



# Riverview Pre-Project Development Study

Technical Advisory Committee  
February 23, 2017

# Agenda

1. Welcome and Introductions
2. TAC Meeting Summary
3. Draft Results: Community Evaluation
4. Draft Results: Environmental Evaluation
5. Draft Results: Transportation Evaluation
6. Draft Results: 'The Big Three'
7. Recap of Entire Draft Evaluation
8. Next Steps

## 2. TAC MEETING SUMMARY

# Public Engagement Update

- Minneapolis Neighborhood Update Meeting
  - March 2, 2017 – 6 to 8 p.m.
  - Dowling Elementary School, 3900 W. River Pkwy
- Highland Park Update Meeting
  - March 2017
- Detailed Evaluation Engagement
  - March – April 2017
    - Community open houses
    - Pop-up events
    - Presentations



# Highlights of Other Meetings

- Kansas City Tour:  
February 16-17, 2017
  - 4 mile loop
  - 5,830 daily trips (2,700 forecast)
  - \$1.7 billion in economic development
  - Business impact Survey
    - 97% positive impact
    - 80% positive change in revenue
    - 83% positive change in foot traffic



# Highlights of Other Meetings

- Saint Paul Sewer Utilities: January 30, 2017
  - Understand existing system
  - Determine future system needs
  - Considerations relative to Riverview alternatives
- District Energy: February 14, 2017
  - Overview of Riverview project
  - Understand service area
  - Considerations relative to Riverview alternatives

# Highlights of Other Meetings

- District Energy: February 14, 2017
  - Overview of Riverview project
  - Understand service area
    - Infrastructure underneath Smith Ave.
    - United Hospital of one of top three largest users
  - Considerations relative to Riverview alternatives
    - Plan to rebuild infrastructure within the next decade

# Study Process & Milestones

1 Completed August 2015

## CORRIDOR VISION

- *Review of Relevant Work*
- *Current and Future Conditions*
- *Purpose/Need*
- *Goals/Objectives*

2 In progress

## ALTERNATIVES ANALYSIS

- *Initial Screening*  
*(completed February 2016)*
- Detailed Definition
- Detailed Evaluation ←  
*February/March 2017*

3 June /July 2017  
*(draft April/May 2017)*

## LOCALLY PREFERRED ALTERNATIVE

- Implementation Plan

*Strategic Communications / Public and Stakeholder Outreach*



1

## Complete CORRIDOR VISION

# Riverview Corridor

Purpose is to enhance mobility and access to opportunities for residents, businesses, and the region and to cultivate economic prosperity

1. Growing population and employment increases travel demand for different travel markets
2. Support and catalyze reinvestment and economic development
3. Transit-reliant population also need improved transit service
4. Limited opportunity to improve the existing transportation network



EVALUATION CRITERIA	COMMUNITY		<div>Parking impacts</div> <div>Right-of-way</div>	<div>Visual</div> <div>Noise/ Vibration</div>		<div>Construction Impacts</div>
	TRANSPORTATION	<div>Travel time</div> <div>Use of existing infrastructure</div> <div>Connections to local / regional systems</div>		<div>Safety</div>	<div>Traffic</div> <div>Freight</div>	<div>Ridership</div>
	STATION AREAS	<div>Connections to key activity centers</div> <div>Proximity to affordable housing</div>	<div>Employment</div> <div>Development potential</div>	<div>Pedestrian access</div> <div>Bicycle access</div>	<div>Population</div> <div>Proximity to zero-car households</div>	
	ENVIRONMENTAL	<div>Cultural / historic resources</div>		<div>Parkland</div> <div>Mississippi River</div> <div>Wetland / floodplain</div>		
	COSTS					<div>Capital Costs</div> <div>Operating &amp; Maintenance Costs</div> <div>Cost Effectiveness</div>

★ January TAC Meeting ★ February TAC Meeting

For TAC Review  
Work In Progress; Subject To Change Without Notice

# Recap: January TAC Meeting

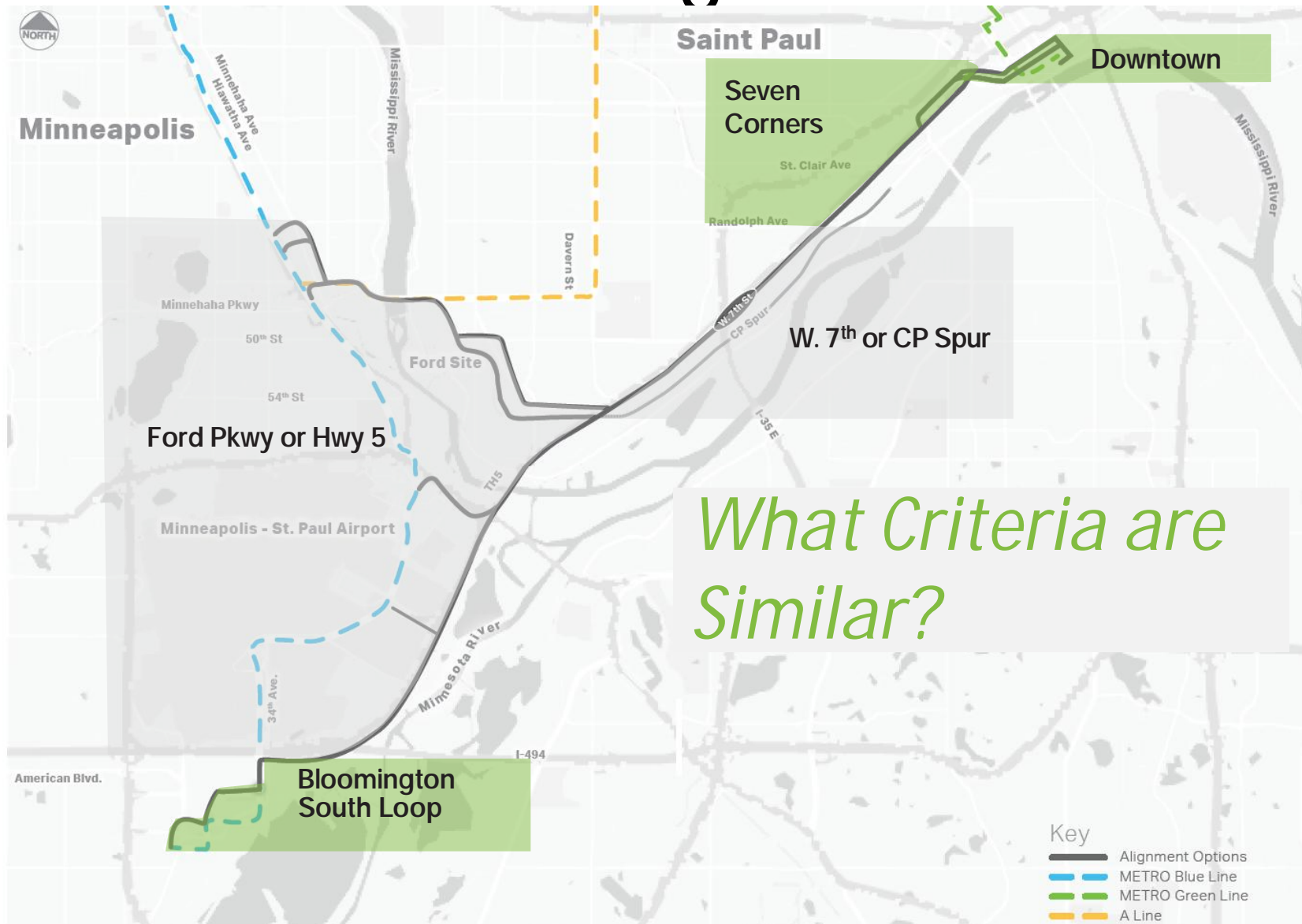
- Reviewed draft results for 16 of 27 total Detailed Evaluation criteria
  - What criteria are similar across the alternatives?
  - What criteria are different between alternatives?
  - What criteria are analyzed following selection of the Locally Preferred Alternative?

# Recap: January TAC Meeting

## Applied 16 evaluation criteria

- Downtown to near Sibley Plaza - Little difference between W 7<sup>th</sup> and CP Spur for the trunk
- Near Sibley Plaza to MOA - Ford Site and Hwy 5 are different travel markets
  - Ford Site – slower and less direct, but reaches more people and jobs
  - Hwy 5 – faster and more direct to regional destinations
- Both Ford Site and Hwy 5 would benefit from improved transit service
- Which travel market should receive premium transit investment?

# Most Promising Alternatives



# What Criteria are Similar?

*Most Promising Alternatives have similar alignments and areas served in Downtown, Seven Corners, and Bloomington South Loop*



## Transportation

- Connections to local/regional systems

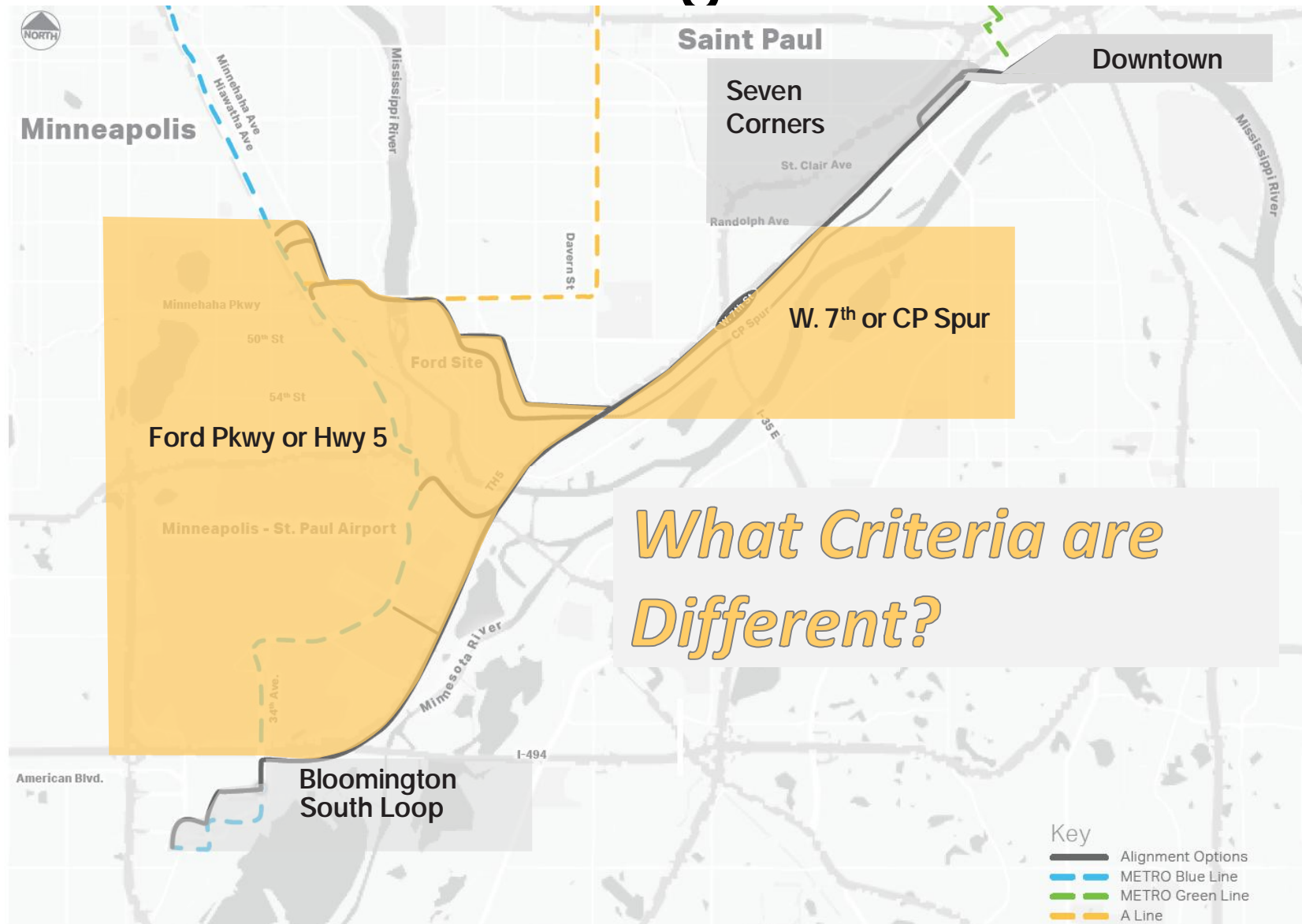


## Station Areas

- Connections to key activity centers
- Development Potential
- Bicycle access
- Population
- Employment



# Most Promising Alternatives



# What Criteria are Different?

*Most Promising Alternatives have differences in the following criteria*



## Transportation

- Travel Time
- Use of Existing Infrastructure
- Freight Rail



## Station Areas

- Proximity to Affordable Housing
- Population
- Employment
- Pedestrian Access
- Proximity to Zero-car Households



# What Criteria do we Analyze after LPA Selection?

*These criteria require environmental analysis and engineering to determine potential impacts and mitigations.*



## Community

- Noise and Vibration



## Environmental

- Cultural/historic Resources
- Parklands
- Wetlands/Floodplains

# Recap: February PAC Meeting

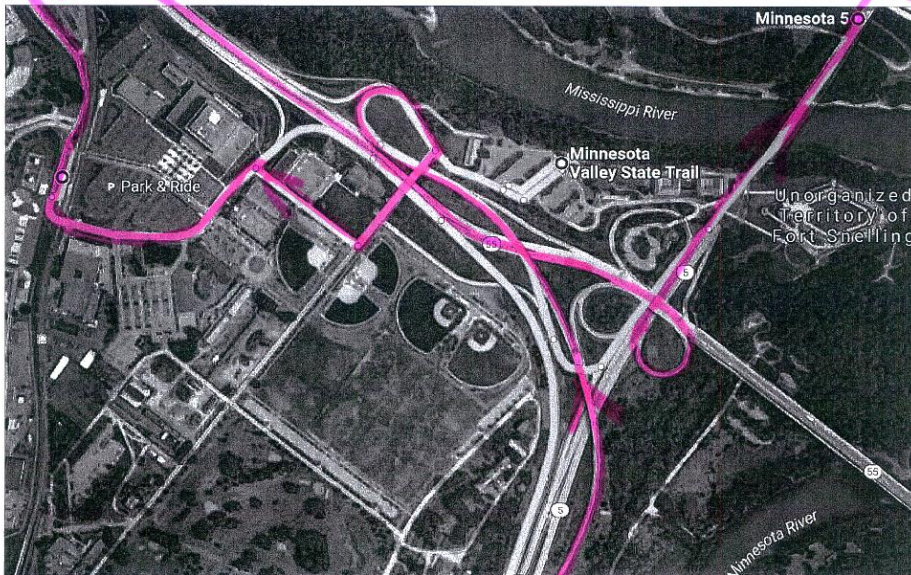
- PAC directed staff to define and evaluate additional BRT alternatives
  - BRT stations = Rail stations
  - Report back to PAC in March with draft routings and transit travel times

# BRT Concept: TH 5/Fort Snelling

Presumes Identical Station Locations as Rail Alternatives

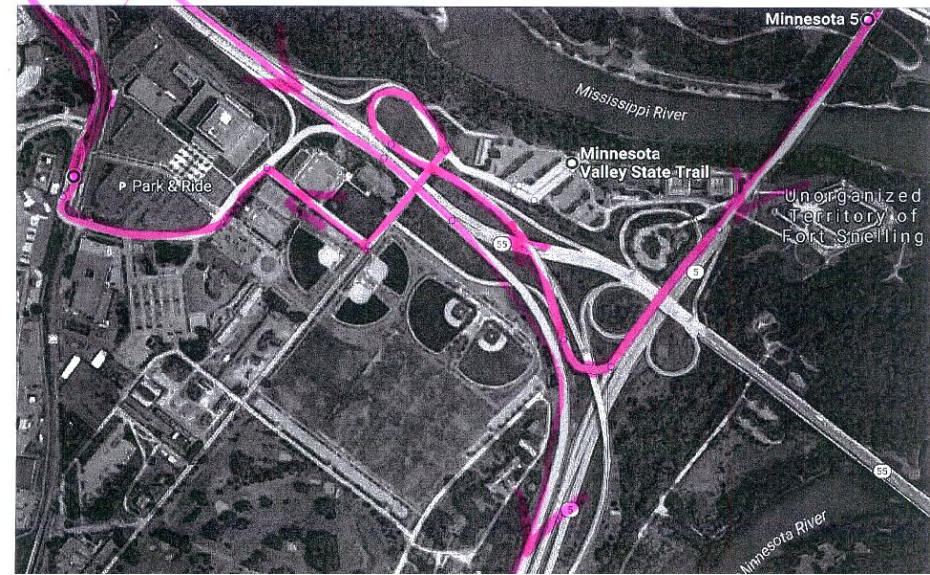
## Hwy 5 / Fort Snelling

Historic Fort Snelling Station to MSP Terminal 1 Station



## Hwy 5 / Fort Snelling

Historic Fort Snelling Station to MSP Terminal 1 Station



*Basis: Metro Transit service to/from Historic Fort Snelling, 2017.*

## Presumes Identical Station Locations as Rail Alternatives

A schematic map of the Minnehaha Transitway route. The route is shown as a thick black line. Stations are marked with black dots and labeled: 46th St Station, 50th St Station, VA Station, Fort Snelling Station, and Federal Dr. Street crossings are labeled: Minnehaha, Hwy 55, E 54th St, and Hwy 65.

A schematic map of the Airport Express route. The route is shown as a thick black line. It starts at MOA Station (a black dot) in the bottom left, goes east on 28th Ave S to 34th Ave S, then north on 34th Ave S to 70th St. At 70th St, it turns east on Post Rd, then north on Airport Rd to Lindbergh Station (a black dot) in the top right. Key locations along the route include MOA Station, 28th Ave S, 34th Ave S, 34th Ave Station, 70th St, and Lindbergh Station. Other streets shown include 24th Ave S, 30th Ave, 32nd Dr, I-494, and American Blvd. Arrows indicate the direction of travel from MOA to Lindbergh.

