



# METRO Gold Line BRT Corridor Management Committee (CMC)

November 1, 2018



- Welcome and Introductions
- Review Additional Information on Downtown Alternatives
- CBAC & TAC Update
- Discussion/Questions
- Adjourn

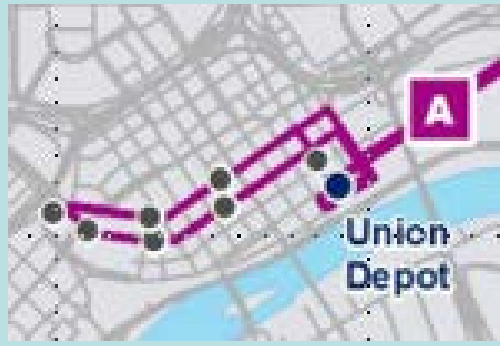


# Review Additional Information on Downtown Alternatives

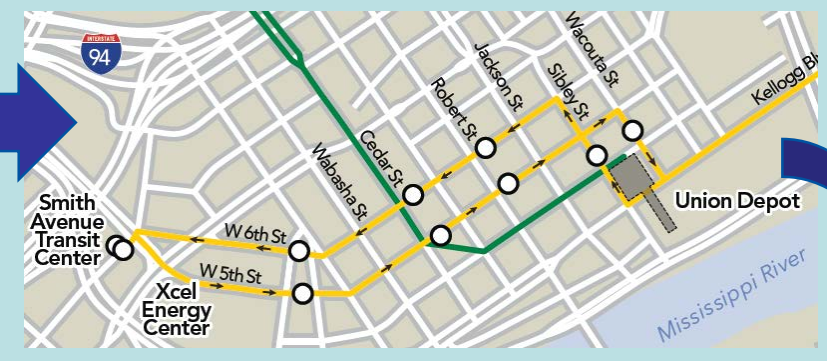
# Downtown Timeline Overview



2016: Approved Locally Preferred Alternative (LPA)



May 2018: Refined LPA



Nov 2018:

- Review data and public input
- Advise staff on how to proceed with LPA



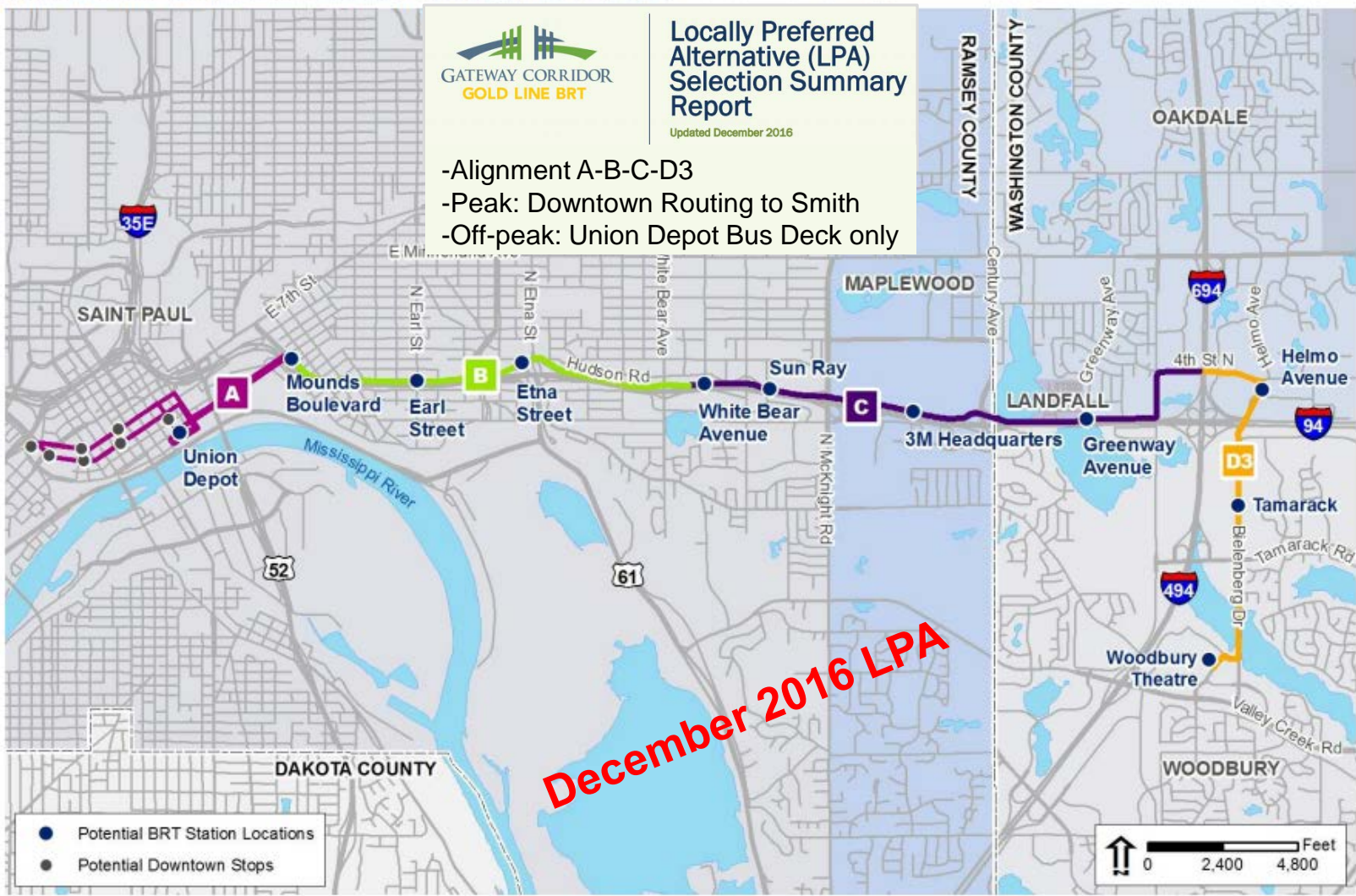
July 2018: Request to add End at Depot Alternative



# 2016 Adopted Locally Preferred Alternative



Figure 10. Refined LPA Recommendation in 2016 (Alternative ABC-D3)

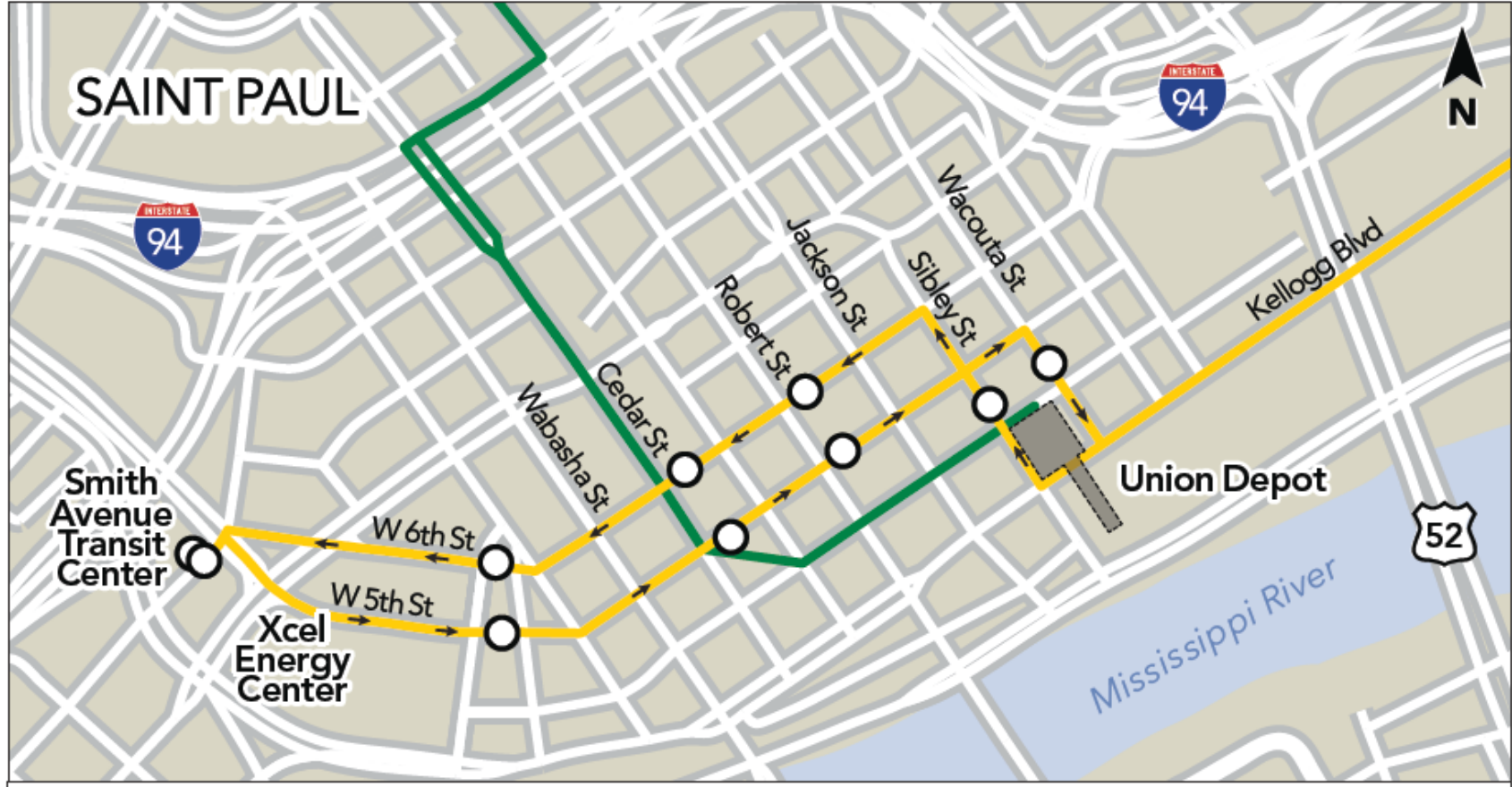


# Refined Locally Preferred Alternative



## ALTERNATIVE: ROUTE THROUGH DOWNTOWN

The METRO Gold Line BRT will begin (eastbound) or end (westbound) at Smith Avenue Transit Center, providing a one-seat ride through downtown that will also have a stop in front of Union Depot on Wacouta and Sibley streets. Between the stops at Union Depot and Smith Avenue Transit Center, the Gold Line will route down 5th Street or 6th Street.



