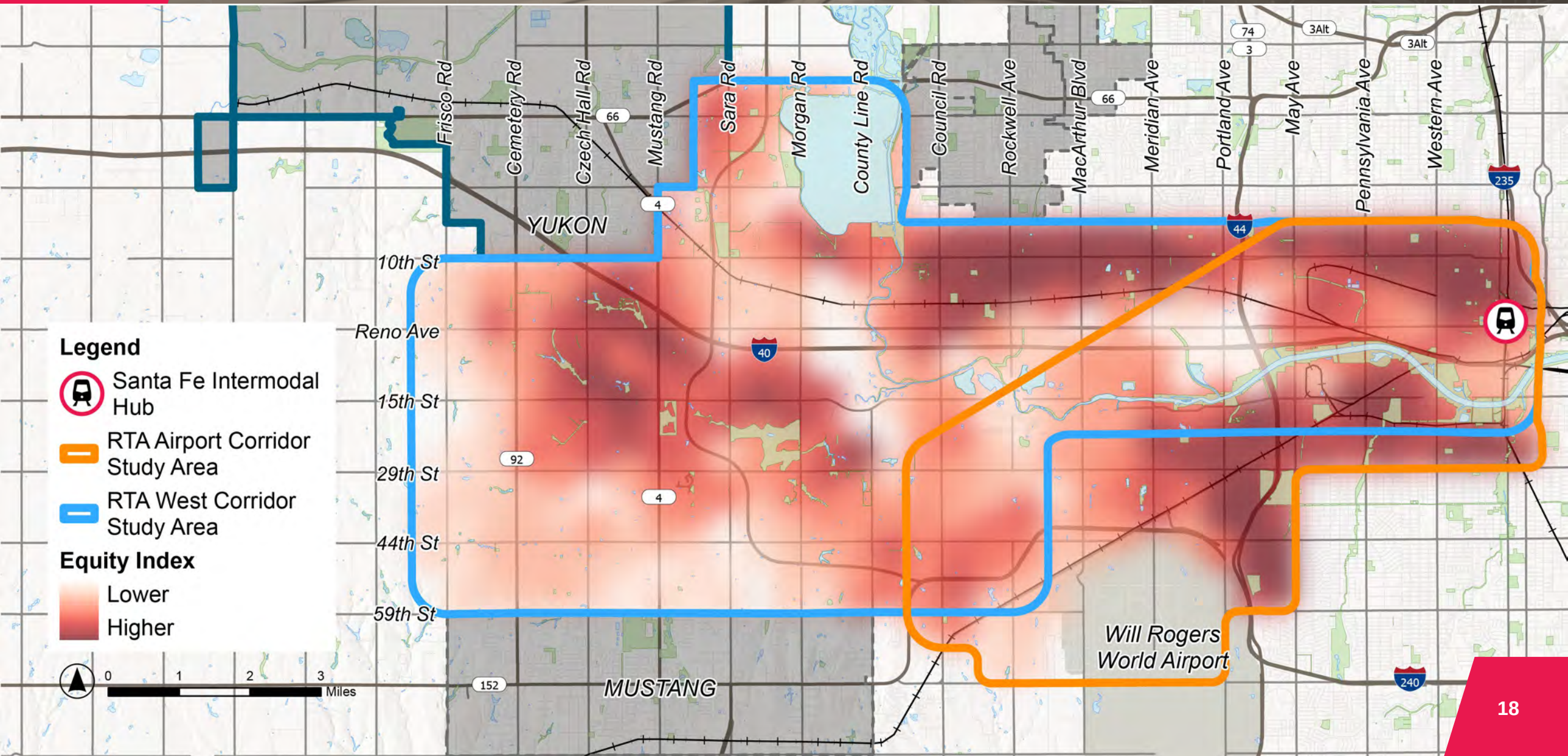
Equity Index



Equity Index Inputs

Non-White and Hispanic Populations

Number of Non-White and Hispanic Residents

Limited Mobility Populations

Persons with a disability between 18 and 64 + persons above 65

Zero Car Households

Households with zero cars available

Households with Income Below Poverty Level

2021 Household poverty level in Oklahoma City: ~$20,000

These inputs align with the RTA RAISE Grant Agreement

Source: 2021 American Community Survey, 5-Year Estimates

Alternatives for Detailed Analysis

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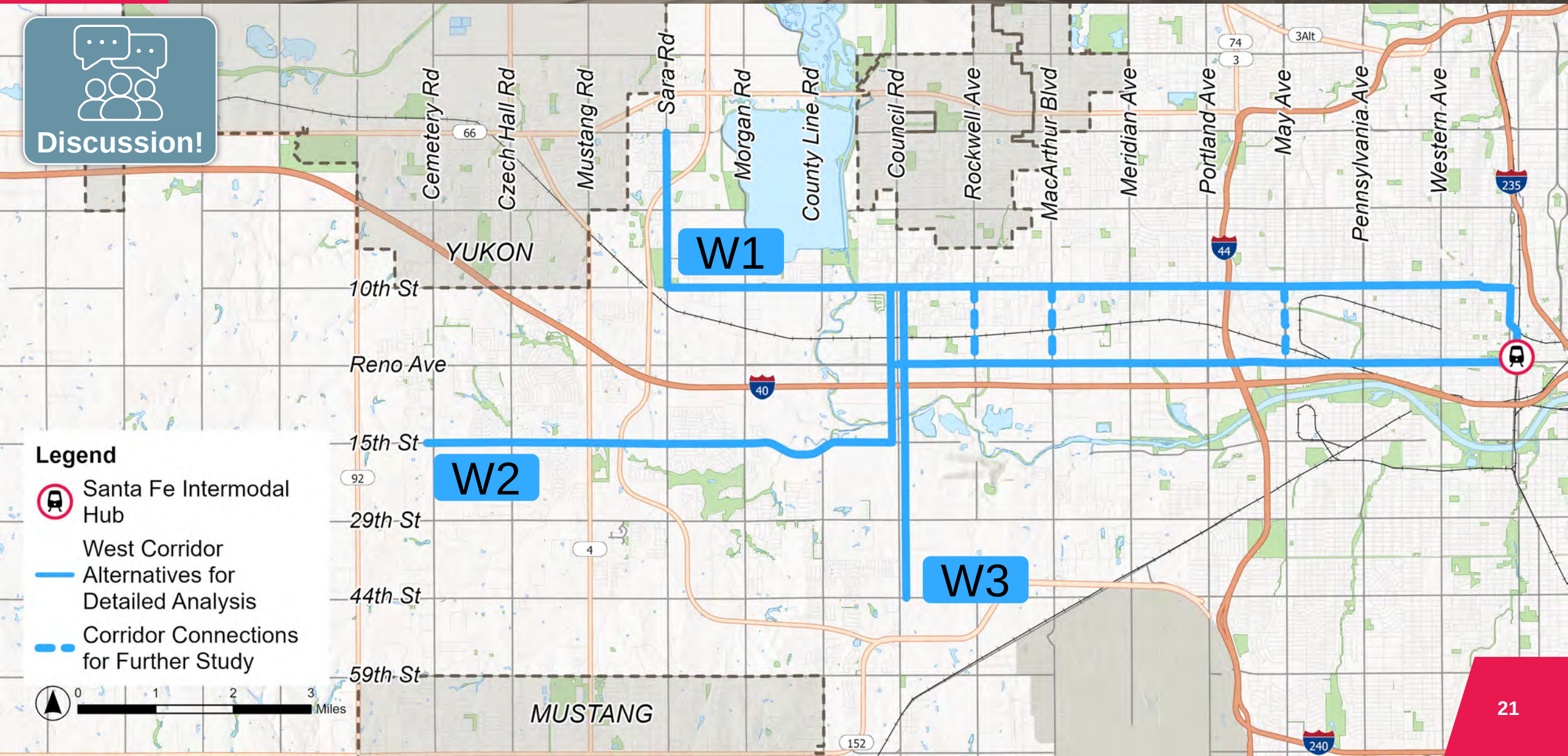
West Corridor Alternatives for Refine Phase



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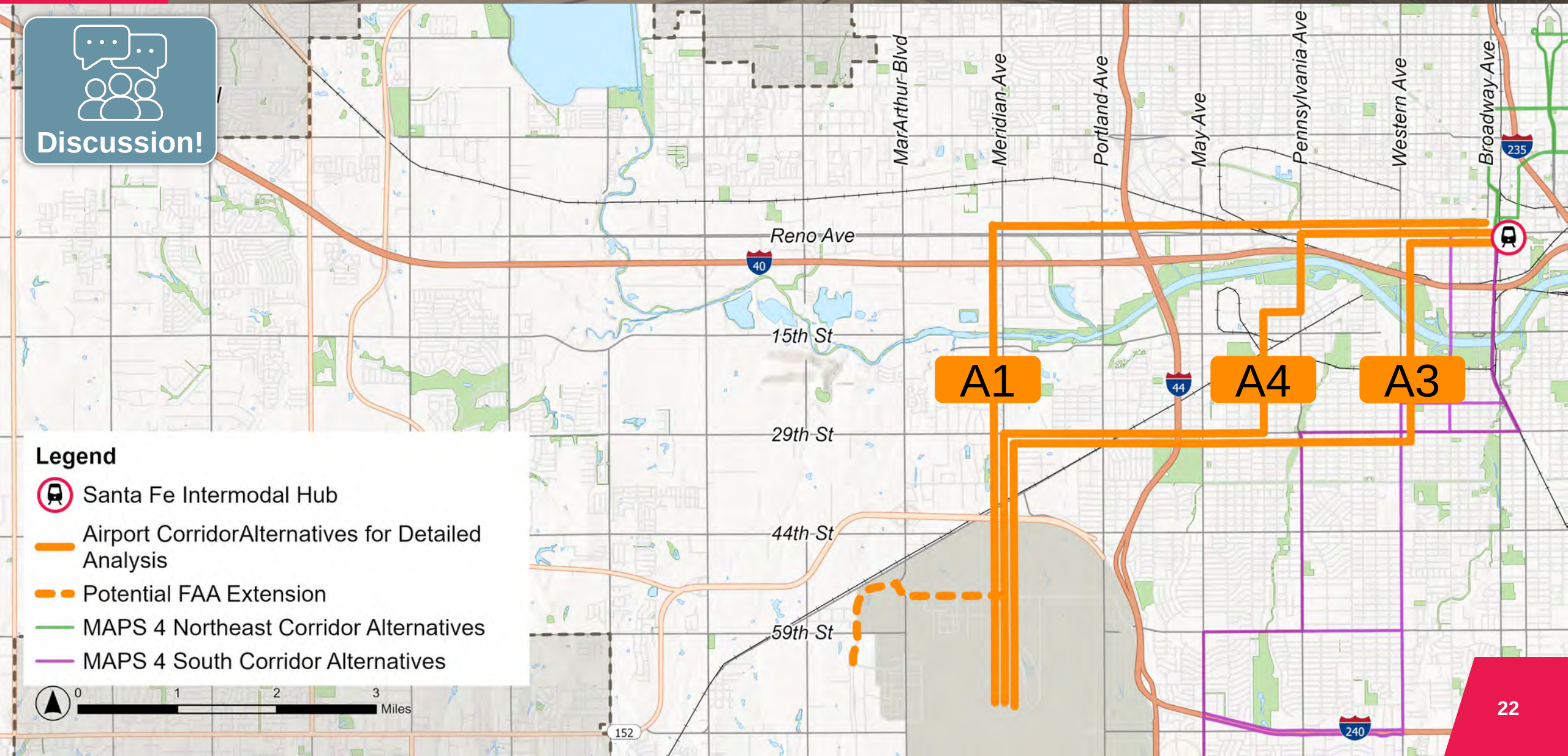

Detailed Evaluation Framework

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Goals and Objectives

Mobility & Connectivity

- Direct connection to Santa Fe Intermodal Hub
- Serves major activity centers

Equity & Accessibility

- Serves areas with high equity index
- Serves areas of persistent poverty

Land Use & Economic Development

- Serves areas with high activity index
- Connects to areas with projected growth

Sustainability & Viability

- Serves areas with high transit propensity
- Utilizes existing infrastructure

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Detailed Evaluation Framework

Project Goal	Criteria	W1	W2	W3	A1	A3	A4
Mobility and Connectivity	Connections to existing bike and pedestrian infrastructure						
	Connections to existing transit network						
	Estimated end-to-end travel time						
	Existing trips between station areas						
Equity and Accessibility	Persons with disabilities + over 65 population						
	Non-white or Hispanic Population						
	Households below poverty line						
	Zero-car households						
	Number of OCHA Properties						
	Number of activity centers served						
Land Use and Economic Development	Ongoing and planned developments						
	Acreage of undeveloped and underdeveloped land						
	Projected population growth according to ACOG's regional model						
	Projected employment growth according to ACOG's regional model						
Sustainability and Viability	Ability to accommodate increases in ridership						
	Estimated capital costs						
	Estimated operations and maintenance cost						
	ROW requirements and acquisition costs						
	Traffic implications on existing roadways						
	Feasibility of future LRT (major capital cost elements)						

Detailed Evaluation Methodology

Evaluated alternatives by station analysis areas for each metric

Scored quantitative and qualitative metrics on a 5-point scale

Scoring was designed to facilitate decision making and establish differences between alternatives