For TAC Review  
Work In Progress; Subject To Change Without Notice



# Draft Findings: New BRT Alternatives

Presumes Identical Station Locations as Rail Alternatives

- BRT travel times would increase
  - Ford Parkway: +9 min (total ~68 min)
  - Hwy 5: +11 min (total ~51 min)
- Anticipated impacts on capital and operating costs and ridership
  - 3 more vehicles
  - 3 additional stations
  - Decrease 2040 ridership forecast ~10%
- Study impact
  - Would add 3 to 6 months and \$100,000 to complete full analysis on these alternatives

# Timeline

## Draft Detailed Evaluation Results

\* TAC RECOMMEND FOR PUBLIC REVIEW

PAC ACTION: APPROVE FOR PUBLIC REVIEW

*PUBLIC REVIEW*

Feb-Mar 2017

FEBRUARY 23<sup>RD</sup> \*

MARCH 9<sup>TH</sup>

*MARCH-APRIL*

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## Draft Locally Preferred Alternative

## Locally Preferred Alternative

PAC ACTION: APPROVE LPA

Apr-May 2017

Jun-Jul 2017

JUNE 8<sup>TH</sup> / JULY 13<sup>TH</sup>

Draft Results: Community Evaluation

### 3. RIGHT-OF-WAY, PARKING, CONSTRUCTION, VISUAL



# Right-of-Way



## Definition:

- Estimation of parcels potentially required by each alternative

## Methodology:

- Measure overlap of proposed alignments with public or private property via GIS-based parcel count using:
  - References: Ramsey and Hennepin County parcel data and aerial imagery
  - Preliminary concepts assume transit lanes and stations generally fit within existing public or transportation rights-of-way





# Right-of-Way



## Findings:

- Preliminary concepts generally fit within existing public or transportation ROW
- Anticipated ROW impacts on these segments of the corridor:
  - Alignments on the CP Spur (purchase of CP property)
  - Dedicated transit on north side of W. 7<sup>th</sup> St between Montreal and St. Paul Ave (purchase of City of St. Paul property)
  - Rail alternatives via Hwy 5/Fort Snelling
- Following the LPA selection, ROW impacts determined for:
  - Operations and Maintenance Facility (OMF)
  - Construction staging and laydown areas
  - Blue Line Tie-in in Minneapolis (if chosen alignment)
  - For rail: Traction power substations



# Discussion: Right-of-Way





# Parking Impacts



## Definition:

- Estimate on-street parking spaces potentially removed by each alternative

## Methodology:

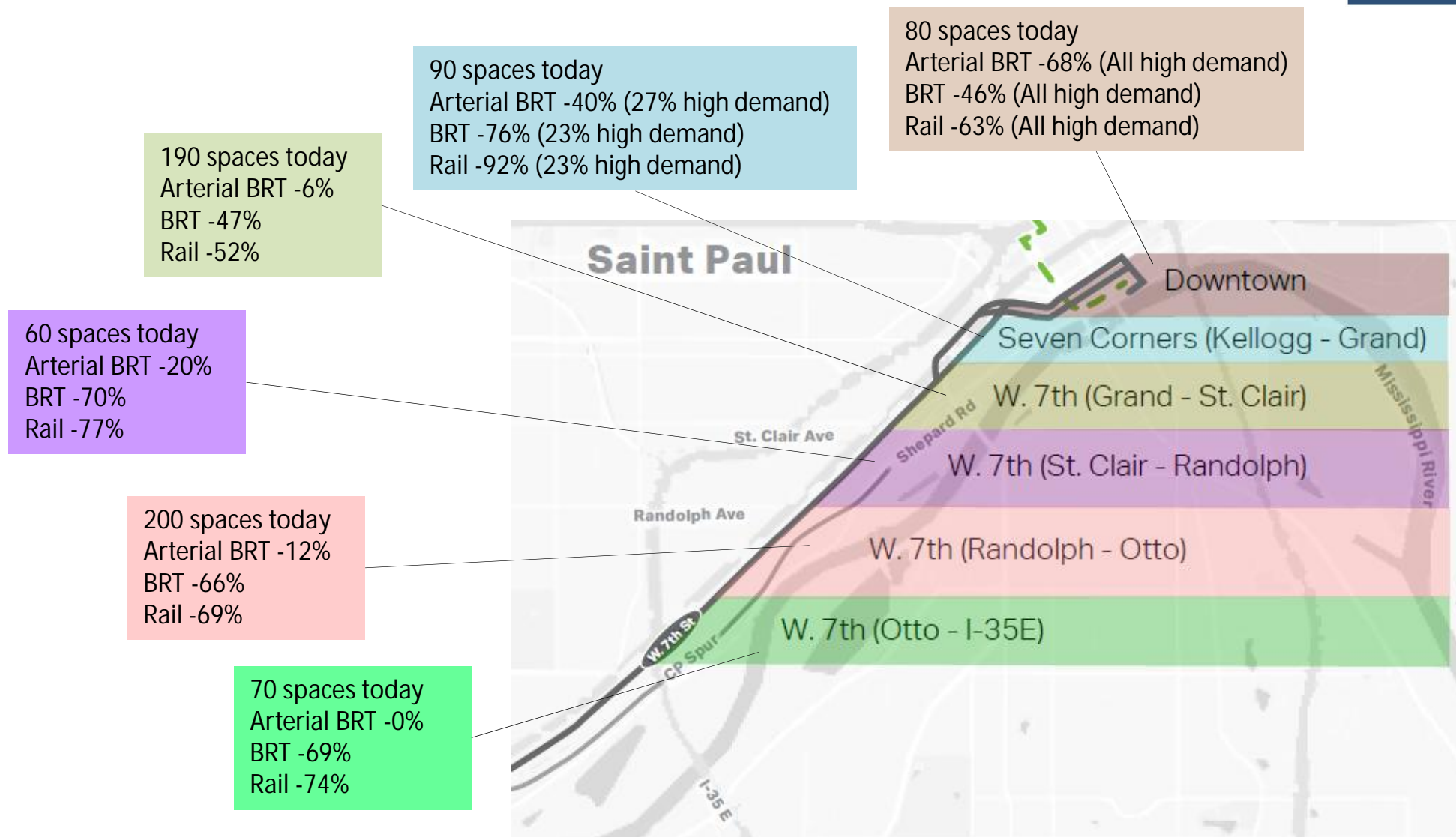
- Based on conceptual typical sections
- Averaged potential impacts of Dedicated and Shared Use alternatives
- Used exact number of existing parking spaces for downtown Saint Paul
- Estimated existing parking spaces south of Grand Ave on W. 7<sup>th</sup> St

## Assumptions:

- Metered spaces considered high demand parking
- No impacts east of Wabasha for BRT alternatives
- No impacts east of Cedar St for rail alternatives
- No parking on W. 7<sup>th</sup> south of I-35E
- Rail stations would remove 24 parking spaces
- BRT stations would remove 12 parking spaces
- Maintaining sidewalk width would reduce parking



# Parking Impacts





# Parking Impacts



## Findings:

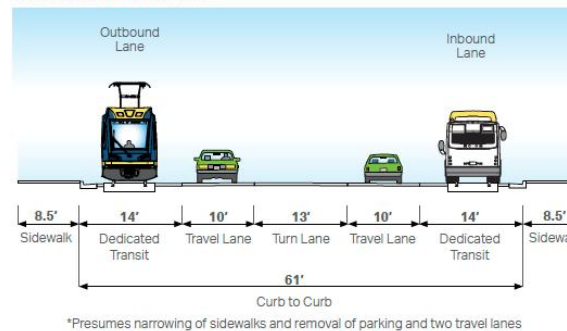
- Overall distinctions:
  - Dedicated lanes would impact more parking spaces than Shared Use Lanes
    - Side-Running Dedicated Lanes would impact more parking than Center-Running Dedicated Lanes
- All alternatives would impact on-street parking in Downtown and Seven Corners

## Trunk: W. 7<sup>th</sup> vs. CP Spur

- Alternatives using W. 7<sup>th</sup> would impact more on-street parking
  - W. 7<sup>th</sup> trunk segment (Randolph - I-35E) has 270 on-street parking spaces today
  - 25 businesses (~50%) have parking lots

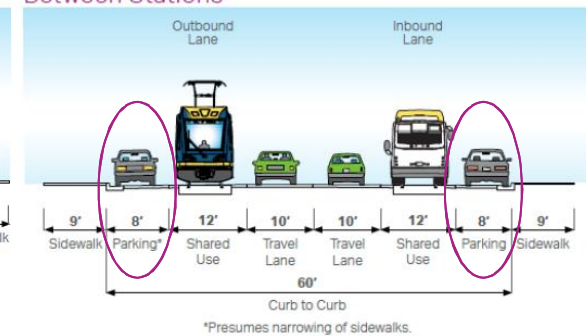
### Dedicated Side Running

#### Between Stations



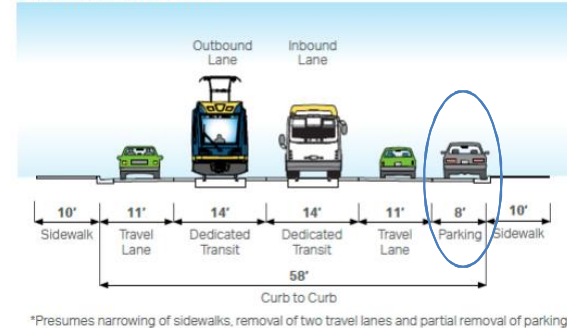
### Shared Use Side Running

#### Between Stations



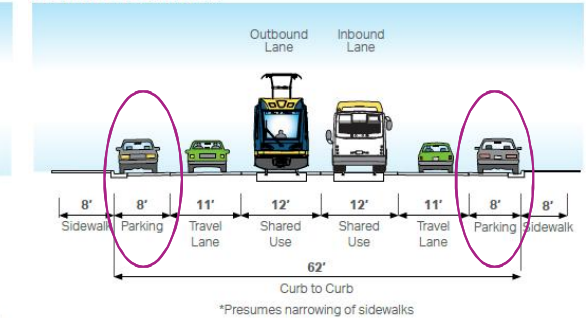
### Dedicated Center Running

#### Between Stations



### Shared Use Center Running

#### Between Stations





# Discussion: Parking





# Construction Considerations



## Definition

- Qualitative assessment of potential construction impacts to businesses

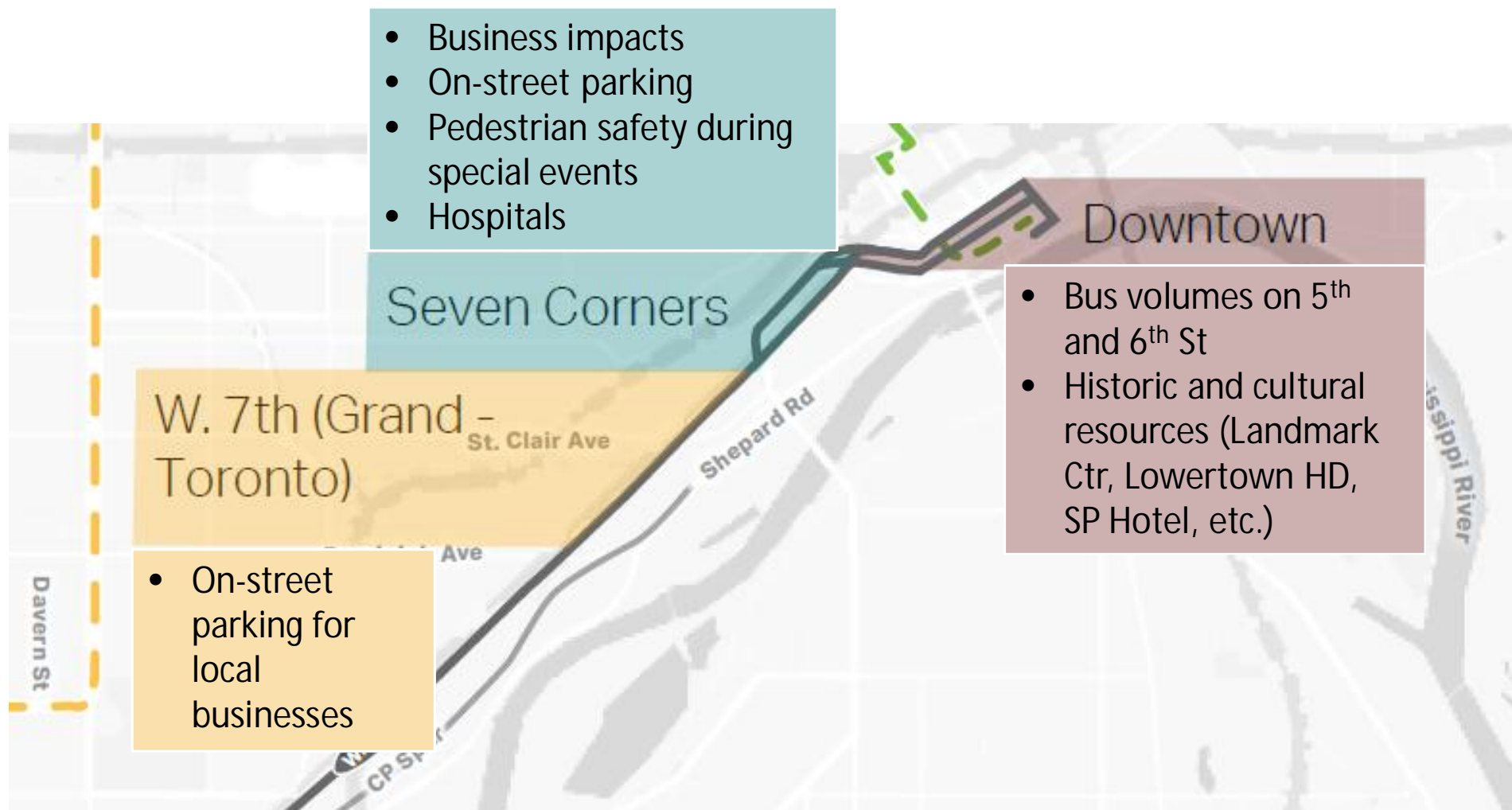
## Assumptions

- No-Build includes rehabilitation of W. 7<sup>th</sup> St pavement and reconstruction of non-ADA complaint sidewalks in the next 5 years
- Maintain emergency vehicle access during construction
- Continued coordination/collaboration with agencies, stakeholders and the public during engineering/design and environmental review





# Construction Considerations







# Construction Considerations





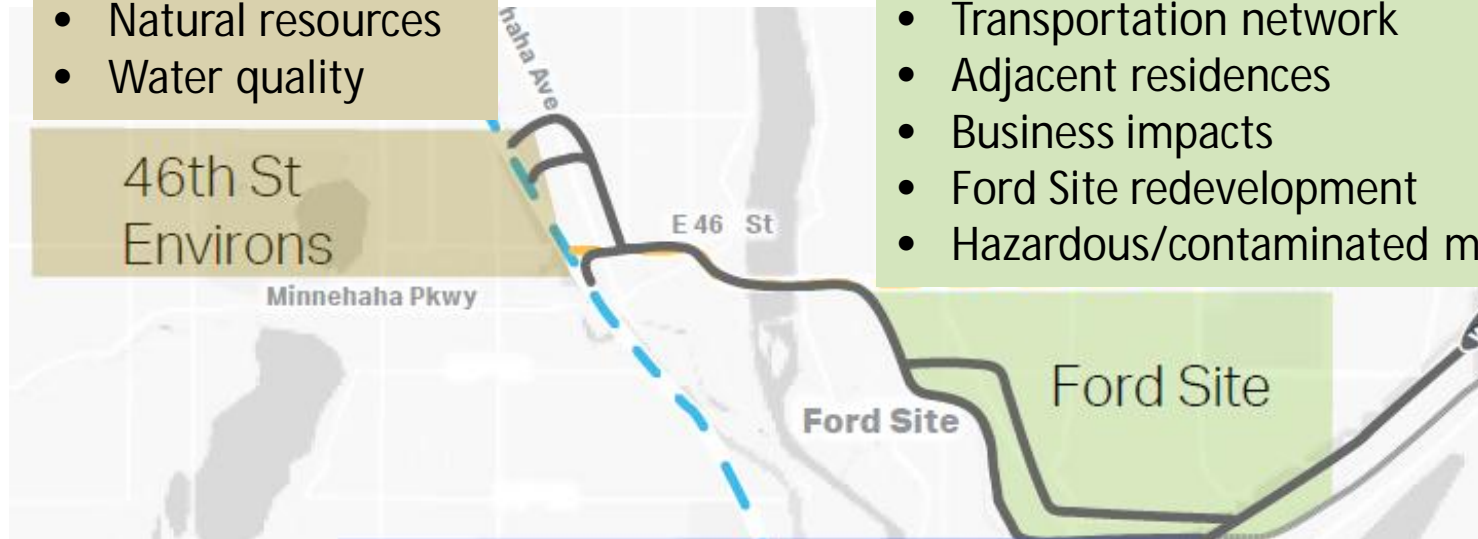
# Construction Considerations



- TH 55/46<sup>th</sup> St/Blue Line operations
- Noise
- Vibration
- Safety
- Access to park
- Natural resources
- Water quality

46th St  
Environs

- Transportation network
- Adjacent residences
- Business impacts
- Ford Site redevelopment
- Hazardous/contaminated material





# Construction Considerations



- Park
- Noise
- vibration
- Access to transit by transit-dependent population

W. 7th (Alton - River)

Minneapolis - St. Paul Airport

MSP

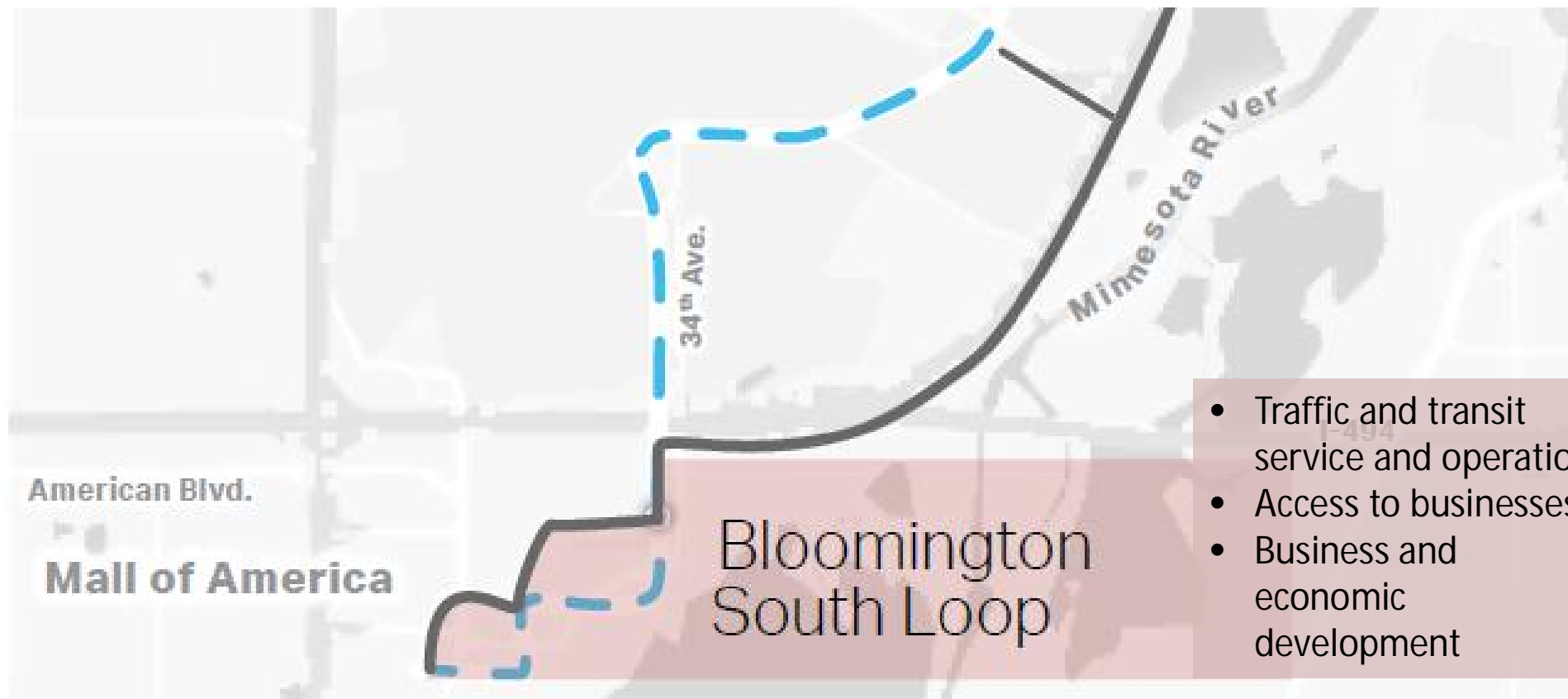
- Traffic and circulation
- Employment and development
- Transportation choices
- Runway protection zone
- Safety and security

Hwy 5 / Fort Snelling

- Historic Fort Snelling
- Mississippi River
- National park
- View shed
- Noise
- Vibration



# Construction Considerations



- Traffic and transit service and operations
- Access to businesses
- Business and economic development