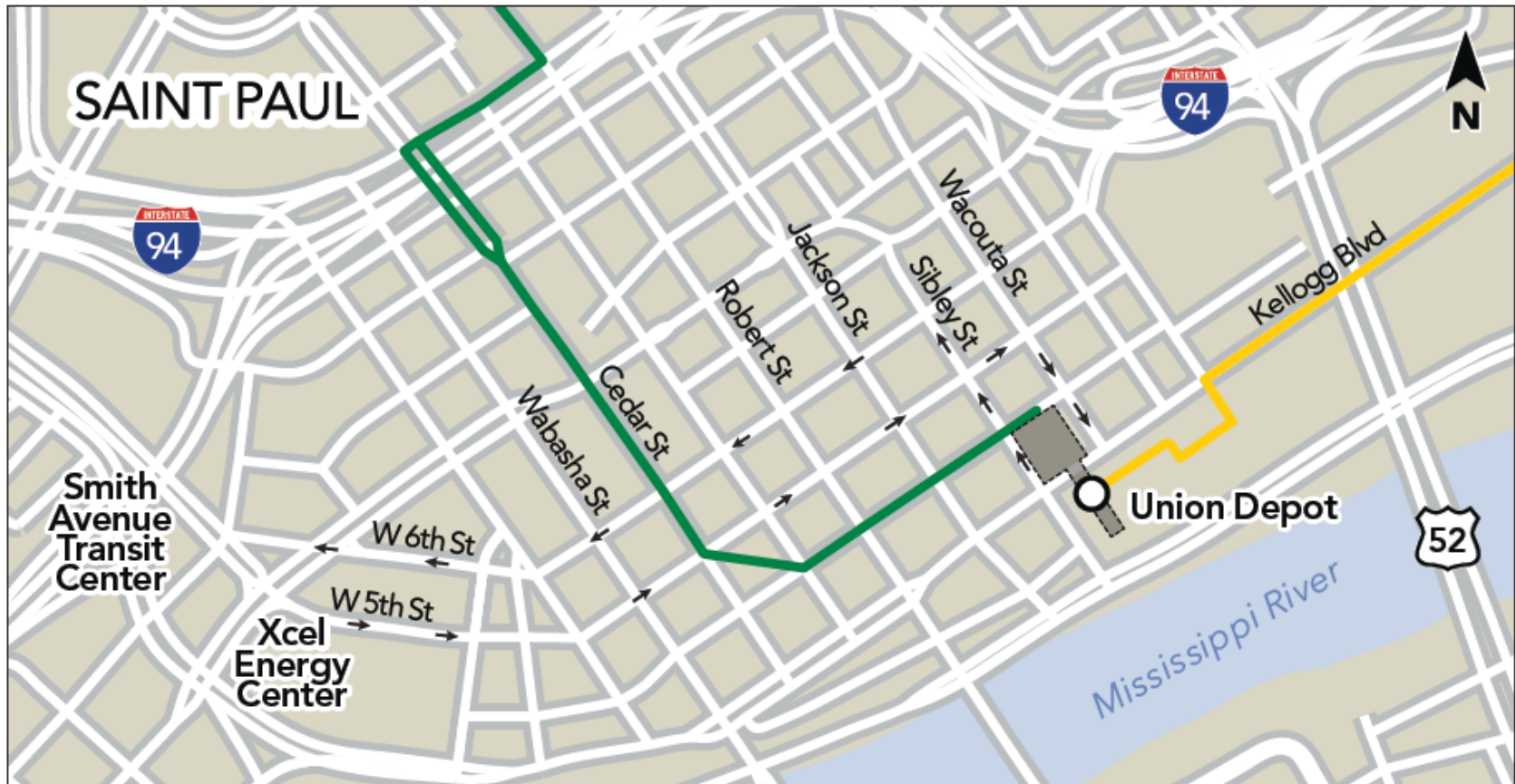
- Alternative Route
- Potential BRT Station Location
- METRO Green Line

# End at Union Depot Alternative



## ALTERNATIVE: BEGIN/END AT UNION DEPOT

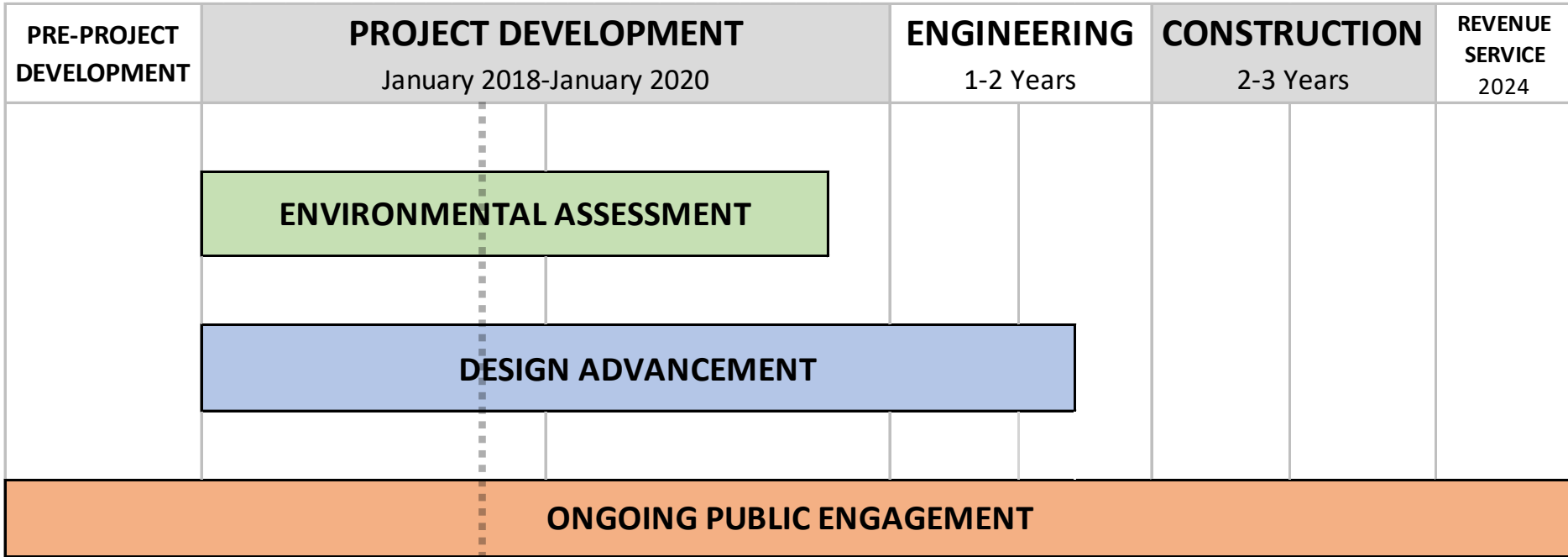
The METRO Gold Line BRT will begin (eastbound) or end (westbound) on the bus deck at the Union Depot, a multimodal transportation hub that provides transfer connections to the METRO Green Line and local bus service throughout downtown Saint Paul, as well as Amtrak, Jefferson Lines, Greyhound and Megabus services. Union Depot is also the planned terminus for additional future transitways.



- Alternative Route
- Potential BRT Station Location
- METRO Green Line



# Gold Line Project Timeline



WE ARE  
HERE



# Environmental Assessment Timeline



- FTA dictates their required review times
- FTA wants environmental decision document to be completed by Oct 2019 (6 appendices, 9 technical reports, approx. 1,000 pages, hundreds of figures)

## PROJECT DEVELOPMENT

January 2018-January 2020

## ENVIRONMENTAL ASSESSMENT

Issue Resolution Process

Complete  
Technical  
Analysis  
and Write  
EA

FTA  
1st  
Review

FTA  
2nd  
Review

FTA  
Legal  
Review

30-day  
Public  
Comment  
Period &  
Response

Develop  
Decision  
Doc &  
FTA  
Review

Apply to  
Enter  
Engr-ing  
Phase &  
FTA  
Review

WE ARE  
HERE



# Review Additional Information on Downtown Alternatives

## Outreach Activity

Dayton's Bluff Elementary

Sun Ray Library

Woodbury Central Park/Library

Securian Farmer's Market

Woodbury Lutheran Park and Ride

Yoga at Union Depot

Sun Ray Transit Center

Green Line Central Station

Oakdale Library

Open House 1 (Skyway, Alliance Bank)

Open House 2 (Union Depot)

Online Survey

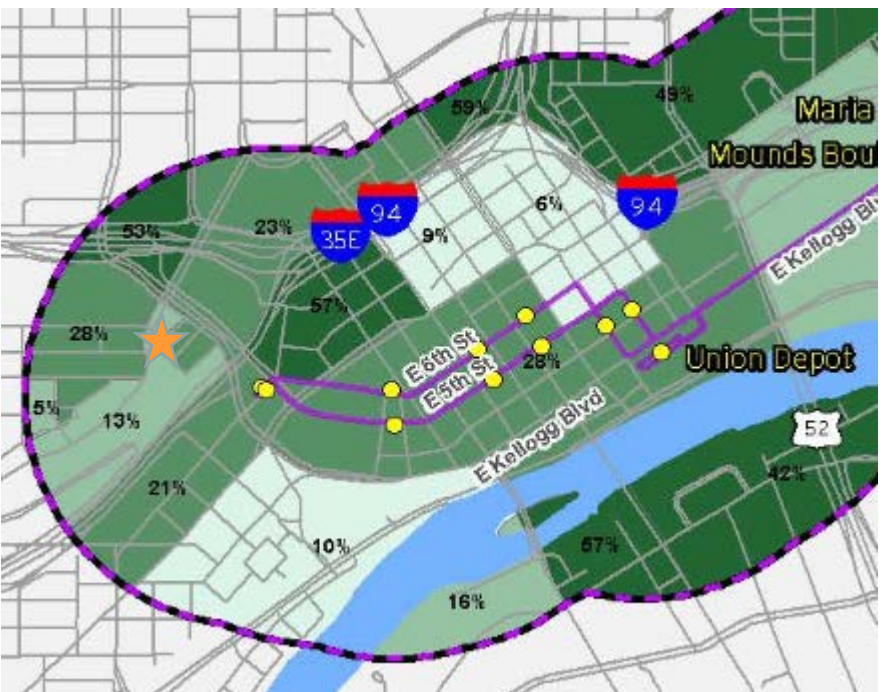
Comments via email

## Engagement Summary:

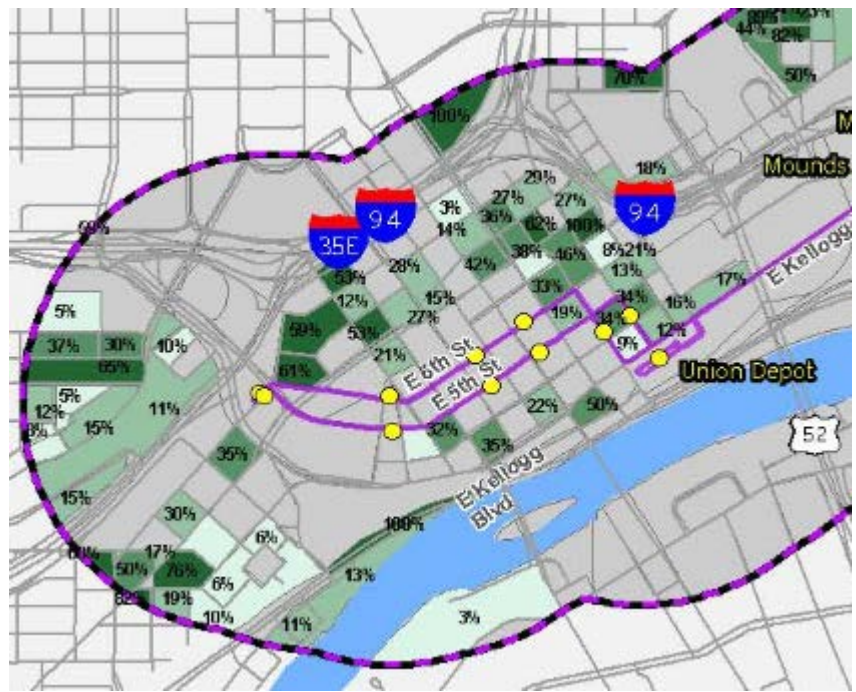
- Report with all comments was prepared
- People preferring End at Depot: ~22%
  - Lower cost
  - Would transfer or walk
  - Live/work near Depot
- People preferring Downtown Routing: ~78%
  - Going to destinations throughout downtown
  - Would not take Gold Line if they had to transfer or walk from Depot