Corridor Widths and Width Requirements

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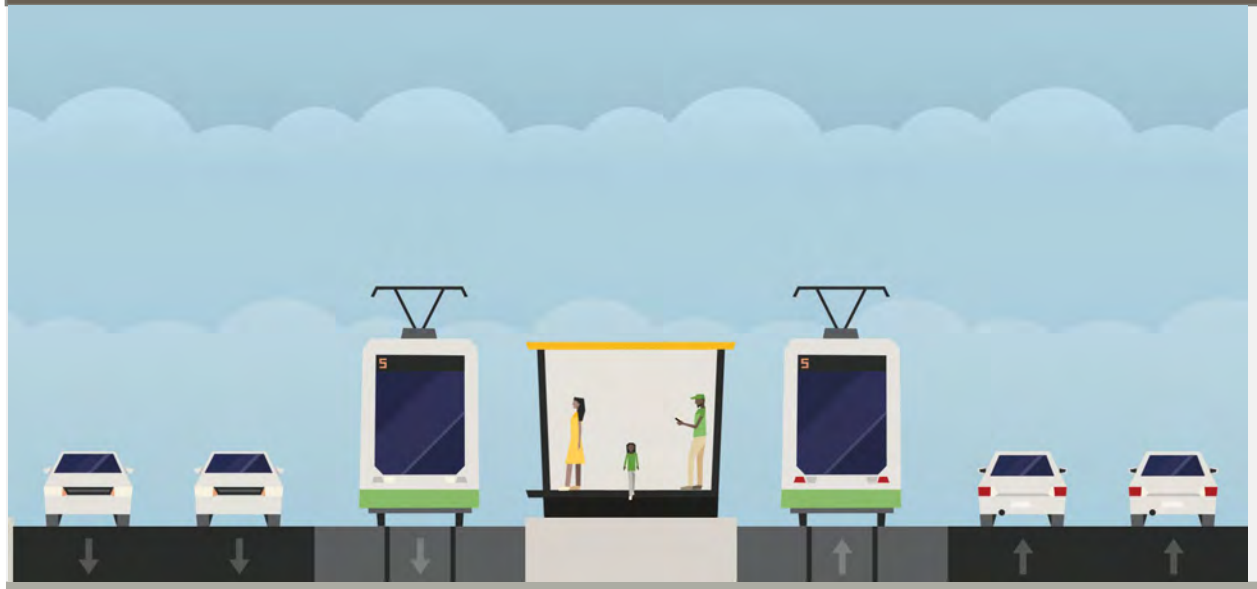
Characteristics of Light Rail

Light Rail Station Area Cross Section



80’+ Roadway Width

Light Rail Non-Station Area Cross Section

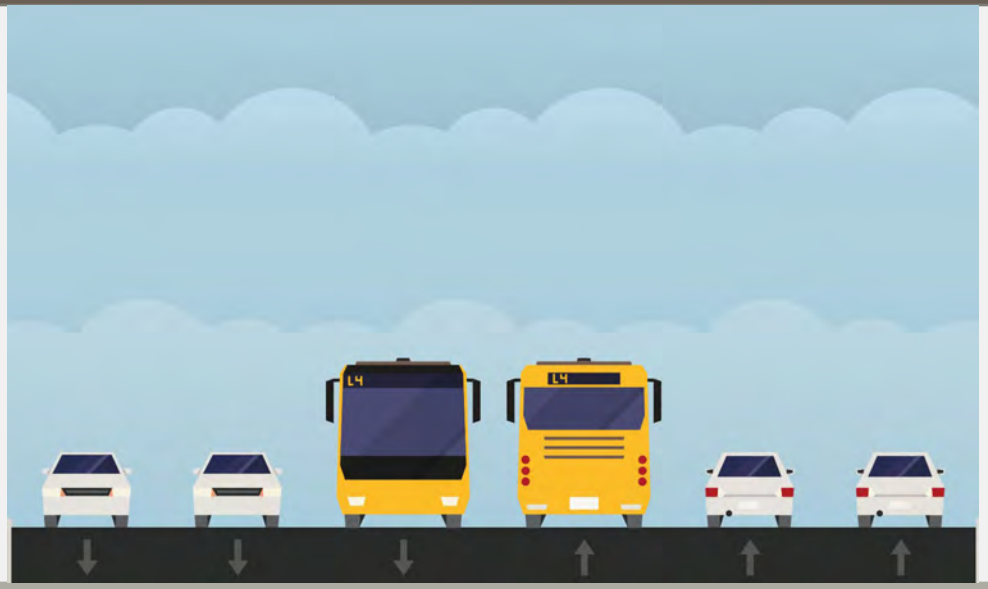
70’+ Roadway Width

Characteristics of Bus Rapid Transit

Bus Rapid Transit Station Area Cross Section

70’+ Roadway Width

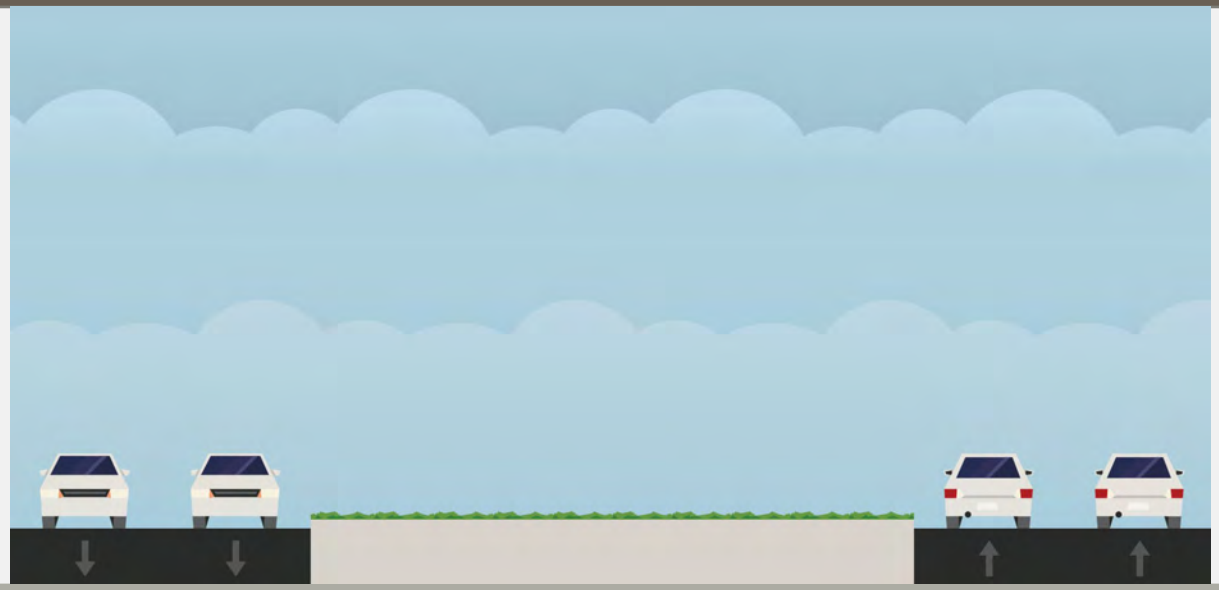
Bus Rapid Transit Non-Station Area Cross Section