# Construction Considerations



- No-Build includes rehabilitation of W. 7<sup>th</sup> St pavement and reconstruction of non-ADA complaint sidewalks in the next 5 years
- Maintain emergency vehicle access during construction
- Continued coordination/collaboration with agencies, stakeholders and the public during engineering/design and environmental review

## Findings

- Relative to the No-Build Alternative
  - Arterial BRT – Least potential impact
  - BRT – Moderate potential impact
  - Rail – Greatest potential impact



# Discussion: Construction Considerations







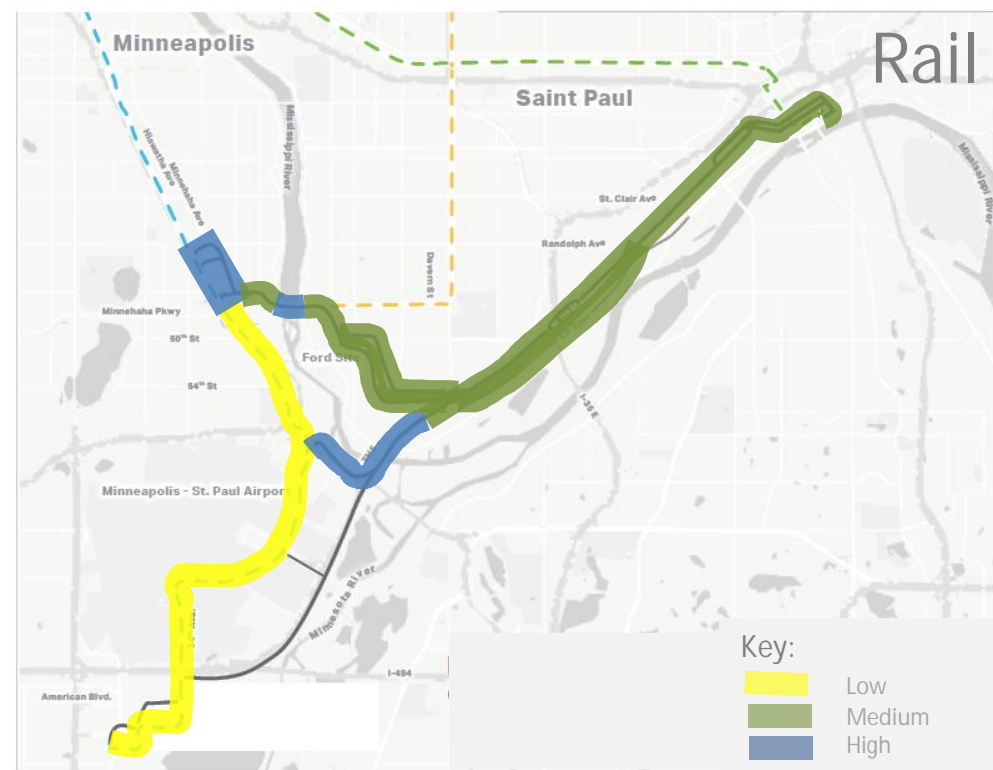
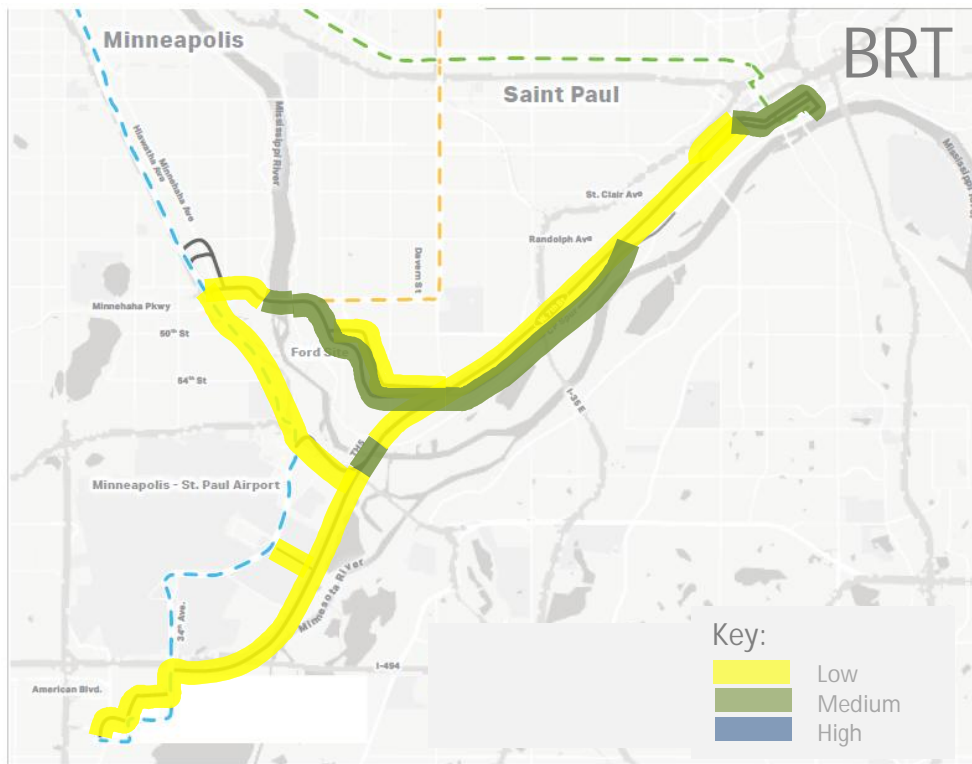
# Visual



## Definition:

Qualitative assessment of potential visual impacts. Determine important views and then assess potential impacts. Effects and mitigation will be determined during a future environmental review.

## Findings:





# Discussion: Visual





Draft Results: Environmental Evaluation

## 4. MISSISSIPPI RIVER



# Mississippi River



## Definition:

- Qualitative assessment based on NPS sequencing guidance (focus on existing crossing locations)
  - Highway 5 Bridge
  - Ford Parkway Bridge
- Other related criteria: Mississippi River Crossing, Visual, Cultural, Parkland Resources, and Capital Cost.
- Determine effects during future environmental review

## Findings:

- Hwy 5/Fort Snelling
  - BRT: Use existing
  - Rail: Reconstruct existing for traffic, rail, pedestrian, and bike or
  - Rail: Build new adjacent to existing TH 5 bridge for transit, pedestrian, and bike
- Ford Parkway/Ford Site
  - BRT: Use existing
  - Rail: Reconstruct existing



# Discussion: Mississippi River

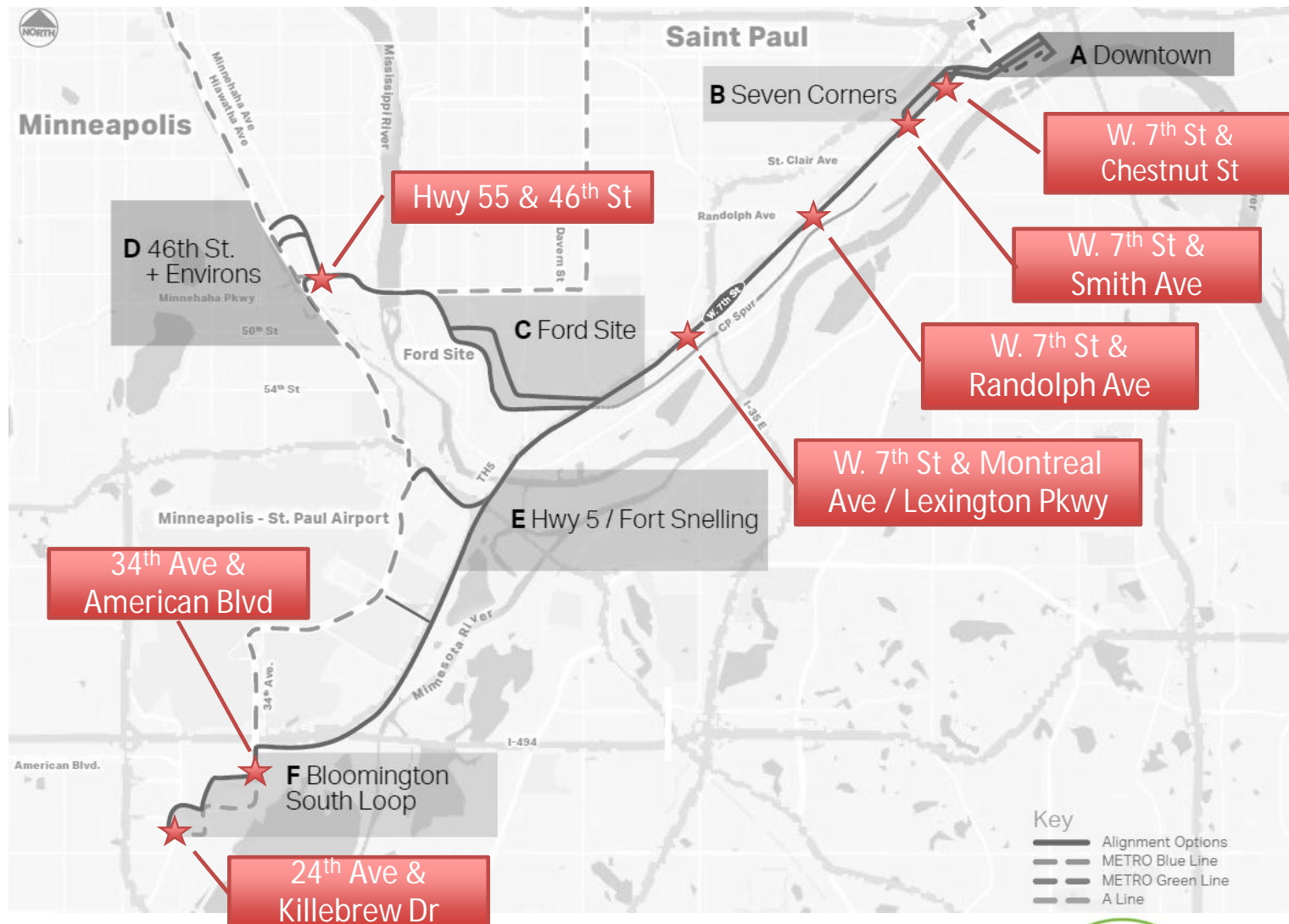


Draft Results: Transportation Evaluation

## 5. TRAFFIC, SAFETY



# Traffic





# Traffic

## W. 7<sup>th</sup> St



### Findings:

- Transit in shared-use would provide better Level of Service (LOS) along corridor relative to dedicated lanes
  - Dedicated lanes increased intersection delay by up to 5x shared-use lanes
  - Dedicated lanes increase travel time through the four intersections (Chestnut, Smith, Randolph, Montreal/Lexington) by 1.5 – 3 minutes.
- Side Running vs. Center Running provide similar traffic operations for both Dedicated Lanes and Shared Lanes
- Transit travel time
  - Shared-use and dedicated lanes would provide similar transit travel time through the corridor
  - Dedicated lanes would provide a more reliable transit travel time





# Traffic



## Hwy 55 & 46<sup>th</sup> St

### Findings:

- Hwy 55 & 46<sup>th</sup> St will operate at a similar LOS with BRT.
- Rail crossing would be grade separated at this location.

## Bloomington South Loop

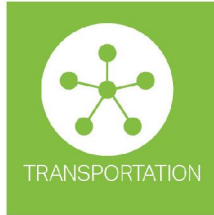
### Findings:

- 34<sup>th</sup> Ave & American Blvd and 24<sup>th</sup> Ave & Killebrew Dr. operate at LOS C or better in the AM, PM and Saturday peak conditions.
  - BRT is not anticipated to cause notable changes to traffic operations at these locations.
  - Traffic operations will decrease during peak seasonal shopping times
  - Rail operations at-grade across 24<sup>th</sup> Ave. will increase delay

Source: Metro Transit; City of Bloomington, 2016-2017



# Discussion: Traffic





# Safety



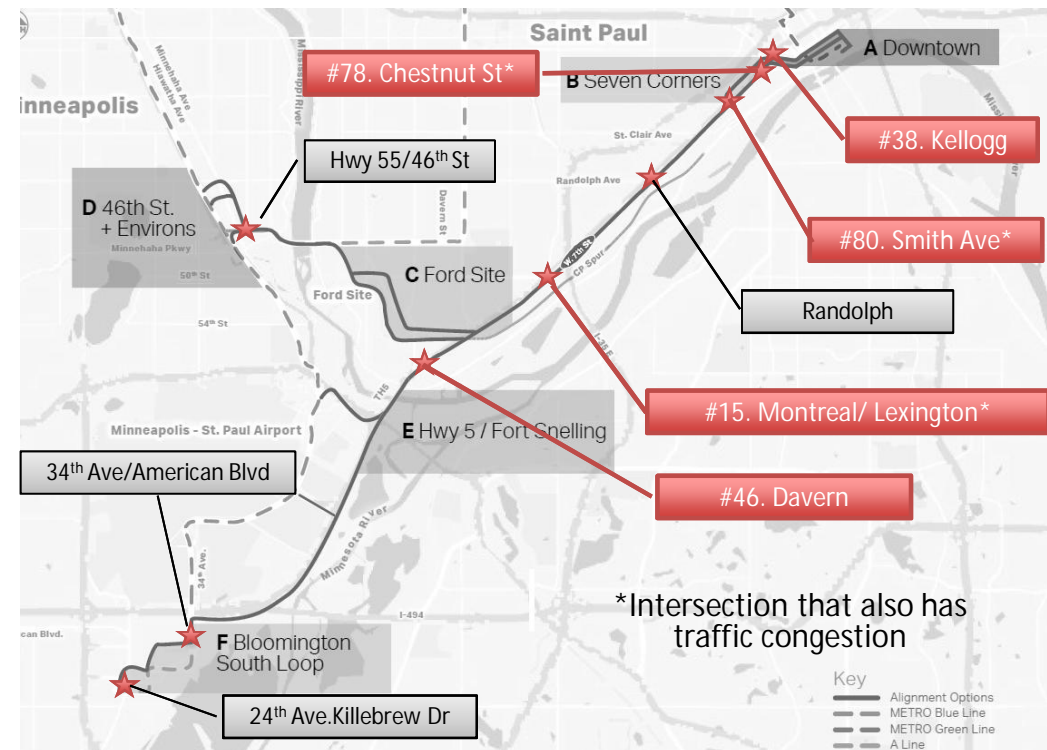
## W. 7<sup>th</sup> St 5-Year Crash History (2011-2015)

### Definition:

- Identify access points and intersections with frequent crashes

### Findings:

- Saint Paul: ~50% of crashes were at intersections
- W. 7<sup>th</sup> St: 64% of crashes were at intersections
  - 3.9% of total crashes were high severity (fatalities and obvious injuries) and 4.3% involved pedestrian or bicycle
- #s on map = W. 7<sup>th</sup> intersection's rank in Saint Paul's Top 100 crash intersections





# Safety



## Findings:

- CP Rail alternatives would have fewer access impacts
- Fatal crash rates:



Automobile

0.013 fatal crashes per  
million vehicle miles traveled

VS.



Bus

0.004 fatal crashes per  
million bus miles traveled

3.2x



Automobile

0.013 fatal crashes per  
million vehicle miles traveled

VS.



Rail

0.009 fatal crashes per  
million rail miles traveled

1.4x

- LPA would require additional analysis to identify potential mitigation measures

Source: FTA

For TAC Review  
Work In Progress; Subject To Change Without Notice



# Discussion: Safety



Draft Results: 'The Big Three'

## 6. RIDERSHIP AND COSTS





# 2040 Ridership Forecasts

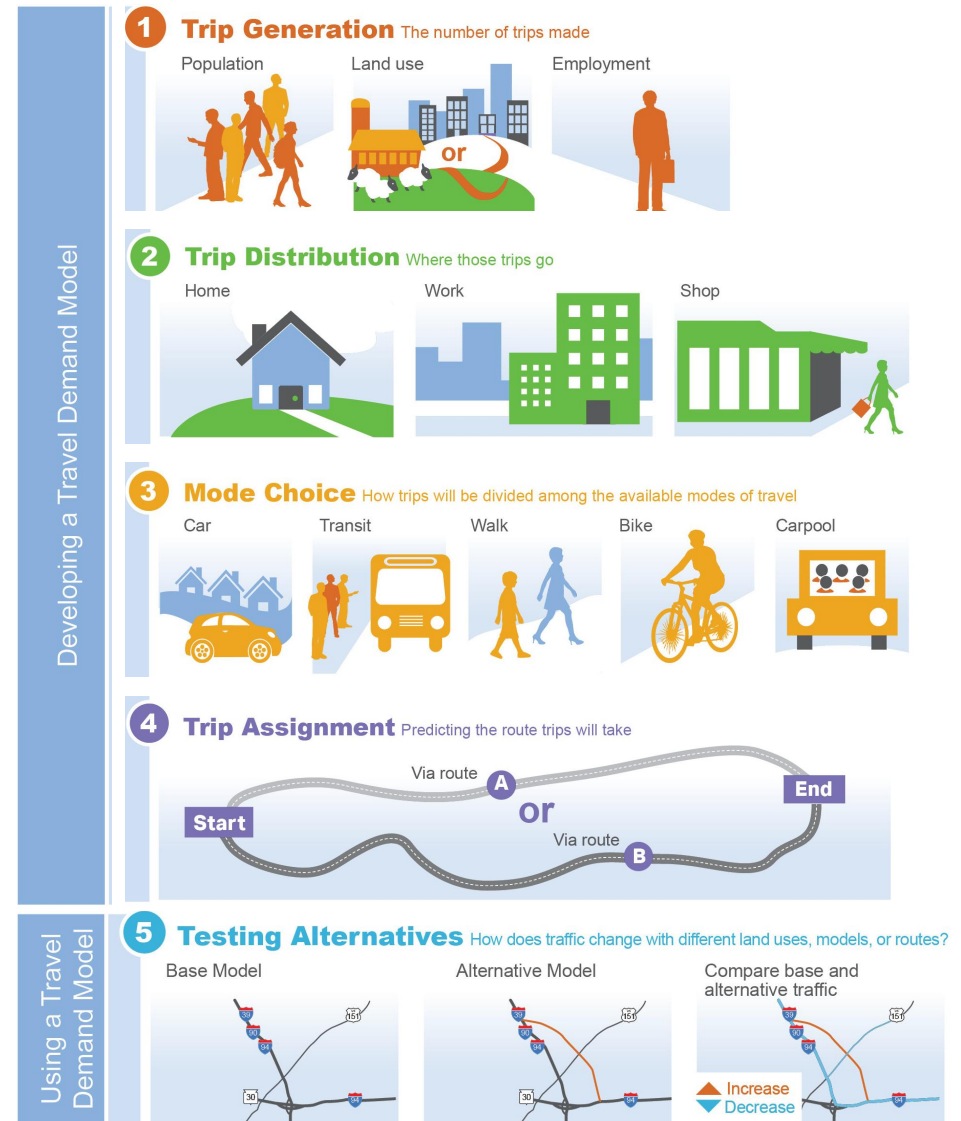


## Definition:

- Number of transit rides on MPA on average 2040 weekday

## Methodology:

- Twin Cities model validated to Riverview Corridor
  - Travel time
  - Trips (auto and transit)
  - MSP trips
  - MOA survey
- Other Inputs
  - 2040 population and employment
  - Conceptual service plans





# 2040 Forecasted Ridership



## Findings:

- Rail or BRT
  - Rail = 6,000-7,000 more trips than BRT
  - Rail = 300-500 more new riders than BRT
  - Rail = 900-1,300 more trips for transit-dependent persons than BRT
  - BRT facilities could be used by other routes – providing benefits to riders of those routes
- Hwy 5 or Ford Pkwy
  - Hwy 5 = 1,200-1,600 more trips than Ford Pkwy
  - Hwy 5 = 700-900 more new riders than Ford Pkwy
  - Hwy 5 = 200-700 more trips for transit-dependent persons than Ford Pkwy



