

SOUTHWEST

Green Line LRT Extension



Community Advisory Committee

June 30, 2015



Today's Topics

- Summary of June 24 CMC Meeting
- Potential Cost Reduction Discussion/CAC Recommendation
- Construction Cost Estimate Review
- Transit Options Review



Summary of June 24 CMC Meeting

What We Heard at June 3 CMC

- Little support for scenarios A or B
 - A: Ending at Southwest Station required too many cuts along rest of line to maintain a viable level of ridership
 - B: Ending at Golden Triangle considered “draconian;” requires Eden Prairie to bear brunt of cuts
- Discussion centered around scenarios C and D which end at Town Center

Criteria for Evaluating Cost Reductions

- Must identify cost reductions totaling at least \$341M to keep the project budget at \$1.65B
- Must have forecasted average weekday ridership of 29,000 to 30,000
- Must achieve consensus by all communities along the line

Coordination Since June 3 CMC Meeting

- City Specific Work Sessions
- CAC (6/9) and BAC (6/17)
- Met Council briefing (6/10)
- Eden Prairie City Council Workshop (6/16)
- Twin West and Eden Prairie Chambers (6/5 and 6/19)
- Four Project Partner Work Sessions

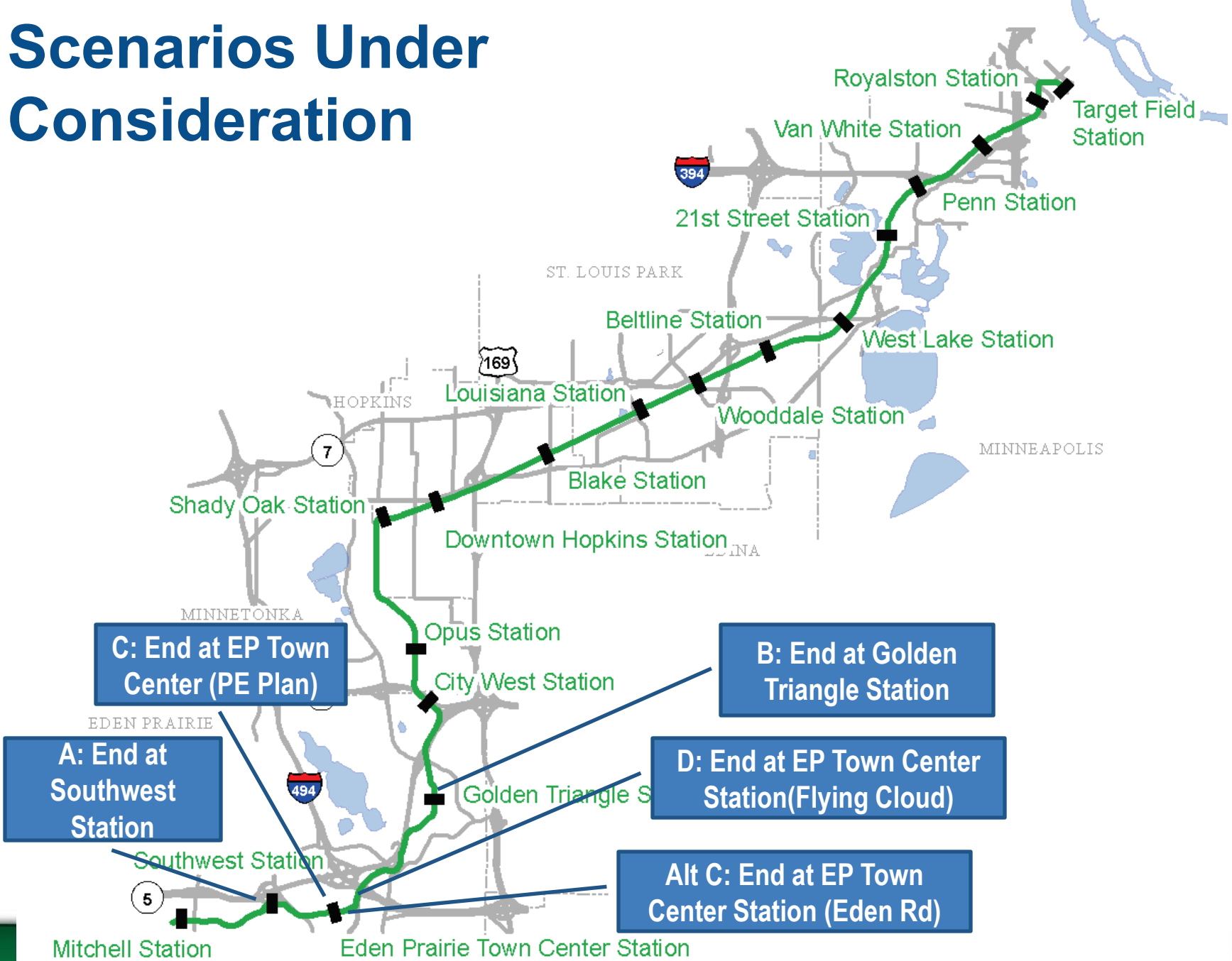
Researching New Funding Sources

- Working with project partners to develop a matrix of other funding sources for elements that may be eliminated from the project
- Discussing with project partners the potential to use local funds to leverage federal New Starts match

New Cost Reductions Identified

- Reduced finance charge from 3% to 2%: \$10M cost reduction
- Additional design refinements to the OMF: \$6.5M-\$7.5M cost reduction
- Reduced LRV fleet by 3 more vehicles: \$15M cost reduction