60’+ Roadway Width

Example Cross Section – Existing Conditions

Four Lane Divided Road

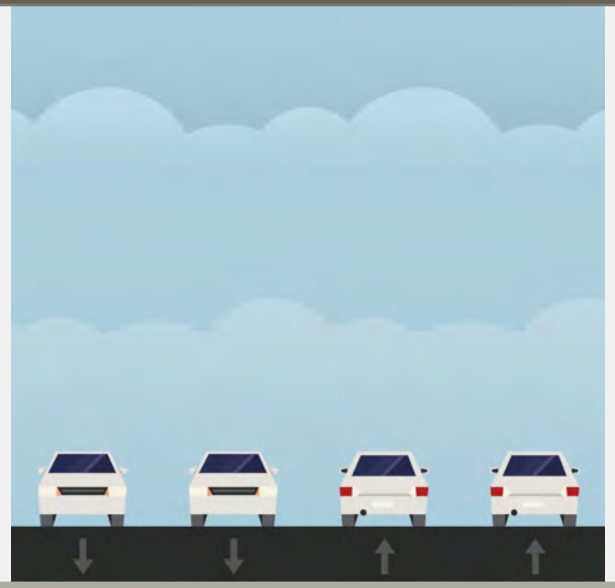


50’+ Roadway Width
~70’ Drainage Feature

Segments of: Reno Ave

Example Cross Section – Existing Conditions

Four Lane Undivided Road

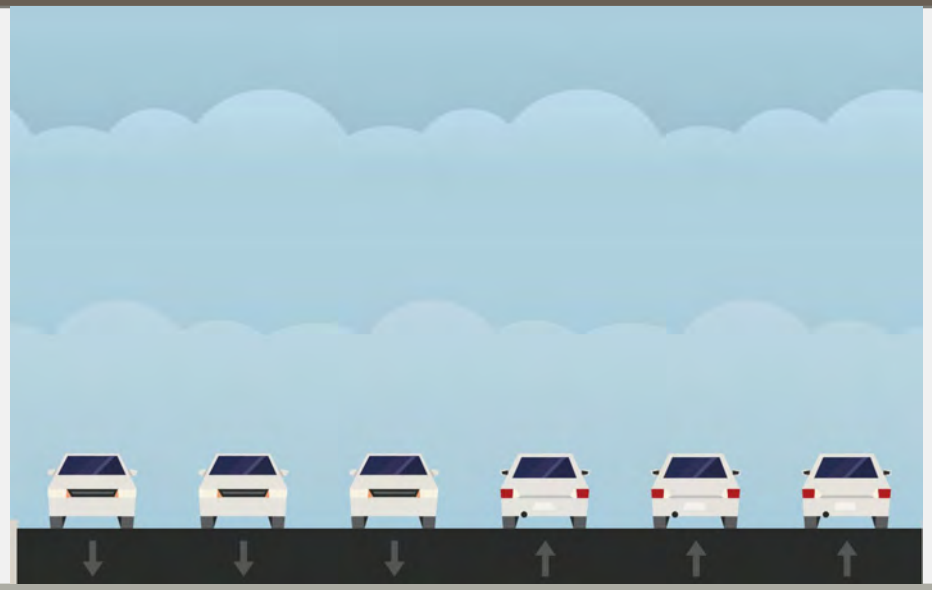


40’+ Roadway Width

Segments of: Reno Ave, 10th St, Meridian Ave, 29th St, Western Ave

Example Cross Section – Existing Conditions

Six Lane Undivided Road



60’+ Roadway Width

Segments of: Broadway Ave/Gaylord Blvd

West Corridor Existing Roadway Conditions

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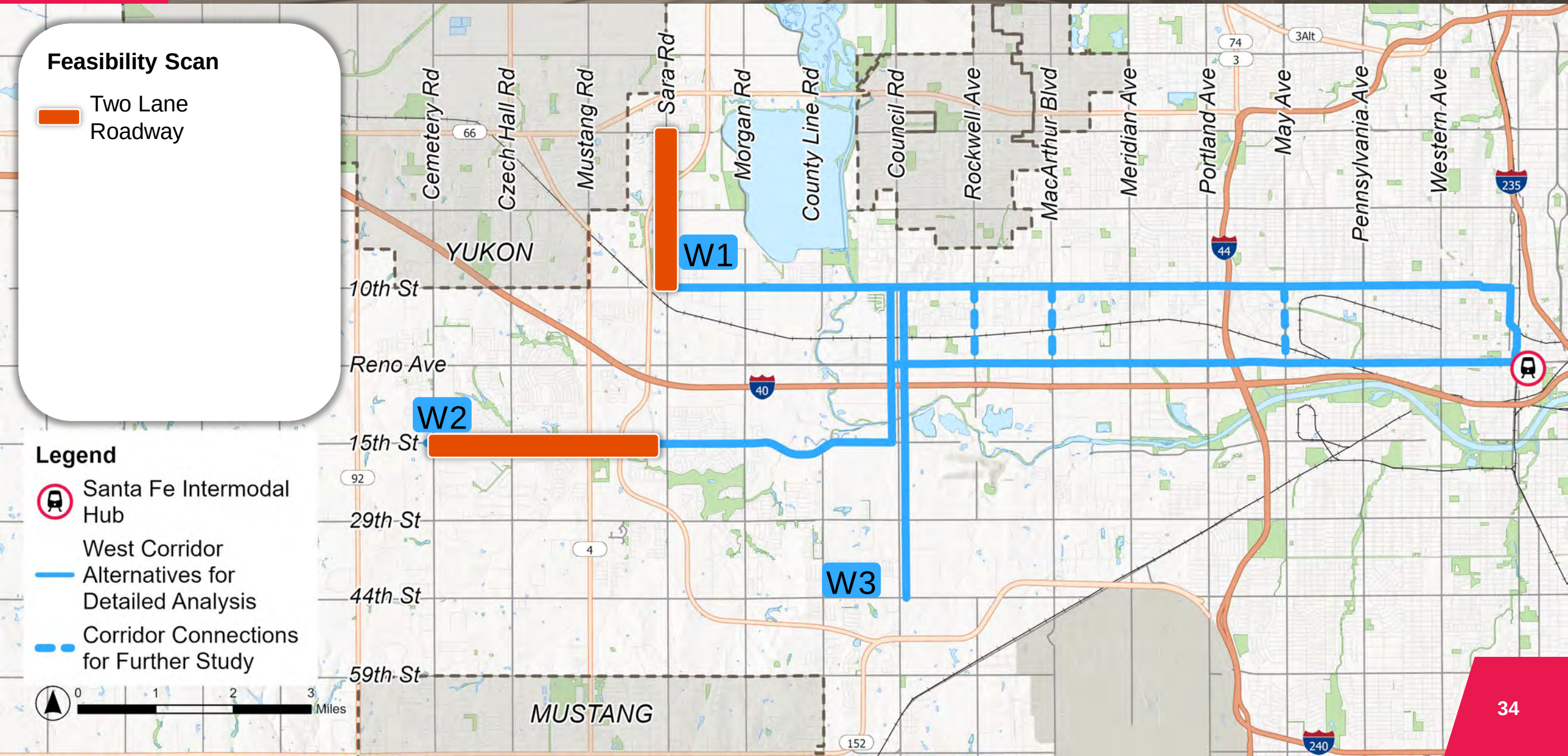
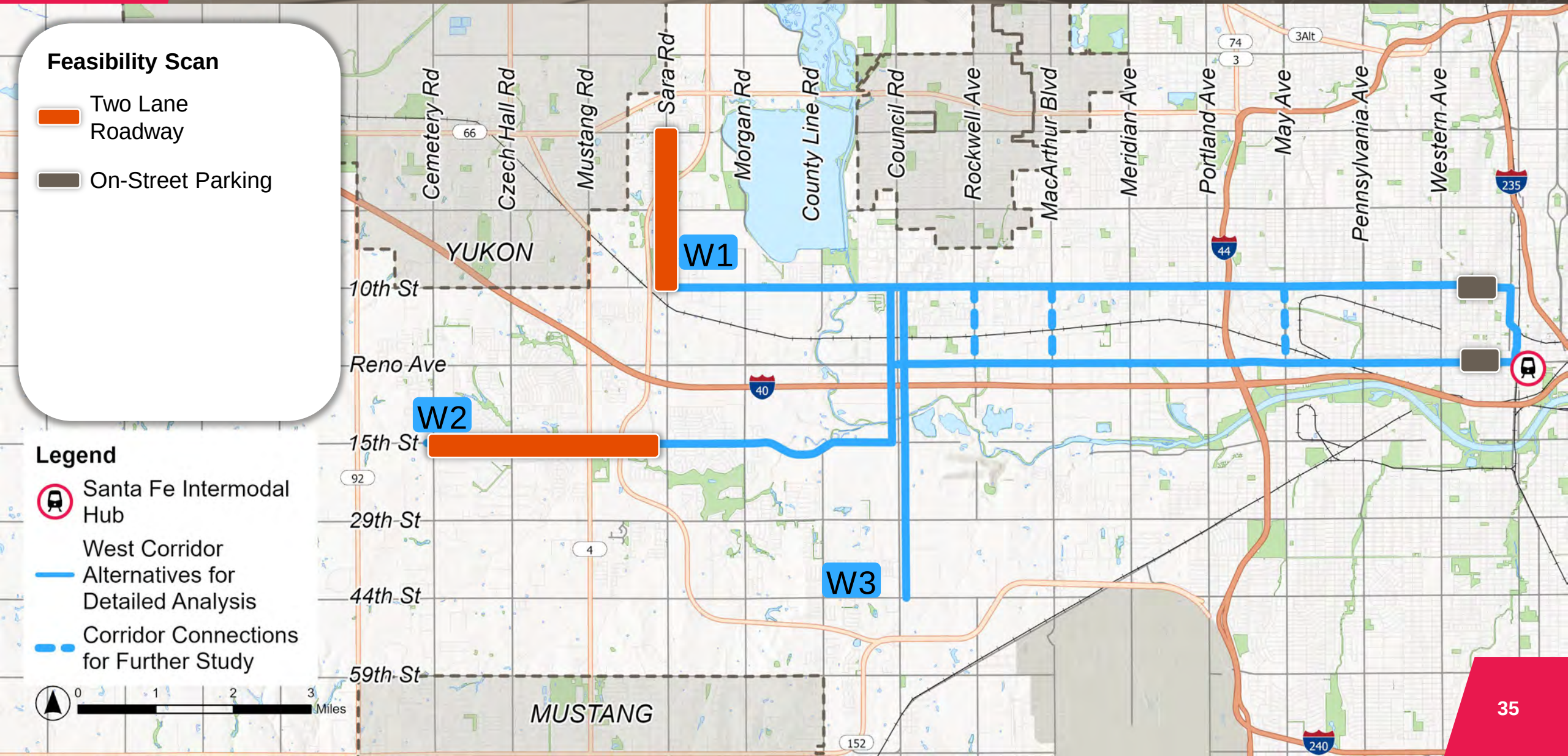
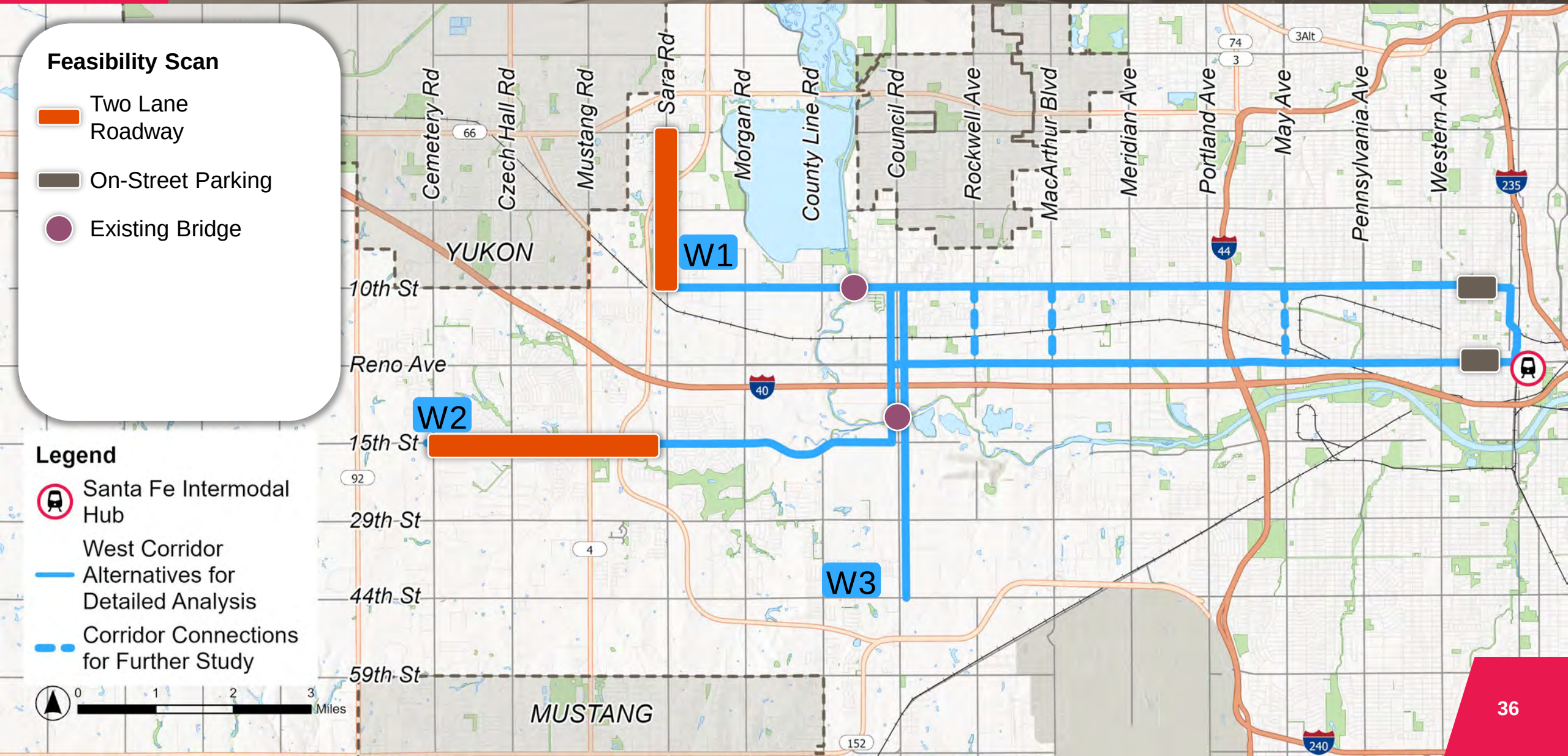
Two Lane Roadway