# Discussion: 2040 Ridership Forecasts



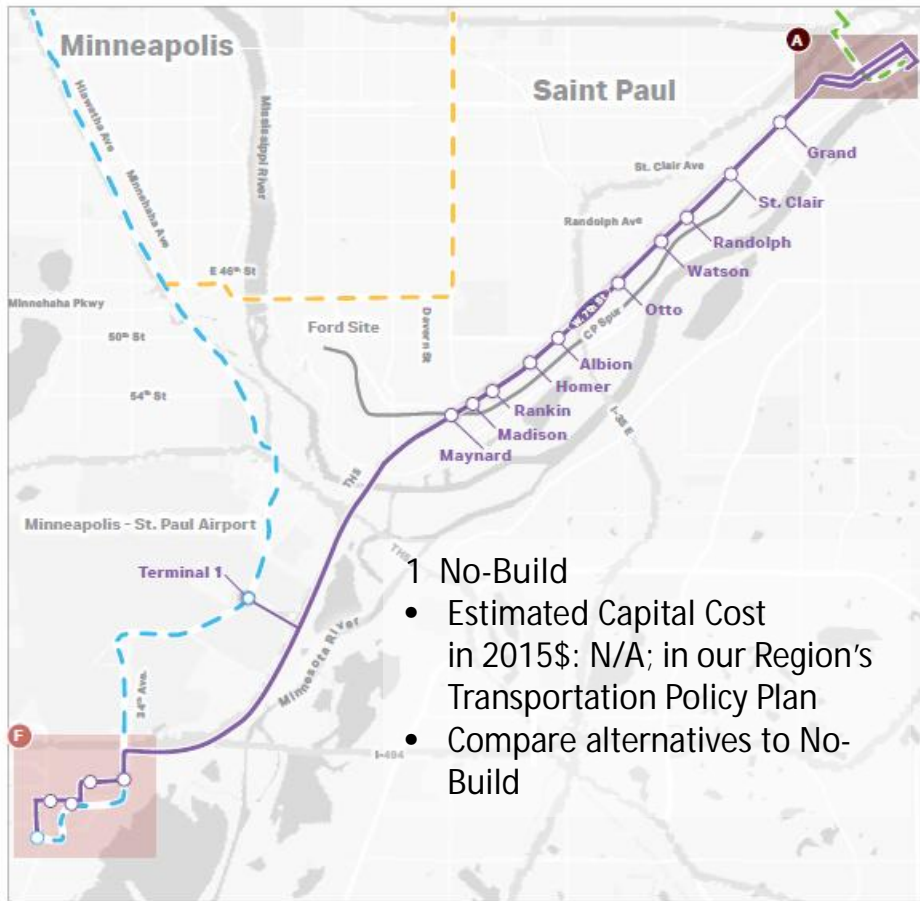


# Draft Capital Cost Estimates

## Methodology and Assumptions

- Order-of-magnitude estimates in Base Year \$ (2015 \$; without inflation)
- Developed for purposes of comparison
- Cost estimates are not the cost to deliver any one of these Most Promising Alternatives as none of them will be open today
- Cost to deliver is the base year cost estimate inflated by 3.5% compounded annually to the year of expenditure
  - A \$500MM project opening today will cost approximately \$729MM to open in 2025
  - A \$1B project opening today will cost approximately \$1.46MM to open in 2025

## 1 No Build (Route 54)



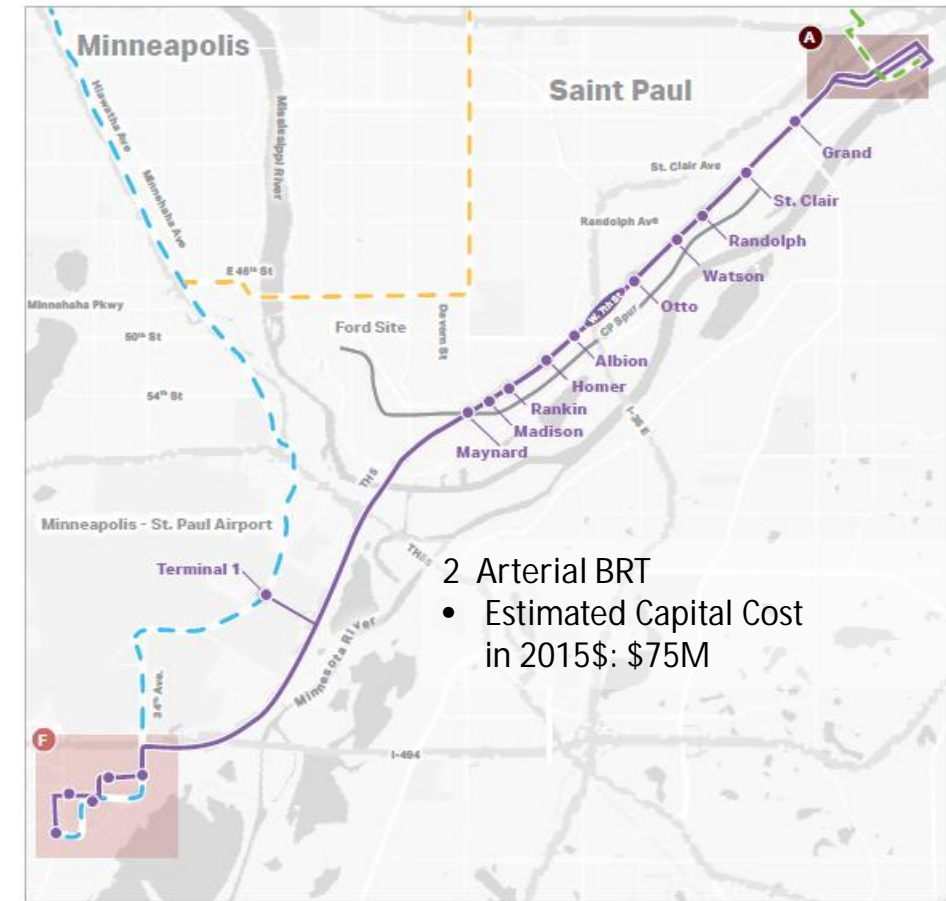
- 1 No-Build
- Estimated Capital Cost in 2015\$: N/A; in our Region's Transportation Policy Plan
  - Compare alternatives to No-Build

Key

- Existing Station / Stop
- Potential Station / Stop

- Route 54
- METRO Blue Line
- METRO Green Line
- A Line

## 2 Arterial BRT



- 2 Arterial BRT
- Estimated Capital Cost in 2015\$: \$75M

Key

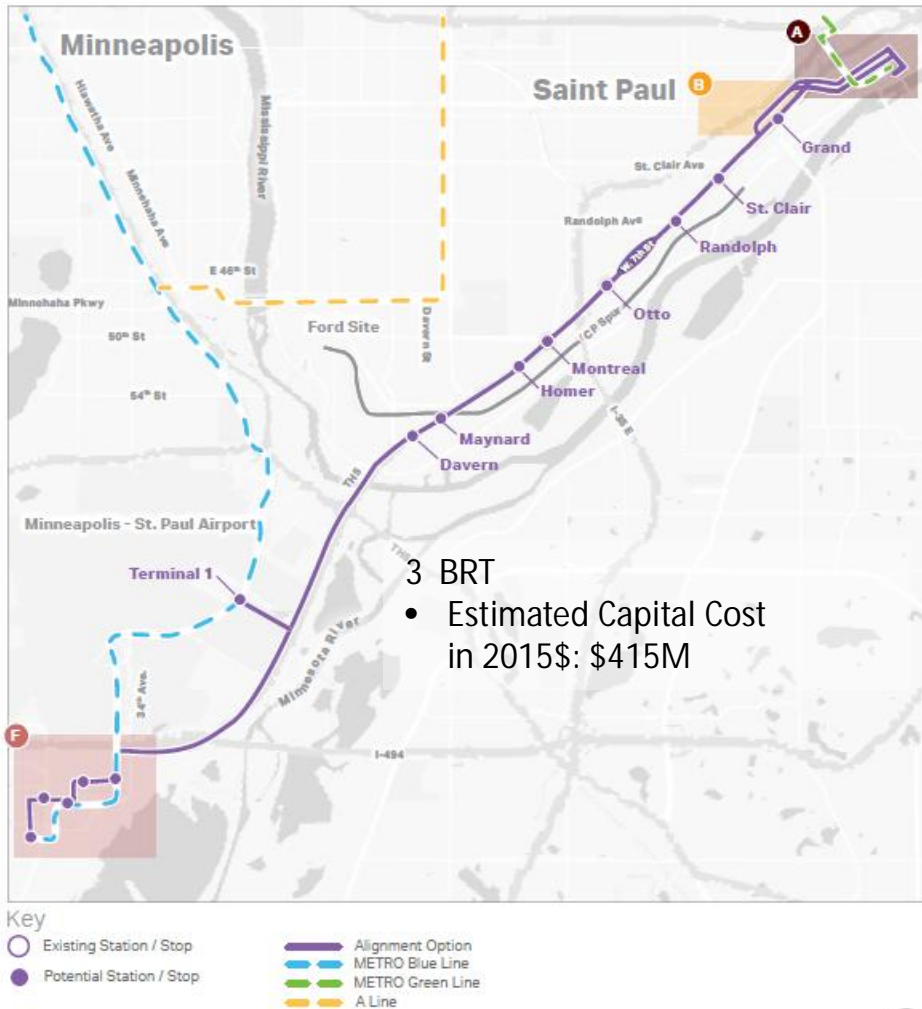
- Existing Station / Stop
- Potential Station / Stop

- Alignment Option
- METRO Blue Line
- METRO Green Line
- A Line

\* These draft cost estimates shown assume that the alternative is in operation today. They do not include inflation costs.

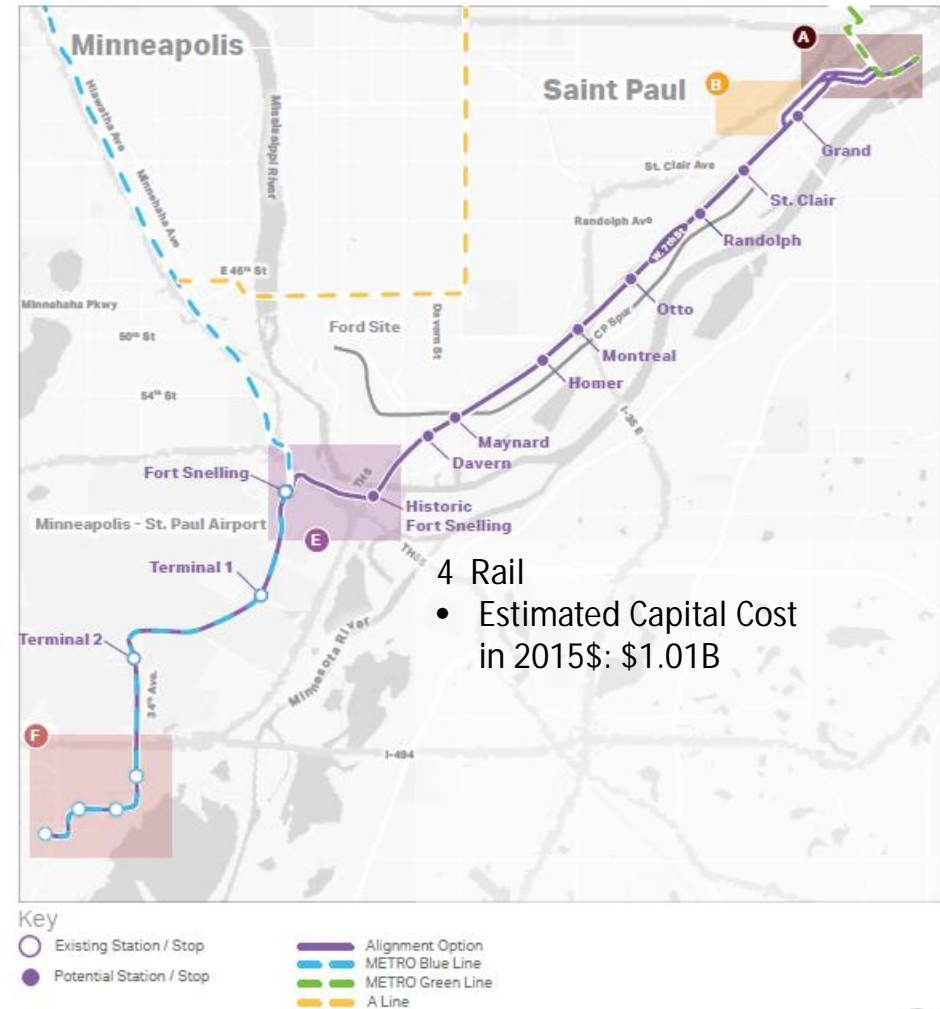


### **3 BRT: W. 7th - Hwy 5 / Fort Snelling**



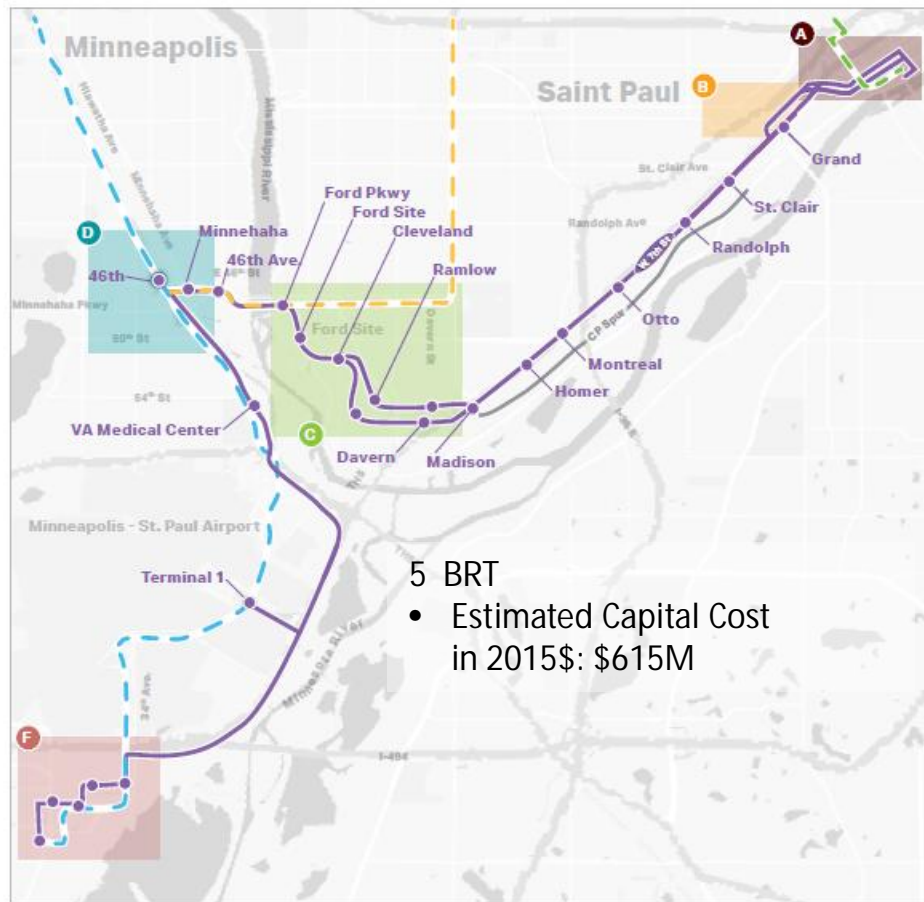
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#### 4 Rail: W. 7th - Hwy 5 / Fort Snelling



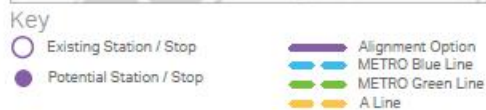


## 5 BRT: W. 7th - Ford Site

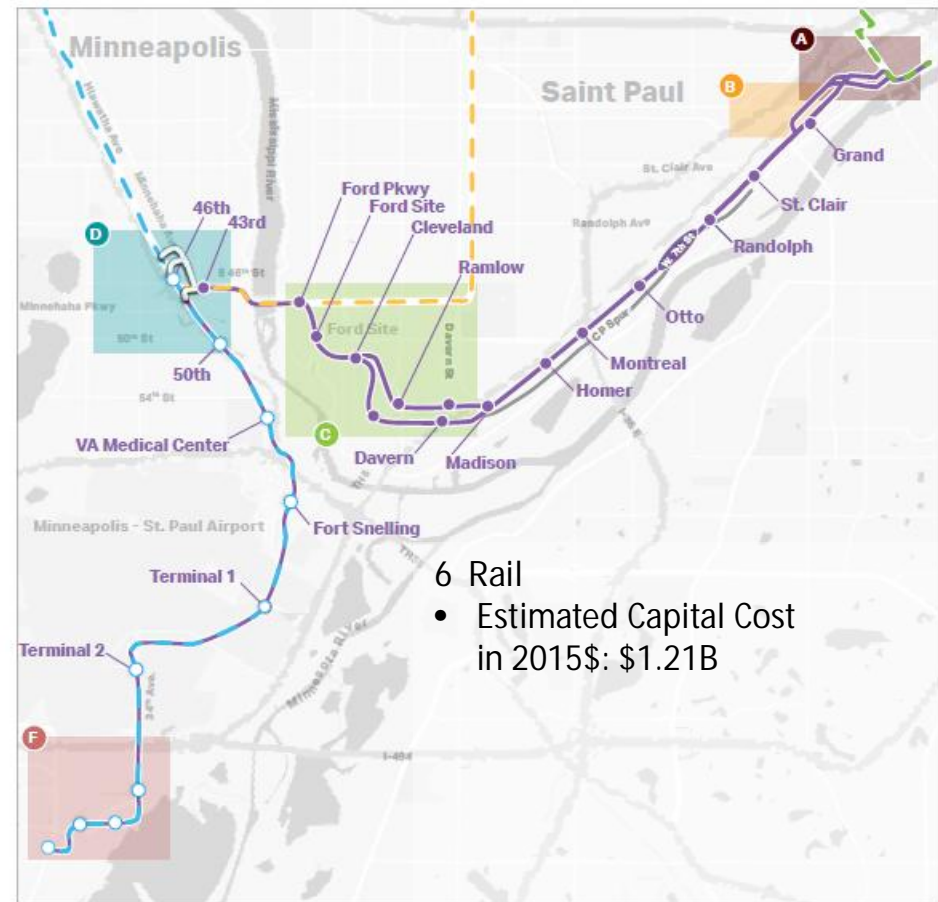


5 BRT

- Estimated Capital Cost in 2015\$: \$615M

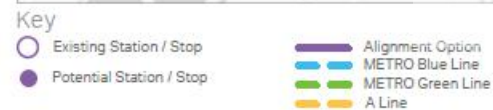


## 6 Rail: W. 7th - Ford Site



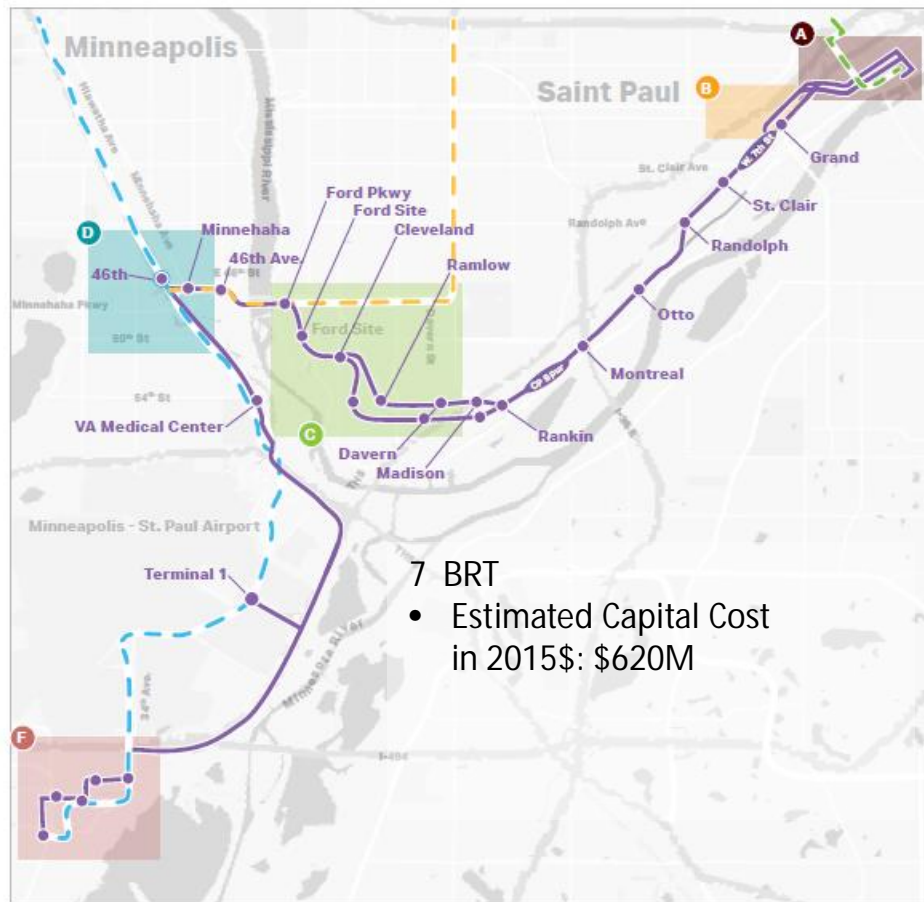
6 Rail

- Estimated Capital Cost in 2015\$: \$1.21B



\* These draft cost estimates shown assume that the alternative is in operation today. They do not include inflation costs.