## Percent Low Income



## Percent Communities of Color



### Percent Low Income

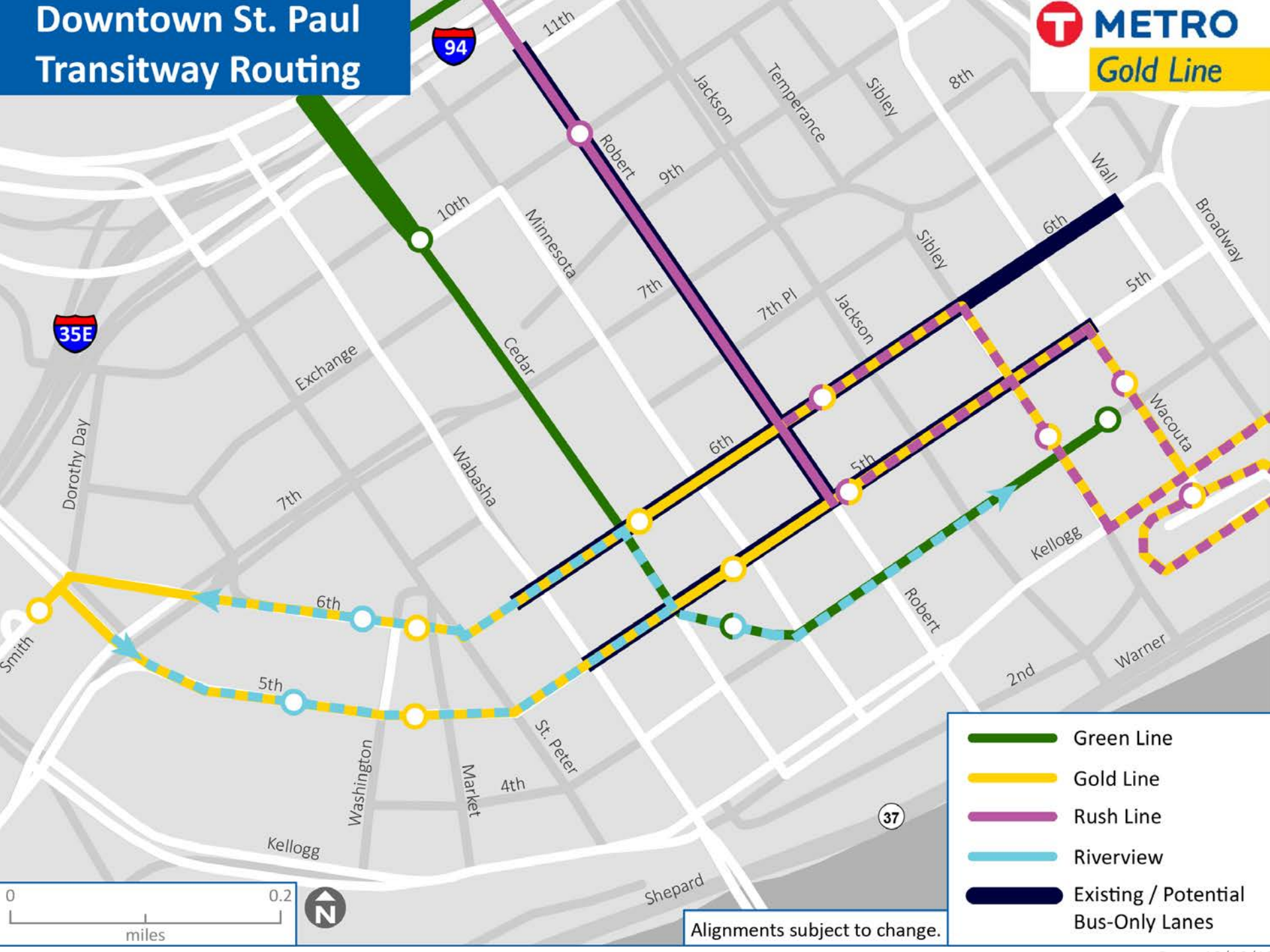
- 0-10%
- 10.1-20%
- 20.1-30%
- Over 30%

### Percent Communities of Color

- 0-10%
- 10.1-30%
- 30.1-50%
- Over 50%

- EA Scope, as confirmed by CMC on Sept. 6, 2018:
  - End at Union Depot: borderline Medium-Low / Medium-High
  - Downtown Routing: Medium-High
- Ridership updates during design advancement:
  - Both alternatives have strong potential to be a Medium-High
    - Because of ridership differences, the Downtown Routing alternative will always have a greater mobility rating
    - FTA makes the final determination

# Downtown St. Paul Transitway Routing



- Green Line
- Gold Line
- Rush Line
- Riverview
- Existing / Potential Bus-Only Lanes

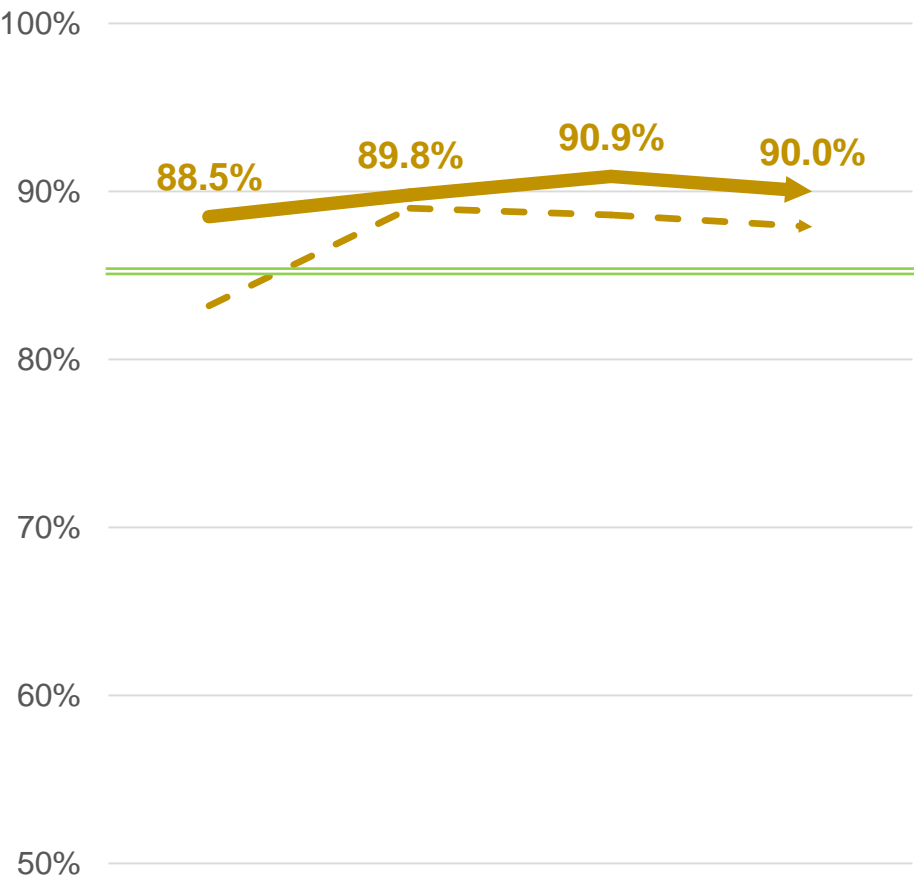
Alignments subject to change.



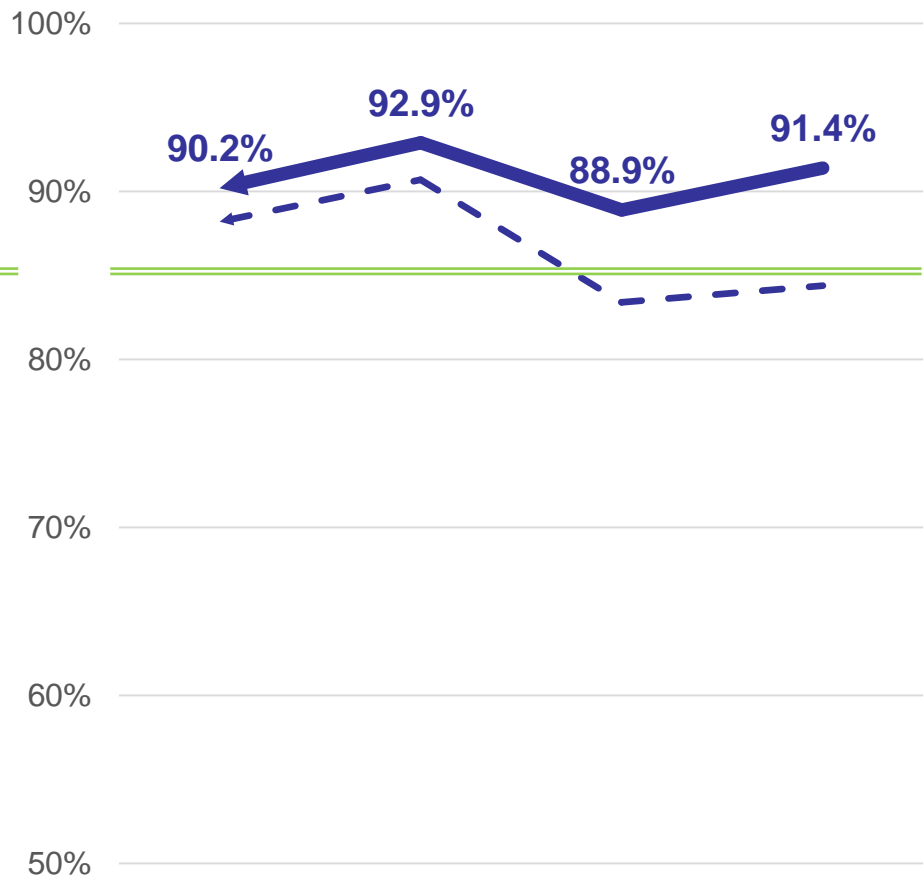
# Current Downtown On-Time Performance



## 5<sup>th</sup> Street / Eastbound



## 6<sup>th</sup> Street / Westbound



→ All Day   
 - - - PM Peak   
 = = = YTD Systemwide On-Time Performance   
 ← All Day   
 - - - PM Peak