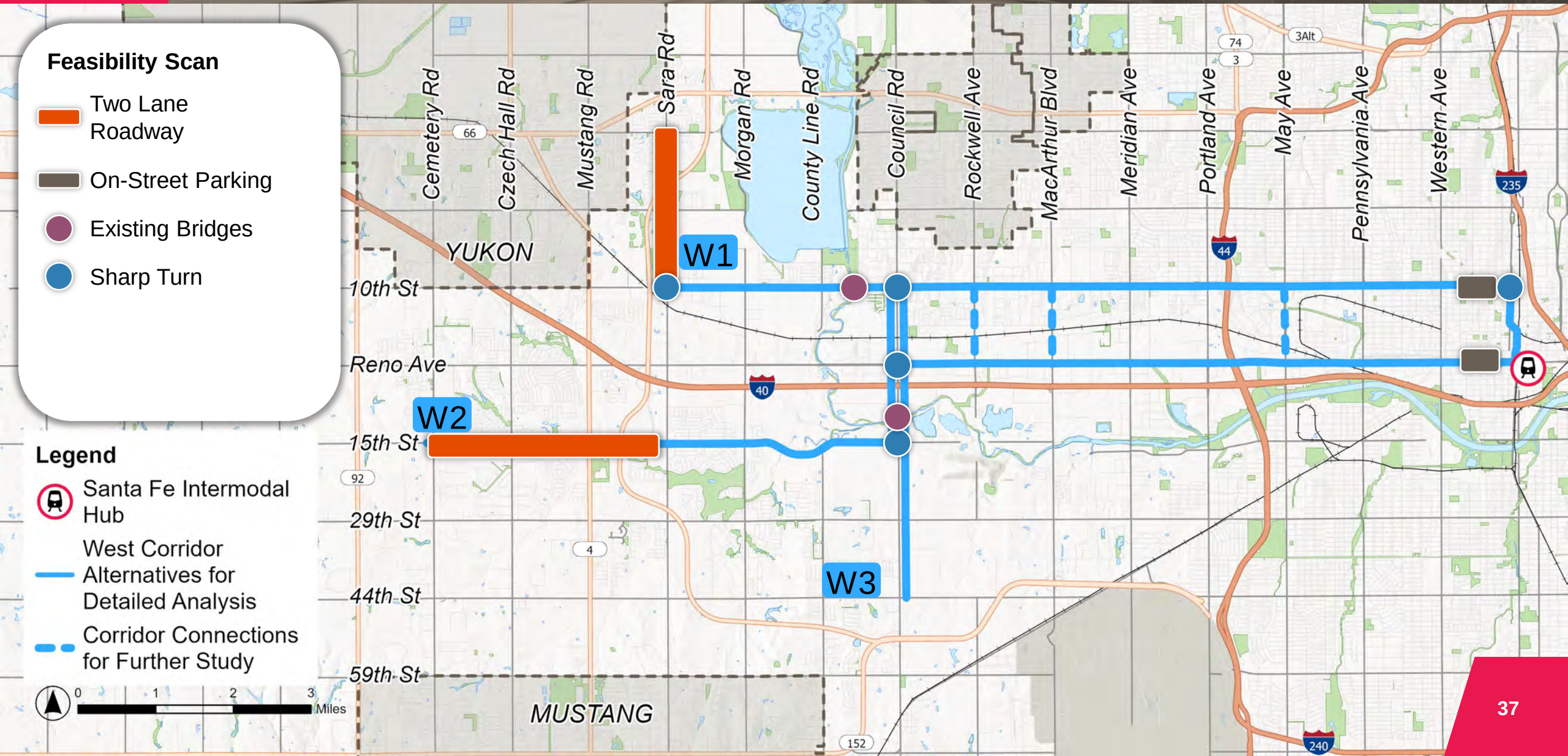
On-Street Parking



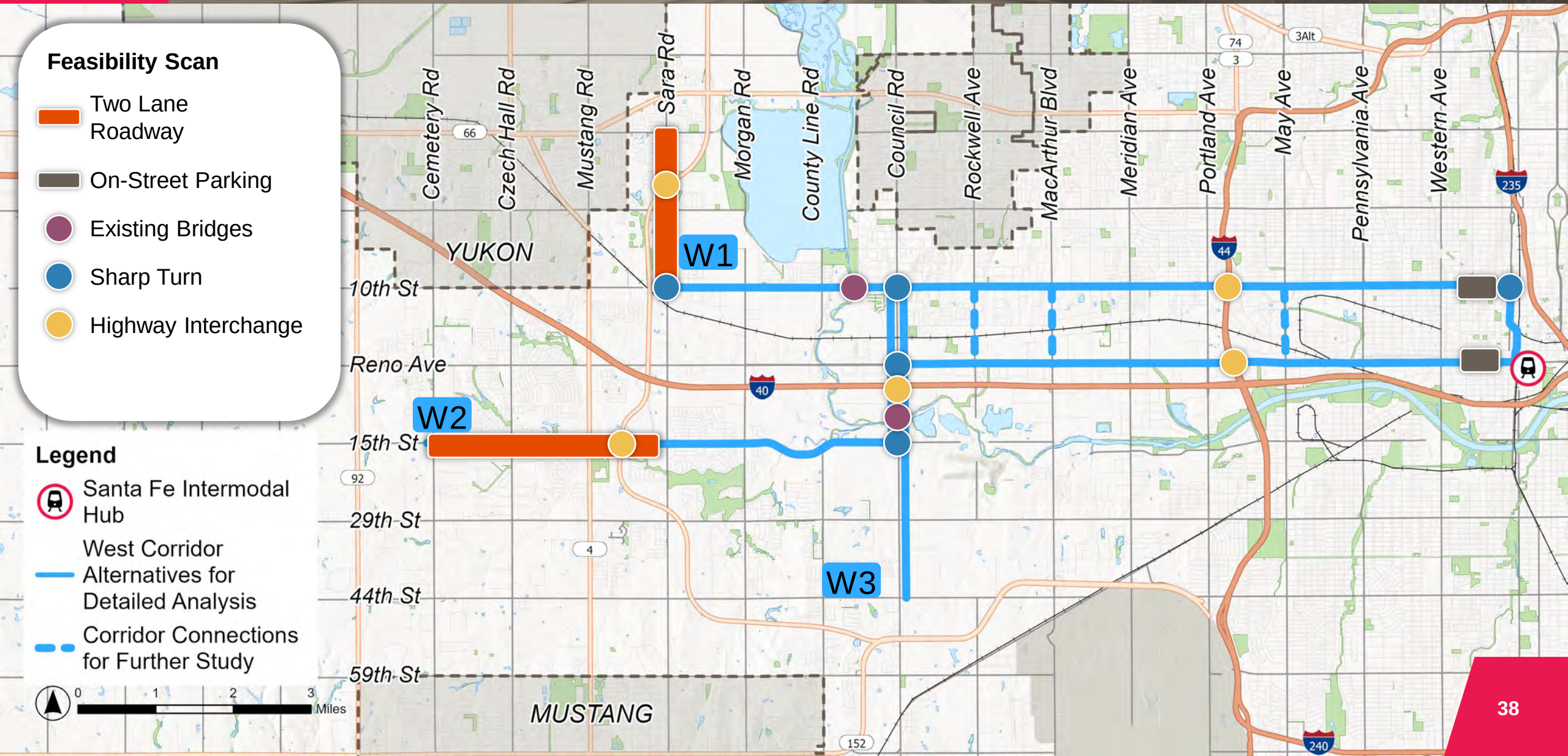
Existing Bridges



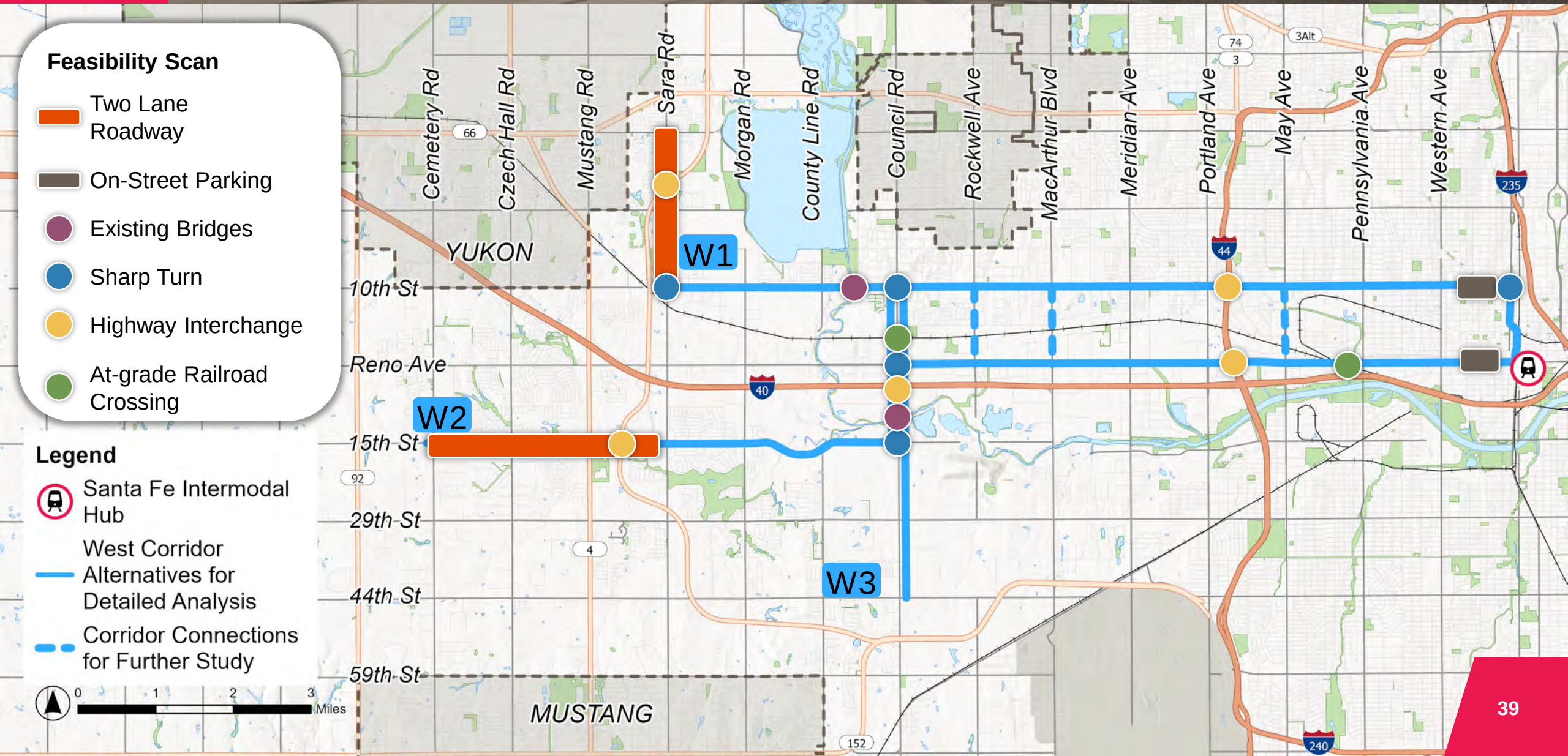
Sharp Turns


Feasibility Scan
Two Lane Roadway
On-Street Parking
Existing Bridges
Sharp Turn
Legend
Santa Fe Intermodal Hub
West Corridor Alternatives for Detailed Analysis
Corridor Connections for Further Study
0 1 2 3 Miles
W1
W2
W3
YUKON
MUSTANG
10th St
Reno Ave
15th St
29th St
44th St
59th St
Cemetery Rd
Czech Hall Rd
Mustang Rd
Sara Rd
Morgan Rd
County Line Rd
Council Rd
Rockwell Ave
MacArthur Blvd
Meridian Ave
Portland Ave
May Ave
Pennsylvania Ave
Western Ave
66
40
44
74
3
3Alt
235
92
4
152
240

Highway Interchanges

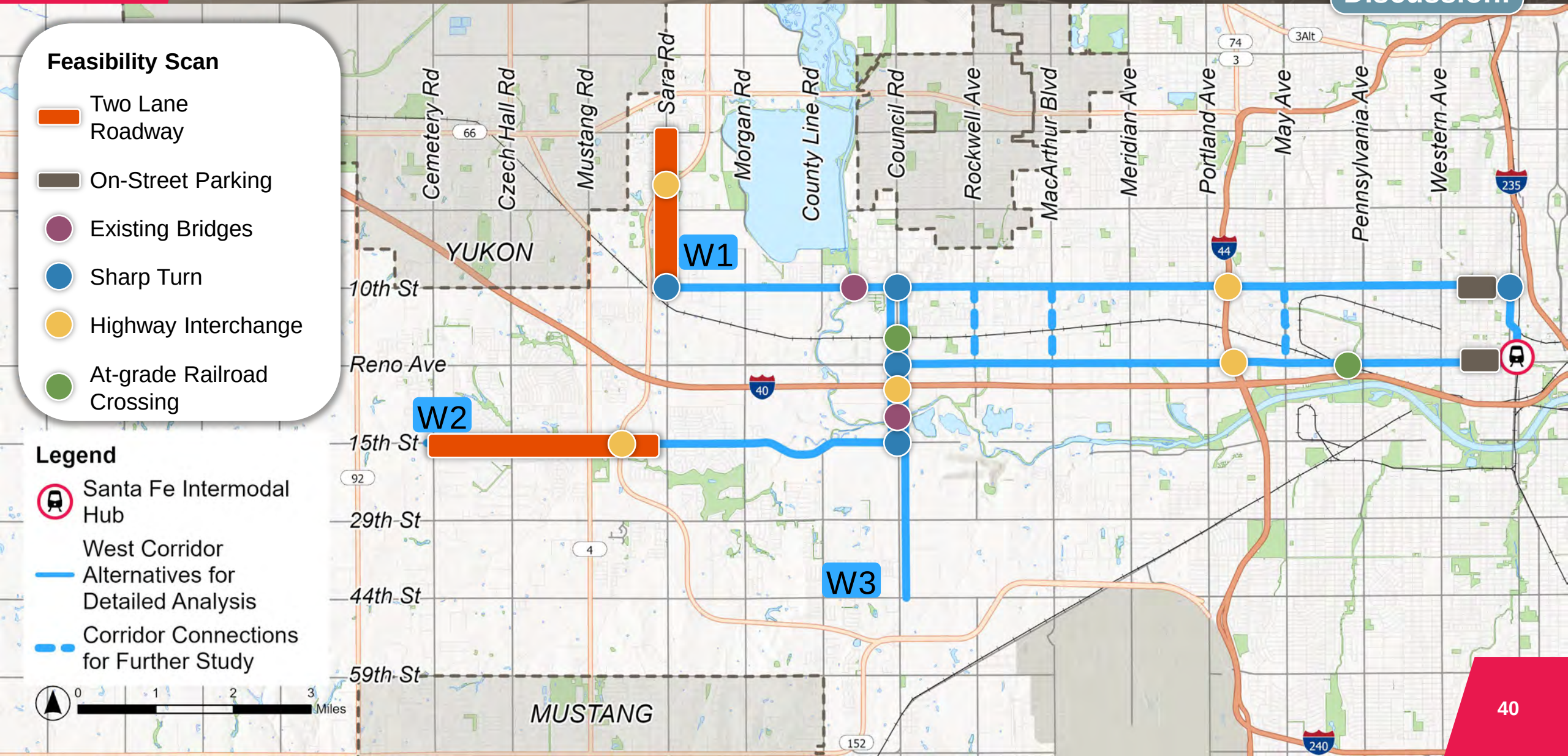


At-grade Railroad Crossings

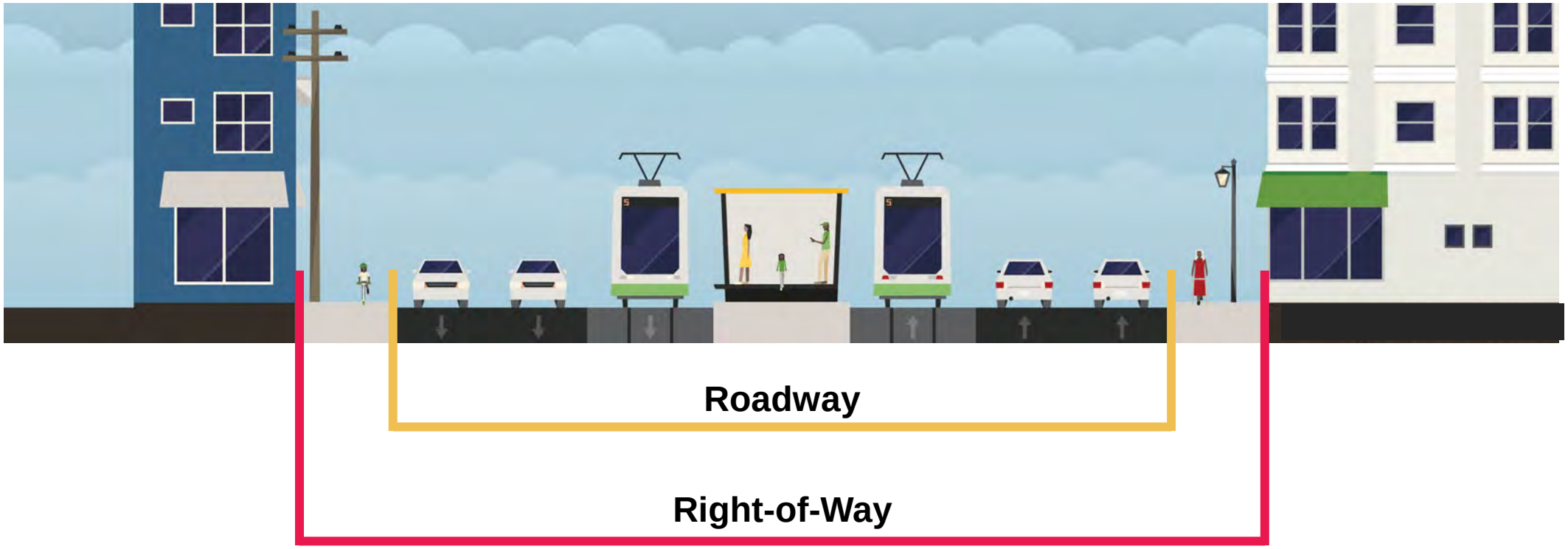


Roadway Constraints Summary

Discussion!



