

SOUTHWEST

Green Line LRT Extension



Executive Change Control Board

January 15, 2016



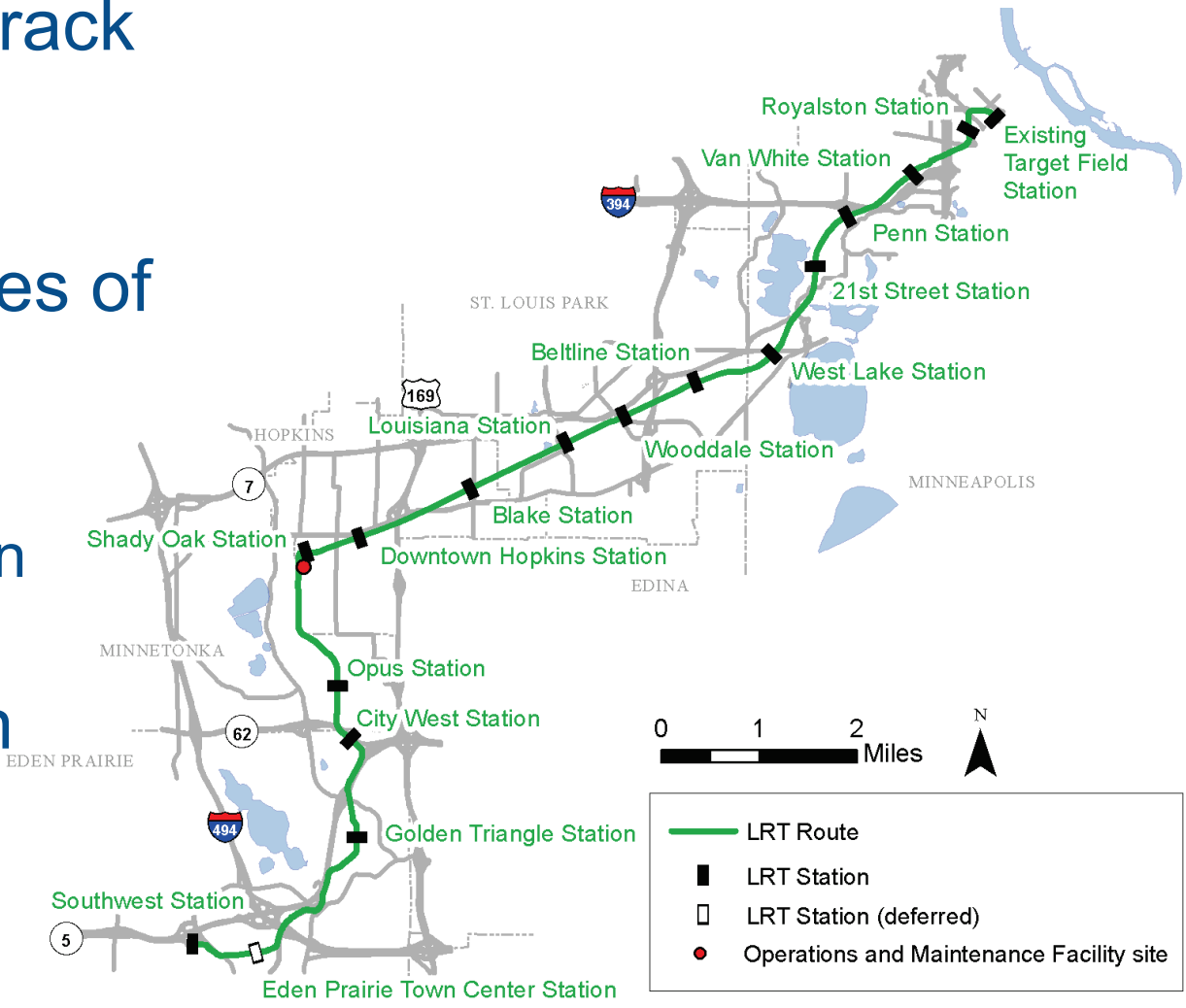
Today's Topics

- Review In Kind Land Transfer (Action)
- Review Project Schedule
- Review Project Cost Estimate at 60% Design
- Review Project Scope (Action)
- Next Steps



Southwest LRT

- 14.5 miles new track
- 32 bridges
- 2 LRT tunnels
- Over 7 lineal miles of retaining walls
- 15 new stations
 - 1 deferred station
- 34,000 average weekday rides in 2040



Review Land Transfer

Background Summary

- July 1: CMC recommends revised project scope and cost estimate
- July 8: Met Council revised project scope and cost estimate
 - Project cost estimate of \$1.744B
- July 21: Hennepin County commits to future transfer of land; initial estimated value of \$30M
 - Project cost estimate of \$1.774B
- Aug 3: Met Council submits New Starts Update to FTA
 - Project cost estimate of \$1.774B

Recommendation & Action

- ECCB confirms future transfer of land from Hennepin County to Metropolitan Council
 - Adds \$30M to project cost estimate
 - Project Cost estimate of \$1.774B
 - No increase of CTIB, HCRRA or State funding

Review Project Schedule

2015 Completed Milestones

- **July** CMC recommended and Met Council approved a revised project scope and cost estimate
- **Aug 3** Submitted New Start Application
- **Sept 25** Received Municipal Consent on revised scope from all 5 cities and Hennepin County
- **Sept 28** Completed 60% Civil and OMF Design Plans
- **Oct 5** Submitted Notice of Intent to apply for Entry into Engineering
- **Oct 21** Held Construction Contractor Kick-off Event
- **Oct 28** Completed 60% System Design Plans

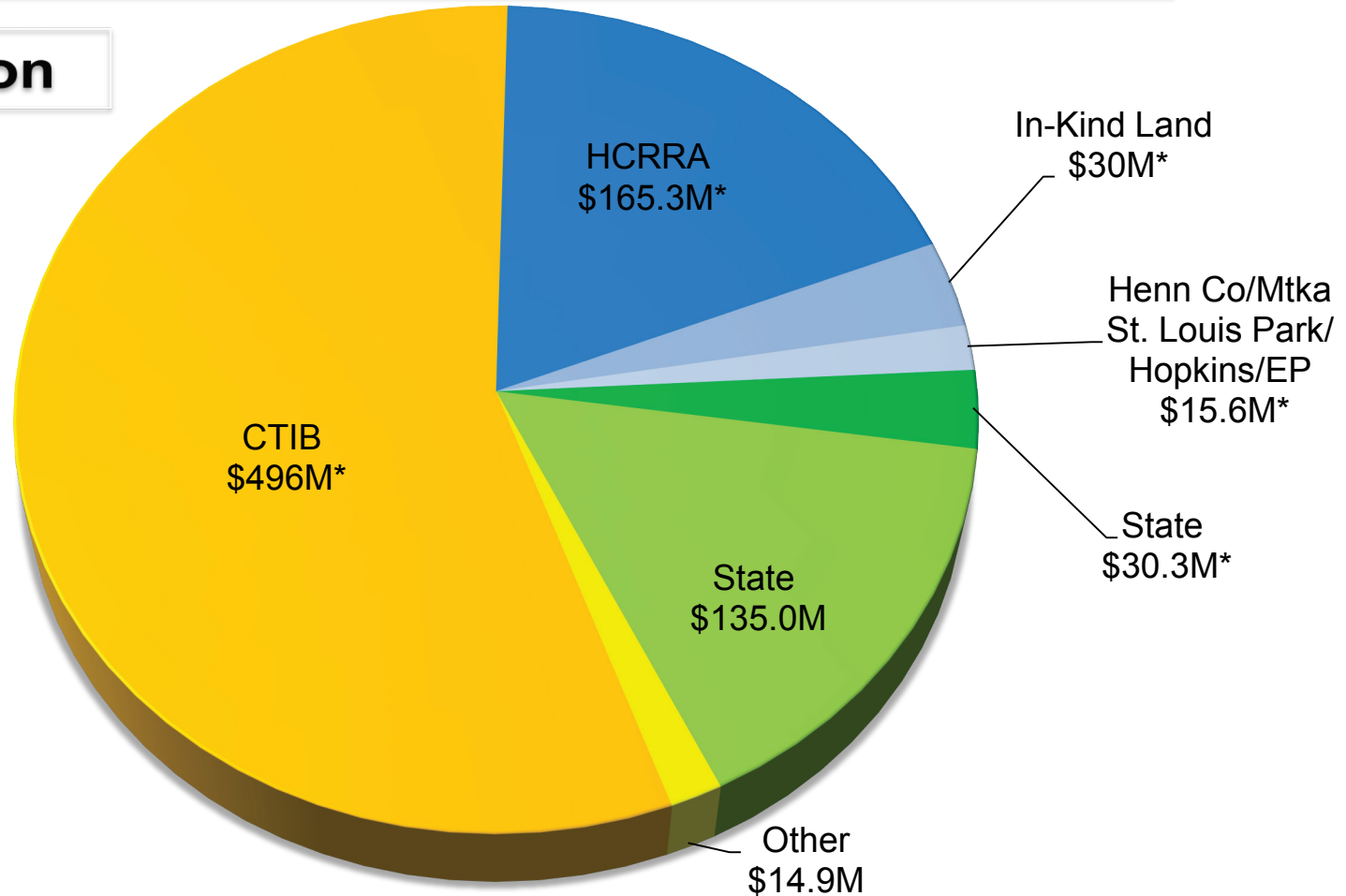
Major Milestone	Date
ECCB Reviews* 60% Project Cost Estimate	Jan 2016
90% Design Packages for Civil Completed	Jan 2016
LRV Proposals Due	Mar 2016
ECCB Reviews* 90% Civil Cost Estimate	Mar 2016
100% Design Packages for Civil Completed	Apr 2016
FEIS Publication	Apr 2016
Civil Invitation For Bid Issued	May 2016
90% Design Packages for Systems & OMF Completed	May 2016
Environmental Record of Decision	June 2016
ECCB Reviews* 100% Civil/90% Systems & OMF Cost Estimates ECCB Approves* Project Budget	June 2016
Approval to Enter Engineering <i>(previously July 2016)</i>	Sept 2016
Letters of No Prejudice (LONP) from FTA	Pre FFGA
Full Funding Grant Agreement <i>(previously Dec 2016)</i>	Mid 2017
Heavy Construction	2017-2019
Revenue Service	2020