## Level Boarding

- 14" curb
- Buses to dock within 3 inches of curb
- Ramp deployment-TBD
- Premium Service for BRT bus only



## Near Level Boarding

- 9" curb
- Ramp is deployed
- Premium BRT Service & compatibility with all bus models



## Standard Boarding

- 6" curb (standard sidewalk height)
- Ramp is deployed
- Compatibility with all bus models

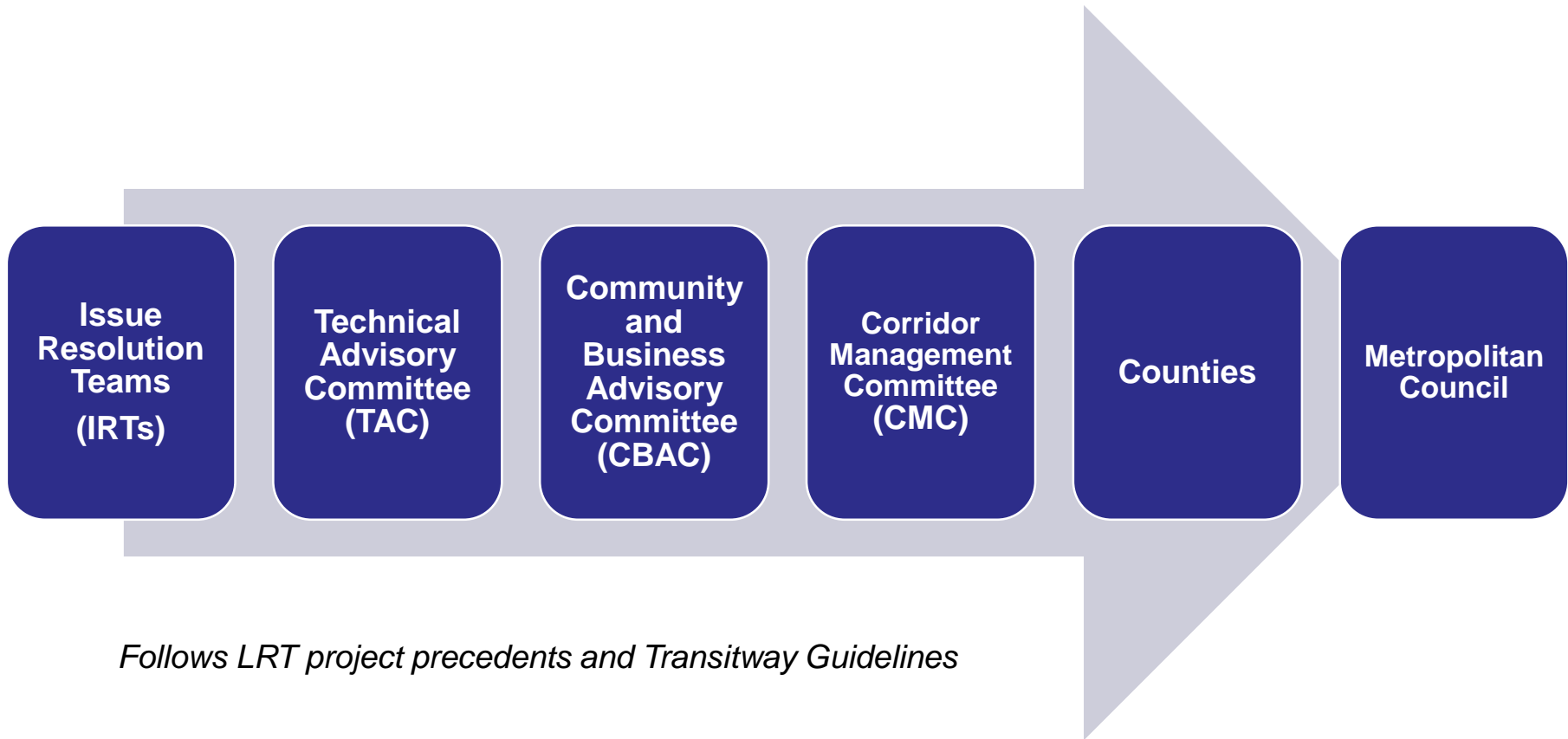


- Additional Information Provided:
  - Ridership Forecasting 101 Packet
  - Research Brief: Perception of Waiting Time and Transit Stops and Stations
  - Fall Engagement Summary (emailed)
  - Additional Reference Slides



# CBAC and TAC Update

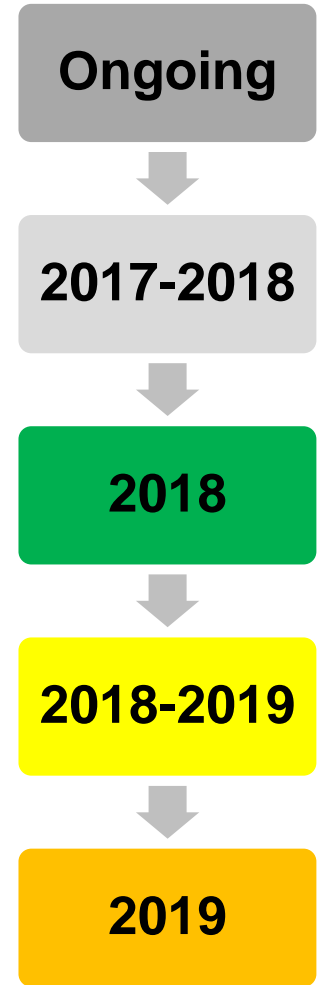
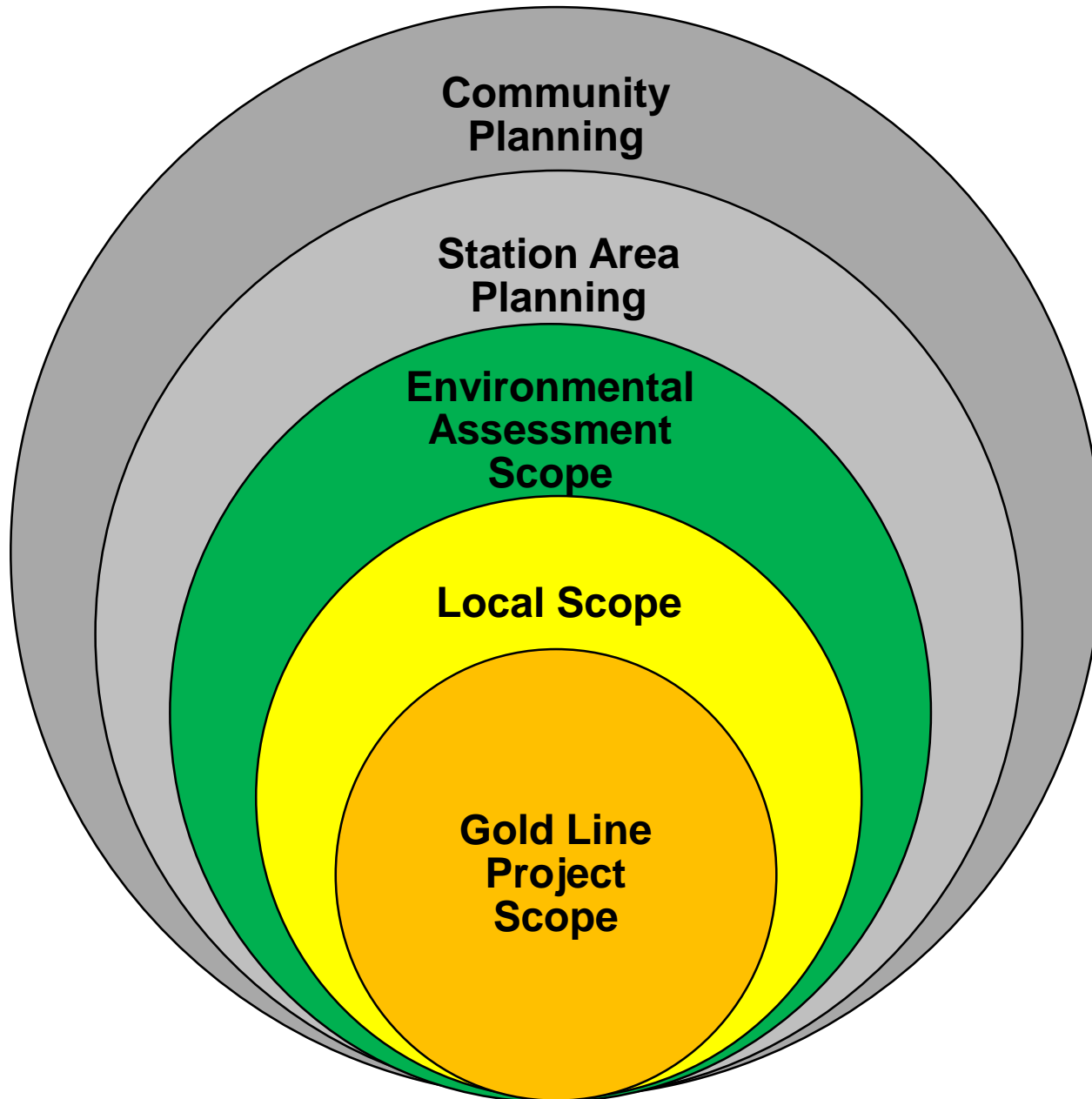
- All members present preferred Downtown Routing Alternative
  - Should listen to the public feedback that is collected
  - In hot and cold weather, people would prefer to get as close to their destinations as possible
  - Environmental Justice – low income and minority populations live on west side of downtown and the project should serve them directly
  - There would be more buses on streets but people choosing to drive would lead to more congestion
- Members that didn't attend were offered opportunity to provide input via email or phone





# Discussion/Questions

- Downtown Routing, as recommended by the Issue Resolution Team, is the preferred alternative. The Union Depot Bus Deck Terminus Alternative will be evaluated in the Environmental Assessment and reevaluated at a later date, if warranted, by changes in project assumptions.
- All stations will be evaluated for level boarding, including those downtown.
  - Near-level boarding will be considered on a case by case basis with input from the project advisory committees.