Roadway vs. Right-of-Way

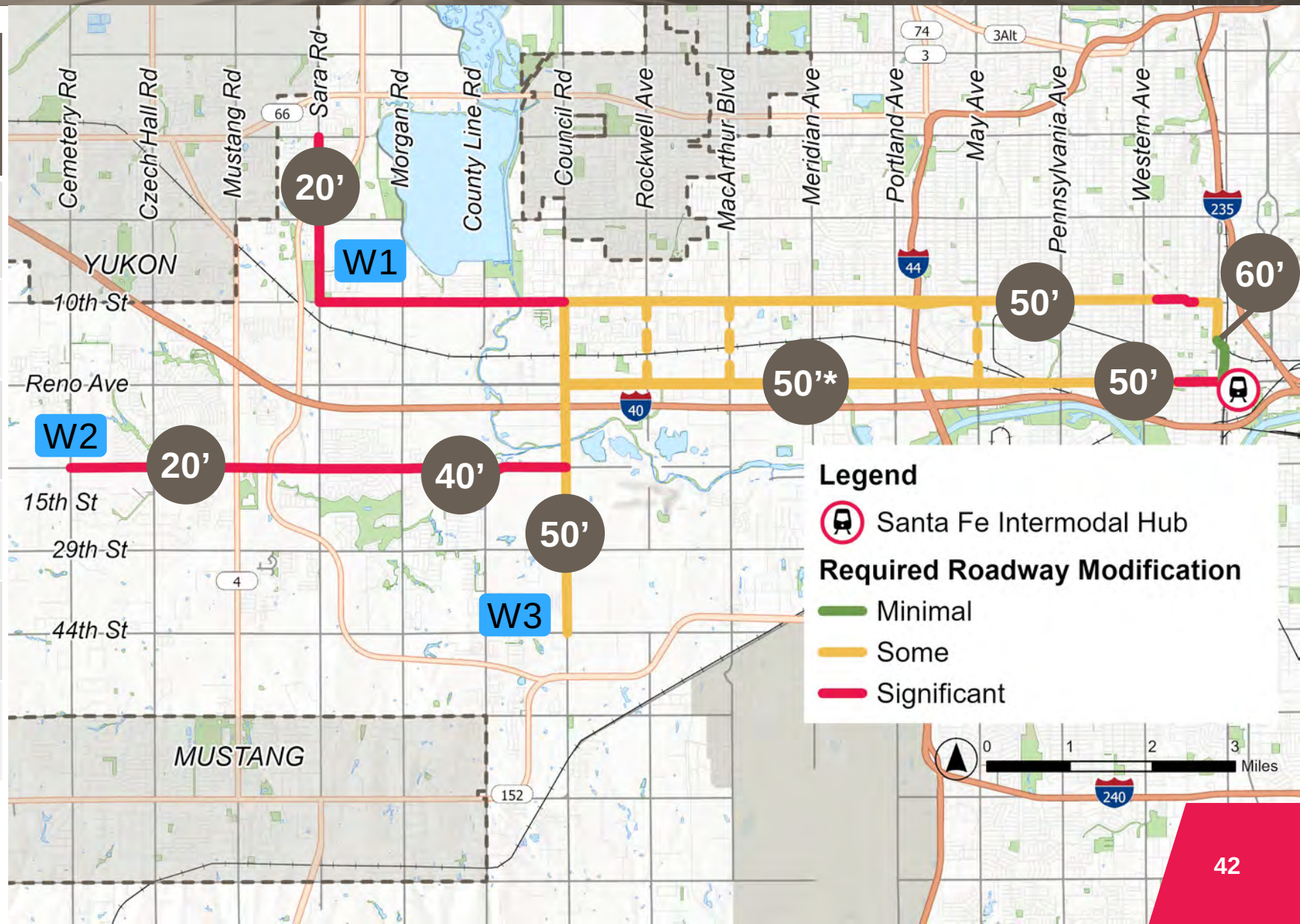


This is an example cross-section with high-capacity transit, not representative of a specific roadway

West Corridor Roadway Widths

Street	Roadway Width
10th St.	50’
Reno Ave.	50’*
15th St.	20’ – 40’
Sara Rd.	20’
N Council Rd.	50’
N Broadway Ave.	60’

**Portions of Reno Avenue contain a ~70’ drainage feature that is not included in roadway width*

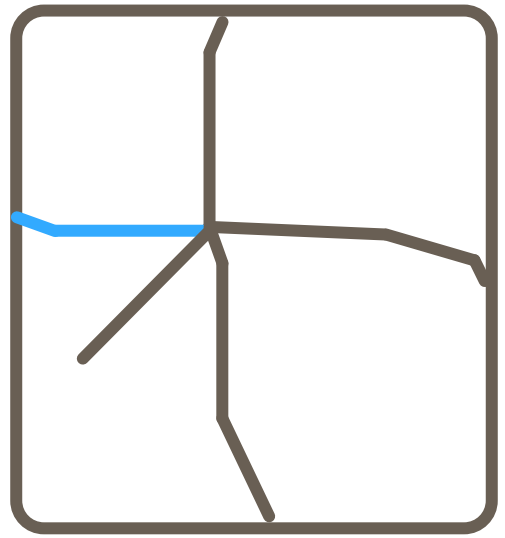


West Guideway Takeaways

All West alternatives would require some level of roadway expansion or travel lane conversion for LRT or BRT

Segments of Alternatives 1 and 2 would require significant roadway expansion for LRT or BRT

Segments of 10th Street and Reno Ave are highly constrained



West Corridor Travel Times

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Travel Times

Estimating travel times allow for a comparison between transit and driving for all high potential alternatives

Driving Time Estimates Assumptions

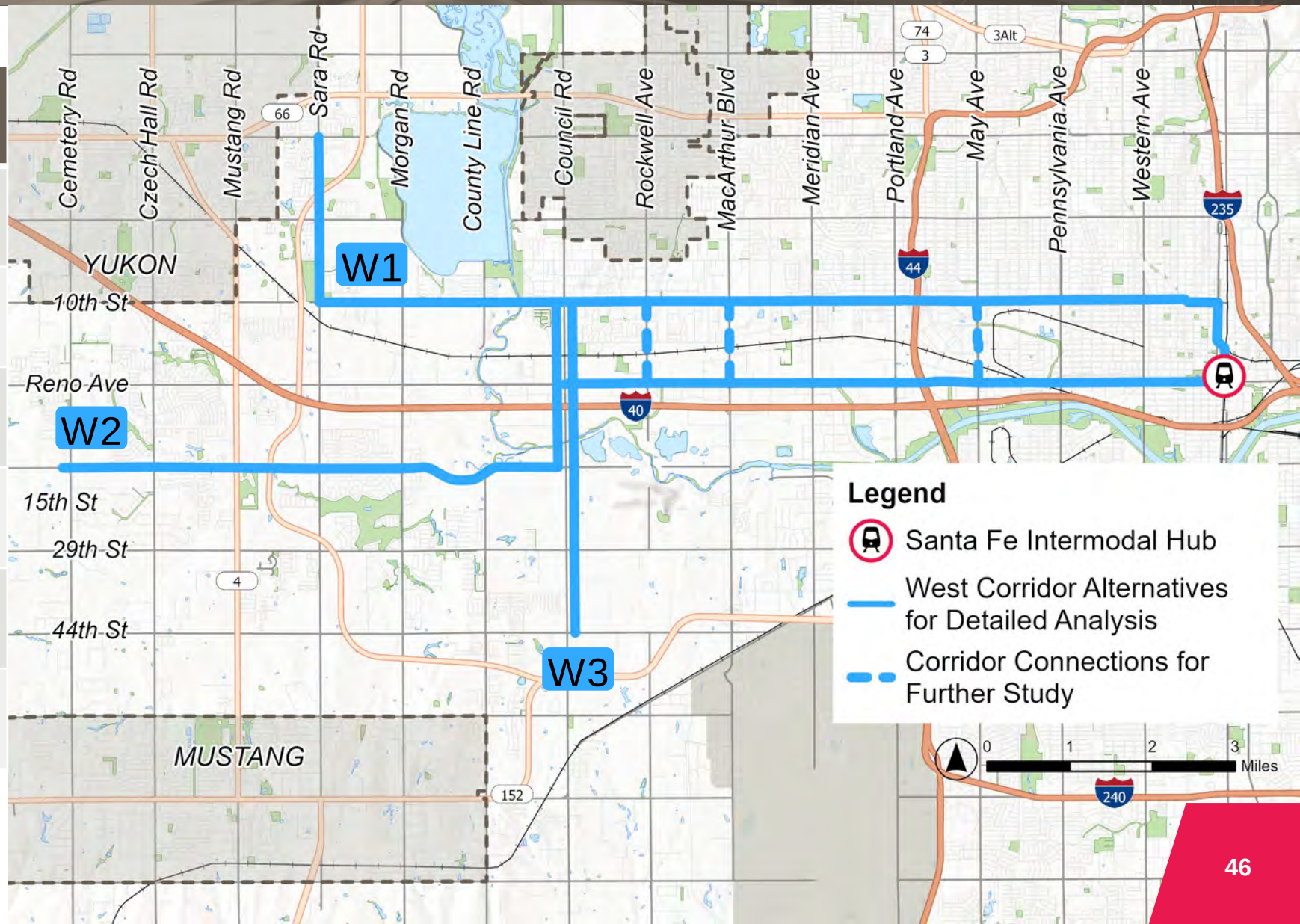
- PM Peak Travel Times

Transit Travel Time Estimates Assumptions

- PM Peak Travel Times
- Station Dwell Time
- Signal Delay

West Corridor Estimated Travel Times

Alignment	Alternative Length	Travel Time
W1 – 10th	13.9	30-35 min.
W1 – Reno	13.9	25-30 min.
W2 – 10th	17.0	35-40 min.
W2 – Reno	15.0	30-35 min.
W3 – 10th	12.9	30-35 min.
W3 – Reno	11.0	25-30 min.



West Alternative Travel Times – PM Peak

Alternative	Estimated Driving Time	Estimated Transit Travel Time
West 1 – 10th	20-25 min.	30-35 min.
West 1 – Reno	25-30 min.	25-30 min.
West 2 – 10th	35-40 min.	35-40 min.
West 2 – Reno	25-30 min.	30-35 min.
West 3 – 10th	25-30 min.	30-35 min.
West 3 – Reno	25-30 min.	25-30 min.

Takeaways

- All alternatives competitive with driving
- 10th Street alternatives generally slower than Reno Ave alternatives
- West 1-Reno and West 3-Reno have the fastest average speed