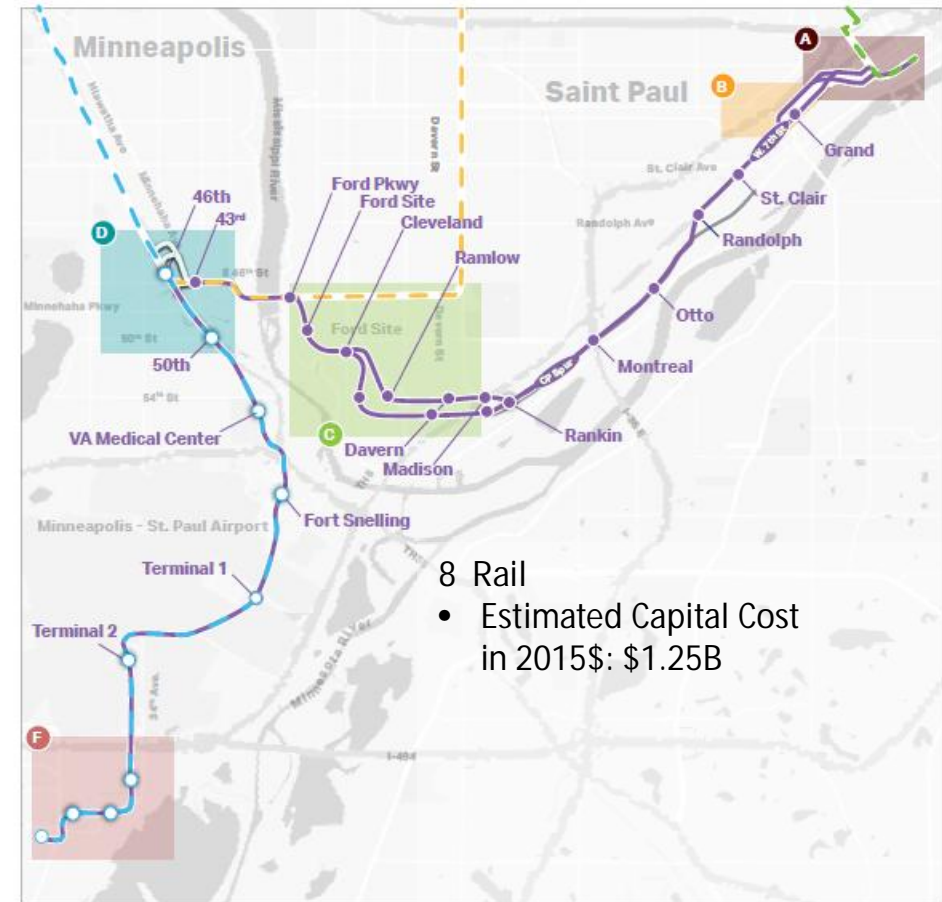
## 7 BRT: W. 7th - CP Spur - Ford Site



- 7 BRT
- Estimated Capital Cost in 2015\$: \$620M



## 8 Rail: W. 7th - CP Spur - Ford Site

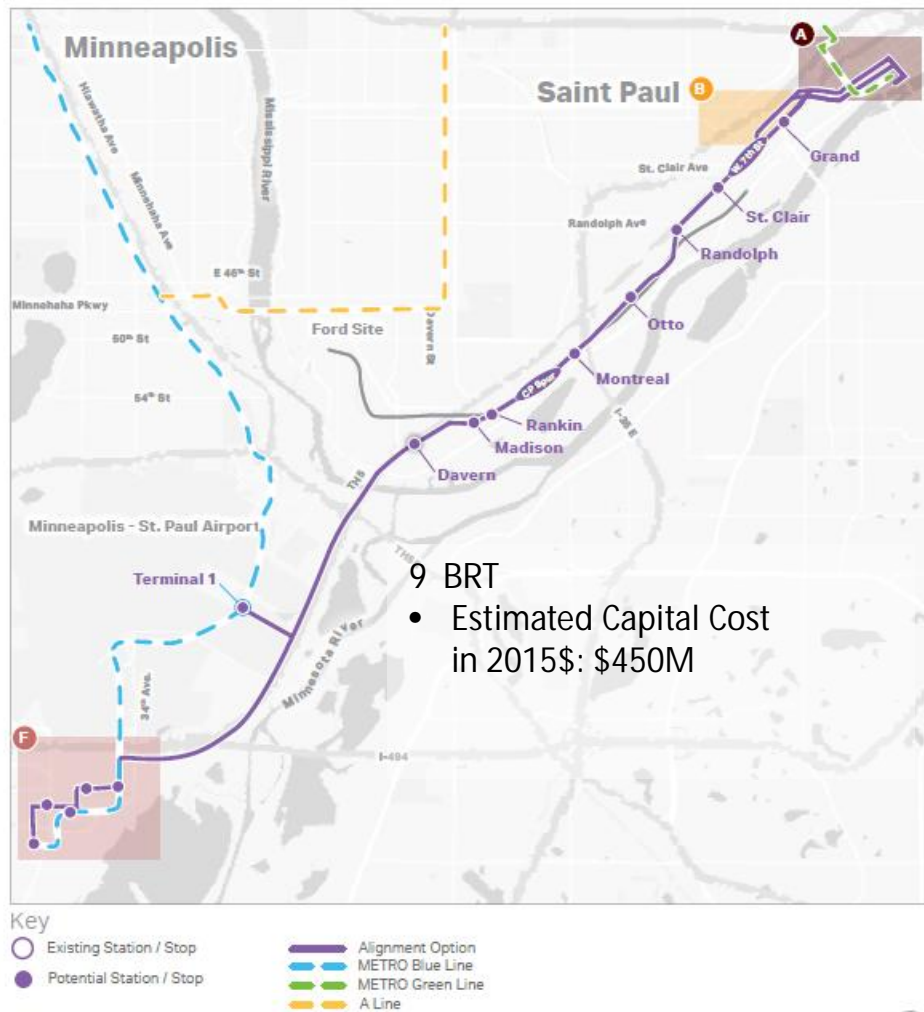


- 8 Rail
- Estimated Capital Cost in 2015\$: \$1.25B

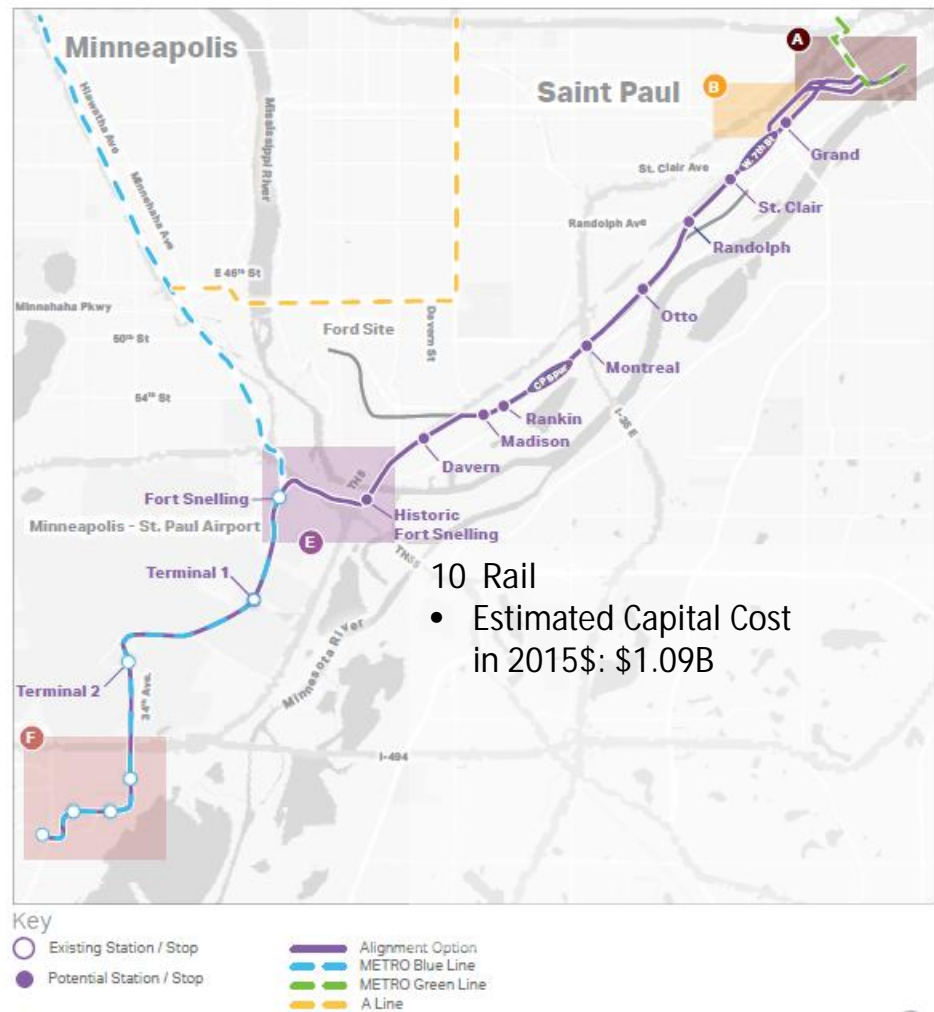


\* These draft cost estimates shown assume that the alternative is in operation today. They do not include inflation costs.

## 9 BRT: W. 7th - CP Spur - Hwy 5 / Fort Snelling



## 10 Rail: W.7th - CP Spur - Hwy 5 / Fort Snelling

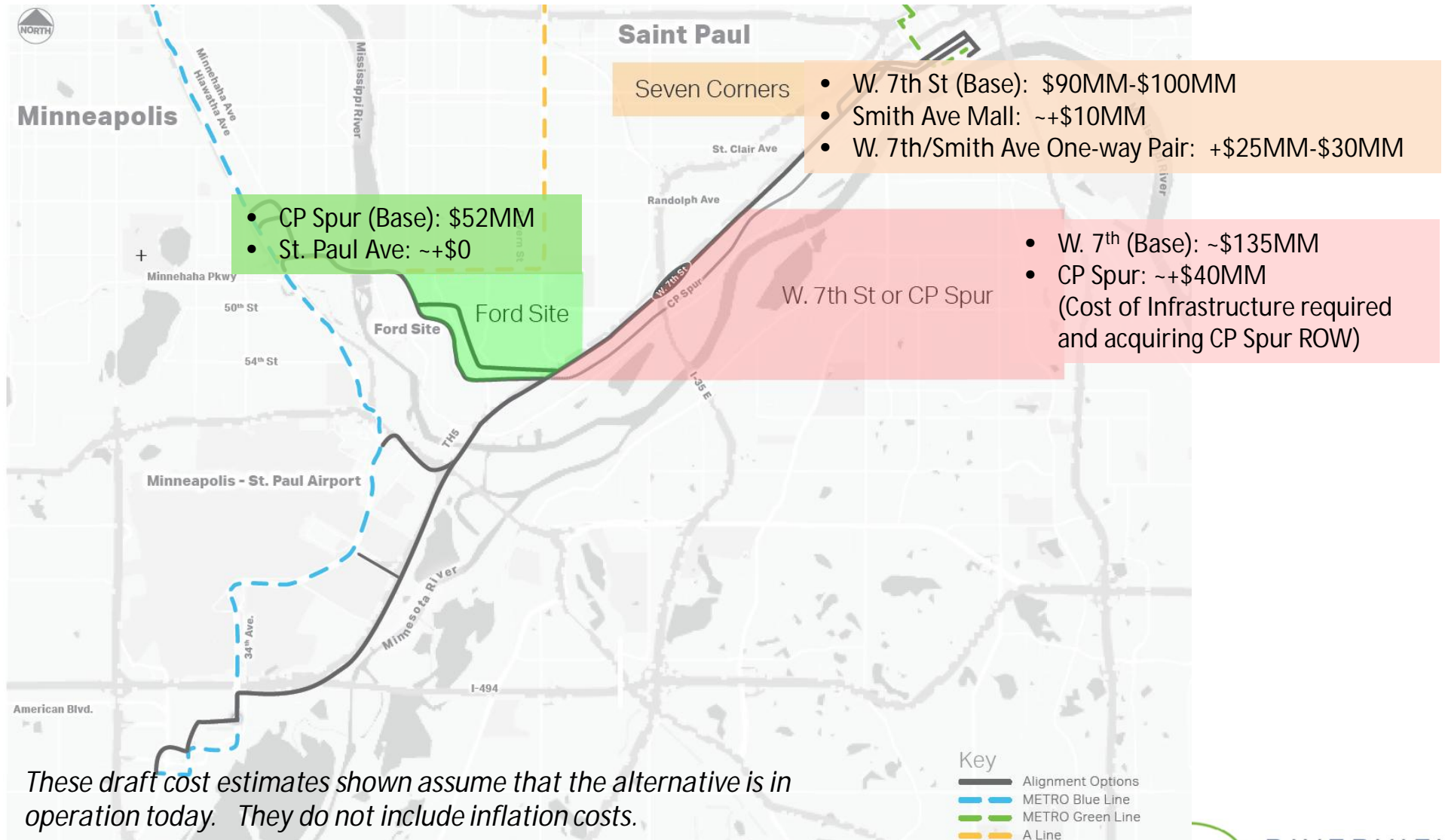


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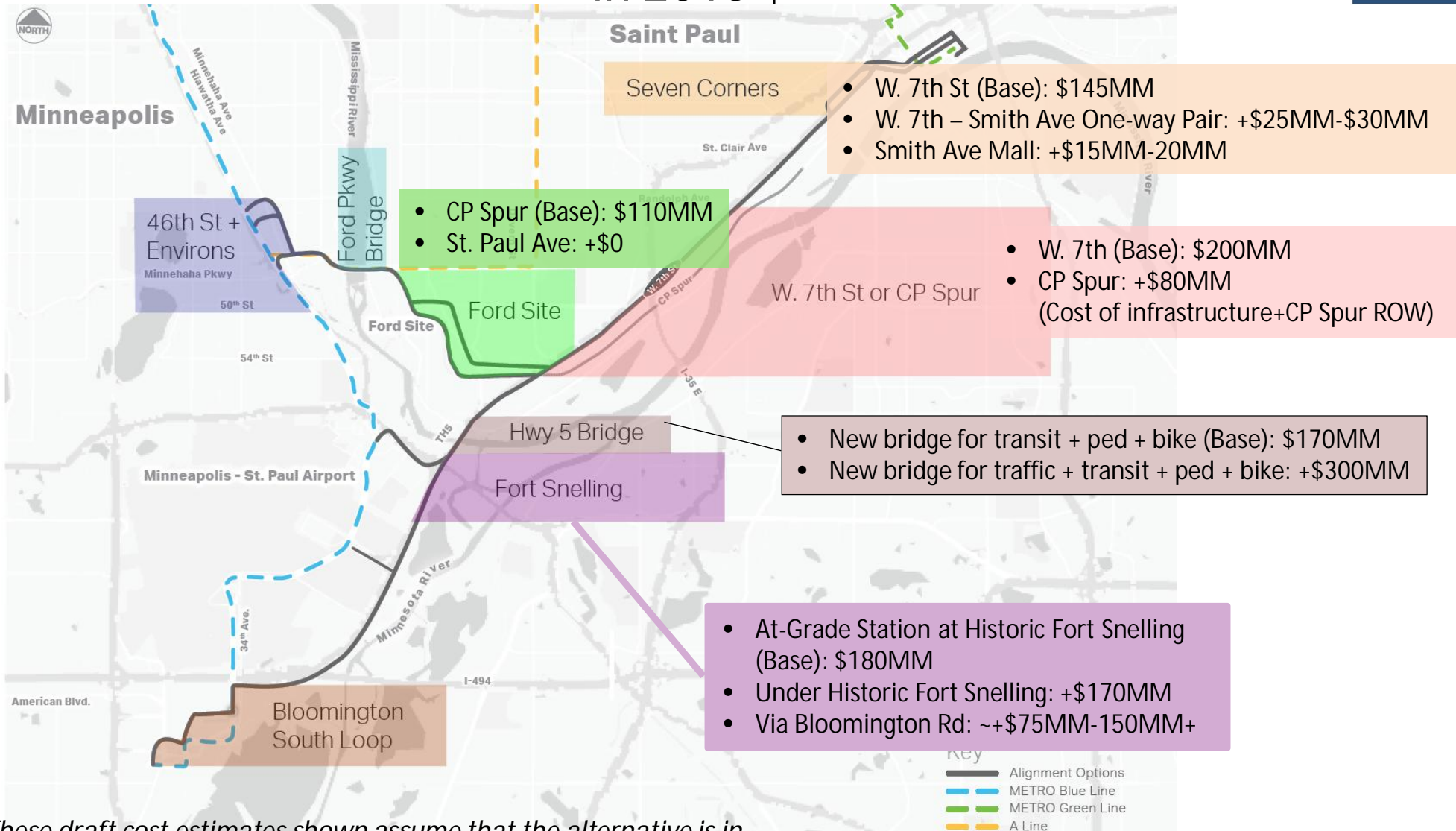