Scenarios Under Consideration



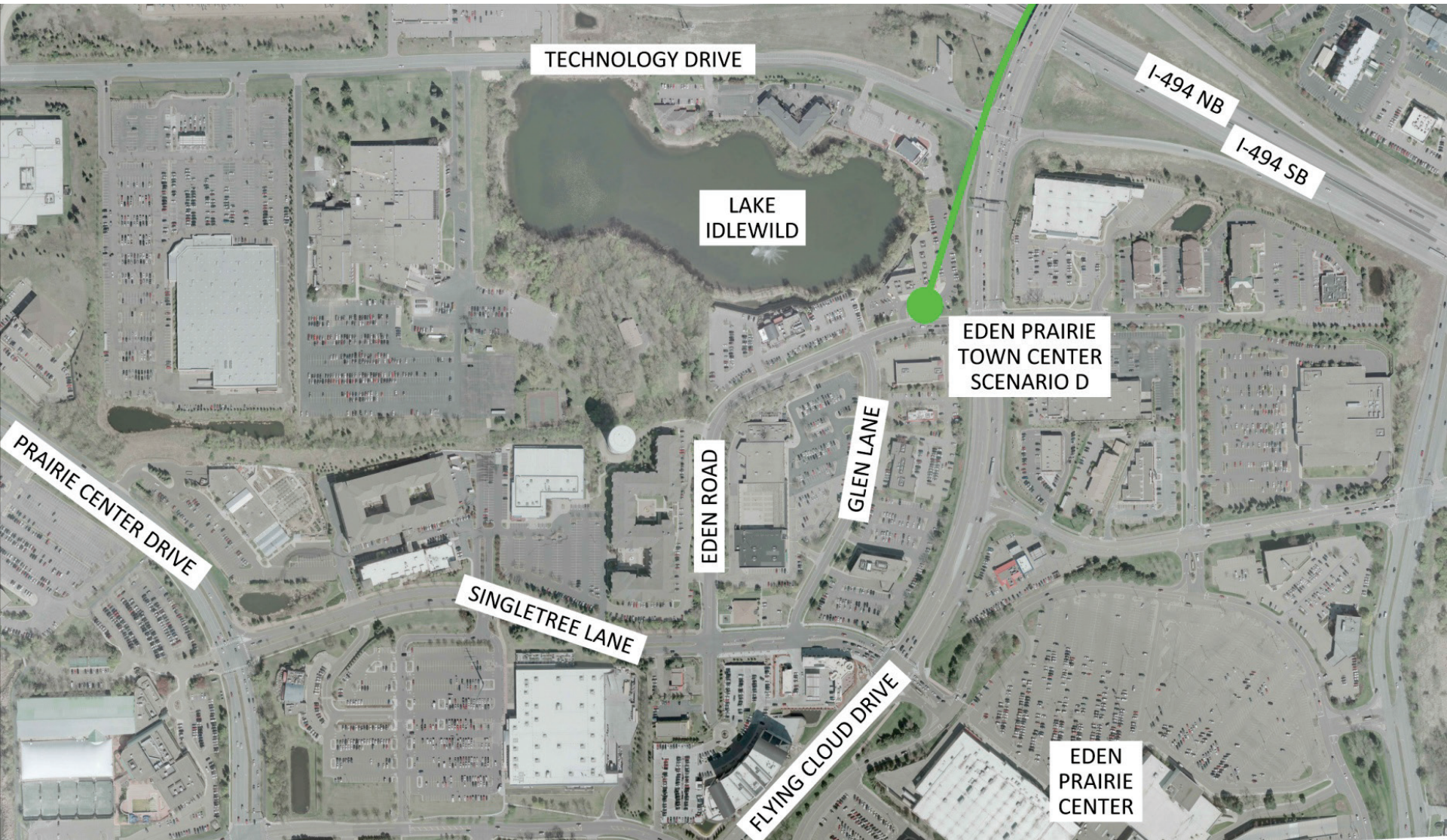
Scenario A: No Further Analysis

- A: End at Southwest Station
 - Eliminated all park and rides and 4 stations
 - Ridership of 26,700 (2040) too low; doesn't achieve New Starts rating
 - Cost reduction of \$300M - \$334M does not achieve necessary reduction of \$341M
- Alternate A: End at Southwest Station as proposed by City of Eden Prairie
 - Eliminated 2 park and rides, deleted 1 station and deferred 1 station