*per CTIB Funding Commitment Resolution

Local Funding Commitment Timeline

\$737.2M Committed out of \$887.1 Million Needed
Outstanding Local Funds Must be Committed by July 1, 2016

\$1.774 Billion



*** Committed**

Current Project Schedule Summary

- Project schedule version 8.0 has been updated to include specific construction activities; critical paths include:
 - Kenilworth Tunnel
 - Excelsior Blvd Bridge
 - Louisiana Station area
 - Operations and Maintenance Facility

Current Project Schedule Summary

- Risks to Construction Schedule
 - State Funding
 - Delay to start of early construction in Fall 2016
 - Right of way acquisition on freight rail property
 - Relocation delays at Operations and Maintenance Facility site
 - Timing of Full Funding Grant Agreement award
 - Labor market availability
 - Acceleration of construction schedule

Potential Mitigation Strategies for Construction Schedule Delay

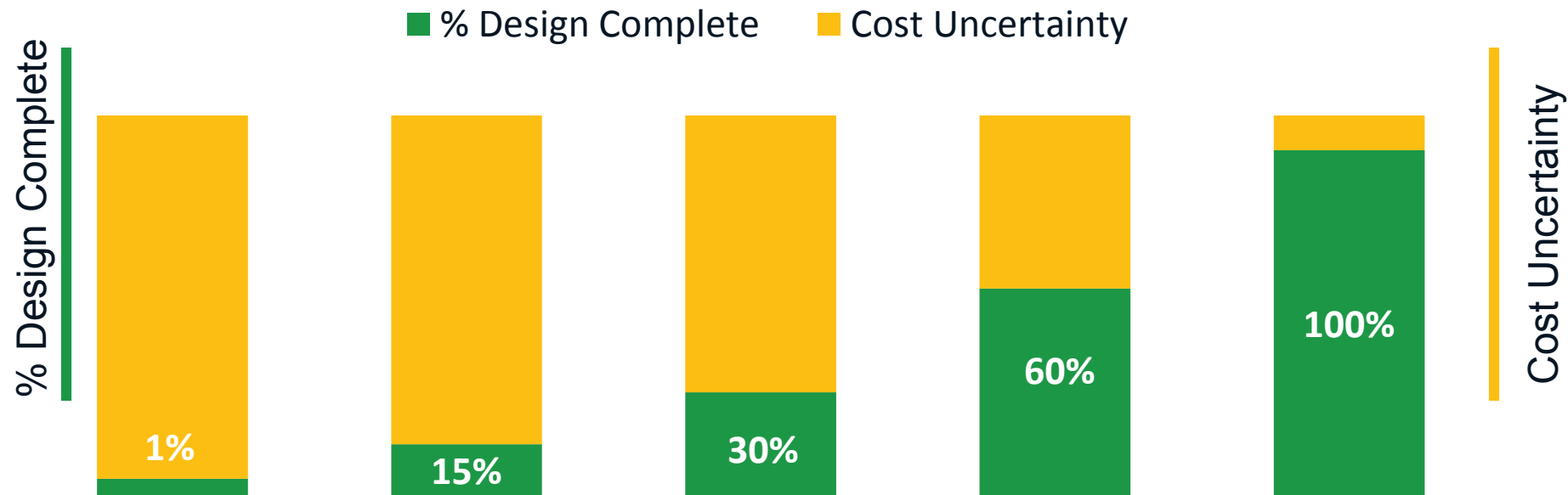
- Local Funding Commitments for early Construction pre Full Funding Grant Agreement
 - Letters of No Prejudice from FTA
- Accelerated construction schedule
 - 6 day work weeks
 - Extension of construction season/winter work
- Continued workforce and contractor outreach

Letters of No Prejudice (LONP)

- FTA-issued “Letters” permitting project sponsors to incur construction costs prior to execution of Full Funding Grant Agreements (FFGA)
- “No Prejudice” means these costs will be eligible as local match for future federal funds
- Requires local funding partners to fully fund costs, including construction, pre-FFGA at their own risk