Airport Corridor Existing Roadway Conditions

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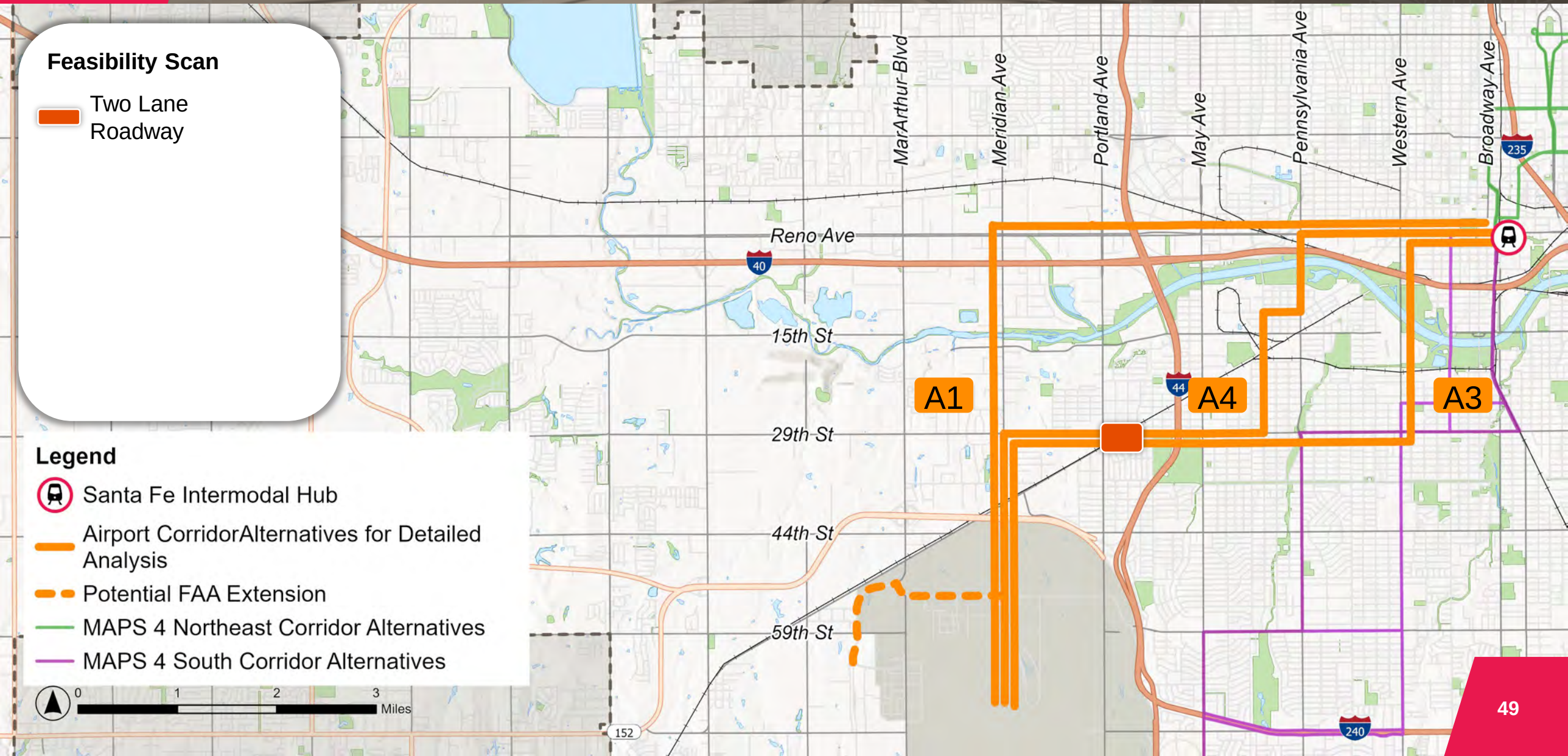
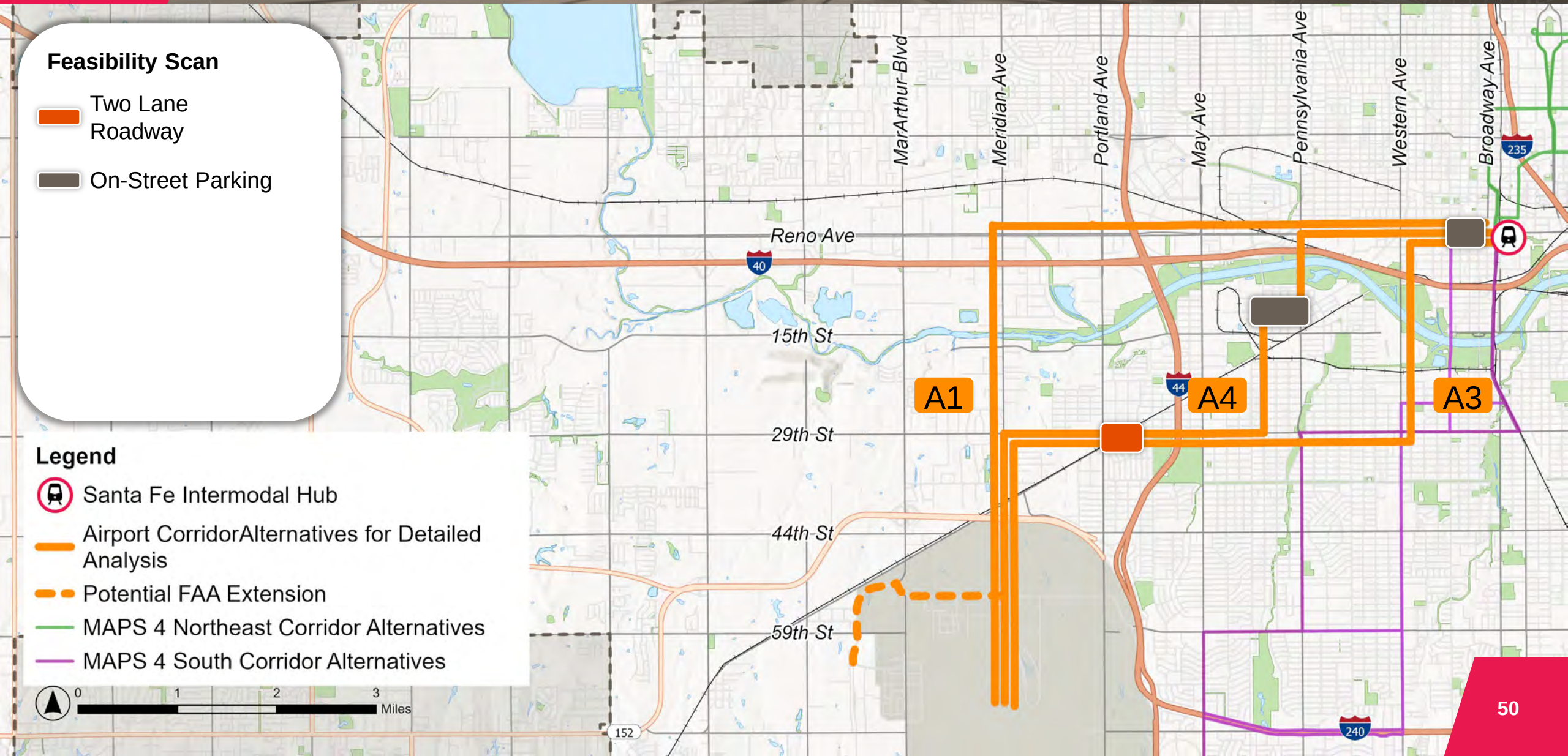
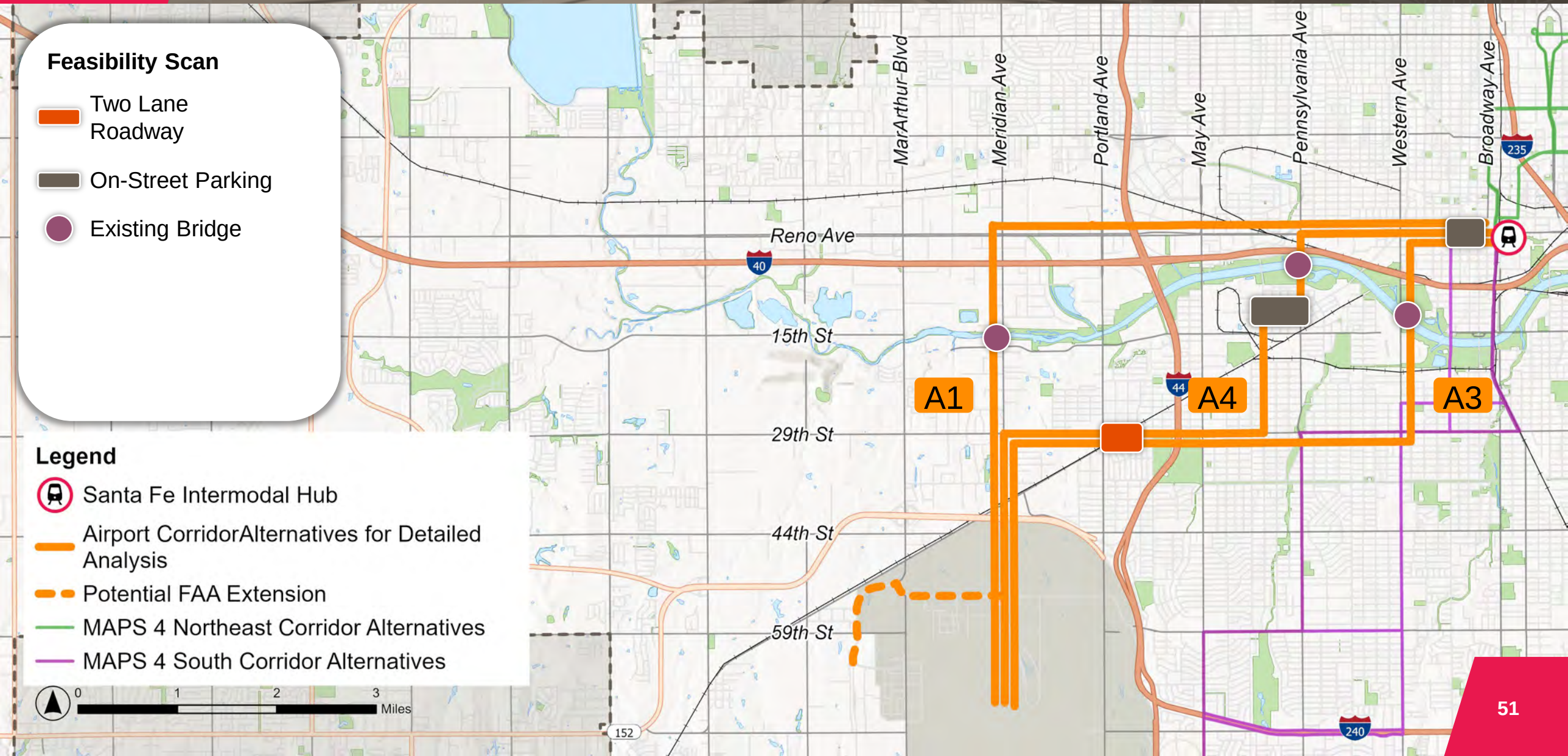
Two Lane Roadway



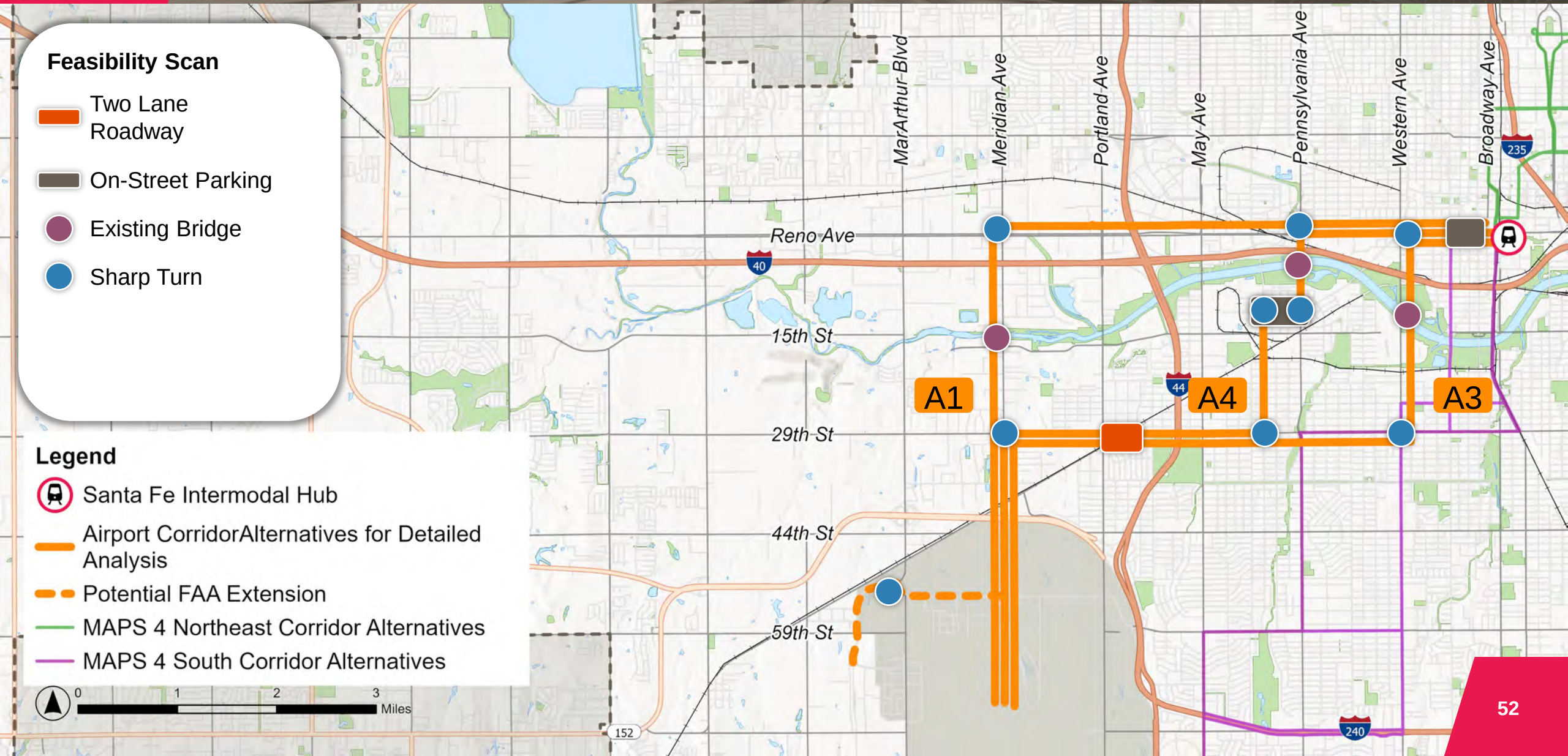
On-Street Parking



Existing Bridges



Sharp Turns


Feasibility Scan
Two Lane Roadway
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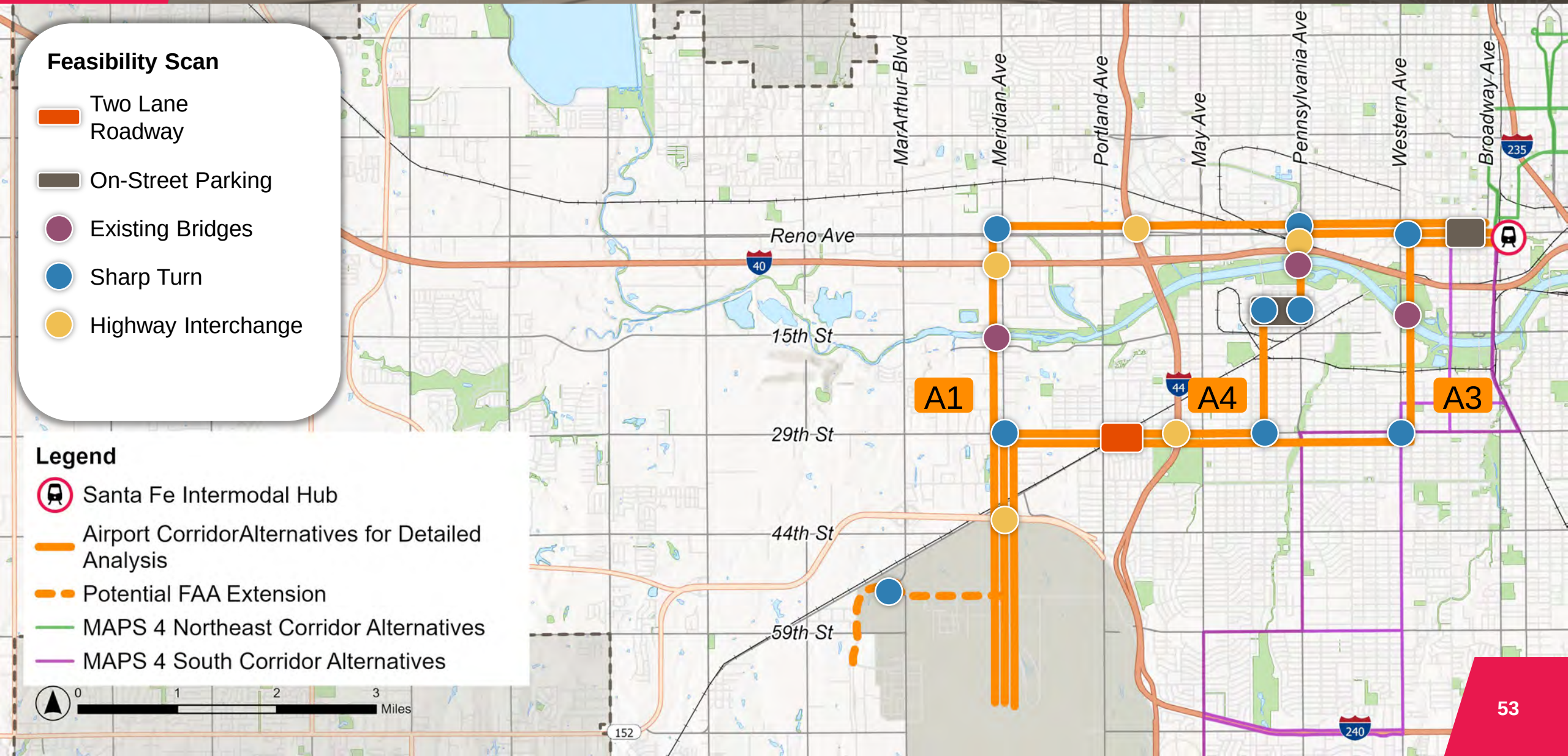
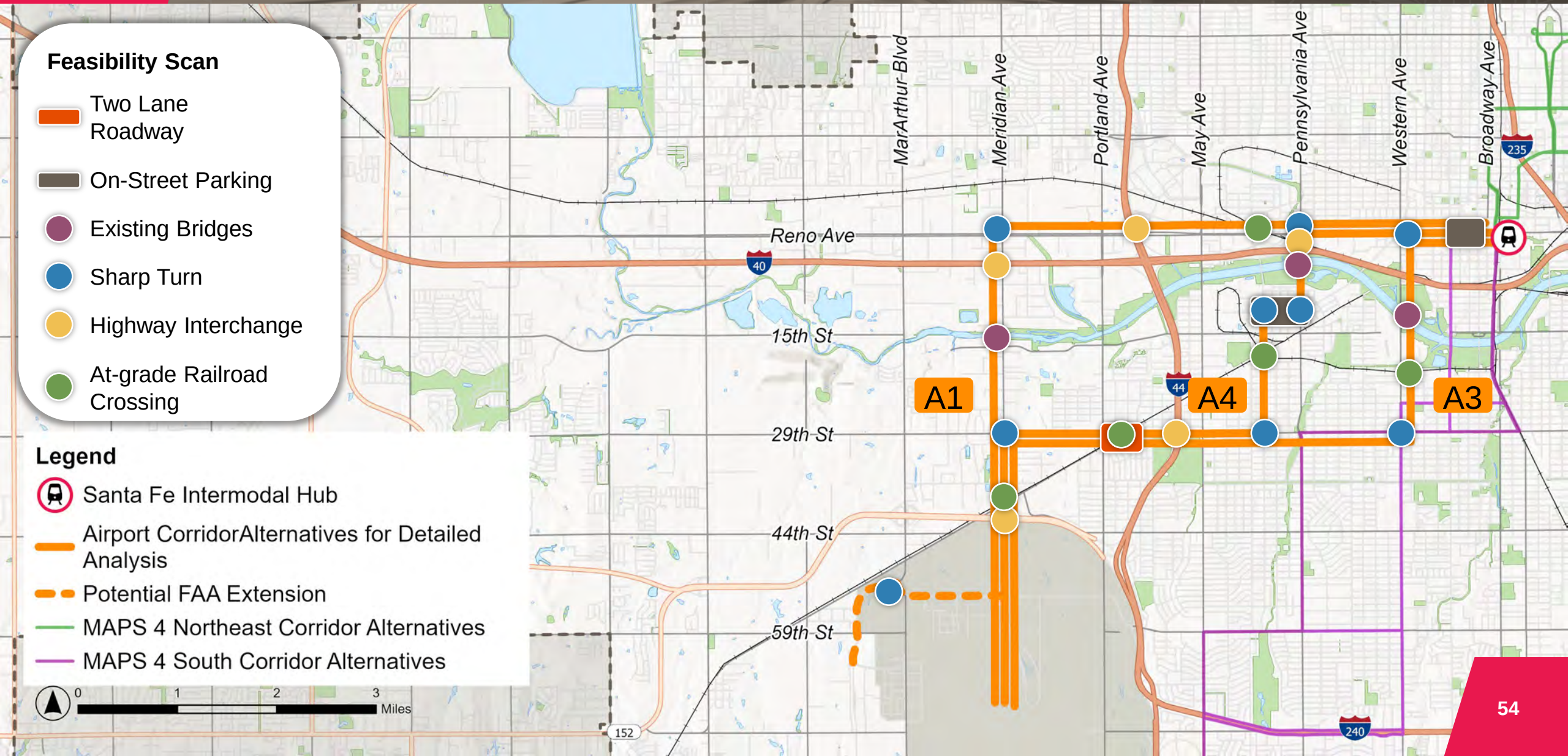
Airport CorridorAlternatives for Detailed Analysis
Potential FAA Extension
MAPS 4 Northeast Corridor Alternatives
MAPS 4 South Corridor Alternatives
0 1 2 3 Miles
MarArthur Blvd
Meridian Ave
Portland Ave
May Ave
Pennsylvania Ave
Western Ave
Broadway Ave
Reno Ave
15th St
29th St
44th St
59th St
40
44
235
240
152
A1
A4
A3