 - Ridership of 32,700 (2040); achieves New Starts Rating
 - Cost reduction of \$281M - \$311M does not achieve necessary reduction of \$341M

Scenarios B and D: No Further Analysis

- B: End at Golden Triangle
 - Eliminated 3 of 5 stations in Eden Prairie
 - CMC feedback too “draconian”
- D: End at Town Center (Flying Cloud Dr.)
 - Eliminated potential for future extension
 - Eliminated 2 and deferred 1 station; reduced most park and rides

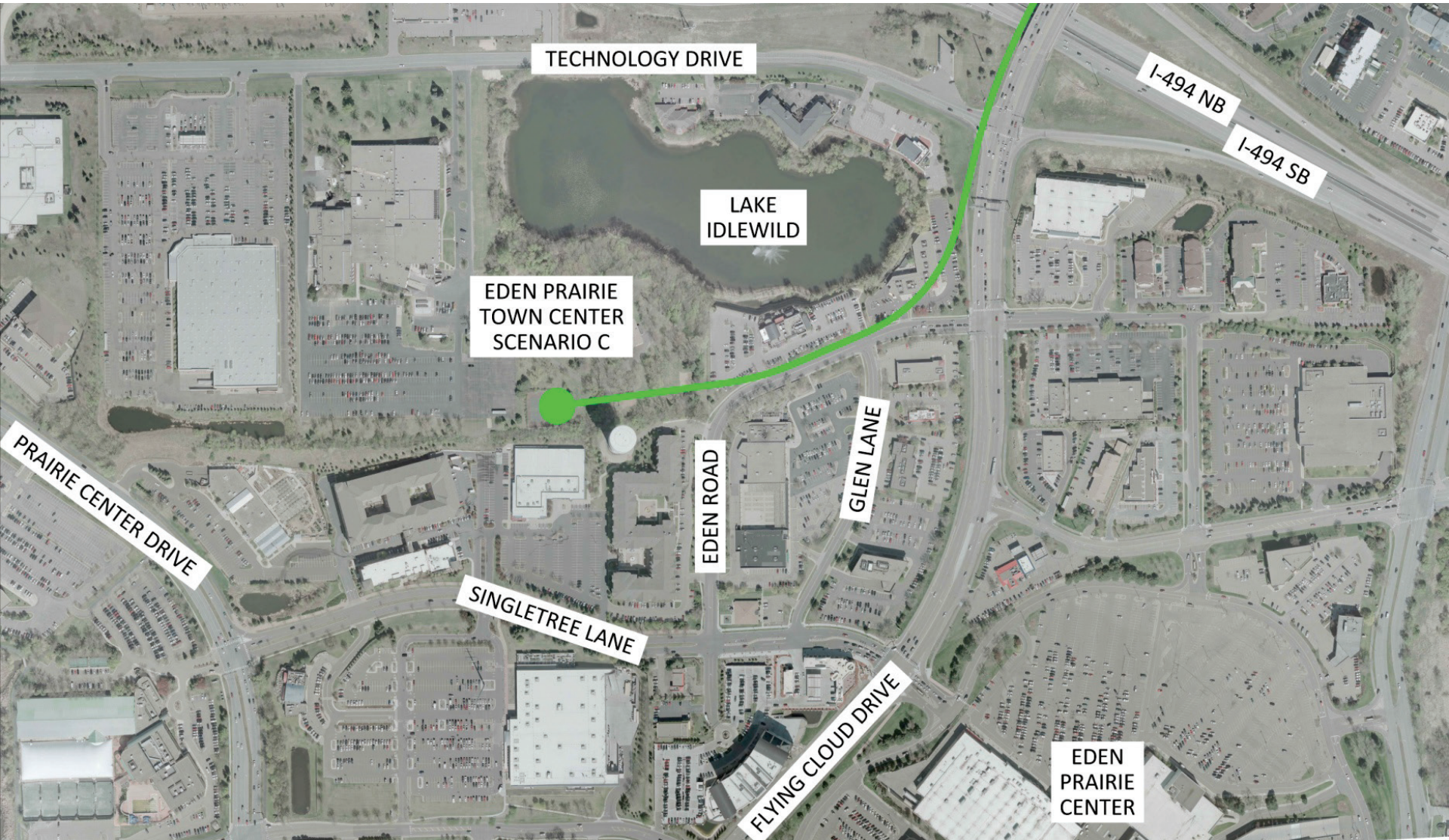
D: End at Town Center Station (Flying Cloud)