Review Project Cost Estimate at 60% Design

Cost Uncertainty By Project Phase



Contingency and Risk

- Contingency is budget set aside to account for project risks

Requirements

- Utilities
- Railroad Negotiations

Design

- Systems elements
- Freight rail requirements

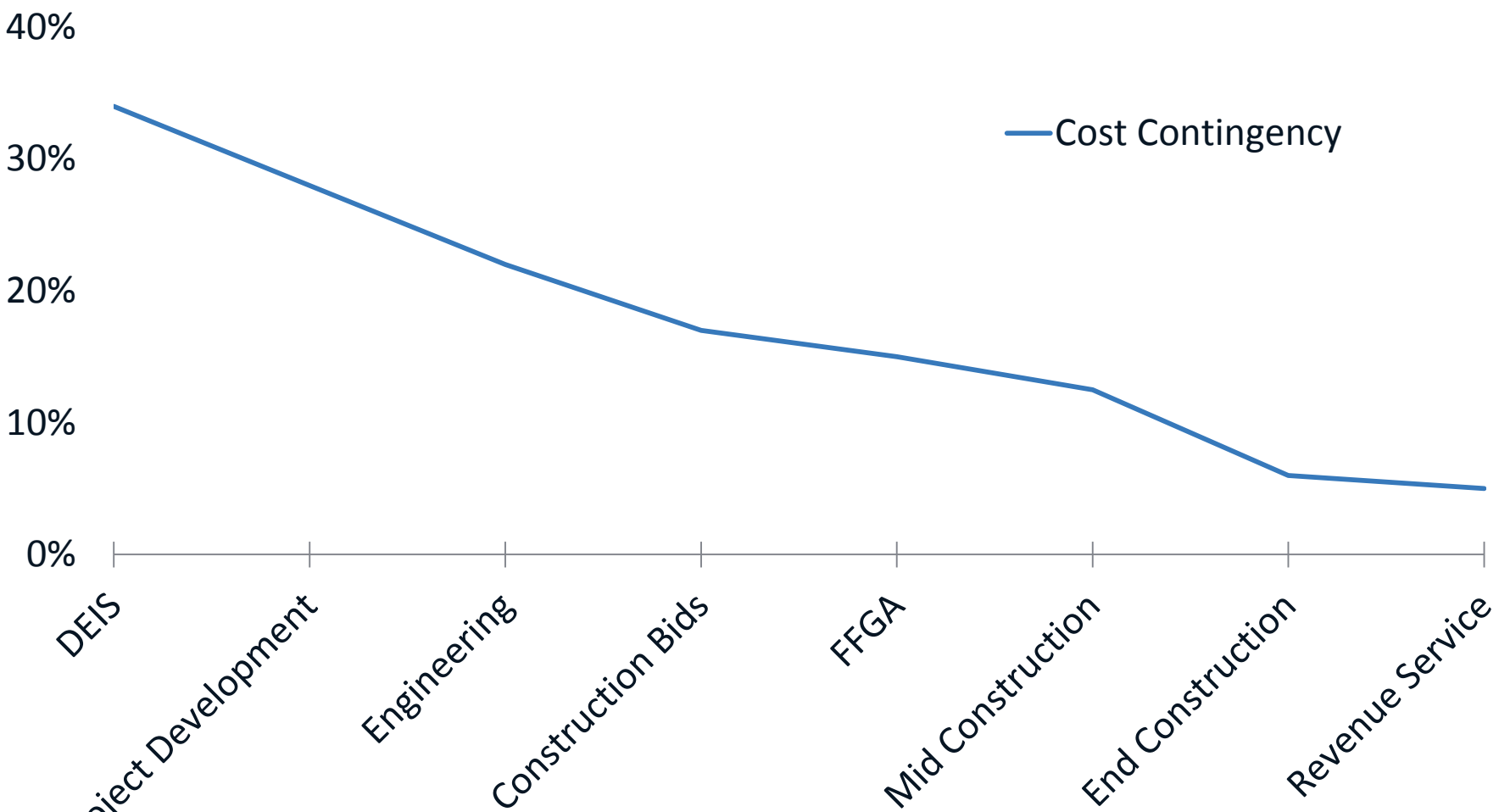
Market

- Construction Bids
- Right-of-Way
- Finance Costs
- Schedule Delay
- Light Rail Vehicles

Construction

- Unforeseen Conditions
- Contaminated Soils
- Field Engineering

Cost Contingency Draw Down* (example)



***Subject to FTA risk assessment**

Potential Contingency Hold Points*

Phase Description/Milestones	Hold Point
Project Development	25 - 30%
Entry into Engineering: Budget Fixed	20 - 25%
Full Funding Grant Agreement	15 - 20%
20% Construction	12 - 15%
50% Construction	10 - 12%
75% Construction	8 - 10%
90% Construction	6 - 8%
Revenue Service Date	5 - 6%

*Hold points are shown for example purposes; actual hold points to be determined in consultation with FTA

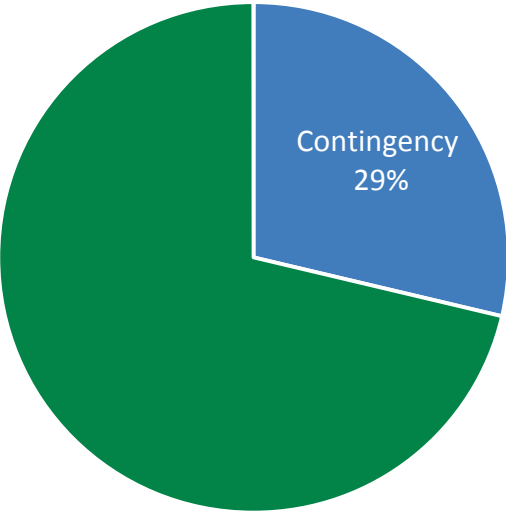
30% Estimate vs 60% Estimate

- 30% Estimate: Average costs applied to known quantities, plus allowances for unknowns
- 60% Estimate: Complete “bottoms up” approach
 - Used more detailed drawings and quantities
 - Refined labor rates
 - Obtained vendor material quotes
 - Incorporated contractor markup including bonds, insurance, permit fees, and general conditions
 - Projected reduction of allocated contingency with increase in confidence/decrease in design risk

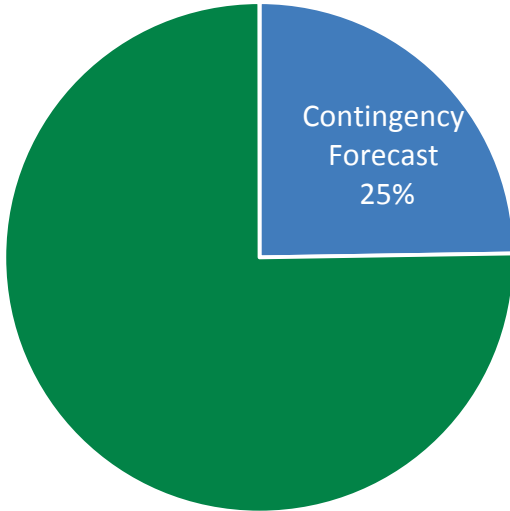
Overview of 60% Cost Estimate

- Updated quantities based on 60% design plans
- Reduced unknowns through design advancement
- Used detailed build-up approach which produces more confident estimates than unit cost approach

30% Design



60% Design

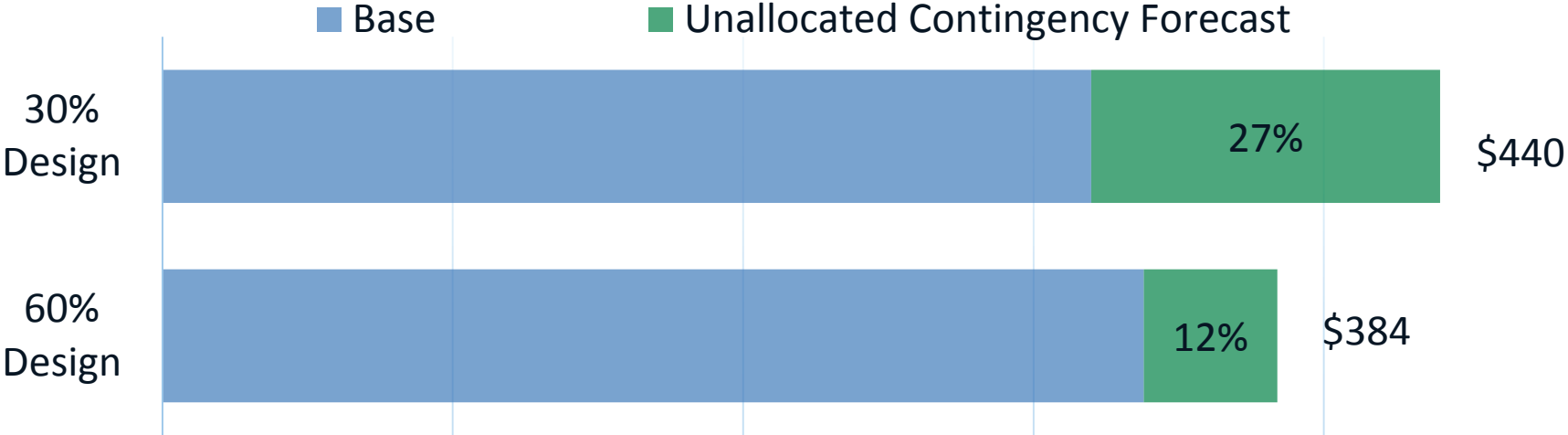


Project Cost Estimate Update Summary

Budget Category (in \$ millions, YOE)	30% Design (29% Contingency)	60% Design (25% Contingency)
Guideway and Track	\$440	\$384
Stations, stops, terminals	\$72	\$70
Support facilities	\$94	\$90
Sitework, special conditions	\$158	\$164
Systems	\$195	\$238
ROW, land, existing improvements	\$210	\$210
Vehicles	\$123	\$126
Soft Costs ¹	\$482	\$492
Total Project Costs	\$1,774	\$1,774