Highway Interchanges



At-grade Railroad Crossings



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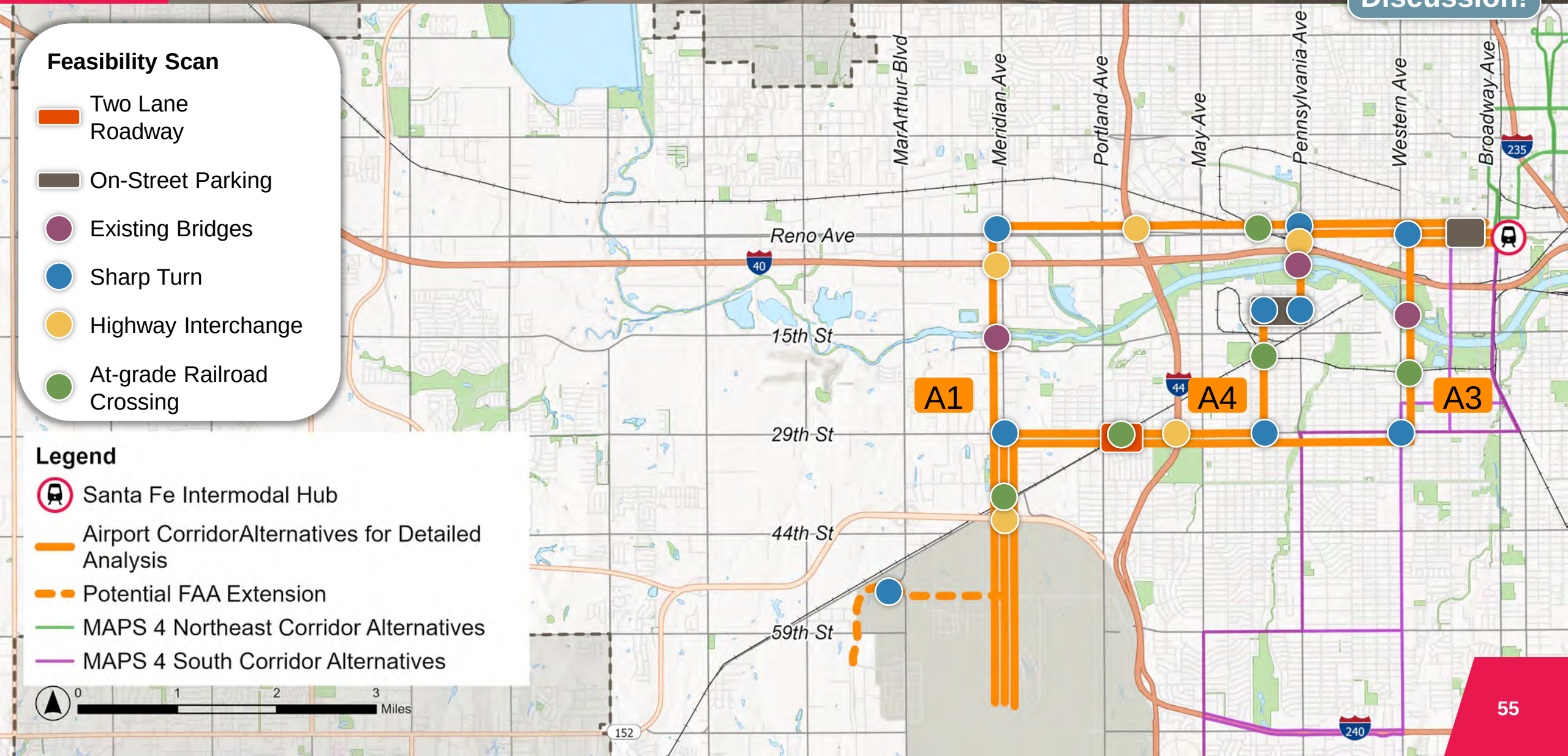
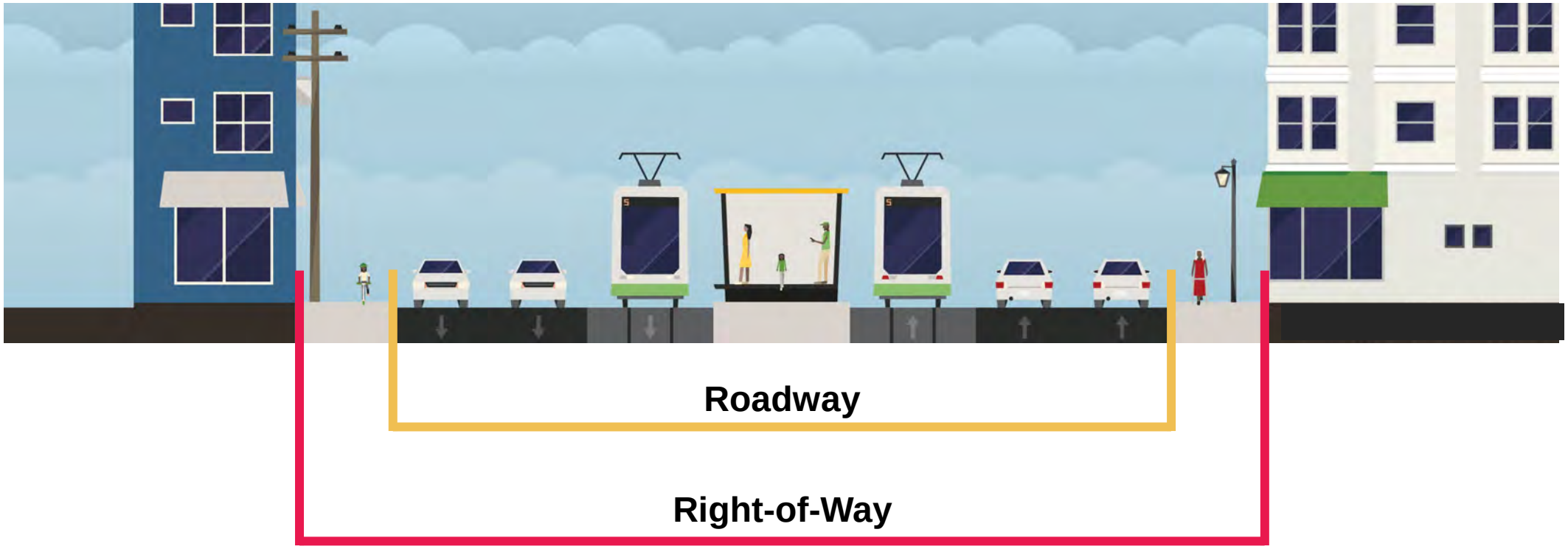


Roadway vs. Right-of-Way



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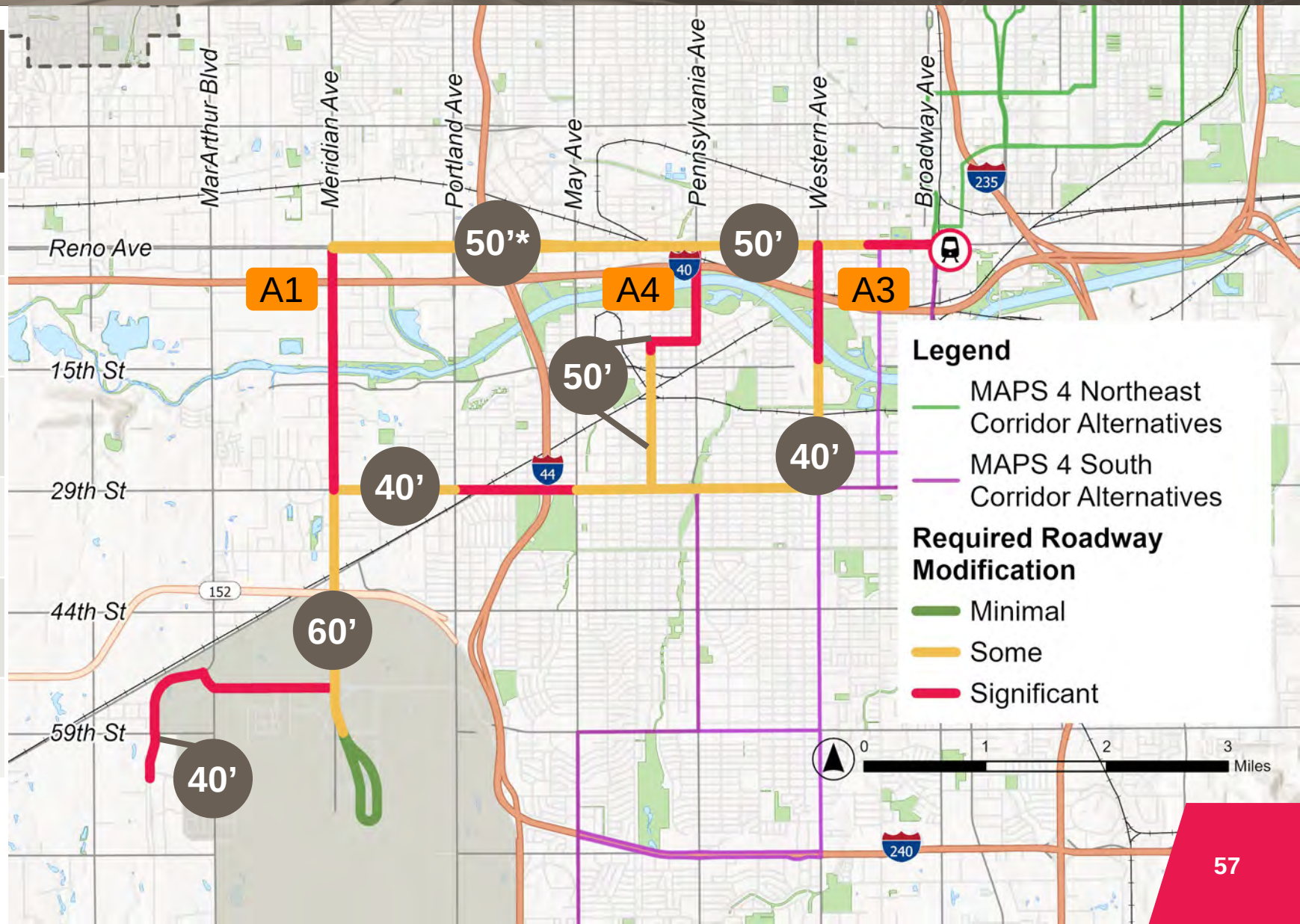
Airport Corridor Roadway Widths