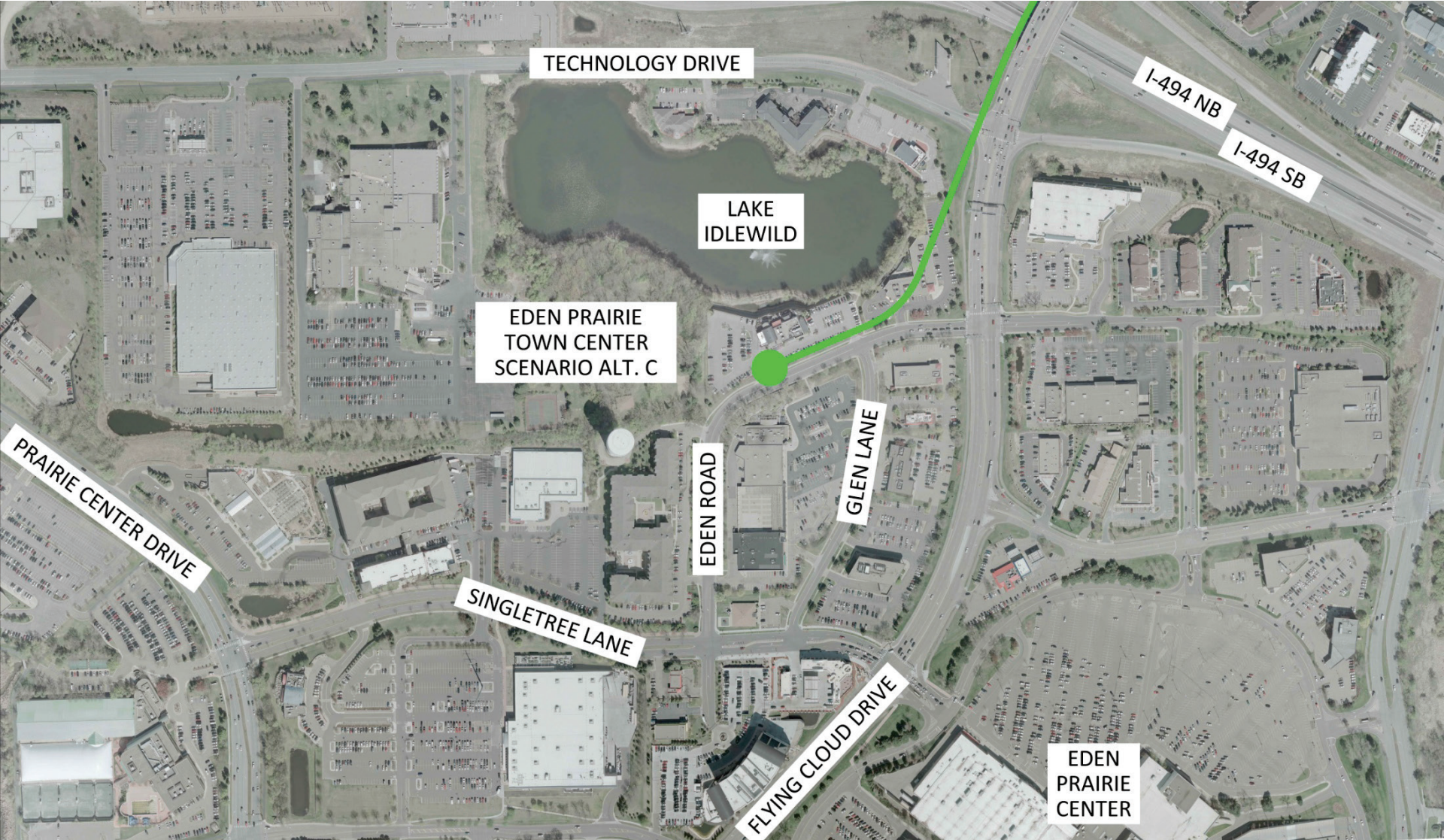
C Scenarios:

