

Central Corridor Light Rail Transit

February 27, 2008



*Improving
mobility*

*Easing
congestion*

*Strengthening
our communities*

Today's Agenda



- Public comments summary
- Washington Ave. Updates
 - Traffic studies
 - Northern Alignment
- University Avenue Updates
 - Infill station build out
 - Construction impacts
- Scope scenarios

Central Corridor Light Rail Transit



Summary of Public Comments

Public Involvement and Input



- 7 public update meetings
- 4 listening sessions
 - 300+ people attended
 - 88 people spoke
- Other methods
 - 154 emails
 - 26 letters received
 - 17 comment cards
 - 3 petitions submitted

Summary of Comments



- Add stations (126)
- Support tunnel under Washington (44)
- Support at grade on Washington (43)
- Build 3-car platforms (15)
- Study northern alignment (17)
- Support diagonal at Cedar/4th (15)
- Maintain Rte 16 has frequency (14)
- Oppose additional stations (11)
- Construction impacts (7)

Community Advisory Committee Comments



- Strengths of Scenario B
 - Meets CEI
 - Keeps the project moving
 - 3-car platforms
 - Maintenance facility in St. Paul
 - New connecting bus routes
 - Improved access and mobility for people with disabilities

Community Advisory Committee Comments



- Weaknesses of Scenario B
 - Does not build out 3 infill station; only includes infrastructure
 - Does not include a tunnel on Washington
 - Traffic impacts
 - Union Depot station in front instead of concourse
 - Maintenance facility in St. Paul

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Washington Ave. Updates

Washington Ave. Traffic Analysis



- Evaluate traffic with & without LRT
- Conduct three traffic analyses
- Identify mitigation measures
- Design and estimate cost of mitigation
- Determine what improvements are responsibility of project, city, county, University

Traffic Analyses Overview

Central Corridor Light Rail Transit



- Study 1: Operation of Wash Ave with LRT and traffic, 2014
- Study 2: Impacts due to shortened tunnel, 2014
- Study 3: Small area study, function of 48 intersections, 2030
 - LRT at grade, Washington Ave. open to auto traffic
 - LRT at grade, transit/pedestrian mall, closed to auto traffic

Traffic Study 1

Operation of Washington with LRT and vehicles, 2014

Study to determine impacts to Washington Ave. with LRT operating at-grade or in tunnel