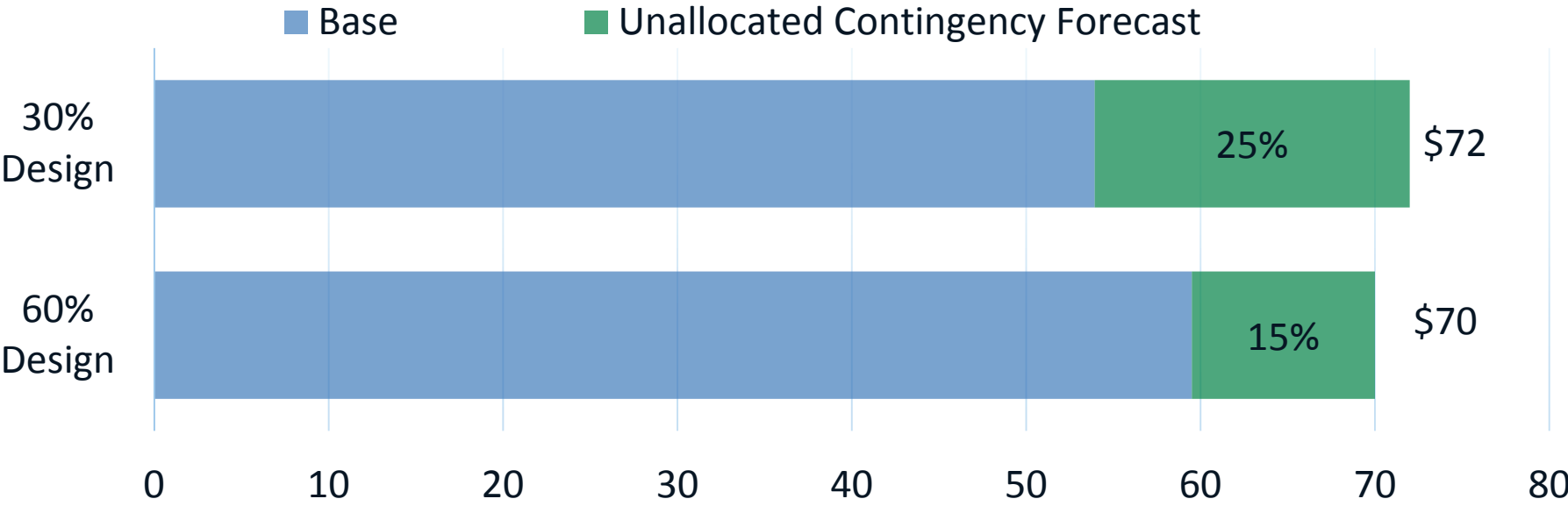
¹ Professional Services , Unallocated Contingency and Finance Charges

Guideway and Track (YOE, in \$ Millions)



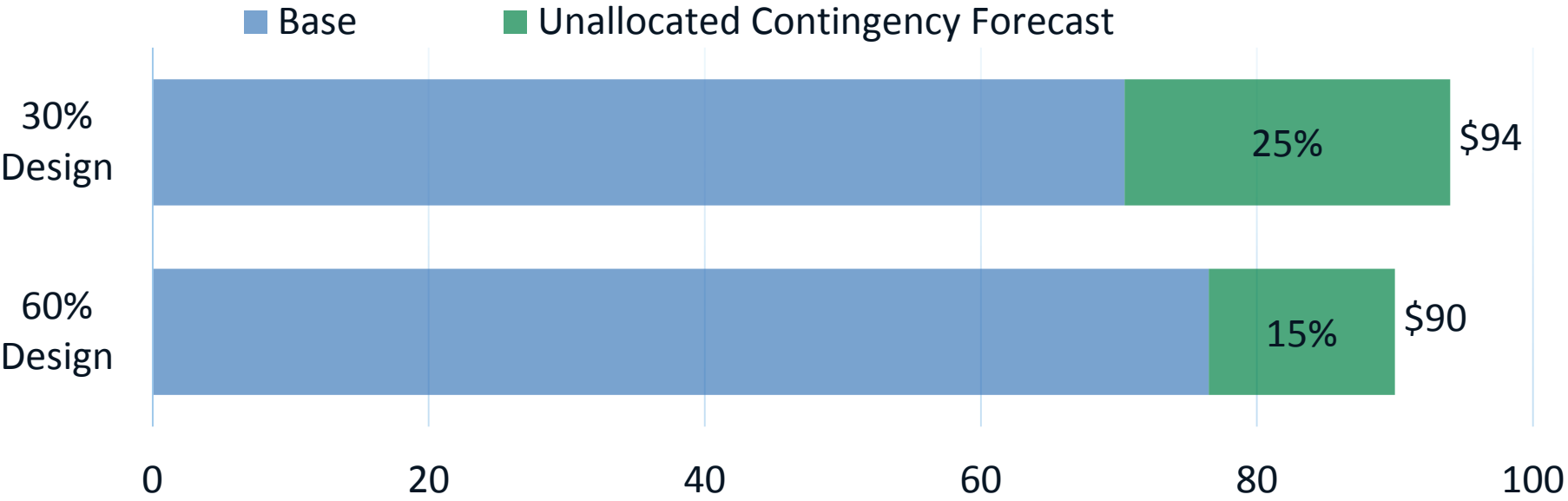
Factors	Examples
Updated Quantities	Determined retaining wall dimensions, shoring requirements; earthwork cut, fill, and export requirements; bridge lengths
Reduced Unknowns	Developed construction approach and phasing for bridge and tunnel structures; determined structural pile requirements
Refined Cost Inputs	Updated special trackwork costs using recent national vendor quotes

Stations (YOE, in \$ Millions)



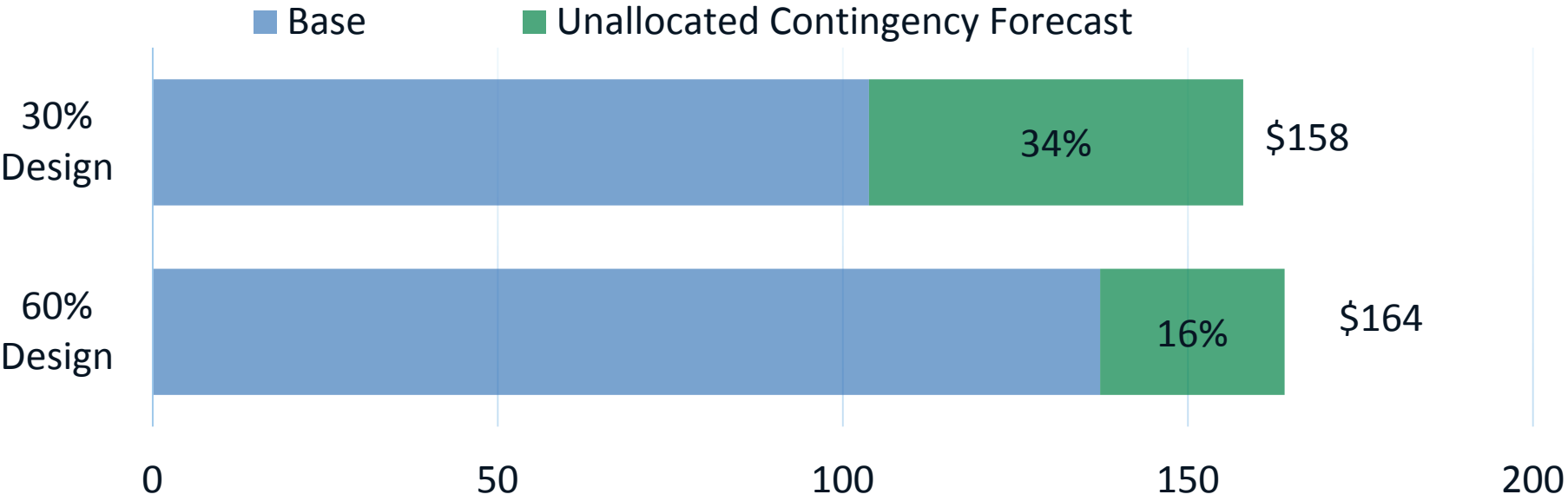
Factors	Examples
Updated Quantities	Refined SouthWest Station parking ramp dimensions and material quantities; Defined station platform materials
Reduced Unknowns	Determined quantity and depth for pile requirements at station and vertical circulation (elevators, stairs) facilities
Refined Cost Inputs	Updated costs for mechanical, structural, electrical and architectural design elements based on vendor quotes