- Next scheduled CMC meeting is December 6
  - Corridor-wide update on issues resolution



# Reference Slides

# Downtown Alternatives Summary Data



Alternative	Ridership Difference	Capital Cost Difference	Annual O&M Net Cost Difference	FTA Rating	Public Input Preference
Downtown Routing to Smith Ave	+ 950 daily rides (~250 are from zero car households)	+ \$5.8M* from baseline	+ \$70K**	Medium-High	~ 78%
Union Depot Bus Deck Terminus		- \$7.6M from baseline		Medium-Low or Medium-High***	~ 22%

\* Includes Upgraded Stations (like A Line), Level boarding is \$11.1M over baseline

\*\*\$450K in additional operating costs less \$380K in increased fare collection

\*\*\*Rating is dependent on ridership refinements

# Gold Line Project Goals and Objectives



- All project decisions need to be based on goals and objectives

	Goals	Objectives	Alternative that best meets Objective
Tier One Goals	Goal 1: Improve Mobility	1. Maximize number of people served (future) 2. Maximize transit ridership 3. Maximize travel time savings 4. Minimize traffic mobility impacts	
	Goal 2: Provide a Cost-Effective, Economically Viable Transit Option	5. Minimize costs and maximize cost-effectiveness	
Tier Two Goals	Goal 3: Support Economic Development	6. Maximize number of people served (existing) 7. Maximize future development opportunities	
	Goal 4: Protect the Natural Environmental Features of the Corridor	8. Minimize potential environmental impacts	
	Goal 5: Preserve and Protect Individual and Community Quality of Life	9. Maximize potential benefits to and minimize potential impacts on the community	
10. Minimize adverse parking, circulation, and safety impacts			

# Cost Comparison of Downtown Alternatives



Baseline (1%)	Downtown All-Day Routing Alternative (IRT Recommendation)	Union Depot Bus Deck Alternative
Union Depot Bus Deck Station <ul style="list-style-type: none"> <li>• Pylon Sign &amp; Off-Board Fare Collection</li> </ul>	<i>Station relocated from Union Depot bus deck to front of Depot at Sibley and at Wacouta</i>	<i>Upgrade to full amenity platform (like A Line) as part of the premium BRT service</i>
7 Enhanced Downtown Stops Station amenities include: <ul style="list-style-type: none"> <li>• Pylon Sign</li> <li>• Off-Board Fare Collection</li> <li>• Small Shelter</li> <li>• Civil Improvements at Wacouta</li> </ul>	9 Full Amenity Downtown Stations <ul style="list-style-type: none"> <li>• Upgrade to full amenity platforms (like A Line) as part of the premium BRT service</li> <li>• Relocated Union Depot station to front of Depot</li> </ul>	<i>No additional downtown stops included</i>
<b>+ \$0</b>	<b>+ \$5.8M (1.4%)</b>	<b>- \$7.6M (- 1.8%)</b>



## Previous Assumptions for Downtown Stations

- Small shelter
- Off-board fare collection
- Pylon
- 7 stations in downtown



## Refined Assumptions for Downtown Stations

- Full amenity stations, similar to A Line
- 9 stations in downtown

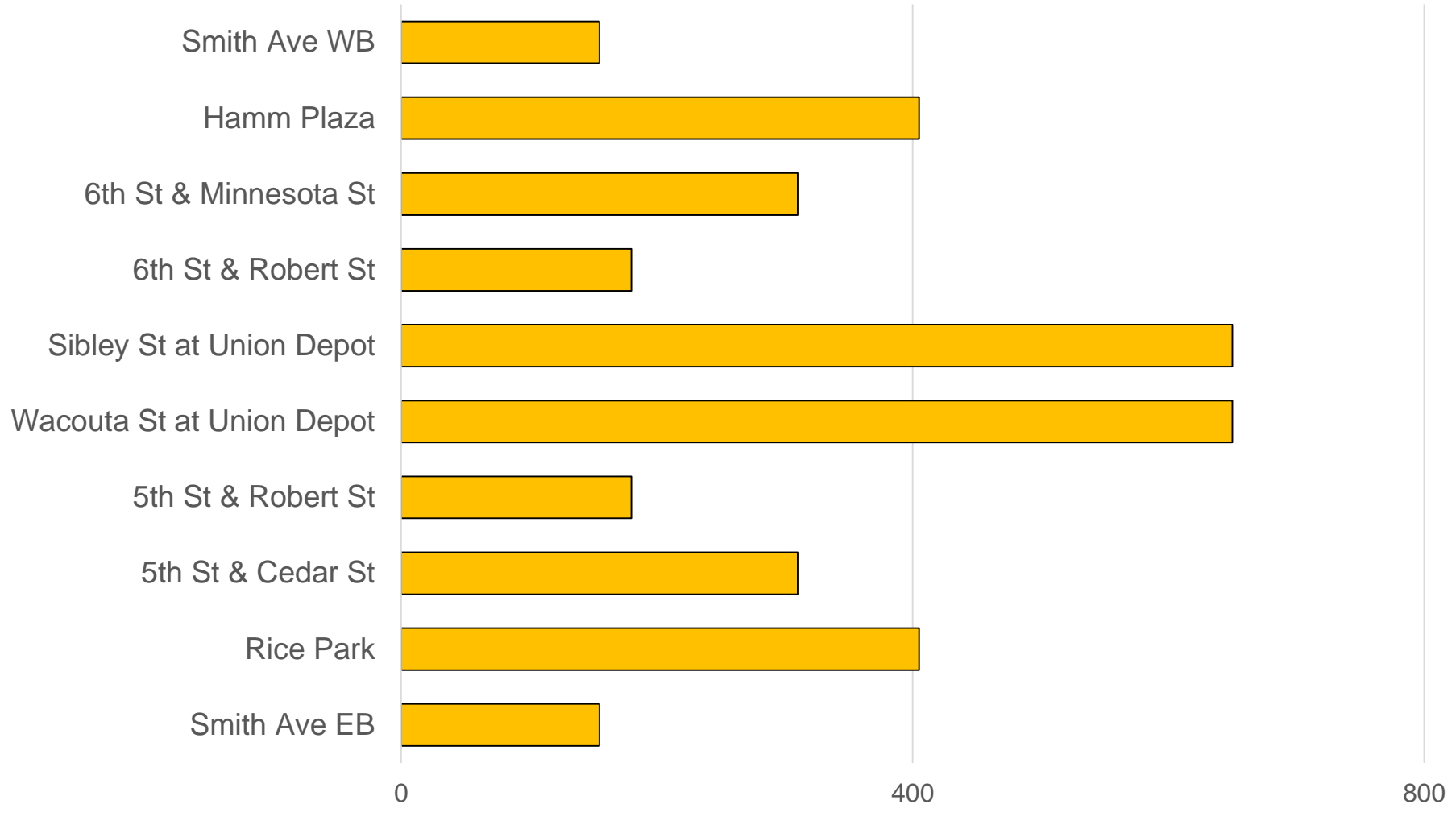


Platform Shelter (A-Line shown)

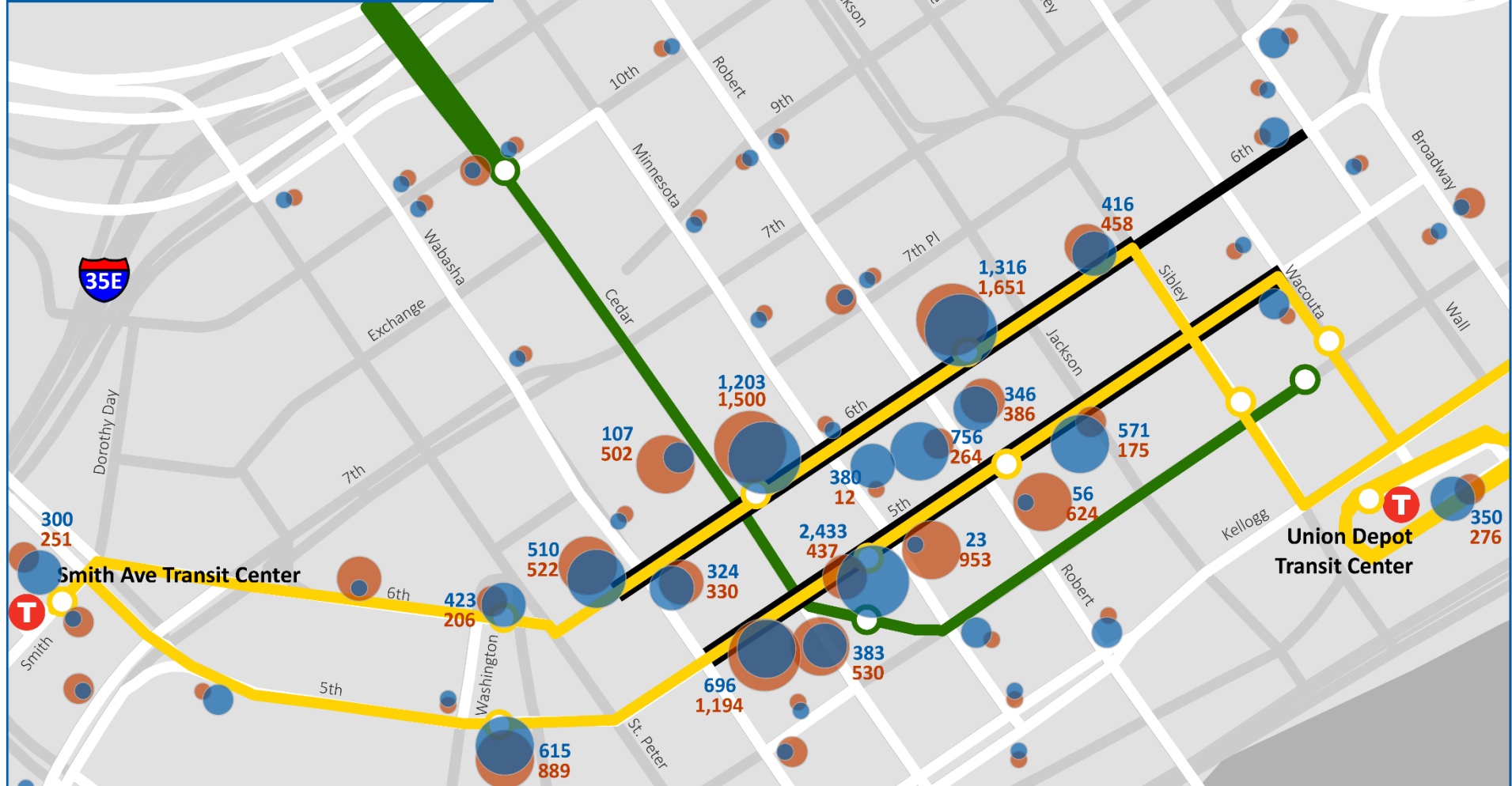




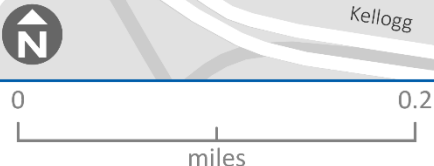
## Projected Boardings for Downtown Stations