# BRT Sub-Options: Draft Capital Cost in 2015 \$





# Rail Sub-Options: Draft Capital Costs in 2015 \$

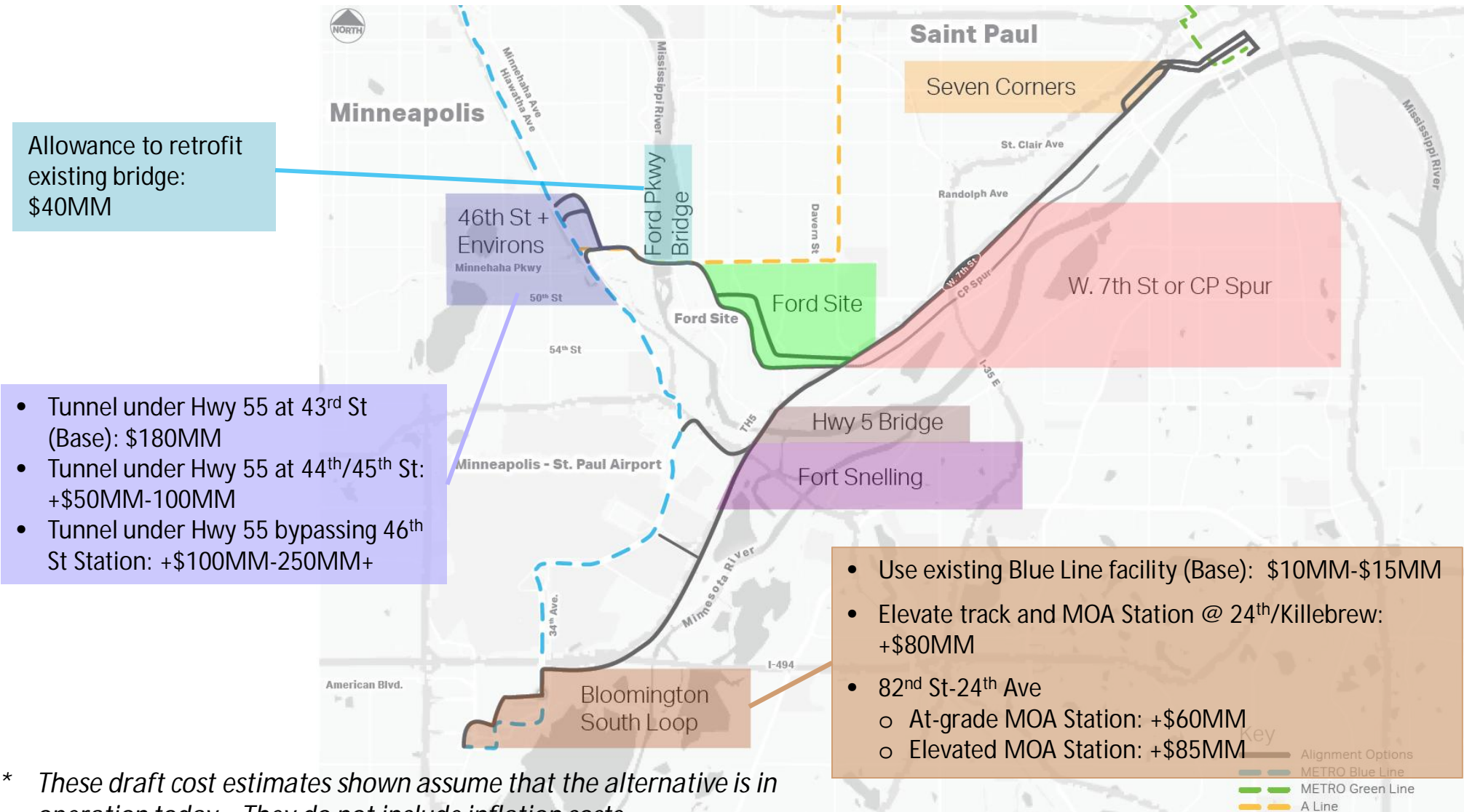


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# Rail Sub-Options: Draft Capital Costs in 2015 \$





# Discussion: Draft Capital Costs







# Operating Cost Estimates\*

## Methodology and Assumptions

- Operating
  - Unit prices are mode specific cost drivers from Metro Transit
  - In 2015\$ (no inflation)\*

\* *These draft cost estimates shown assume that the alternative is in operation today. They do not include inflation costs.*



# O&M Cost Comparison



Alternative	O&M Cost (FY15 \$, in M)
2. Arterial BRT	\$4.7
3. BRT W. 7 <sup>th</sup> – Hwy 5/Fort Snelling	\$10.4
4. Rail W. 7 <sup>th</sup> – Hwy 5/Fort Snelling	\$23.4
5. BRT W. 7 <sup>th</sup> – Ford Site	\$13.9
6. Rail W. 7 <sup>th</sup> – Ford Site	\$27.8
7. BRT W. 7 <sup>th</sup> – CP Spur – Ford Site	\$13.9
8. Rail W. 7 <sup>th</sup> – CP Spur – Ford Site	\$28.1
9. BRT W. 7 <sup>th</sup> – CP Spur – Hwy 5/Fort Snelling	\$10.4
10. Rail W. 7 <sup>th</sup> – CP Spur – Hwy 5/Fort Snelling	\$23.5

*\* ABRT assumes same frequency as improved Route 54 and 2 minute travel time savings end to end from TSP; O&M costs associated with reduced revenue hours, new station platforms, and TSP intersection infrastructure*

## Findings:

- Rail costs \$13m - \$14m more per year than BRT
- Ford Site costs \$3m - \$4m more per year than Hwy 5

*\* These draft cost estimates shown assume that the alternative is in operation today. They do not include inflation costs.*



# Discussion: O&M Cost

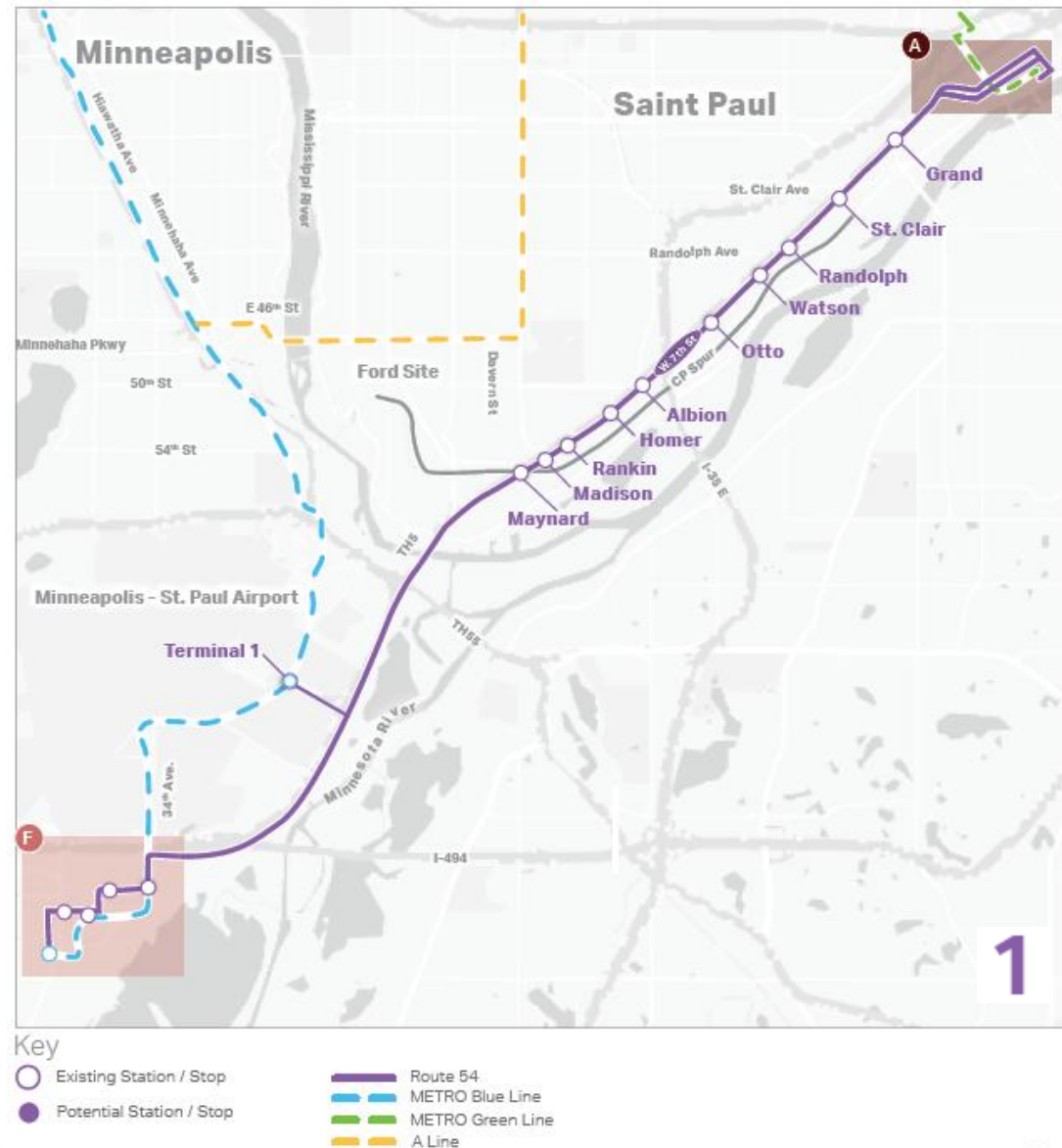


# 7. RECAP OF ENTIRE DRAFT EVALUATION

# 1 No-Build (Route 54)

- Avg Weekday Boardings (2040): 10,700
- New Riders: N/A
- Boardings by Transit Dependent Persons: N/A
- Capital Cost: N/A
- O&M Cost: N/A
- Cost per Rider: N/A

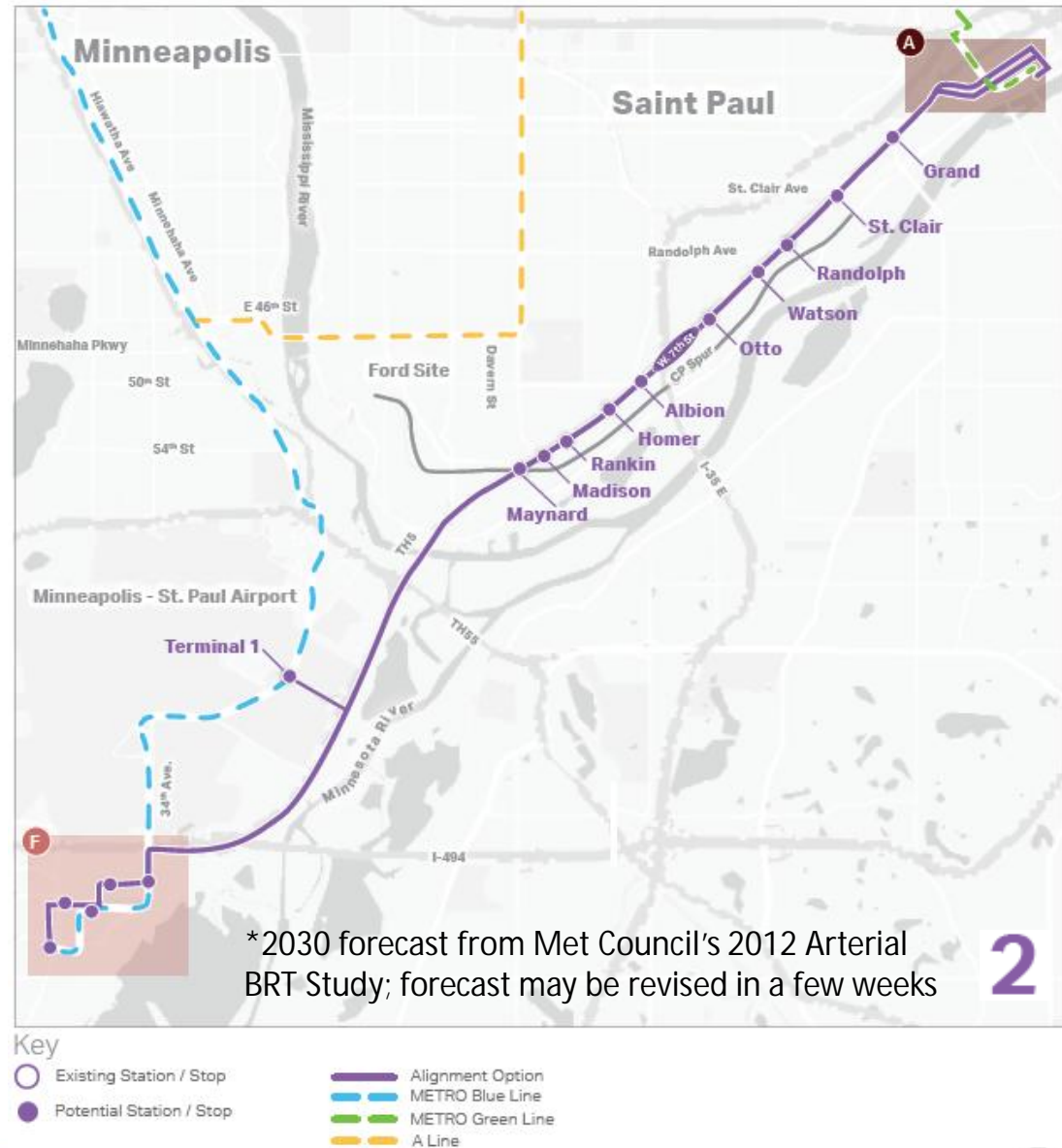
\* These draft cost estimates shown assume that the alternative is in operation today. They do not include inflation costs.



## 2 Arterial BRT

- Avg Weekday Boardings (2030): 7,100\*
- New Riders: TBD
- Boardings by Transit Dependent Persons: TBD
- Capital Cost (2015 \$): \$75M
- O&M Cost (2015 \$): \$4.7M
- Cost per Rider: In progress

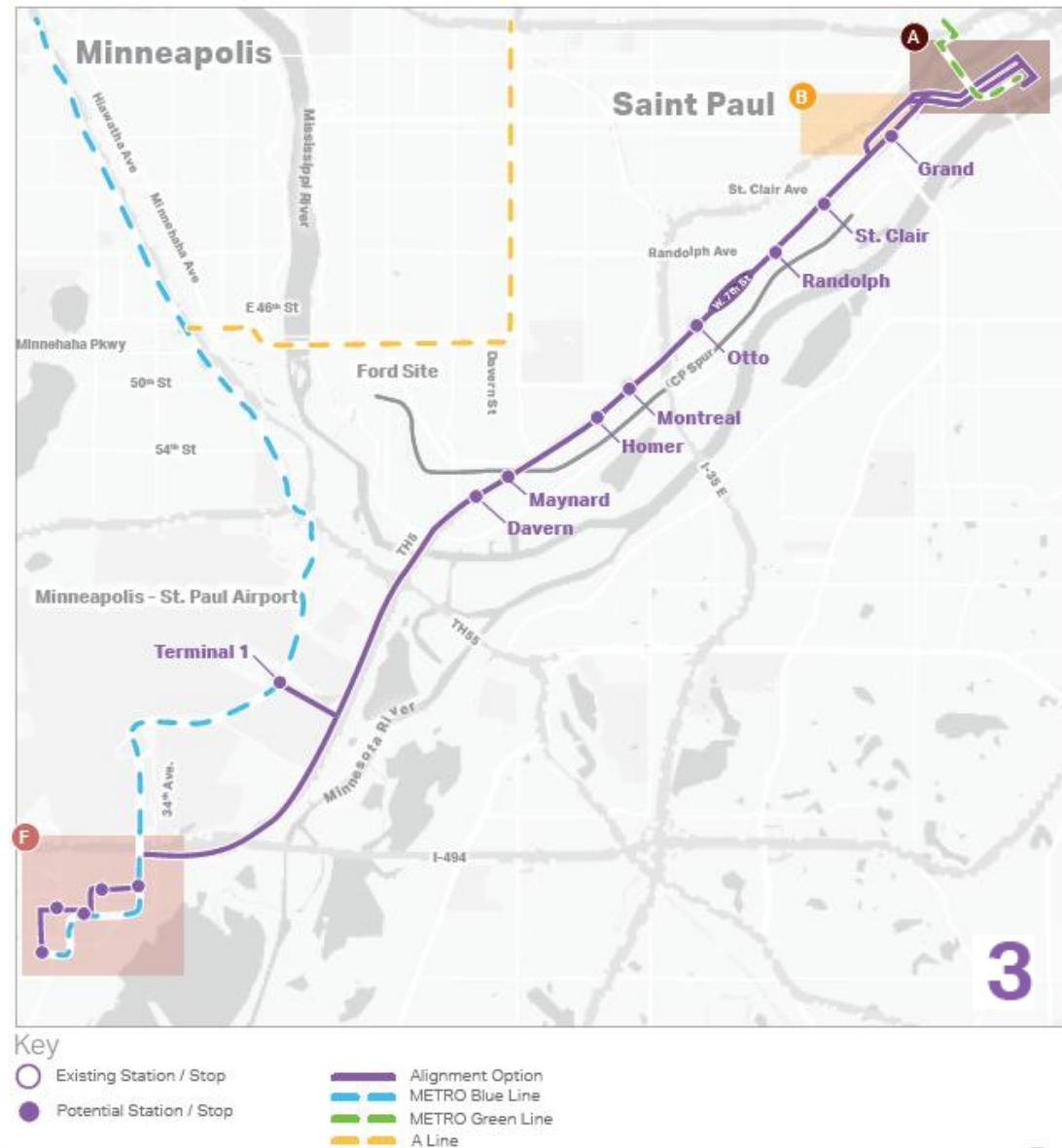
\* These draft cost estimates shown assume that the alternative is in operation today. They do not include inflation costs.



# 3 BRT: W. 7<sup>th</sup> – Hwy 5/Fort Snelling

- Avg Weekday Boardings (2040): 14,100
- New Riders(2040): 2,300
- Boardings by Transit Dependent Persons(2040): 3,700
- Capital Cost(2015 \$): \$415M
- O&M Cost(2015 \$): \$10M
- Cost per Rider: In progress

\* These draft cost estimates shown assume that the alternative is in operation today. They do not include inflation costs.