Support Facilities/OMF (YOE, in \$ Millions)



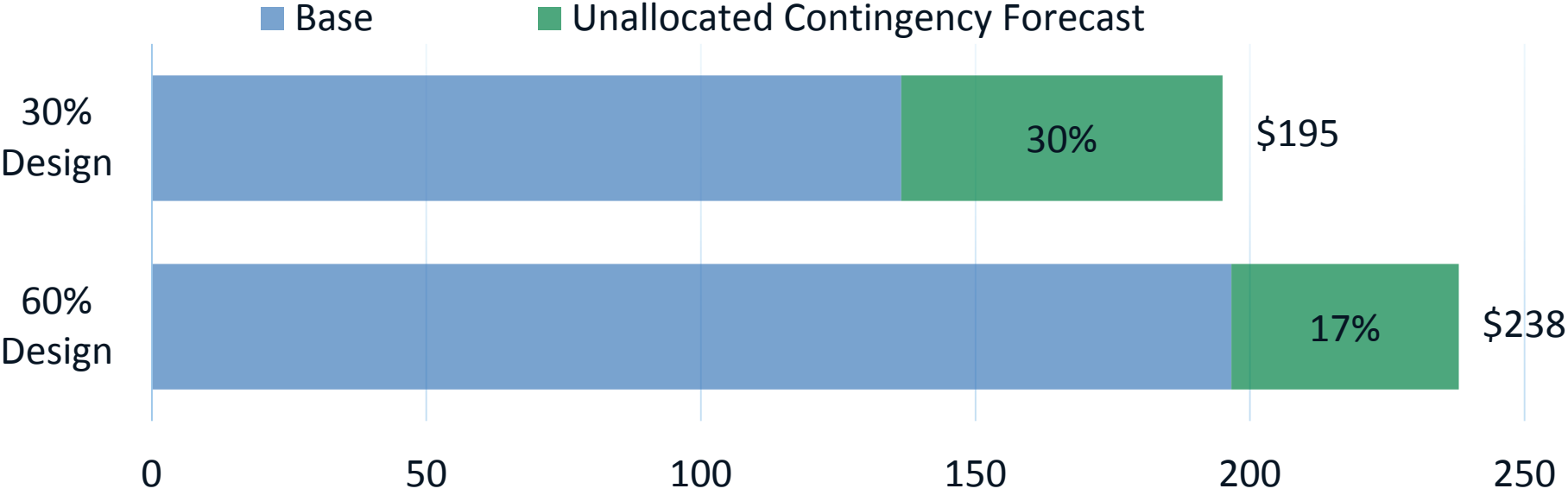
Factors	Examples
Updated Quantities	Identified architectural, mechanical, electrical, civil/site, track, retaining wall, yard, track and systems quantities
Reduced Unknowns	Confirmed operating and maintenance requirements for full functionality; identified building foundation approach
Refined Cost Inputs	Updated special trackwork costs using recent national vendor quotes

Site Work, Special Conditions (YOE, in \$ Millions)



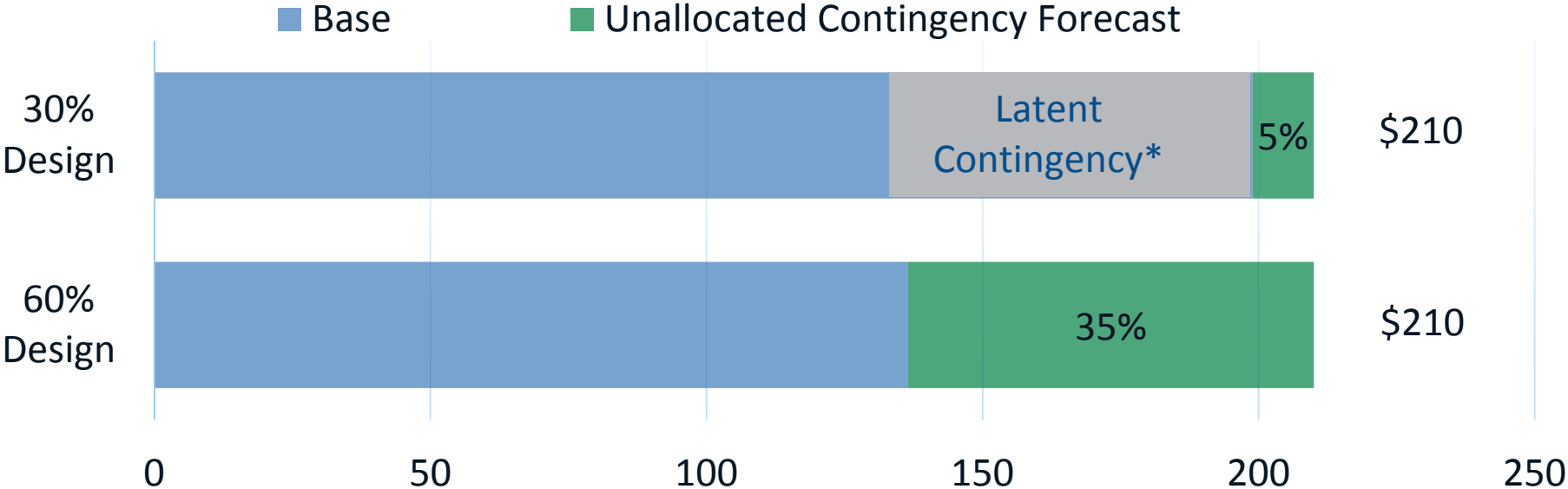
Factors	Examples
Updated Quantities	Updated Smetana and Feltl bridge scope from guideway and track; prepared “bottoms up” approach to surface park and ride design elements
Reduced Unknowns	Identified utility relocations and drainage design approach
Refined Cost Inputs	Updated pedestrian bridge costs based on defined structural and architectural features; defined sound mitigation requirements, barrier and retaining wall costs

Systems (YOE, in \$ Millions)



Factors	Examples
Updated Quantities	Identified quantities for traction power distribution elements, signals, OCS poles, and communication equipment for guideway, stations, tunnels, roadway crossings
Reduced Unknowns	Determined freight signal requirements, system wide wayside radio and repeaters, intrusion protection requirements
Refined Cost Inputs	Updated systems element costs using recent vendor quotes

Right of Way (YOE, in \$ Millions)