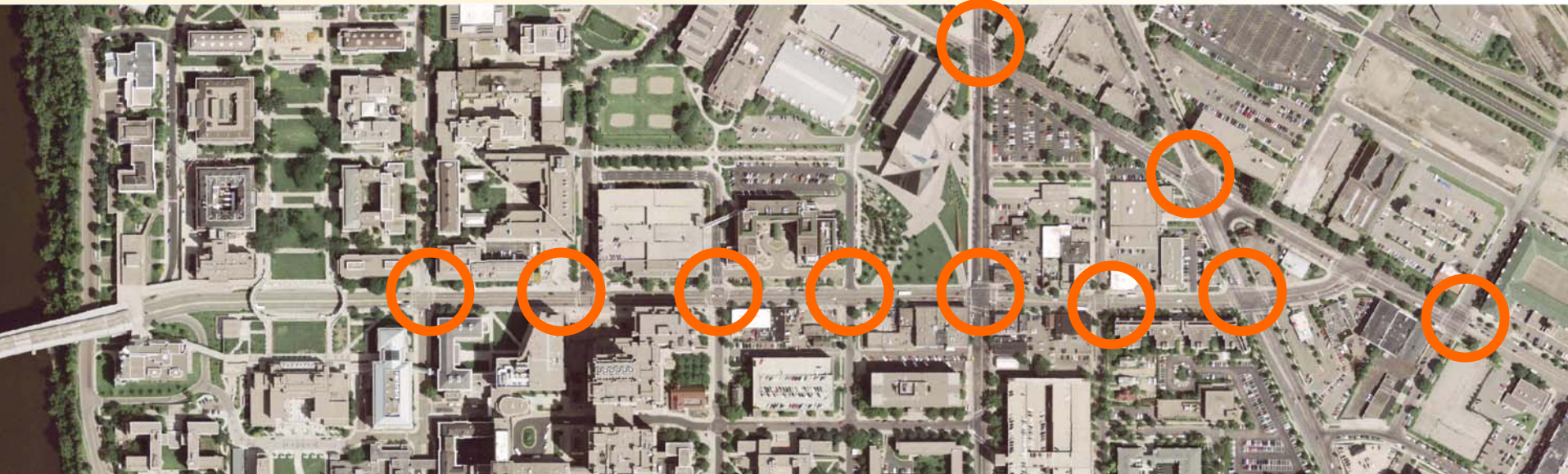


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Traffic Study 1

Initial Analysis, LRT At-Grade

December 2007 Work

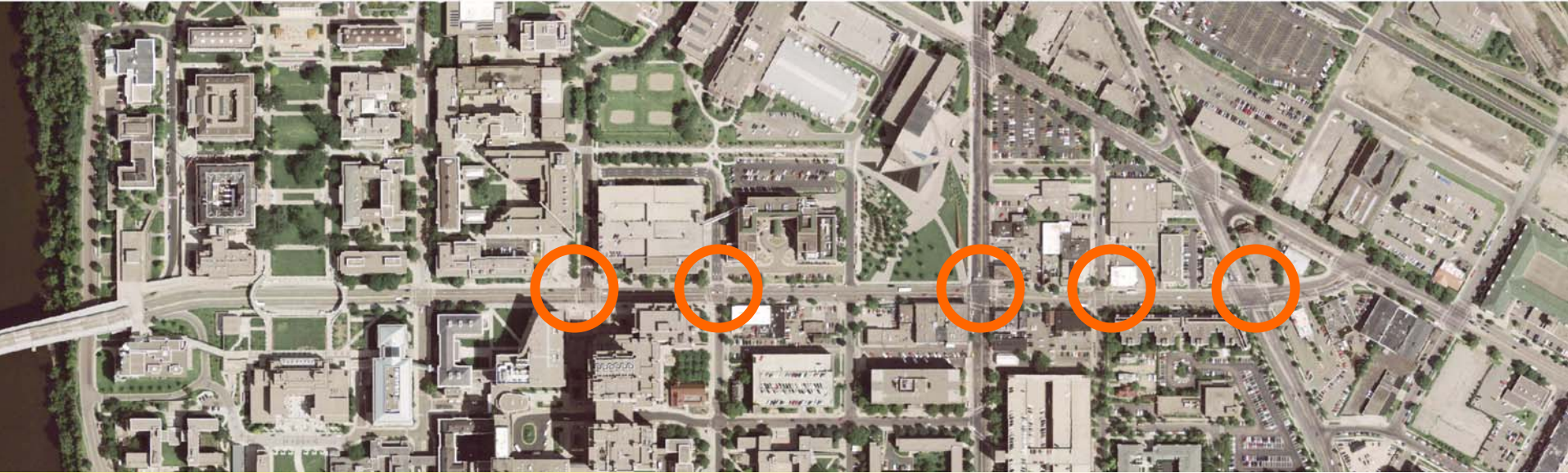


 Level of Service E or F, 2014

Traffic Study 1

Revised Analysis, LRT At-Grade

January 2008 Work



Mitigation strategies

- Left turn lanes at Harvard, Walnut, Oak, and Huron.
- Conversion of Walnut to one-way southbound.
- New bus stops at Walnut with pullouts



Level of Service E or F, 2014

Traffic Study 1

Revised Analysis, LRT At-Grade

Early February 2008 Work



Additional mitigation strategies

- Closure of Union St. access to Washington Ave.
- Redistribution of parking ramp traffic
- Longer west bound left turn lane at Oak St.
- Prohibit east bound left turn lane at Huron



Level of Service E or F, 2014

Traffic Study 1

Revised Analysis, LRT At-Grade

Latest February 2008 Work

An aerial photograph of a city street grid, showing various buildings, parking lots, and green spaces. A white text box with a black border is overlaid on the image, containing red text.