- Two Town Center options
 - C: End at Town Center (PE Plan)
 - Alternate C: End at Town Center (Eden Road)
- Include same corridor wide and stakeholder options in proposed cost reductions
- Only difference is Alternate C (Eden Rd) station location is 750 feet east of the C (PE Plan) station

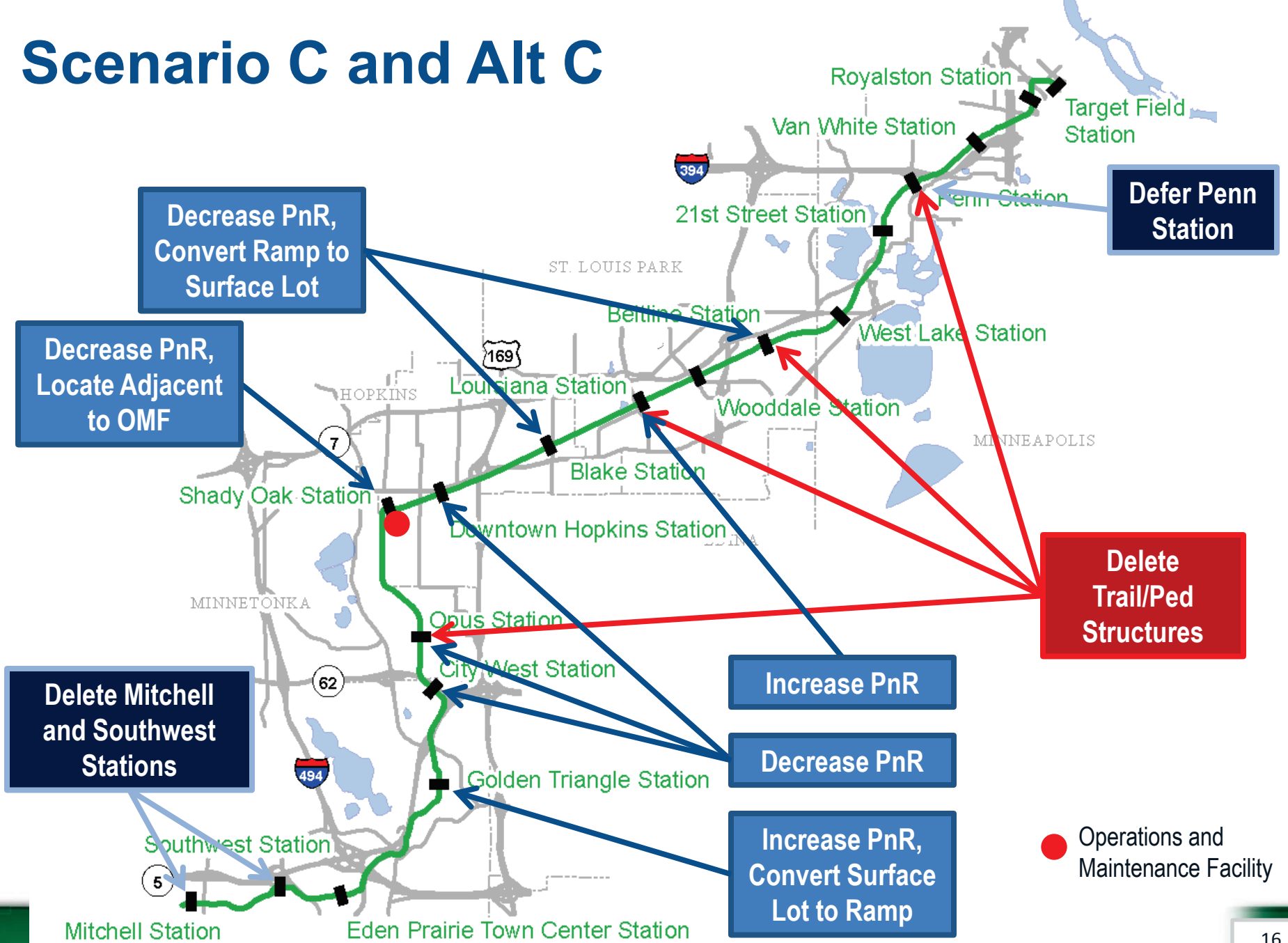
C: End at Town Center Station (PE Plan)