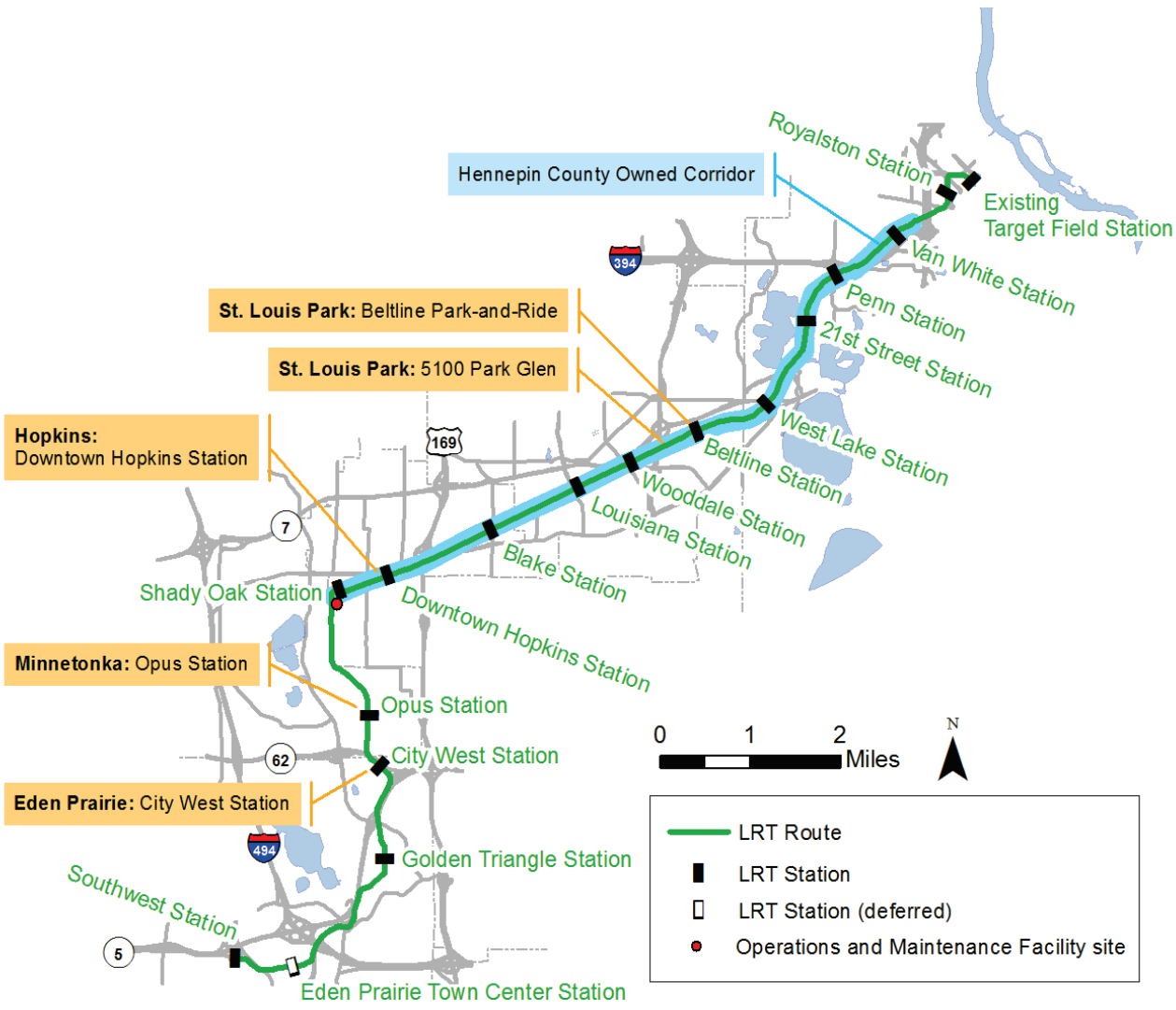
Factors	Examples
Updated Quantities	Refined ROW acquisition limits based on 60% design plans
Reduced Unknowns	Completed field titles on 60% of property acquisitions, interviewed 80% of tenants to be relocated
Refined Cost Inputs	ROW requirements based on 60% design plans. ROW values will adjust upward once appraised values of in-kind land is concurred by FTA.

**Latent Contingency: Line item cost allowance to account for unknown or undetermined cost and/or risk*

Review Project Scope

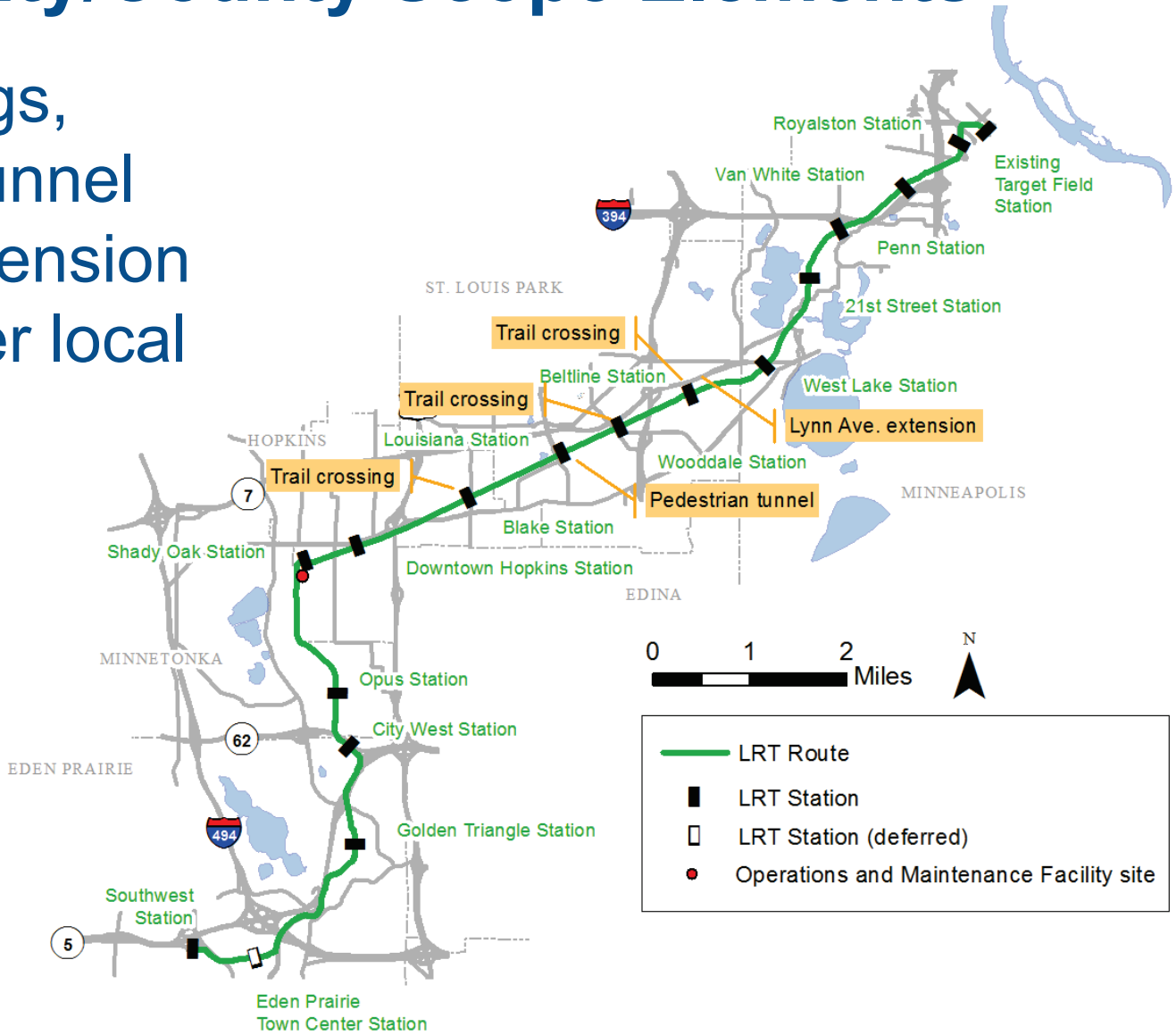
Candidate In-Kind Land Transfers

- Will increase project cost estimate when value is confirmed by FTA
- Apply in-kind land transfers to local match
- Leverages Federal match