All intersections operate at an acceptable level of service in 2014 and 2030(D or Better)

Additional mitigation strategies

- Harvard St and Walnut St. south of Washington converted to one-way south bound
- Walnut St. closed to through traffic north of hotel parking lot
- Ontario St. converted to right in-right out

Traffic Study 1

Next Steps

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- Identify all mitigation actions
- Estimate cost of actions
- Develop funding plan with partners

Traffic Study 3

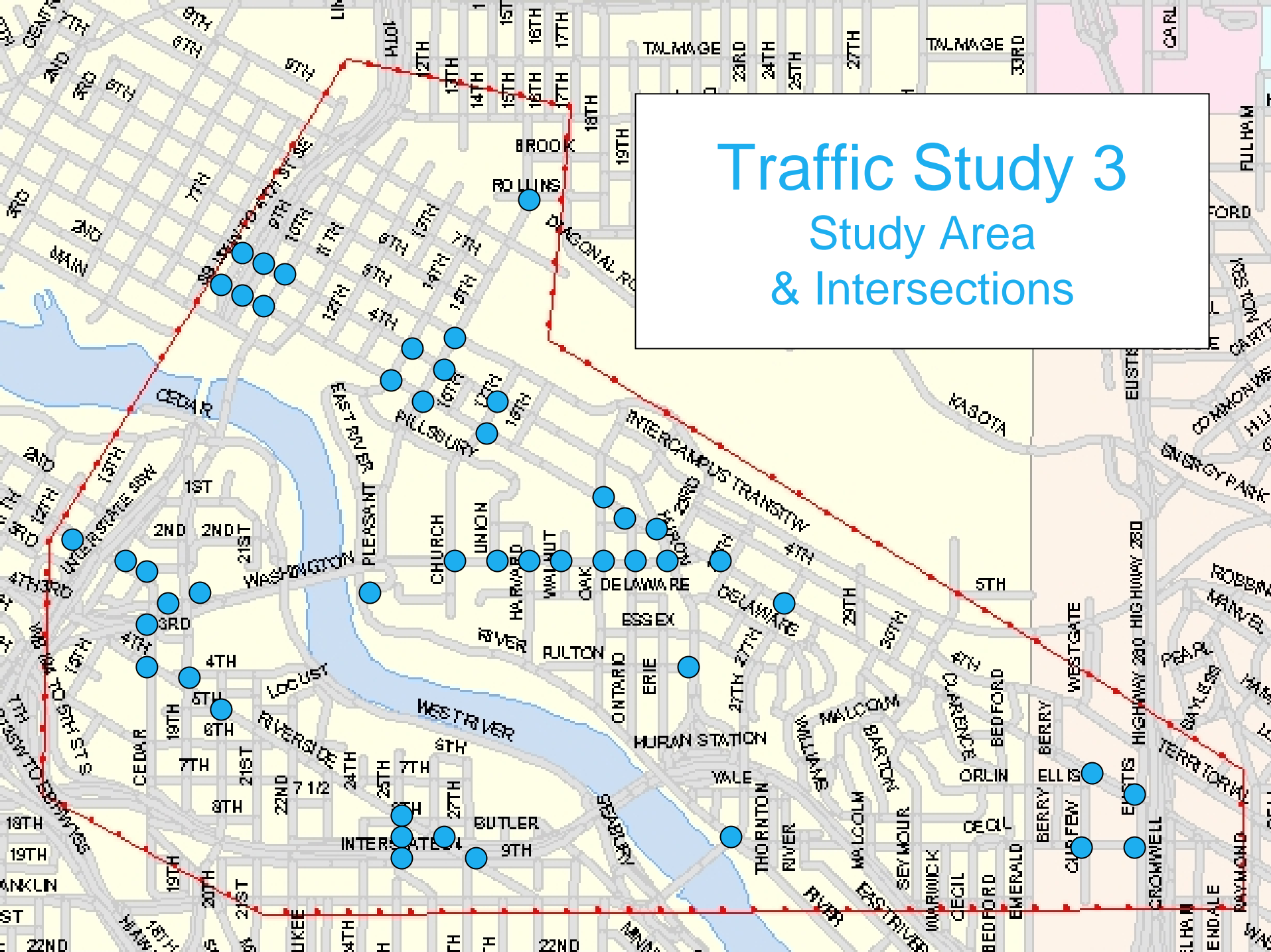
East Bank Area Traffic Study



- Study to determine impacts at 48 major intersections
- Study area covers 2.9 square miles
- Vicinity of the East Bank and West Bank
- Assumes a portion of Washington Ave. is closed and transit/ pedestrian mall is created