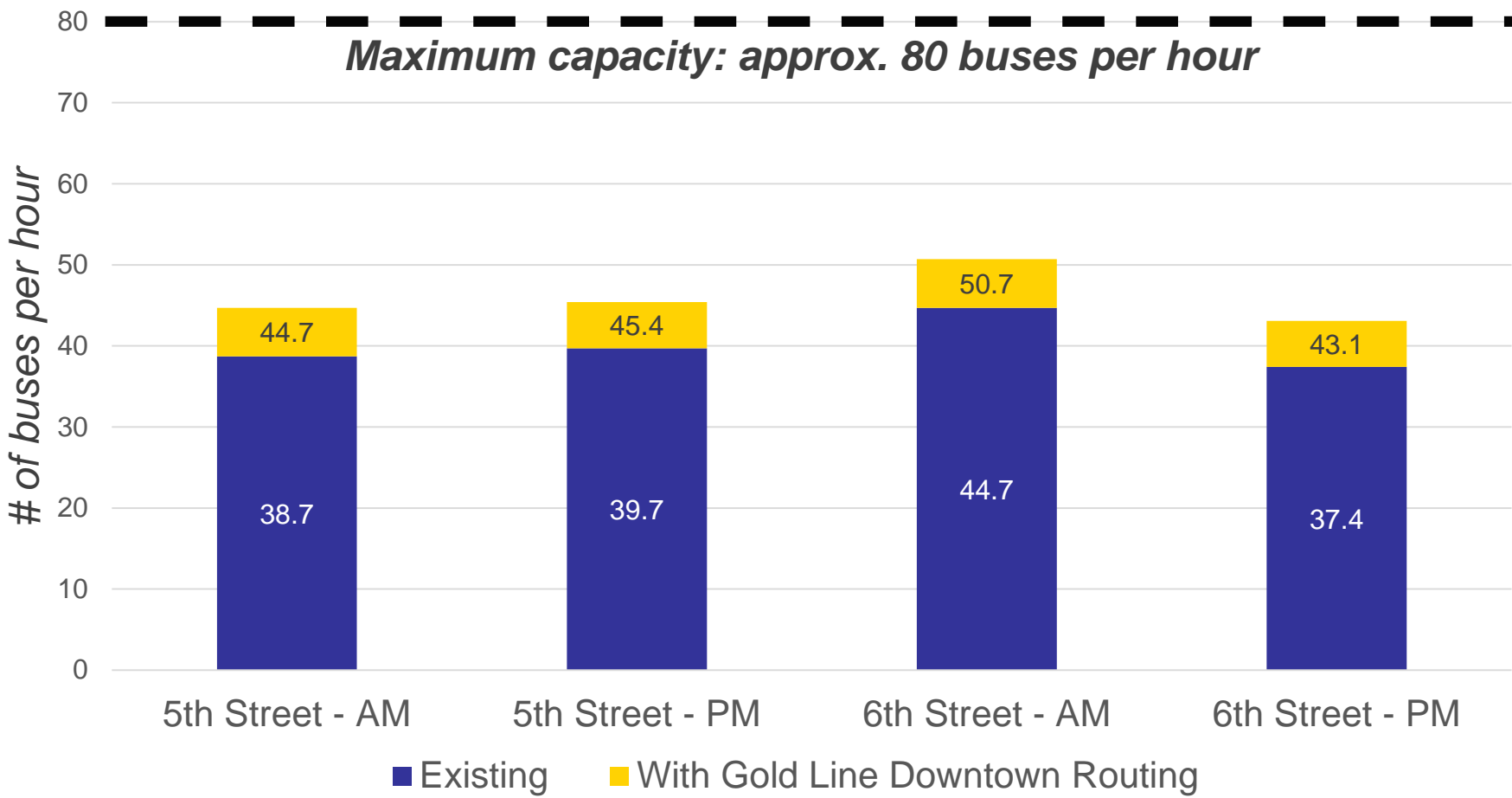
# Weekday Bus Ridership Spring 2018



Average Weekday Boardings		Average Weekday Alightings		
	0-99		0-99	Bus-Only Lanes
	100-299		100-299	Green Line
	300-499		300-499	Gold Line Routing Alternatives
	500-999		500-999	
	1,000 +		1,000 +	



# Projected Hourly Bus Volumes - Downtown





October 11, 2018 field observations summary:

- Staff rode buses in AM and PM peak periods along 5<sup>th</sup> and 6<sup>th</sup> Streets
- Observations
  - Buses stop at signals along 5<sup>th</sup> and 6<sup>th</sup> sporadically throughout the day
  - Minnesota Street stop was busy during AM peak; resulted in longer dwell times
  - Eastbound congestion on 5<sup>th</sup> during PM peak between Market and Minnesota
- Findings are consistent with Performance Data



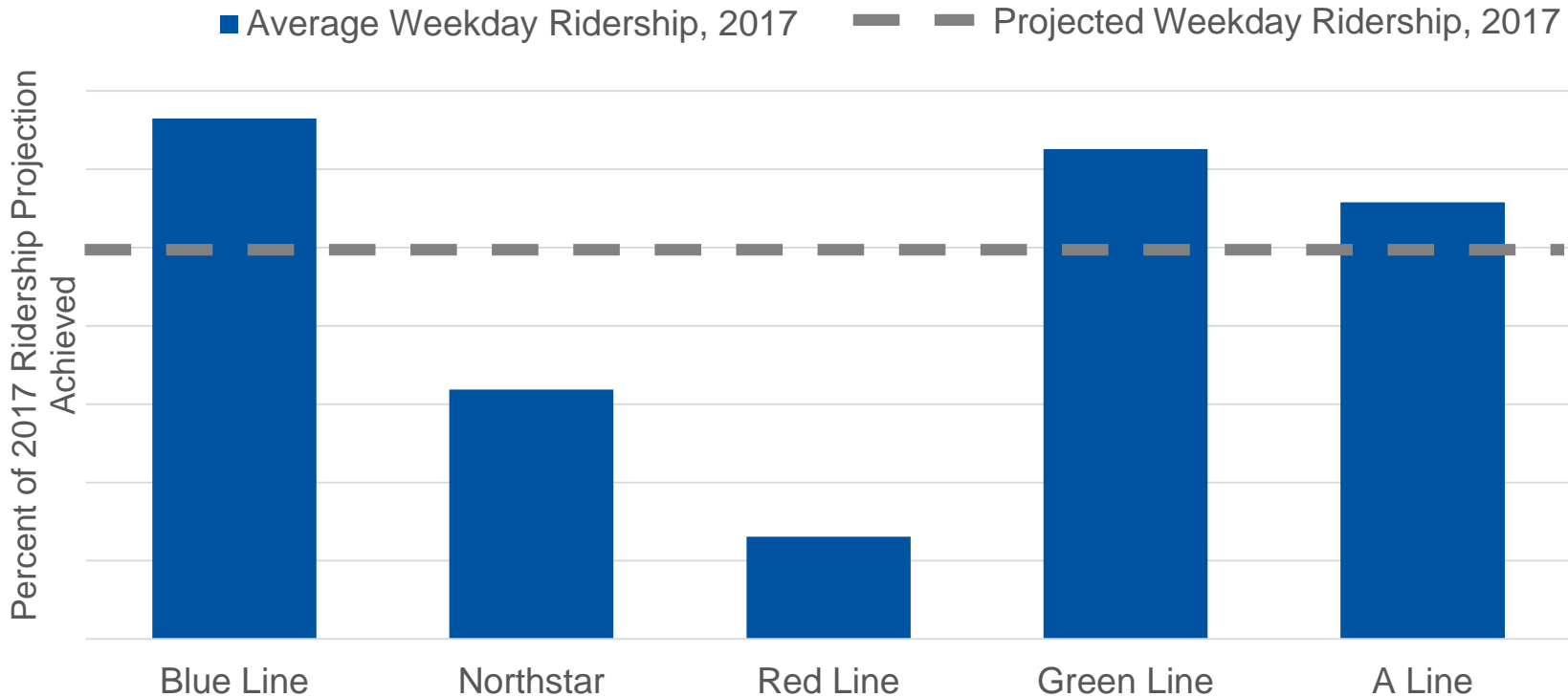
Route	Time	No. of Stops	Duration	Comments
<b><u>Westbound</u></b> 4 <sup>th</sup> Street / 5 <sup>th</sup> Street to Smith Avenue Transit Center	AM Peak	6 out of 10	10-min.	Busy, but not congested; hit multiple red lights
	AM Non-Peak	6 out of 9	7-min.	Free-flowing traffic; hit multiple green lights
<b><u>Eastbound</u></b> W 5 <sup>th</sup> Street / 7 <sup>th</sup> Street to Union Depot	AM Peak	4 out of 8	8-min.	Uppertown 5 <sup>th</sup> was busy, but not congested; only stopped due to red lights; Lowertown 5 <sup>th</sup> had free-flowing traffic
	AM Non-Peak	6 out of 8	10-min.	Free-flowing traffic; hit many green lights; 2-minute delay due to driver switch at Minnesota Street



Location	Time	No. of Stops	Duration	Comments
<b><u>Westbound</u></b> 4 <sup>th</sup> Street / 5 <sup>th</sup> Street to Smith Avenue Transit Center	PM Peak	6 out of 9	12-min.	Minnesota St station very busy, lengthened dwell time; traffic generally free-flowing; multiple buses in bus lane
	PM Non-Peak	6 out of 8	9-min.	Free-flowing traffic; hit multiple green lights
<b><u>Eastbound</u></b> W 5 <sup>th</sup> Street / 7 <sup>th</sup> Street to 7 <sup>th</sup> St E / Wall Street	PM Peak	6 out of 8	14-min.	Washington St. to Minnesota St. was congested; sat through more than one light-cycle at each intersection
	PM Non-Peak	6 out of 8	8-min.	Free-flowing traffic; stopped at a few red lights



## Transitways Model Accuracy



2017 projected ridership interpolated from horizon year forecasts.