Alt C: End at Town Center Station (Eden Rd)



Scenario C and Alt C



Scenario C and Alt C: Summary

	C: Town Center (PE Plan)	Alt C: Town Center (Eden Rd)
Western End Station	EP Town Center	EP Town Center @ Eden Rd
Stations	Defer Penn, Delete Mitchell and Southwest Stations	
Park and Rides	Decrease, Convert to Surface Lots: Beltline, Blake Decrease DT Hopkins, Shady Oak, Opus, City West Increase Louisiana, Golden Triangle (convert to ramp)	
Park and Ride Spaces	1,939 spaces (reduction of 1,711 spaces)	
Ridership (2040)	31,450	
Scenario Cost Estimate	\$1.630B	\$1.617B
Potential Cost Reduction	\$364M - \$394M	\$377M - \$406M
Cost Effectiveness Index	\$9.92 Medium	\$9.86 Medium
Potential for Adding Elements Back	\$23M - \$53M	\$36M - \$66M

Elements Not in C or Alt C

	Project Cost	Enrichment *	Other Federal Funding	Adds Ridership
Beltline Trail Bridge	\$13-14M	Yes	Yes	
Beltline PnR Ramp	\$10M	Yes (if JD)	Yes	Yes
Shady Oak PnR (Tech Center)	\$24-26M	No		Yes
Penn Station and Ped Improvements	\$12-14M	No (Station) Yes (Ped)		
Site furnishing (50%)	\$0.5-0.6M	Yes		
Public Art (100%)	\$4.5M	Yes		
Landscaping (75%)	\$11-13M	Yes		
N Cedar Lake Trail Bridge	\$12-14M	Yes		
Trail Underpass at Louisiana	\$0.6M	Yes		
2 Ped Underpasses at Opus	\$1-2M	Yes		

* Enrichments are not charged against Cost Effectiveness Index

Scenario C and Alt C: “Add-backs”

	Project Cost	Enrichment *	Adds Ridership	CEI Impact
Beltline Trail Bridge	\$13-14M	Yes	No	No
Beltline PnR Ramp (2020)	\$10M	Yes (if JD)	Yes	Yes
Shady Oak PnR (2020 Tech Center)	\$24-26M	No	Yes	Yes
Blake PnR (2020)	\$4.6-5.6M	No	Yes	Yes
Penn Station and Ped Improvements	\$12-14M	No and Yes	N/A	Yes
Site furnishing	\$0.5-0.6M	Yes	No	No
Public Art	\$2.5-4M	Yes	No	No
Landscaping	\$8-13M	Yes	No	No
N Cedar Lake Trail Bridge	\$12-14M	Yes	No	No
Trail Underpass at Louisiana	\$0.6M	Yes	No	No
2 Ped Underpasses at Opus	\$1-2M	Yes	No	No
Light rail vehicles (2)	\$10-12M	No	No	Yes

* Enrichments are not charged against Cost Effectiveness Index

Potential Cost Reduction Deliberation

Construction Cost Estimate Review

Construction Cost Estimation Review

- Perform evaluation of current construction cost estimate using existing Peer Review Consultant (PRC)
- Review project budget quantities and unit costs compared with LRT projects nationally, industry standards and PRC's professional experience implementing similar LRT projects