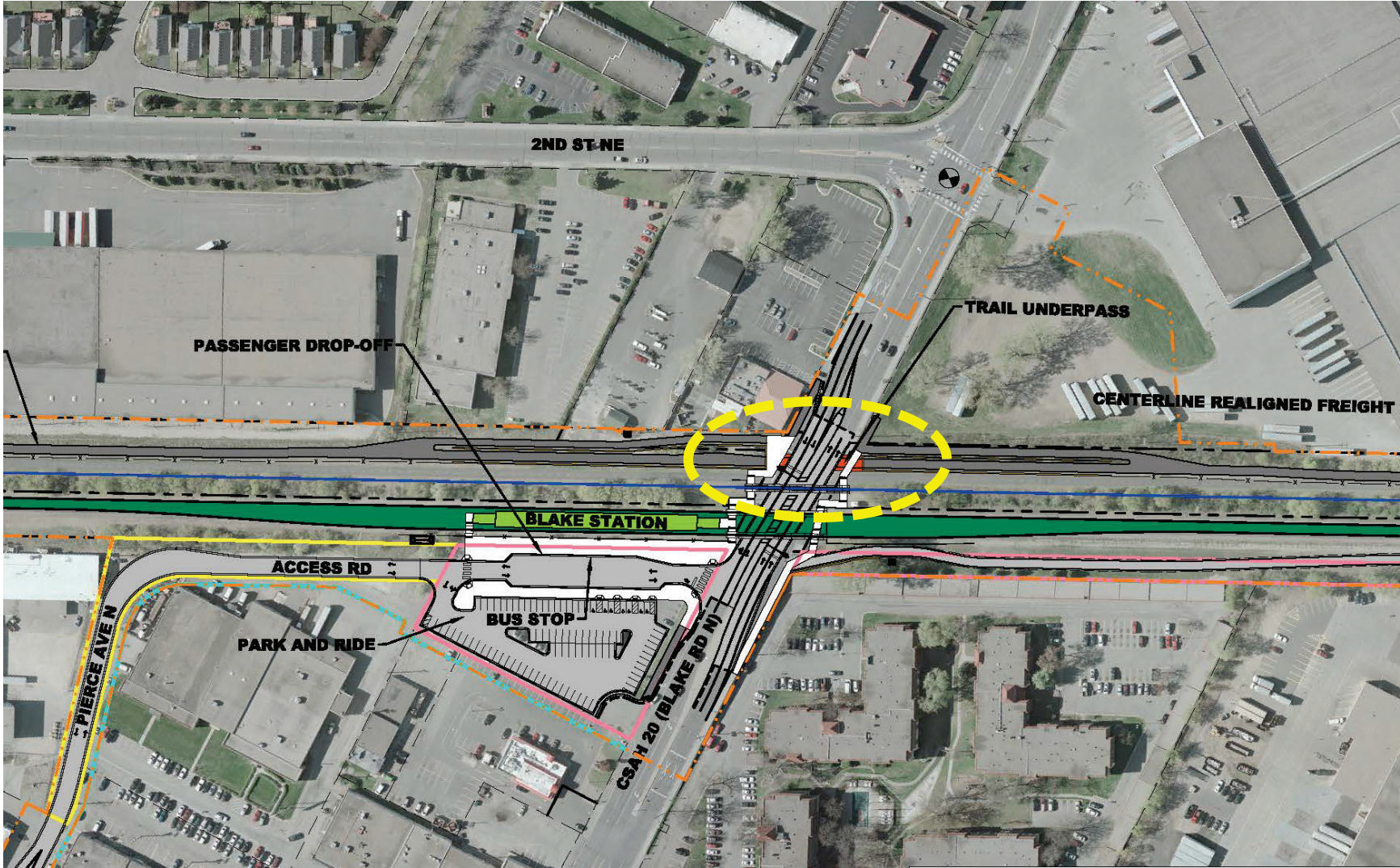


Requested City/County Scope Elements

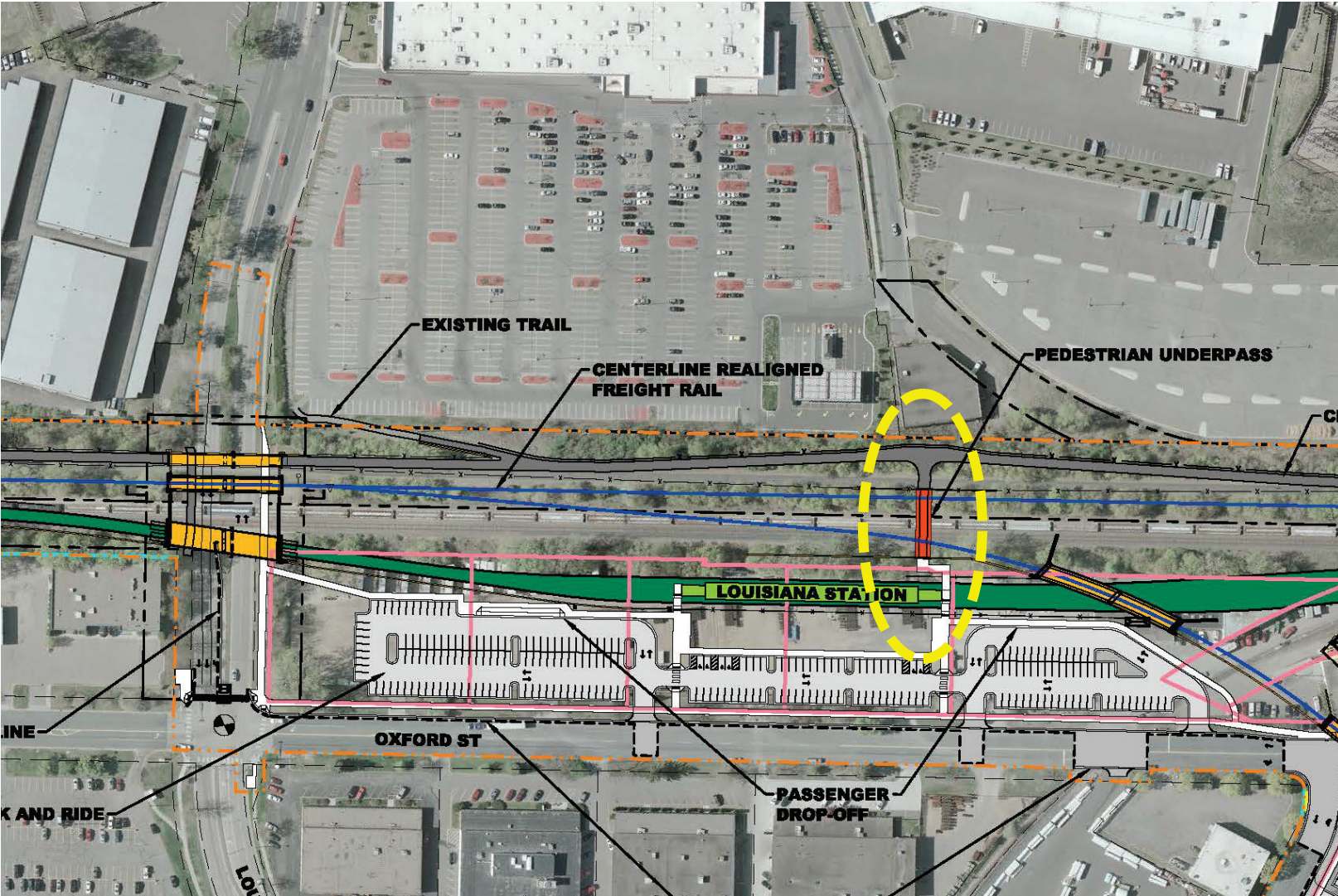
- Trail crossings, pedestrian tunnel and road extension provide better local access and connections