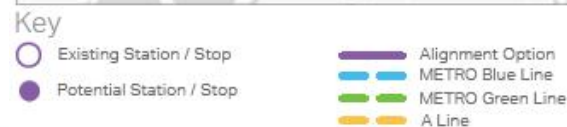
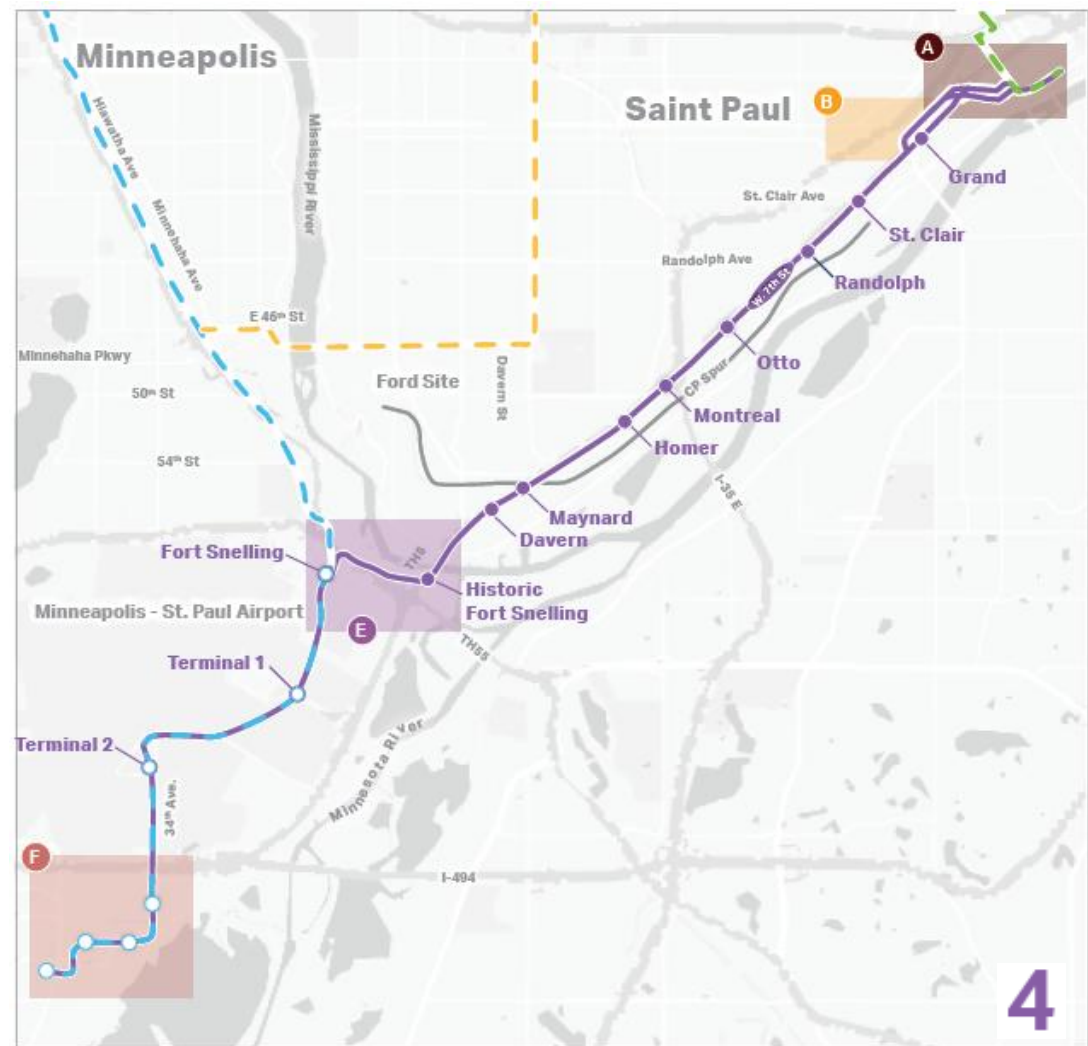




# 4 Rail: W. 7<sup>th</sup> – Hwy 5/Fort Snelling

- Avg Weekday Boardings (2040): 20,400
- New Riders(2040): 2,700
- Boardings by Transit Dependent Persons(2040): 4,600
- Capital Cost(2015 \$): \$1.01B
- O&M Cost(2015 \$): \$23M
- Cost per Rider: In progress

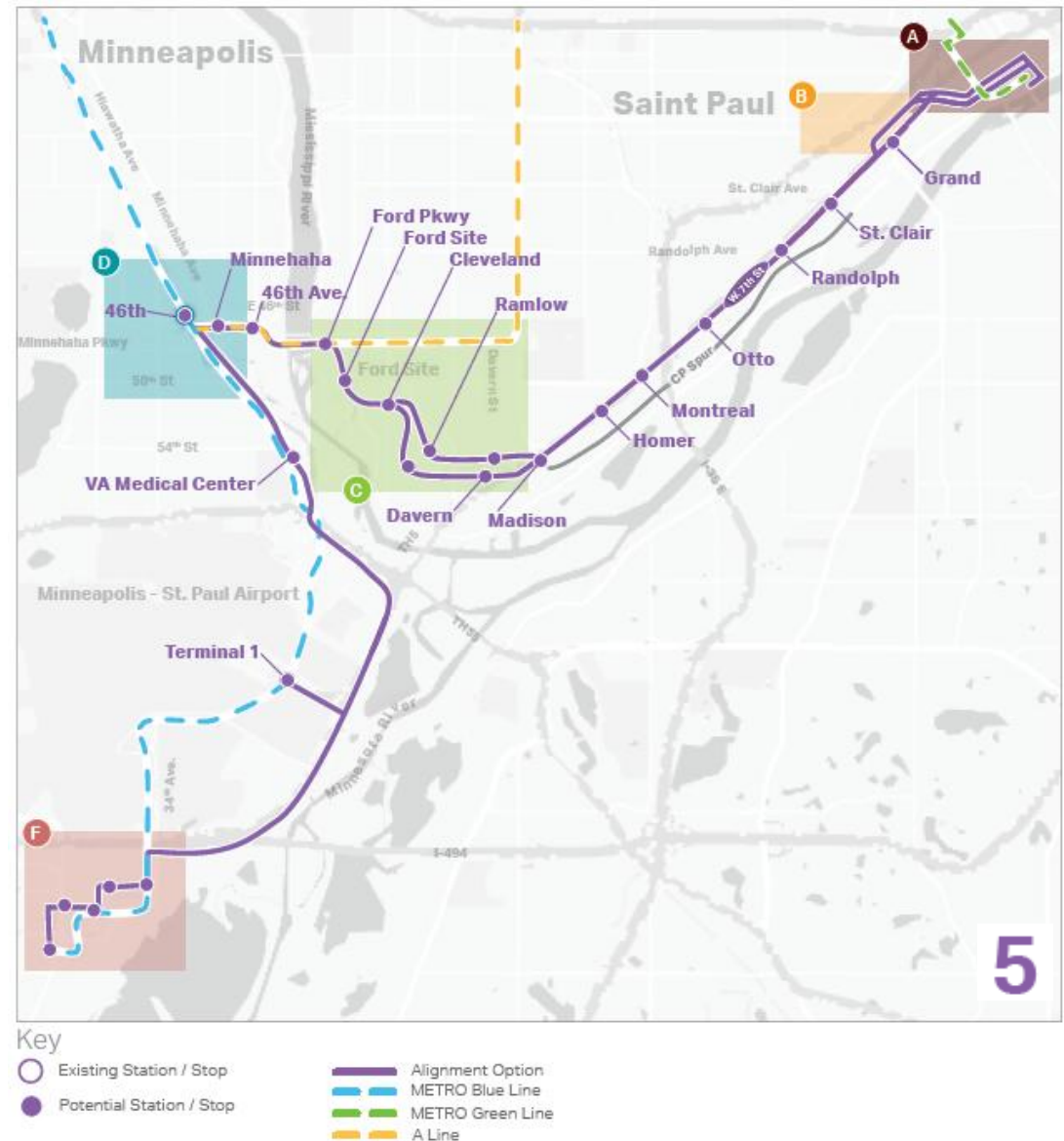
\* These draft cost estimates shown assume that the alternative is in operation today. They do not include inflation costs.



# 5 BRT: W. 7<sup>th</sup> – Ford Site

- Avg Weekday Boardings (2040): 12,400
- New Riders(2040): 1,300
- Boardings by Transit Dependent Persons(2040): 3,300
- Capital Cost(2015 \$): \$615M
- O&M Cost(2015 \$): \$14M
- Cost per Rider: In progress

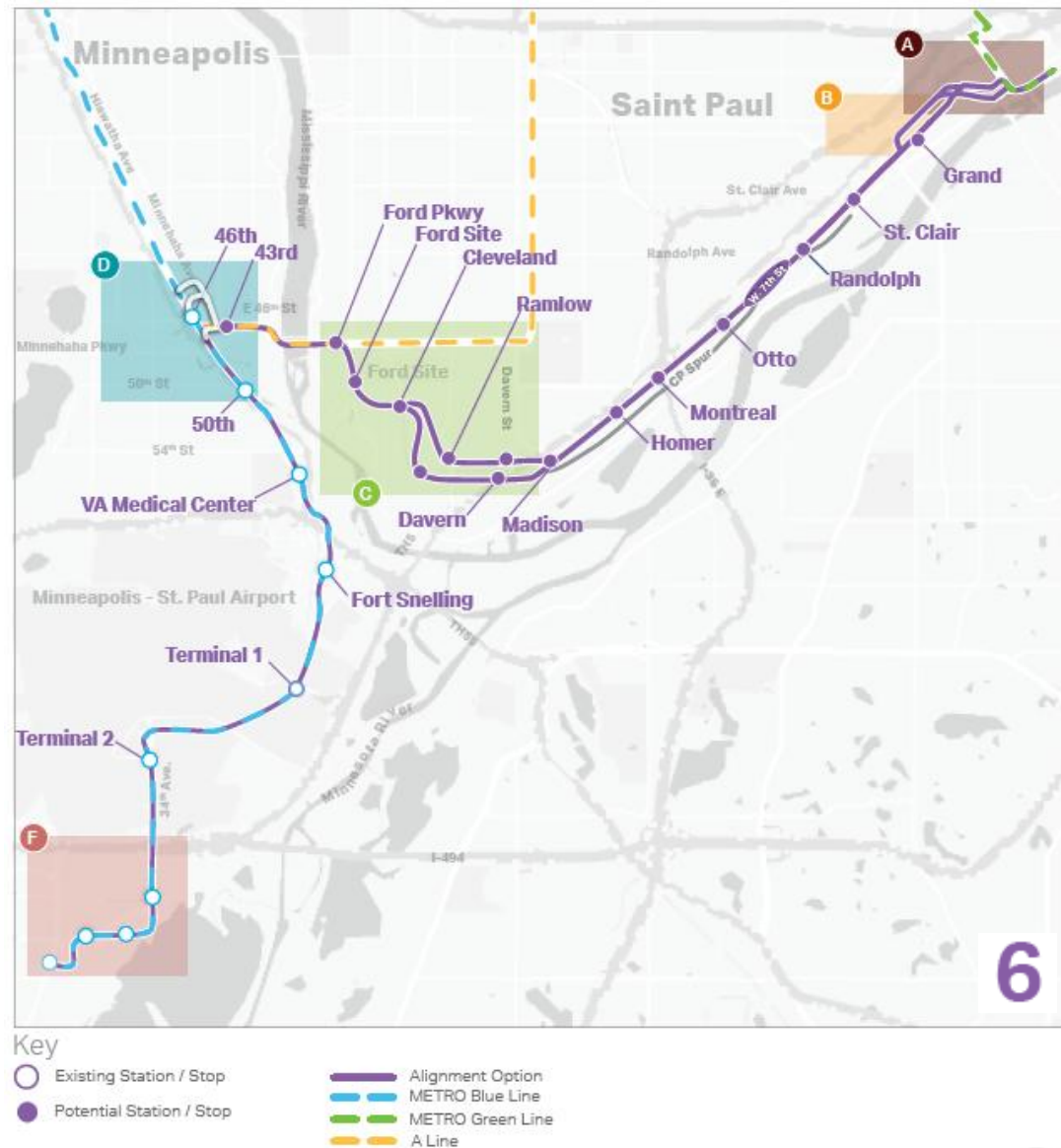
\* These draft cost estimates shown assume that the alternative is in operation today. They do not include inflation costs.



## 6 Rail: W. 7<sup>th</sup> – Ford Site

- Avg Weekday Boardings (2040): 19,000
- New Riders(2040): 1,800
- Boardings by Transit-Dependent Persons(2040): 4,400
- Capital Cost(2015 \$): \$1.21B
- O&M Cost(2015 \$): \$28M
- Cost per Rider: In progress

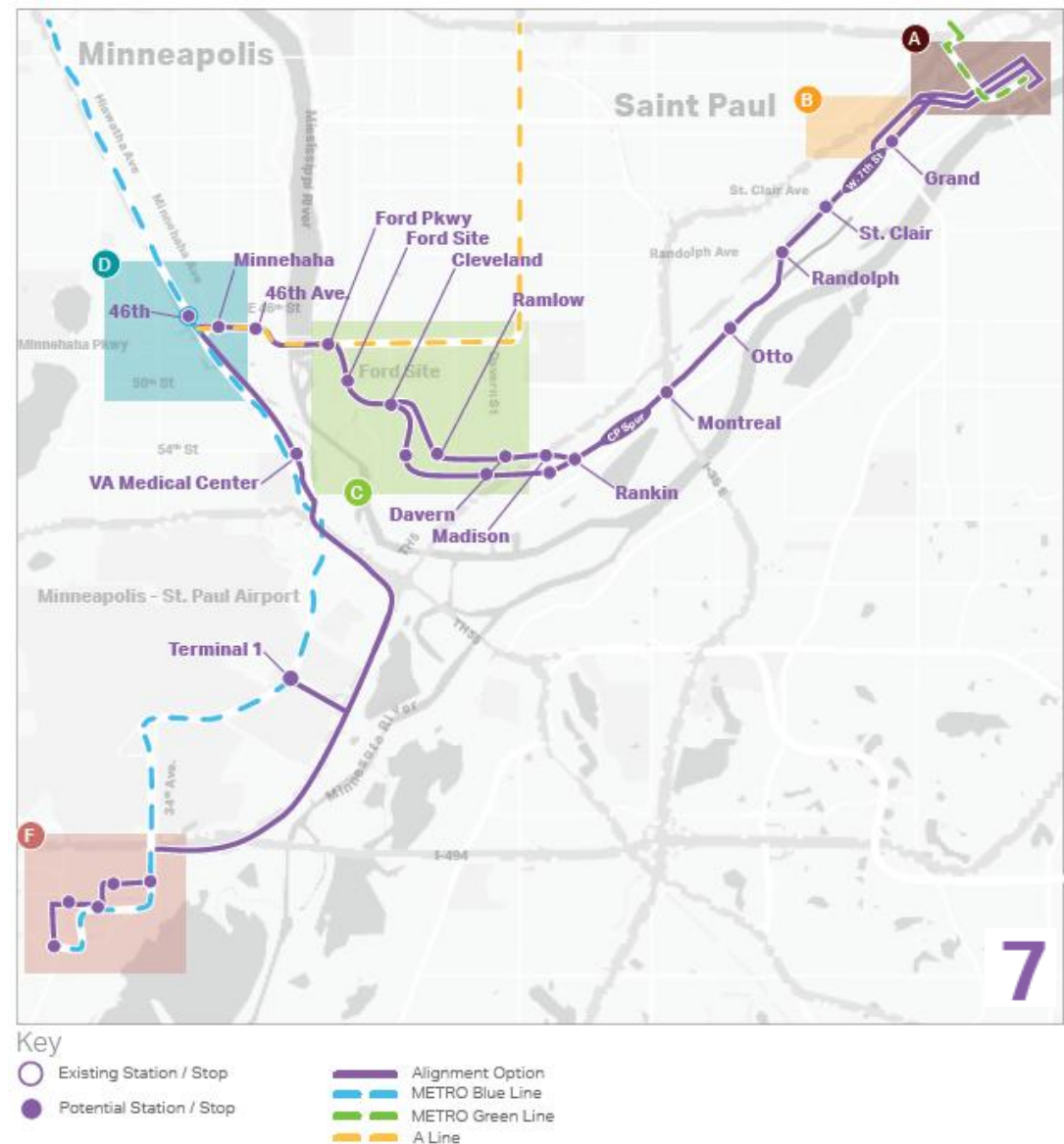
\* These draft cost estimates shown assume that the alternative is in operation today. They do not include inflation costs.



# 7 BRT: W. 7<sup>th</sup> - CP Spur - Ford Site

- Avg Weekday Boardings (2040): 11,100
- New Riders(2040): 1,000
- Boardings by Transit Dependent Persons(2040): 2,900
- Capital Cost(2015 \$): \$620M
- O&M Cost(2015 \$): \$14M
- Cost per Rider: In progress

\* These draft cost estimates shown assume that the alternative is in operation today. They do not include inflation costs.

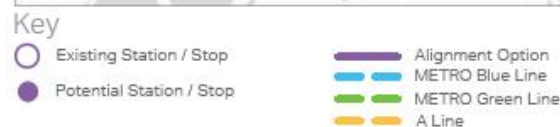
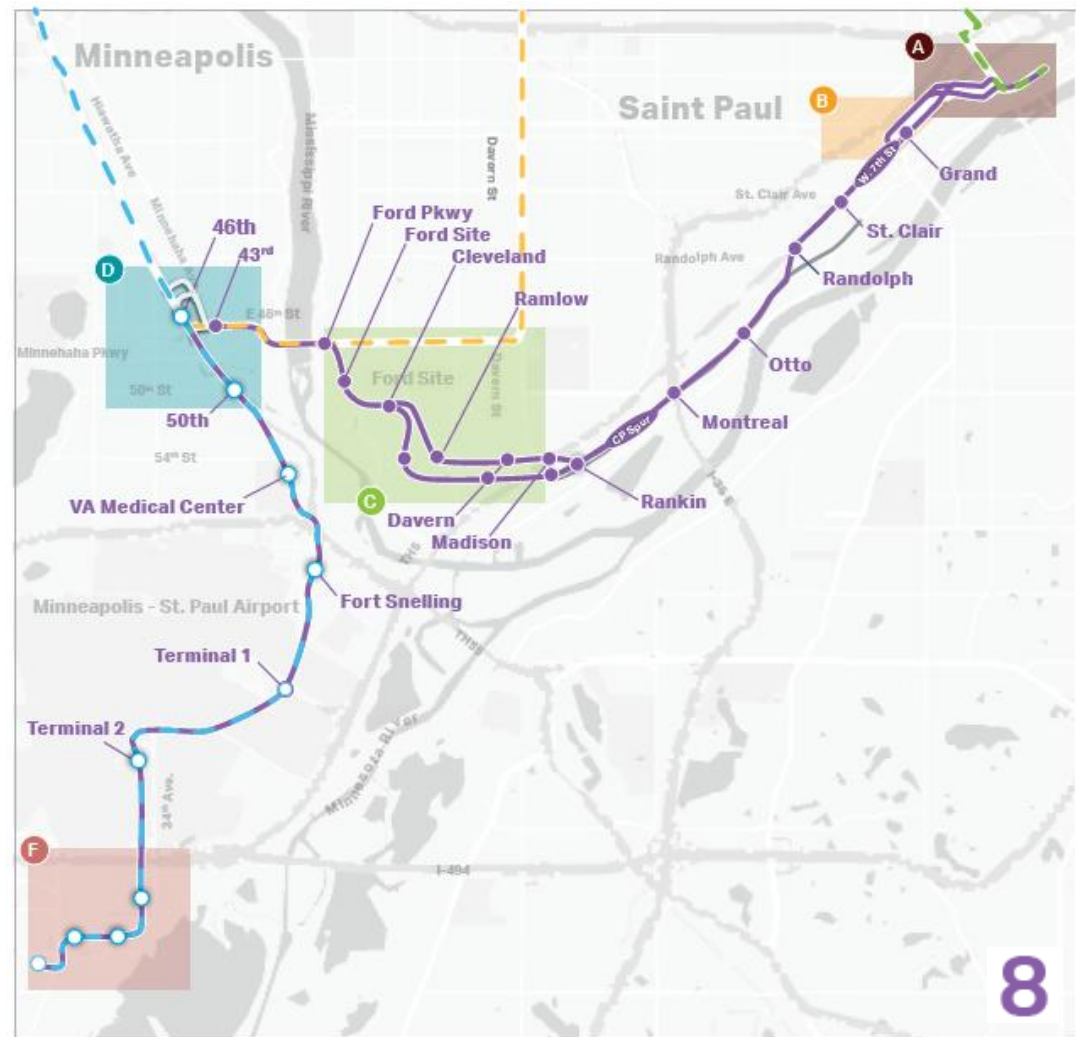




# 8 Rail: W. 7<sup>th</sup> – CP Spur – Ford Site

- Avg Weekday Boardings (2040): 18,400
- New Riders(2040): 1,500
- Boardings by Transit Dependent Persons(2040): 4,200
- Capital Cost(2015 \$): \$1.25B
- O&M Cost(2015 \$): \$28M
- Cost per Rider: In progress