Street	Roadway Width
Reno Ave.	50’*
29th St.	40’
Meridian Ave.	60’
Pennsylvania Ave.	50’
Western Ave.	40’
Terminal Dr.	40’

**Portions of Reno Avenue contain a ~70’ drainage feature that is not included in roadway width*

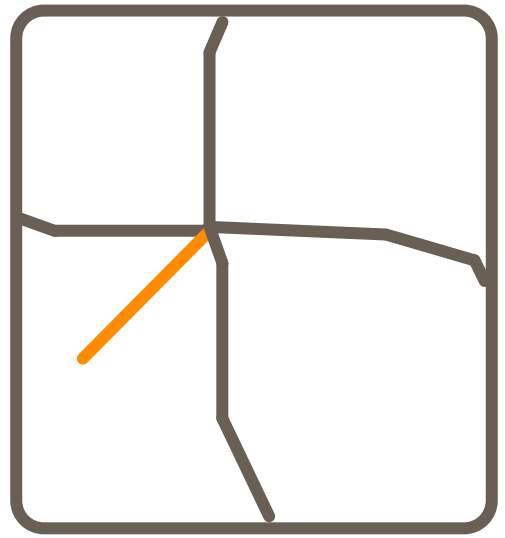


Airport Guideway Takeaways

All Airport Corridor alternatives would require some level of roadway expansion or travel lane conversion for LRT or BRT

All Airport Corridor alternatives have sharp turns and bridges

Significant roadway widening would be required to reach FAA Complex



Airport Corridor Travel Times

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Transit Travel Time Estimates Assumptions

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Airport Corridor Estimated Travel Times

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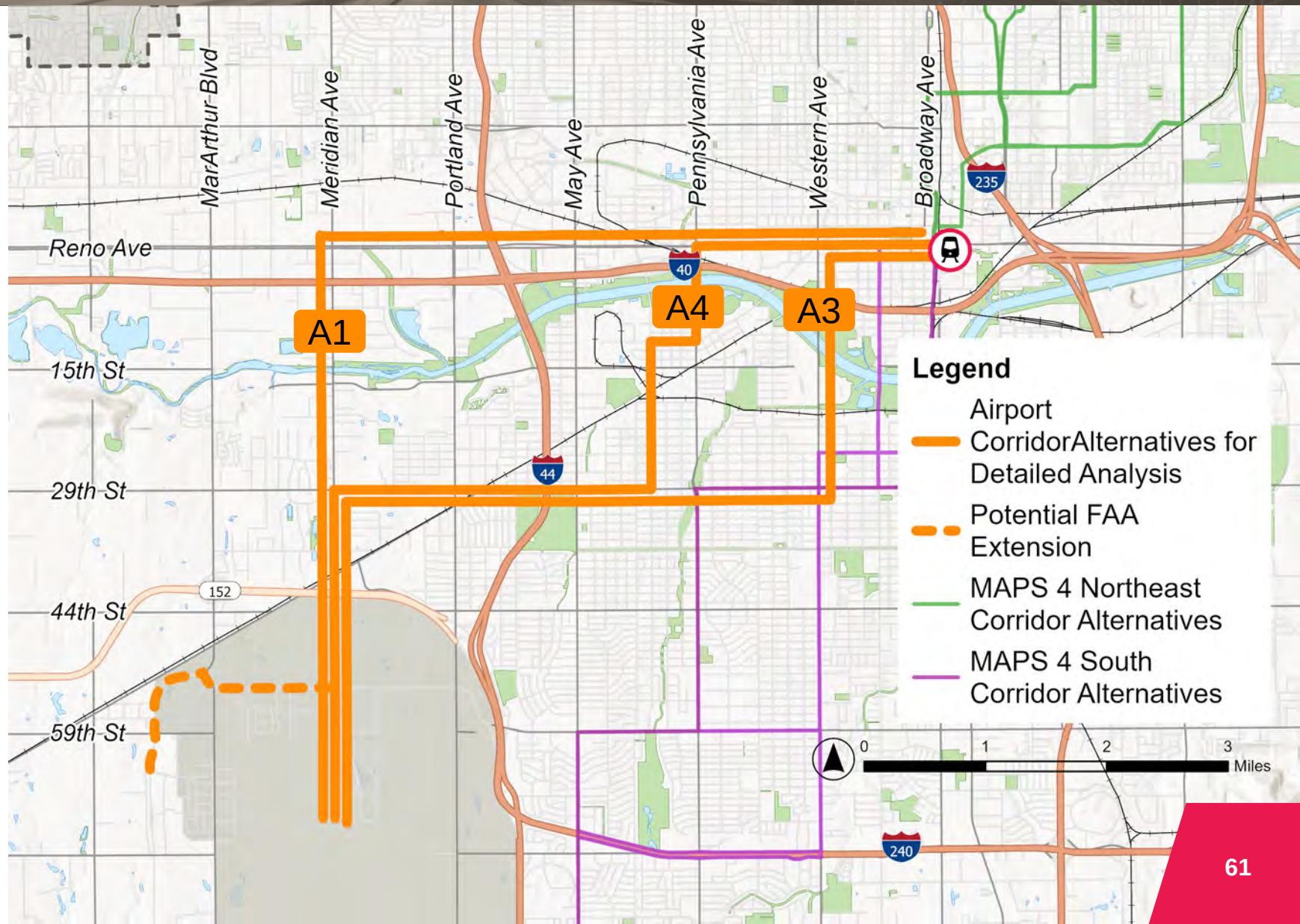
A1	13.3	20-25 min.
A3	13.3	20-25 min.
A4	13.3	20-25 min.

**Does not include segment between Airport Terminal and FAA Complex*



Airport Alternative Travel Times

Alternative	Estimated Driving Time	Estimated Transit Travel Time
Airport 1	20-25 min.	20-25 min.
Airport 3	20-25 min.	20-25 min.
Airport 4	20-25 min.	20-25 min.

Takeaways

- All alternatives competitive with driving
- All alternatives competitive with one another
- Serving FAA Complex would add an additional 5-10 min.

Engagement Updates

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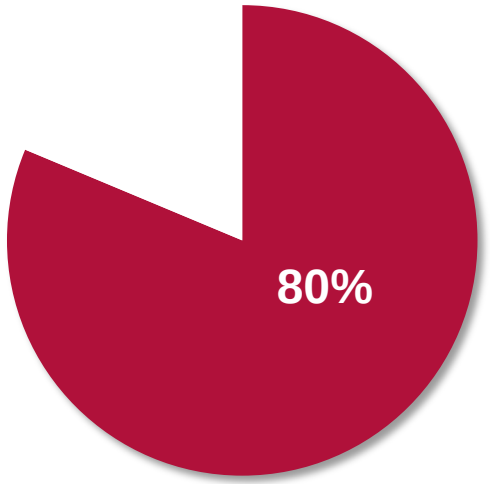
Engagement Recap

- **7 Stakeholder Interviews**
- **246 Survey Responses**
  (237 Virtual and 9 Paper)
- **27 Attendees** at the In-Person Open House
- **24,555 Engagements on RTA's social media accounts** since June of 2023
  (including views, clicks, shares, likes, and comments)

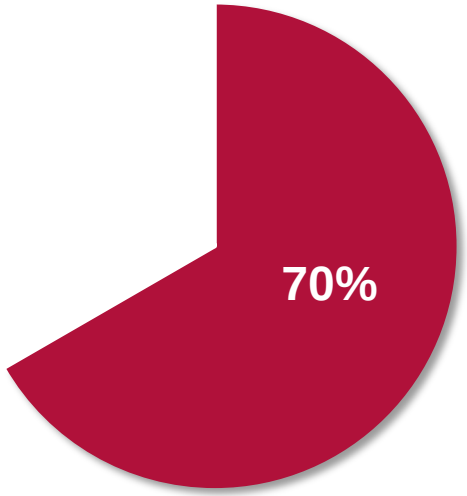
Transit Needs Survey - By the Numbers

Most important factors when considering using transit

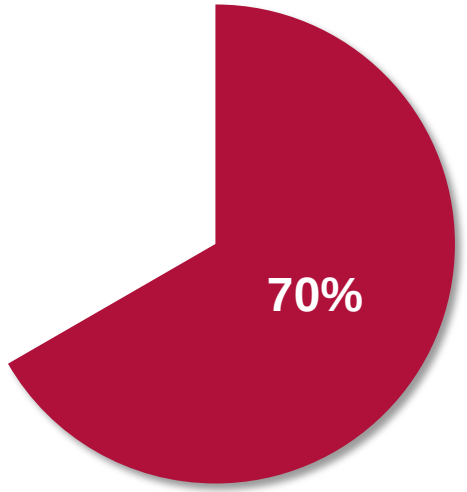
Dependability



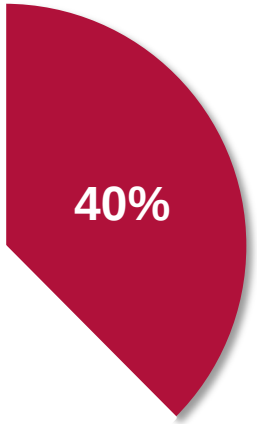
Frequency



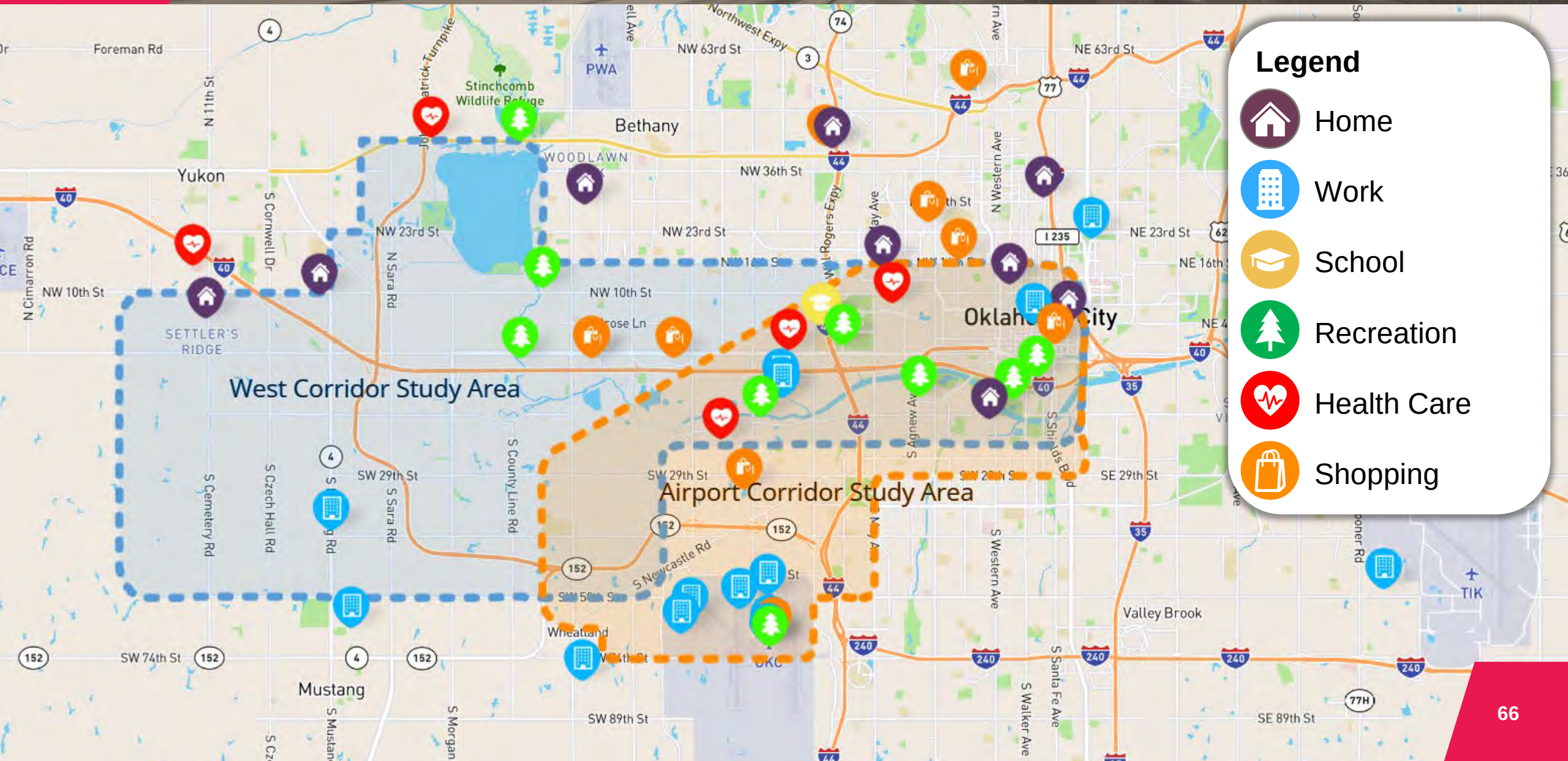
Safety



Speed



Transit Needs Survey – Key Destinations



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Discussion!

Key Engagement Takeaways

- Interest in a regional transit link between Yukon and Downtown OKC
- More connections to the bike and pedestrian network
- Support for a high-capacity transit link to the airport
- Balance station frequency with quick travel times
- Desire to reduce congestion
- Promote development on the west side of Oklahoma City

November Town Hall

- **Planned for November 14**
- **Virtual Format**
- **Goals**
  - Deliver project updates and analysis
  - Introduce high-potential alignments
  - Gauge public sentiment before full evaluation of alternatives

Next Steps

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Next Steps

	October	November	December
Public Engagement	**RTA Board meeting**	• Virtual Town Hall Meeting • Stakeholder Engagement	**RTA Board meeting**
Technical Work	• Present initial results of detailed analysis	• Present refined alternatives and request feedback • Identify potential site-specific opportunities	• Present results of detailed evaluation • Identify high-potential alignments • Present initial analysis of potential station locations

We are here!

Thank You

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