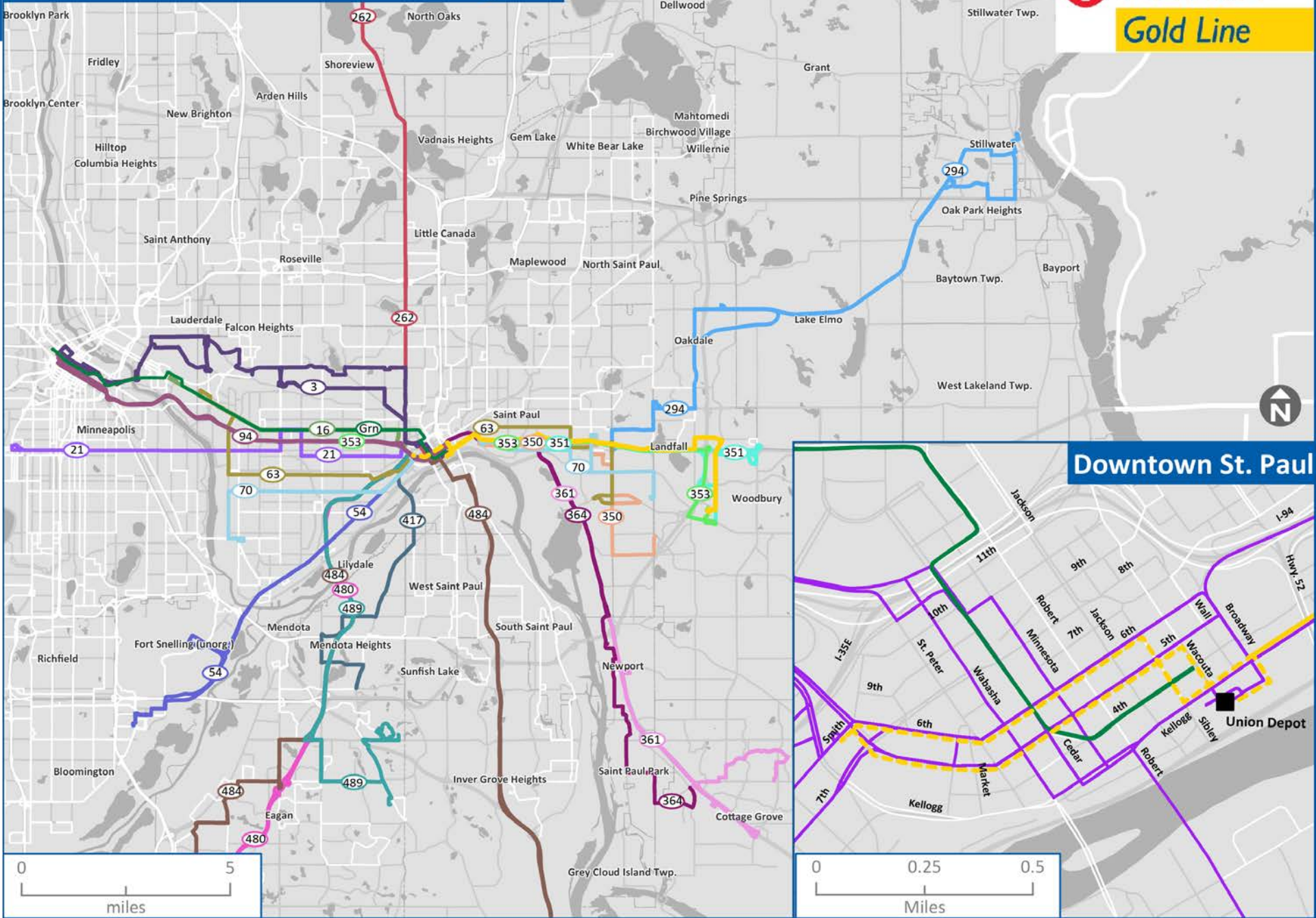
- Rush Line and Riverview are not currently included in the Gold Line Ridership Model
- Historically, FTA has desired that CIG project ridership forecasts not include future CIG projects to ensure their evaluation process is consistent for all projects around the country
- FTA requires projects to “stand on their own” and not have meaningful benefits derived from other potential CIG projects that have yet to be funded by FTA
- Both projects could be incorporated into the model for local sensitivity analysis or decision making-purposes



Location	Routes*	Weekday Transit <u>Vehicle</u> Trips
Union Depot Bus Deck	3, 16, 21, 54, 94, 262, 417, 480, 484, 489	470 Trips
Green Line- Union Depot Station	Green Line LRT	230 Trips
Kellogg/Broadway	63, 70, 294, 350, 351, 353, 361, 364	209 Trips
Total	19 Transit Routes	909 Total Trips
Gold Line Proposed	Union Depot Station	~160 Trips

*\*Does not include Amtrak, Intercity Bus, and Private service connections*

# Transit Service to Union Depot



- ~80% of riders are peak trips to/from Downtown St. Paul stations and the suburbs
- ~10% of riders are traveling within St. Paul
- ~10% of riders are dispersed throughout corridor



## Ridership Modeling Key Points:

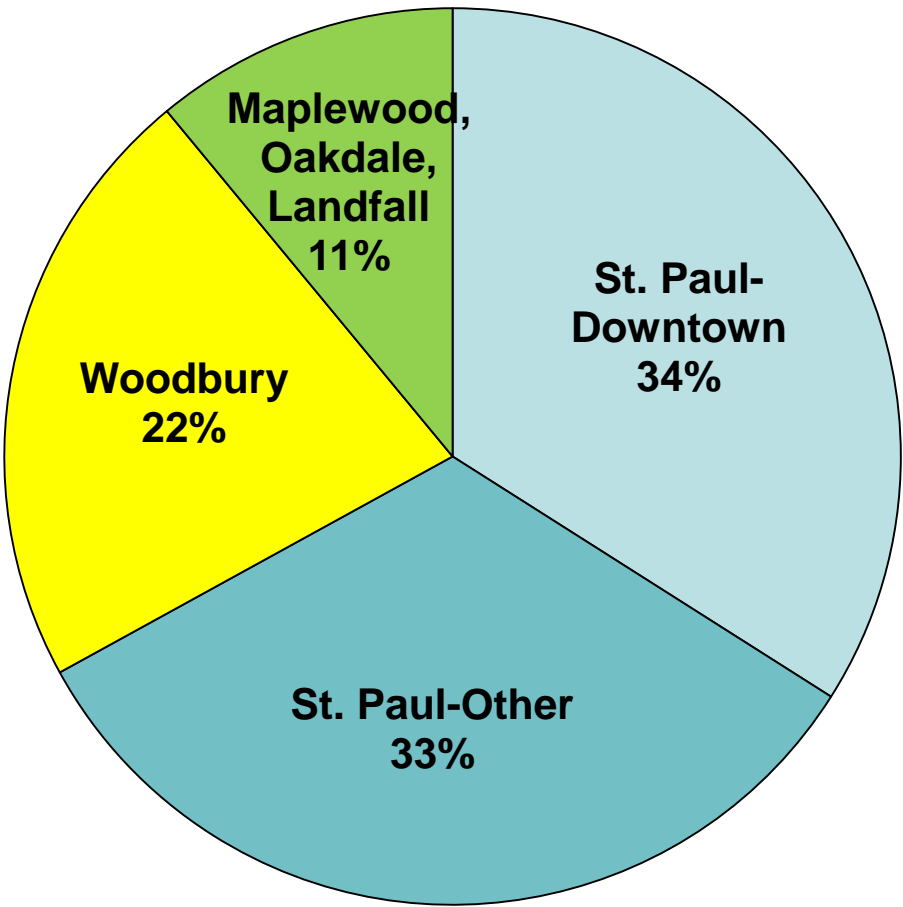
- Union Depot Bus Deck Alternative results in approximately 950 fewer riders
  - Connecting service has been optimized in the FTA's STOPS model
- Overall Gold Line STOPS ridership model still being refined
  - Updated overall ridership and remaining per station ridership along corridor not yet available
- FTA still needs to review and concur with model results

- Compared to traditional models, the FTA STOPS model better reflects the actual time needed to make the transfer
  - STOPS uses the actual Metro timetables rather than average headways
- While there is still a transfer penalty for the Union Depot Bus Deck terminus, the STOPS model reduces that penalty

Characteristic	Traditional Model	STOPS Model
Time between alighting & boarding	½ of the average headway of the 2 <sup>nd</sup> route	The actual scheduled time between bus arrival and departure
Time to walk between the two routes	Walking time between the two routes (if any)	
Time penalty	Perceived time penalty assessed for each transfer	



## Origin of 950 Lost Rides\* without Gold Line Downtown Routing



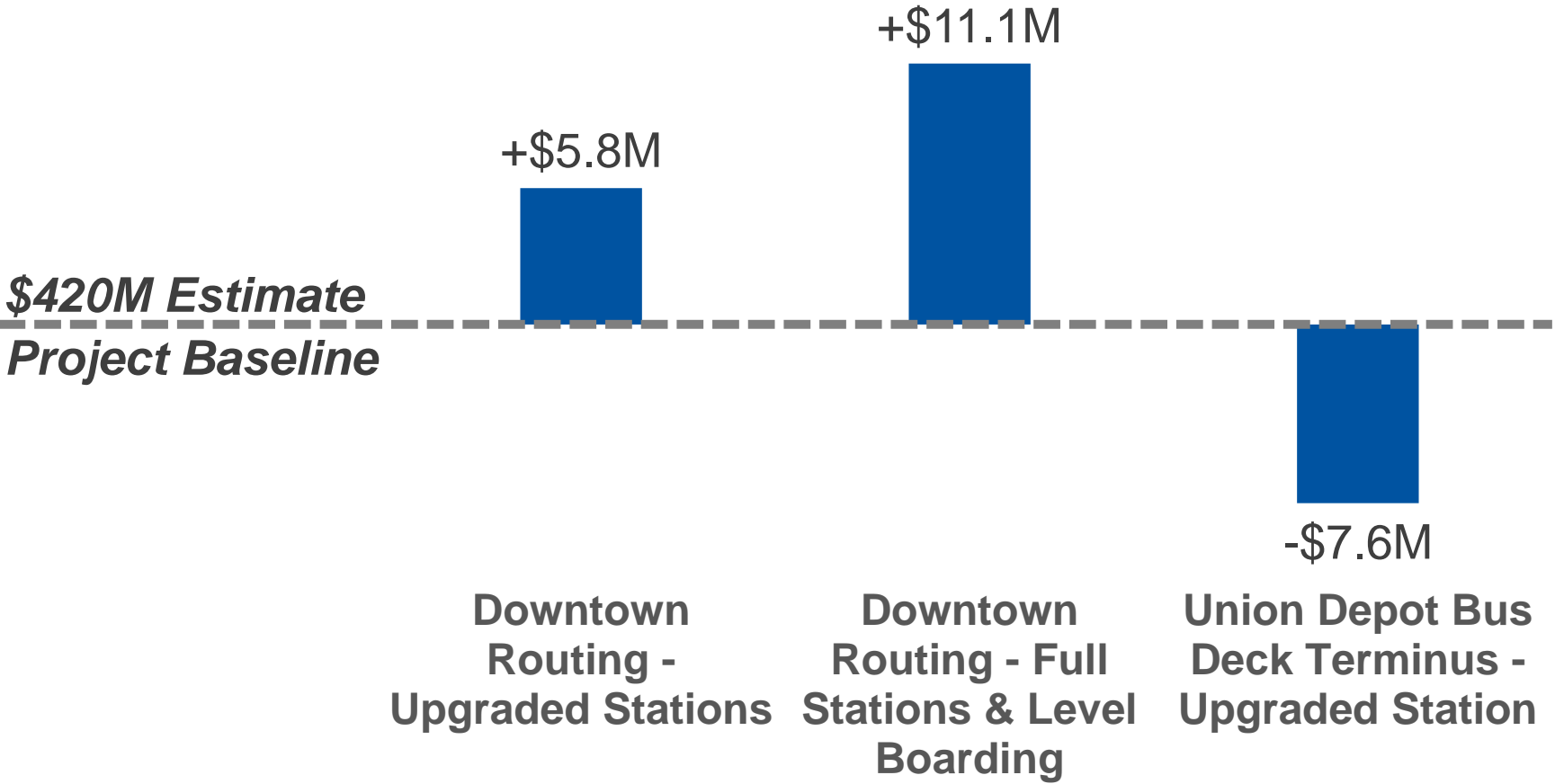
\*50% of the lost rides would chose to drive instead