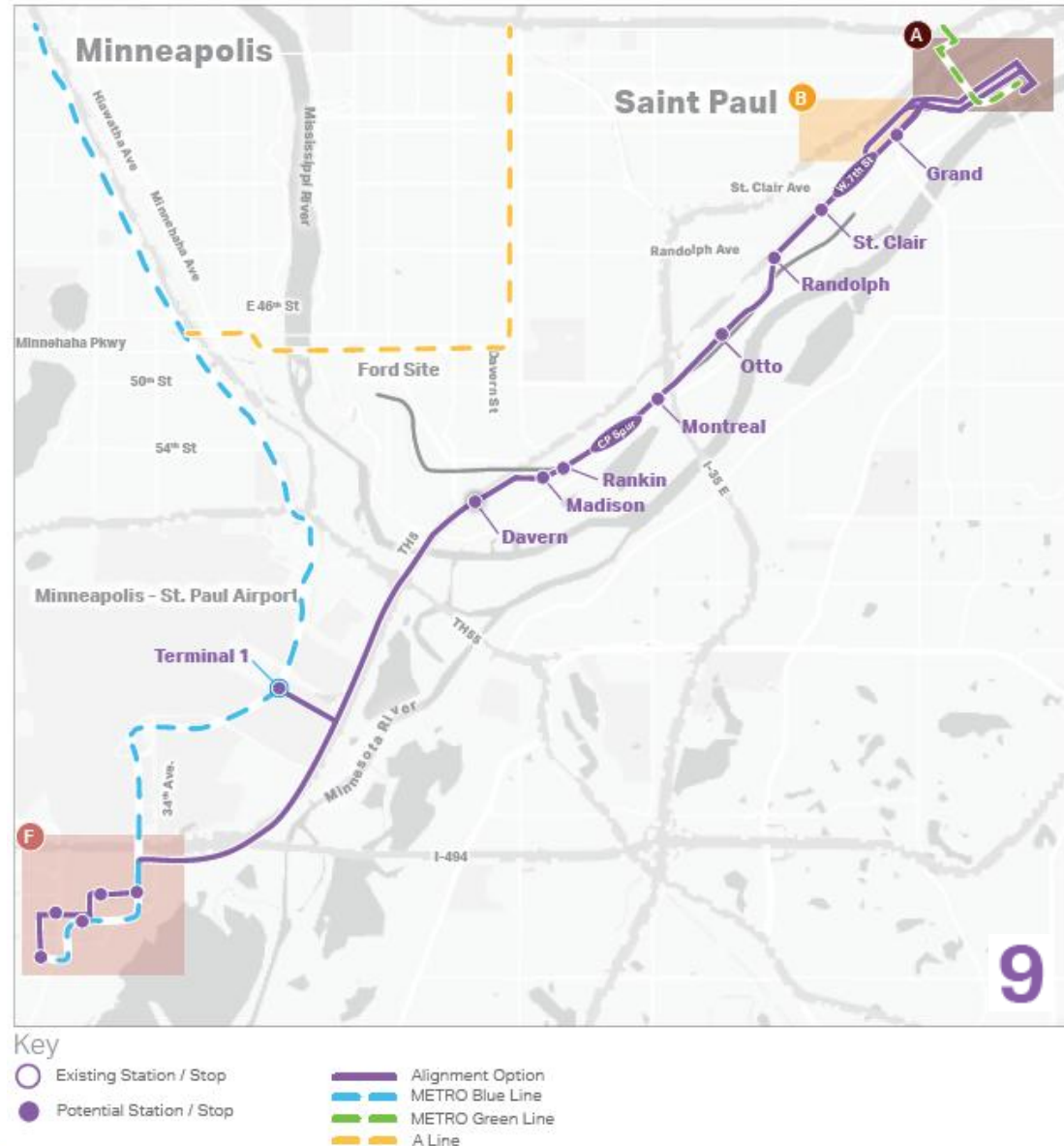
\* These draft cost estimates shown assume that the alternative is in operation today. They do not include inflation costs.



## 9 BRT: W. 7<sup>th</sup> – CP Spur – Hwy 5/Fort Snelling

- Avg Weekday Boardings (2040): 13,300
- New Riders(2040): 1,900
- Boardings by Transit Dependent Persons(2040): 3,600
- Capital Cost(2015 \$): \$450M
- O&M Cost(2015 \$): \$10M
- Cost per Rider: In progress

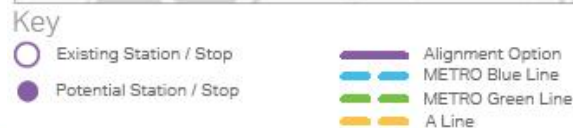
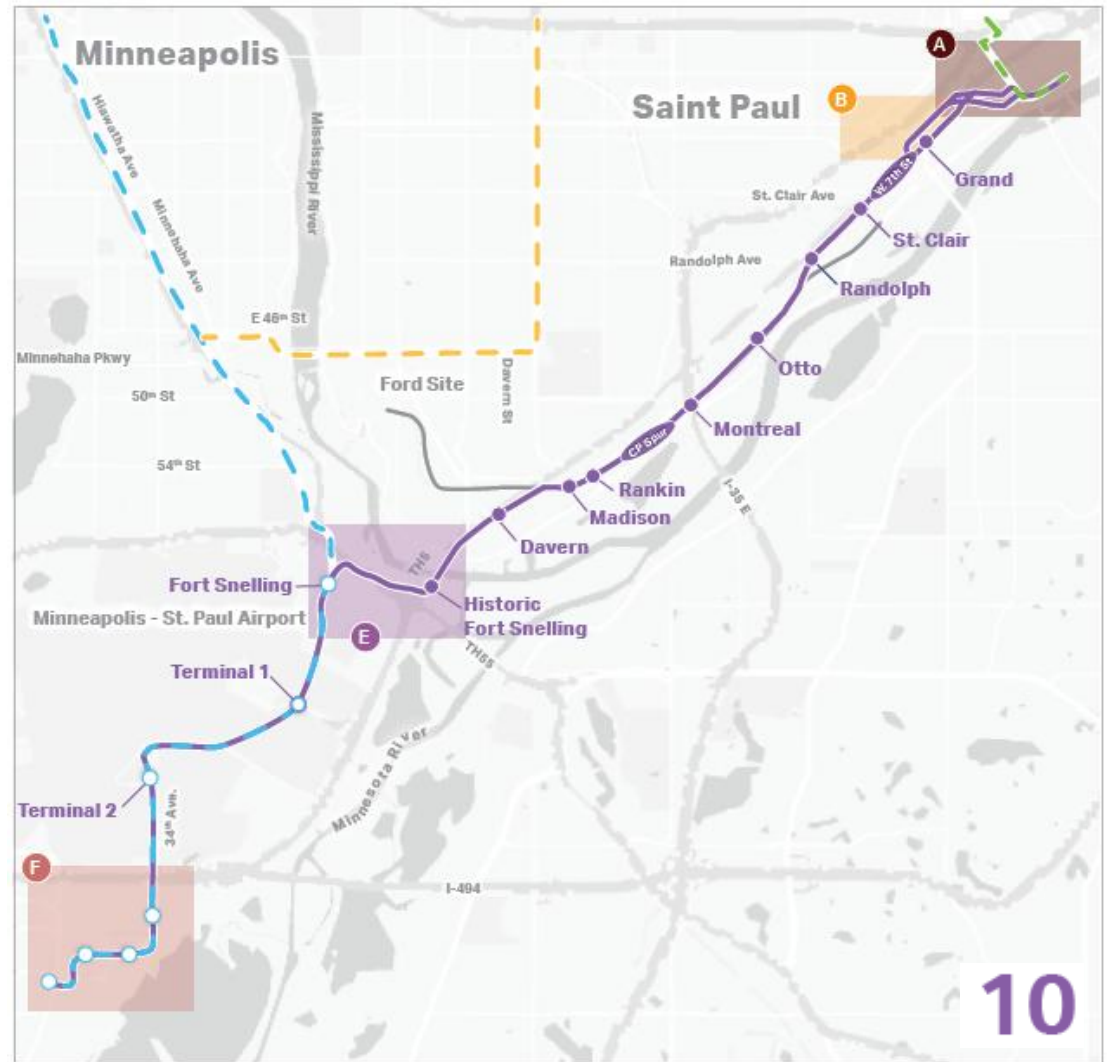
\* These draft cost estimates shown assume that the alternative is in operation today. They do not include inflation costs.



# 10 Rail: W. 7<sup>th</sup> – CP Spur – Hwy 5/Fort Snelling

- Avg Weekday Boardings (2040): 19,600
- New Riders(2040): 2,200
- Boardings by Transit Dependent Persons(2040): 4,500
- Capital Cost(2015 \$): \$1.09B
- O&M Cost(2015 \$): \$23M
- Cost per Rider: In progress

\* These draft cost estimates shown assume that the alternative is in operation today. They do not include inflation costs.





# Discussion: Recap of Draft Results

# Draft Evaluation Summary

## Most Promising Alternatives

	1	2	3	4	5	6	7	8	9	10
<i>Criteria (Subset)</i>	No Build	ABRT	BRT W. 7th – Hwy 5/Fort Snelling	Rail W. 7th – Hwy 5 / Fort Snelling	BRT W. 7th - Ford Site	Rail W. 7th - Ford Site	BRT W. 7th - CP Spur - Ford Site	Rail W. 7th - CP Spur - Ford Site	BRT W. 7th - CP Spur - Hwy 5/Fort Snelling	Rail W. 7th - CP Spur - Hwy 5/ Fort Snelling
<i>2040 Ridership</i>	10,700	7,100*	14,100	20,400	12,400	19,000	11,100	18,400	13,300	19,600
<i>New Riders</i>	N/A	TBD	2,300	2,700	1,300	1,800	1,000	1,500	1,900	2,200
<i>Transit-Dependent Riders</i>	N/A	TBD	3,700	4,600	3,300	4,400	2,900	4,200	3,600	4,500
<i>Capital Cost (2015 \$)</i>	N/A	\$75MM	\$415MM	\$1.01B	\$615MM	\$1.21B	\$620M	\$1.25B	\$450M	\$1.09B
<i>Operating Cost (2015 \$)</i>	N/A	\$4.7MM	\$10MM	\$23MM	\$23MM	\$28M	\$14M	\$28M	\$10M	\$23M
<i>Cost Per Rider</i>	N/A	In Progress	In Progress	In Progress	In Progress	In Progress	In Progress	In Progress	In Progress	In Progress

\* 2030 forecast from Met Council's 2012 Arterial BRT Study; number may be revised in a few weeks

For TAC Review  
Work In Progress; Subject To Change Without Notice



## Need #1: Growing and Changing Travel Demand

**“Need 24-hour service to get to work at the airport!”**

- Passerby at Cooper Foods Pop Up

**“I transfer from the Blue Line to get to work on W. 7th Street.”**

- Passerby at Mississippi Market Pop Up

**“We live downtown and have one car—we would use more transit to the airport and the Mall of America”**

- Attendee at October 2014 Open House

**Route 54 is the primary bus service between Downtown Saint Paul and the Mall of America**

**Existing Average Weekday Boardings: 4,400**



### Demand for Frequent All Day Transit Service

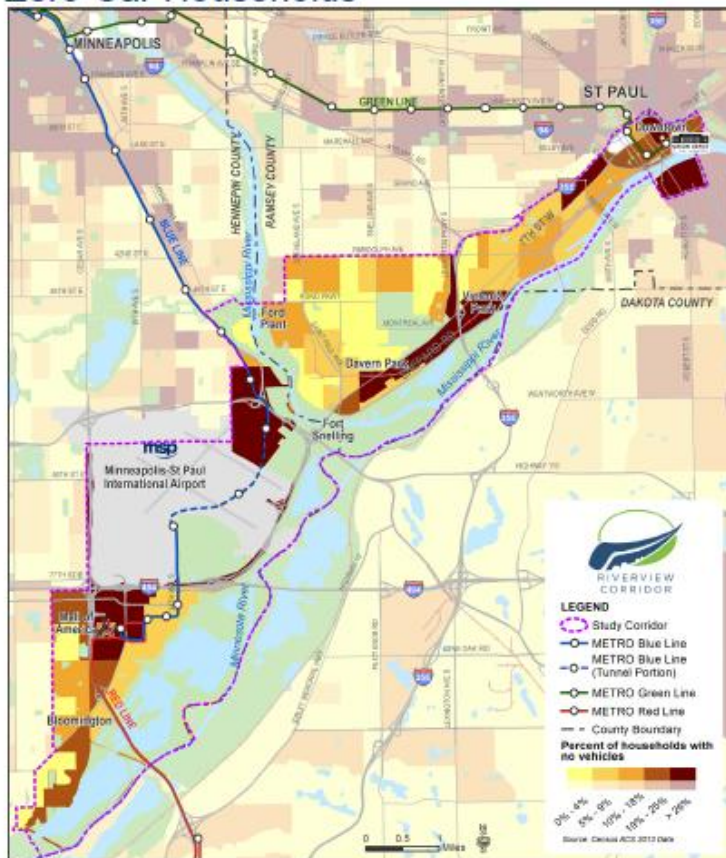
Average Number of Passengers on a Route 54 Bus Per Time of Day (2014 Average Weekday)





## Need #2: Needs of People Who Rely on Transit

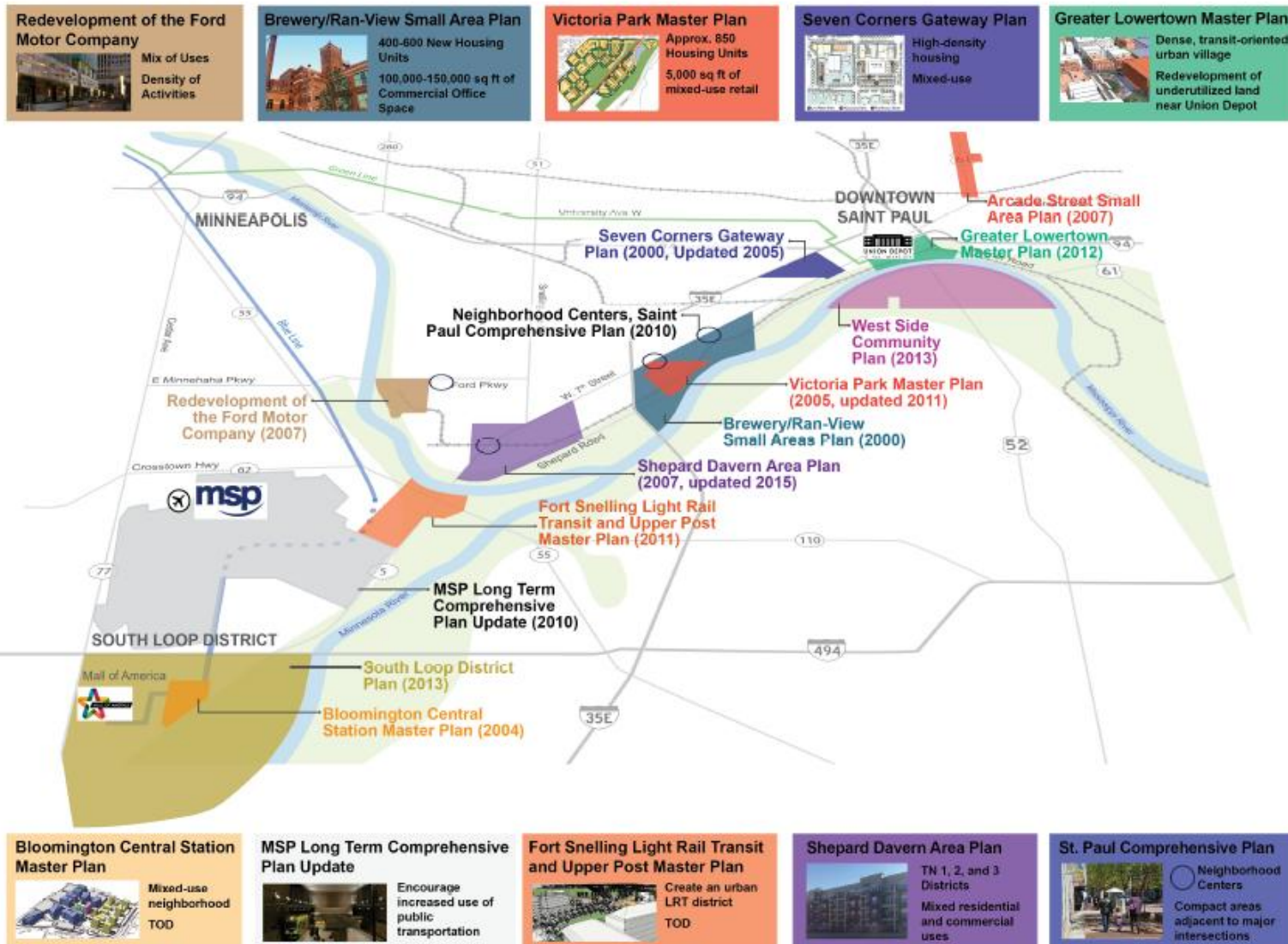
### Zero-Car Households



- 2x the ratio of **households without a car** than region (16% vs. 8%)
- 1.7x the ratio of **persons in poverty** than region (30% vs. 18%)
- Areas with over 40% of persons in poverty
- Areas with over 40% of persons in poverty and 50% of people of color
- 16% affordable housing



## Need #3: Local and Regional Objectives for Growth





## Need #4: Constrained Access within the Corridor and to the Regional Transportation System

Physical constraints limit opportunities for growth and other types of travel:

Rivers, parks, historic structures, freeways, and airport



Source: Google Earth

Shepard Road looking NE: Mississippi River Bluffs



Source: AECOM

W.7th at Schmidt's Brewery: historic structures, narrow right-of-way



Source: Google Earth

Shepard Road at Jackson Street: Freight Railroad Tracks



Source: AECOM



# Purpose and Need: Goals and Objectives

## Improve transit connections

*Provide high-quality service for local trips • Increase frequency, reliability, and attractiveness of transit • Provide competitive transit travel times in the Riverview Corridor • Provide additional capacity to meet demand • Increase transit share in the corridor • Serve transit-dependent population*

## Support development and employment

*Provide right sized transit facilities to maximize investment • Support community development and redevelopment • Support a mix of housing choices, including affordable housing*

## Support, protect, enhance high-quality connections

*Minimize impacts to the natural environment • Minimize impacts to existing businesses and neighborhoods • Balance impacts to traffic operations • Contribute to improving local and regional equity, sustainability, and quality of life*

## Provide additional transportation choices

*Support regional planning for balanced, multi-modal transportation network • Increase opportunities for safe bicycling and walking • Increase comfort, connectivity, attractiveness of bike and pedestrian facilities • Provide accessible paths to/from transit*

## Develop and select an implementable project

*Transit improvements with public, stakeholder, agency support • Financially feasible, competitive for federal funds • Allow phased implementation*



*These criteria require additional analysis and engineering to define potential impacts and identify mitigation options*



## Community

- Noise and Vibration
- Visual
- Parking
- Construction Impacts



## Transportation

- Traffic
- Safety



## Environmental

- Cultural/historic resources
- Parkland
- Wetlands/Floodplains
- Mississippi River

## 8. NEXT STEPS

# Timeline

Draft Detailed Evaluation Results

PAC ACTION: APPROVE FOR PUBLIC REVIEW

*PUBLIC REVIEW*

Feb-Mar 2017

MARCH 9<sup>TH</sup>

*MARCH-APRIL*

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Draft Locally Preferred Alternative

Apr-May 2017

Locally Preferred Alternative

PAC ACTION: APPROVE LPA

Jun-Jul 2017

JUNE 8<sup>TH</sup> / JULY 13<sup>TH</sup>

# Scheduled Meetings

- PAC
  - March 9, 2017
- TAC
  - March 23, 2017