Cost Review: Scope

- PRC evaluated construction cost estimates against FTA Capital Cost Database for Standard Cost Categories (SCC):
 - Guideway, track
 - Stations, stops, terminals, intermodal
 - Support facilities, yards, shops, admin buildings
 - Sitework, special conditions
 - Systems
- Identified project components with higher levels of construction risk

Construction Cost Estimate Comparison

Element (in \$ millions, 2014)	FTA Capital Cost Database Range	SWLRT Construction PE Cost Estimate
Guideway and Track	\$550 – 600	\$414
Stations, Stops, Terminal, Intermodal	\$96 – 114	\$103
Support Facilities: Yards, Shops, Admin Buildings	\$67 – 74	\$92
Sitework, Special Conditions	\$143 – 189	\$169
Systems	\$159 – 194	\$187
Construction Subtotal (SCC 10-50)	\$1,020 - 1,170	\$965
Unallocated Contingency (SCC 10-50)	NA	\$96.5
Construction Total	\$1,020 - 1,170	\$1,060

Recommendations

- Bridges: 15% of estimated construction costs
 - Identify design refinements that result in construction efficiencies
- Tunnels: 8% of estimated construction costs
 - Consider longer construction segments
- Retaining walls: 11% of estimated construction costs
 - Review retaining wall design approach for construction efficiencies
- Market conditions
 - Monitor local construction market

Summary

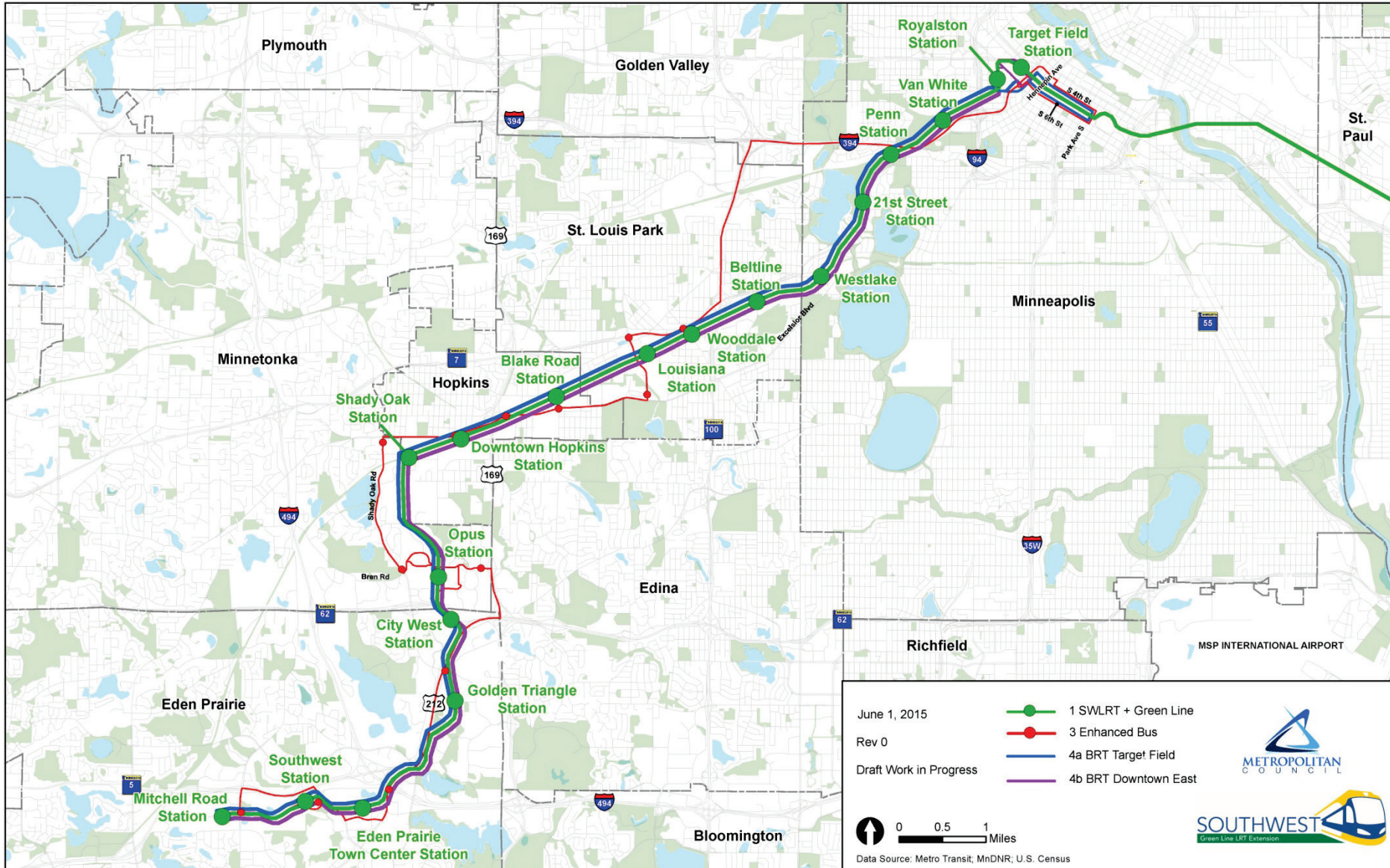
- Construction cost estimate is developed to an adequate level of detail with all major elements of the project accounted for
- Cost estimate's level of accuracy is appropriate for this phase of project development, and is within range of cost for similar LRT projects
- Elements of market risk remain in unit price and quantity cost estimate in areas of bridges, tunnels and retaining walls