Downtown Zone	Ridership Distribution
Union Depot Station (Front)	40%
Central Downtown	30%
Rice Park/Xcel Energy Center Area	30%

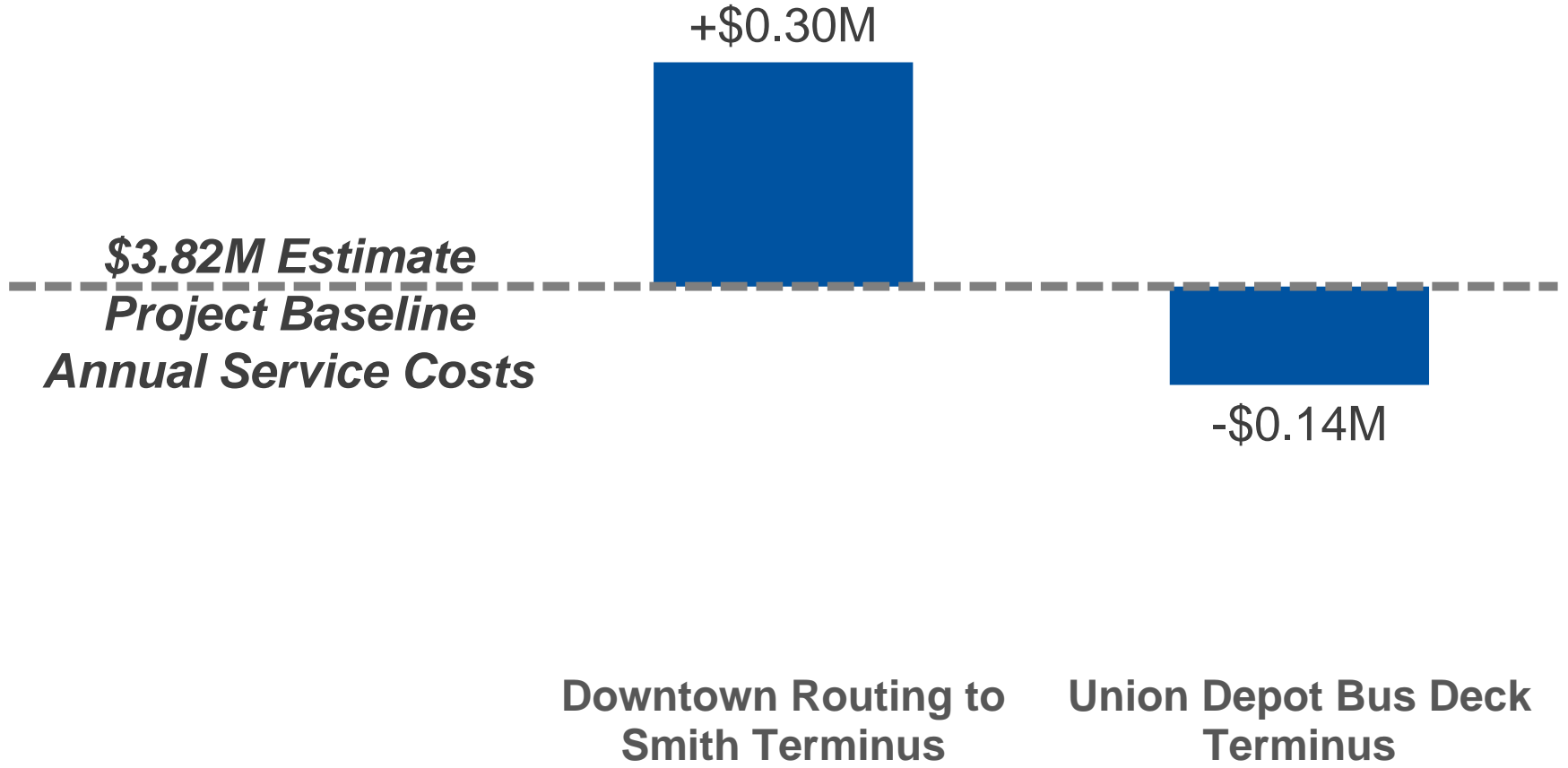


## Cost Comparison



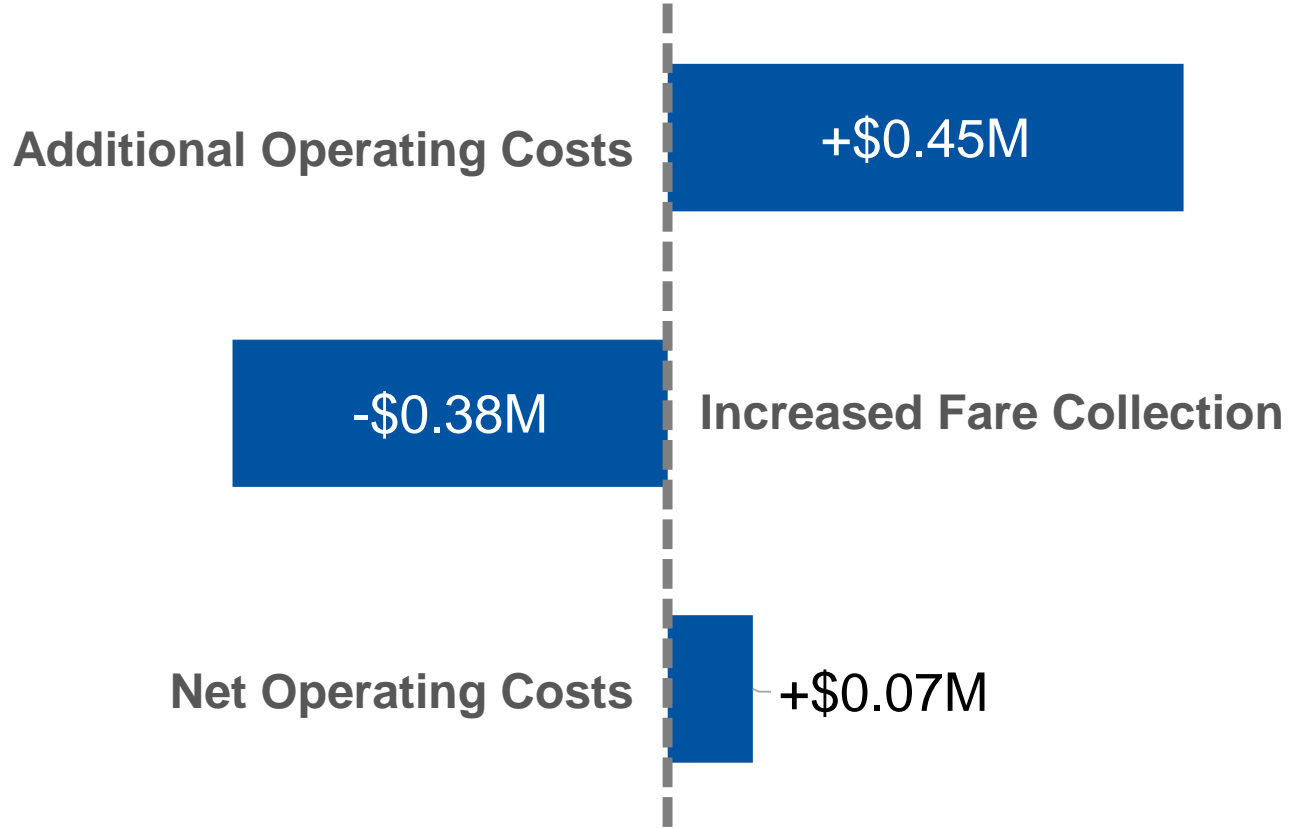


## Operating Cost Comparison





## \$70,000 annual Net Service Cost to travel through Downtown to Smith vs. terminate at Union Depot Bus Deck



- Platform
  - Raised platform
  - Tactile warning strip
  - Bump out
  - Light
  - Bench
- Waiting Shelter
  - Light
  - Heat
  - Bench
- Health, Safety, and Security
  - Trash/Recycling
  - Security Cameras
  - Emergency Phone
- Fare collection
  - Ticket vending machines
  - Validators
- Customer communication
  - Station Pylon
  - Station Sign
  - Route/Schedule Display
  - Digital Info Panel Area
  - Wayfinding
  - Real Time Sign
  - Push-button Annunciator
- Pedestrian/Customer access



# BRT Station Elements



Platform Shelter (A-Line shown)



Tactile Warning Plate  
Concrete Platform Pavement



Emergency Telephone (A-Line shown)



Shelter Light & Heaters (A-Line shown)



Security Camera (A-Line shown)



Pylon (A-Line shown)



Light Fixture (A-Line shown)



Variable Message Sign (VMS) (METRO Green Line shown)



Ticket Vending Machine (TVM) (METRO Blue Line shown)



Ticket Validator (A-Line shown)



Bench (C-Line shown)



Bicycle Rack (A-Line shown)



Waste & Recycling Receptacle (A-Line shown)