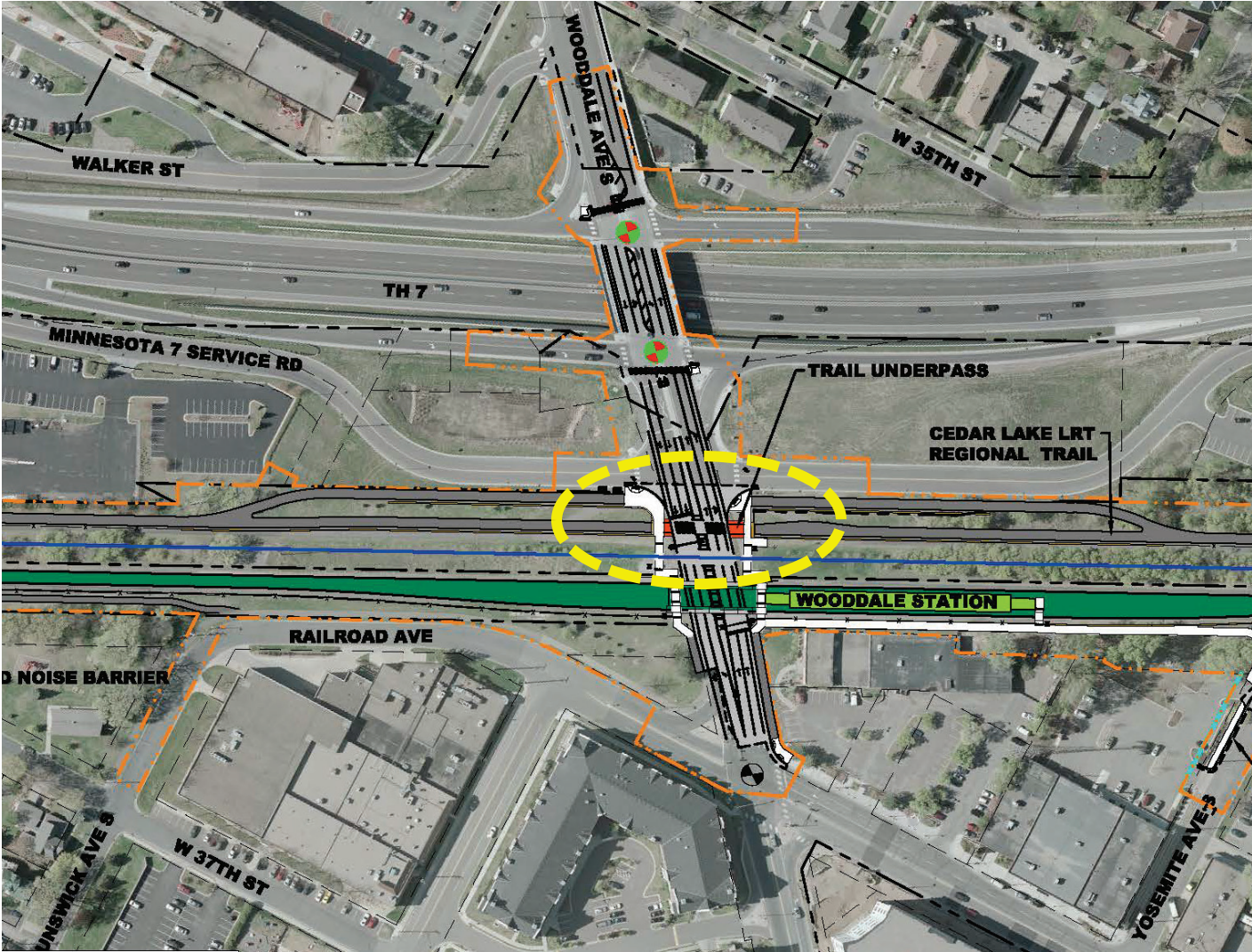
Blake Station: Trail Underpass



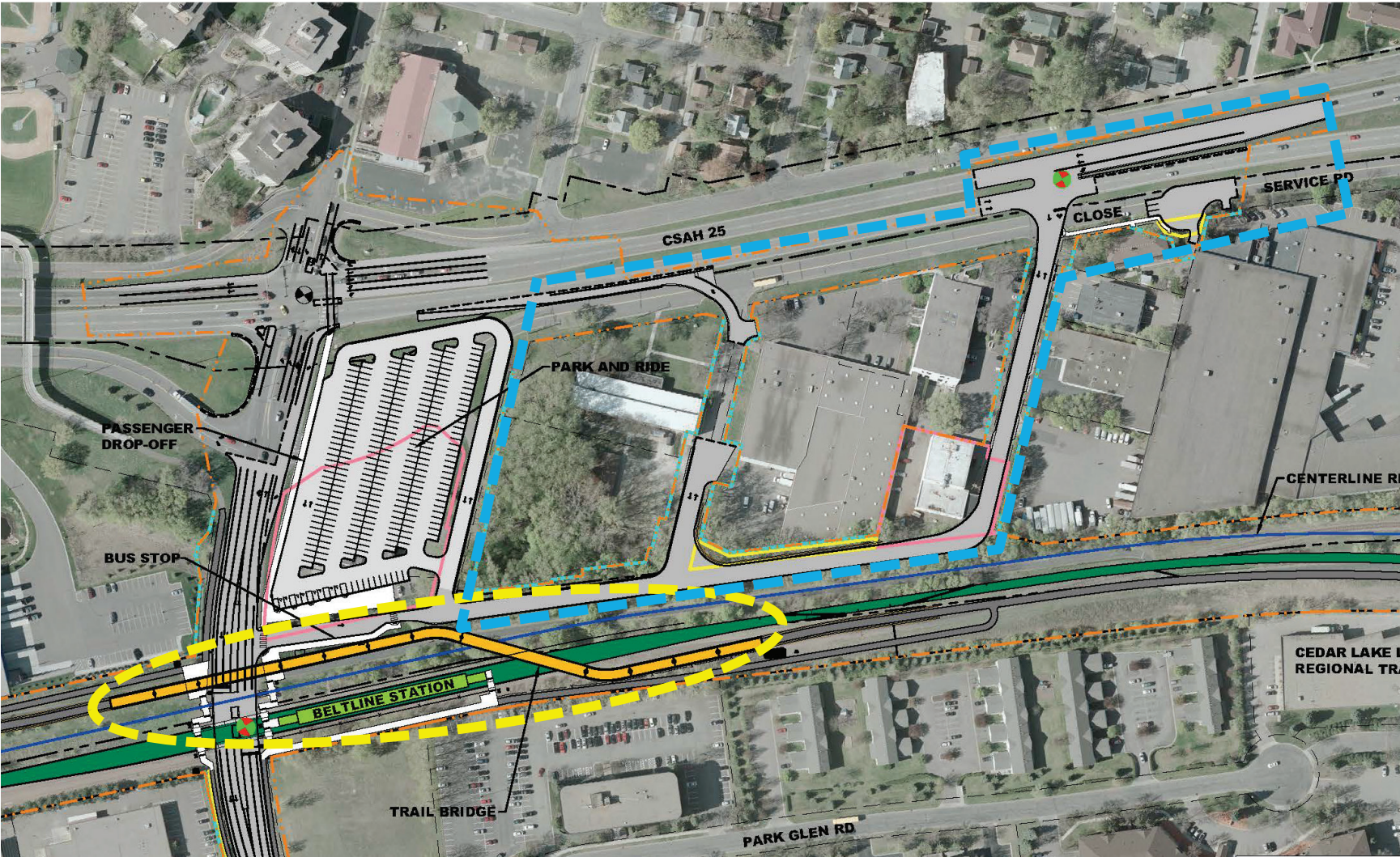
Louisiana Station: Pedestrian Underpass



Wooddale Station: Trail Underpass



Beltline Station: Trail Bridge, Access Road



Recommendation & Action

- ECCB approve these additions to the proposed Southwest LRT project scope
 - Cost of scope elements is estimated at \$16.2M
 - \$8.1M of local match funded by city or county
 - \$8.1M of federal funds
- Project Cost Estimate of \$1.79B
- No increase of CTIB, HCRRA or State funding

Next Steps

Next Steps

- CTIB
 - Approval of 2016 Grant
- ECCB
 - Review 90% civil cost estimate
 - Review outcomes of project risk assessment including contingency hold points
 - Review 100% civil cost estimate
 - Review 90% Systems and OMF cost estimates
 - Approve cost estimate as project budget prior to applying for entry into Engineering

More Information

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