Transit Options Review

Transit Options Review: Methodology

- Compared corridor transit options including:
 - Light Rail Transit (LRT)
 - No Build (No significant capital investment in transit)
 - Enhanced Bus
 - Bus Rapid Transit (BRT)
- Reviewed transit options from previous analysis with updated data using the following metrics
 - Cost
 - Ridership
 - Travel time and reliability
 - Economic development

Transit Options Review: Route by Mode



Transit Options Review: Assumptions

Evaluation Measure	1 LRT: Mitchell - Target Field	2 No-Build	3 Enhanced Bus: Mitchell – DT East	4a BRT: Mitchell - Target Field	4b BRT: Mitchell - DT East
Length (miles)	15.7	N/A	21.1	16.7	18.2
Stations/Stops	17 new	N/A	19 new	18 new	28 new
Park and Ride	3,800 new	N/A	2,000	3,800 new	
Frequency: Peak	10 min.	N/A	10 min. E. of Shady Oak 20 min. W. of Shady Oak	10 min.	
Frequency: Off Peak	20 min.	N/A	15 min. E. of Shady Oak 30 min. W. of Shady Oak	20 min.	
Guideway	Exclusive	N/A		Exclusive for 15 miles	
Other	Connecting bus service	Background regional bus service growth	Enhanced shelters, Ticket vending machines, signal priority	Connecting bus service	

Summary

	Strengths	Weaknesses
LRT	<ul style="list-style-type: none"> Shortest transit travel time Highest ridership Highest reduction to annual VMT 	<ul style="list-style-type: none"> Highest capital cost Highest annual operational costs
No Build	<ul style="list-style-type: none"> No capital cost or increase in annual operating costs 	<ul style="list-style-type: none"> No change in transit improvement, VMT
Enhanced Bus	<ul style="list-style-type: none"> Lowest capital Lowest annual operating costs 	<ul style="list-style-type: none"> Longest travel time Lowest ridership Lowest increase to access for transit dependent riders Least reduction to annual VMT
BRT	<ul style="list-style-type: none"> Slightly lower capital cost than LRT Annual operating cost comparable to Enhance Bus option Higher ridership than Enhanced Bus 	<ul style="list-style-type: none"> Half the ridership of LRT 39%-43% of LRT congestion relief Schedule impacts due to restarting New Starts, Environmental and LPA processes

Next Steps

Next Steps

- June 30: Community Advisory Committee
 - Input on project scope reductions
- July 1: Corridor Management Committee
 - Recommendation on project scope and budget
- July 1: Met Council Committee of the Whole
 - Recommendation on project scope and budget
- July 7: Hennepin County Regional Railroad Authority
 - Recommendation on project scope and budget
- July 8: Met Council
 - Action on project scope and budget

Member and Committee Reports/Public Forum

Next Meeting

- Tuesday, July 28, 2015 at 6:00 PM

More Information

Online:

www.SWLRT.org

Email:

SWLRT@metrotransit.org

Twitter:

www.twitter.com/southwestlrt