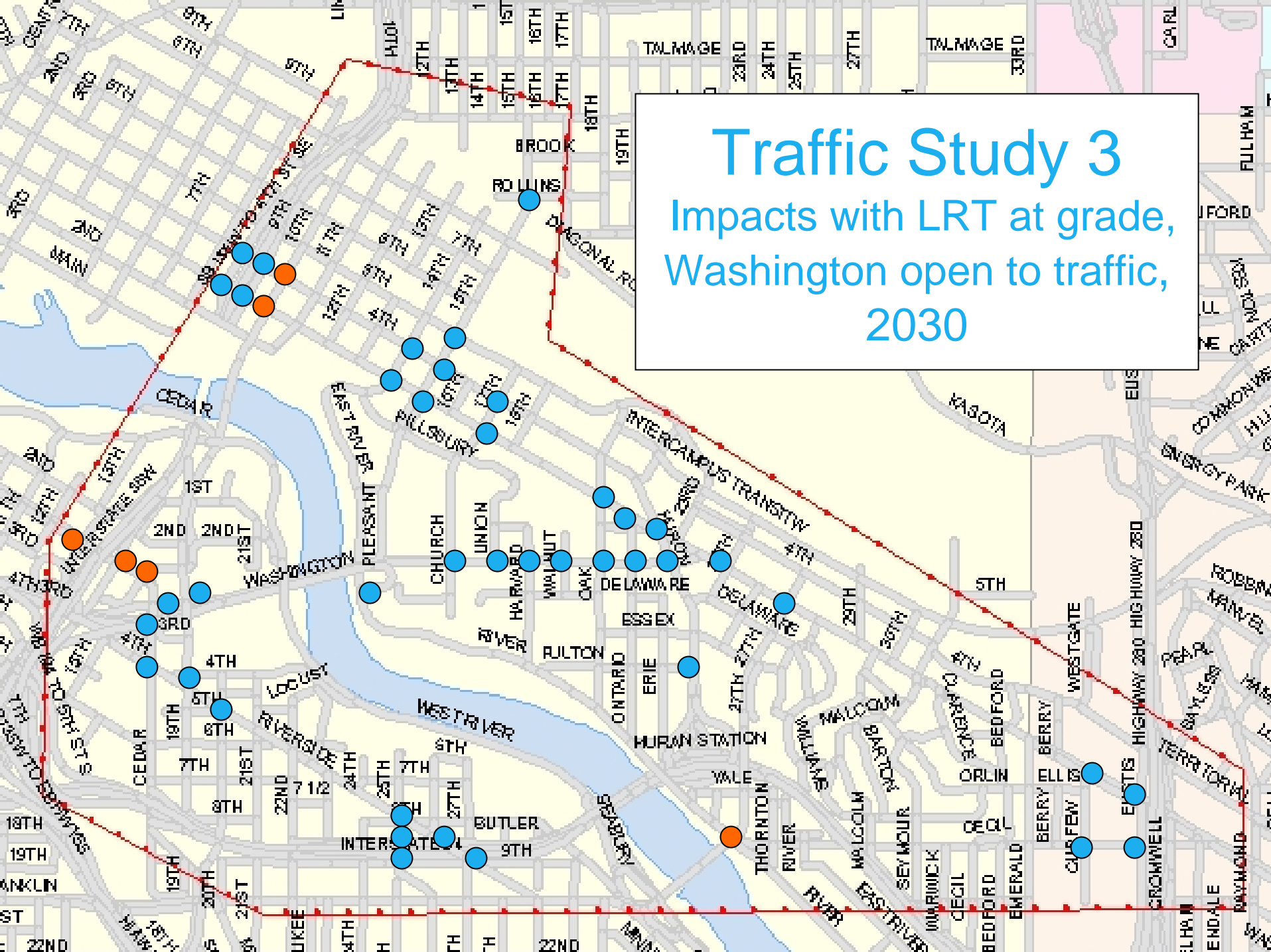
Traffic Study 3

Study Area & Intersections



Traffic Study 3

Impacts with LRT at grade,
Washington open to traffic,
2030



Traffic Study 3

Impacts with LRT at grade,
transit/ped mall, 2030

Cedar @ Riverside

- 2nd WB right turn lane on Riverside
- NB left turn on Cedar
- Traffic signal detection
- Retime signal

E. River Rd @ Washington

- Install traffic signal
- Add 2nd approach lane

Riverside at 19th and 20th Avenues

- Reduce backup @ Cedar and Riverside
- Eliminate parking on east side of 20th

Franklin @ Cromwell

- Remove parking on north side of Franklin

Traffic Study 3

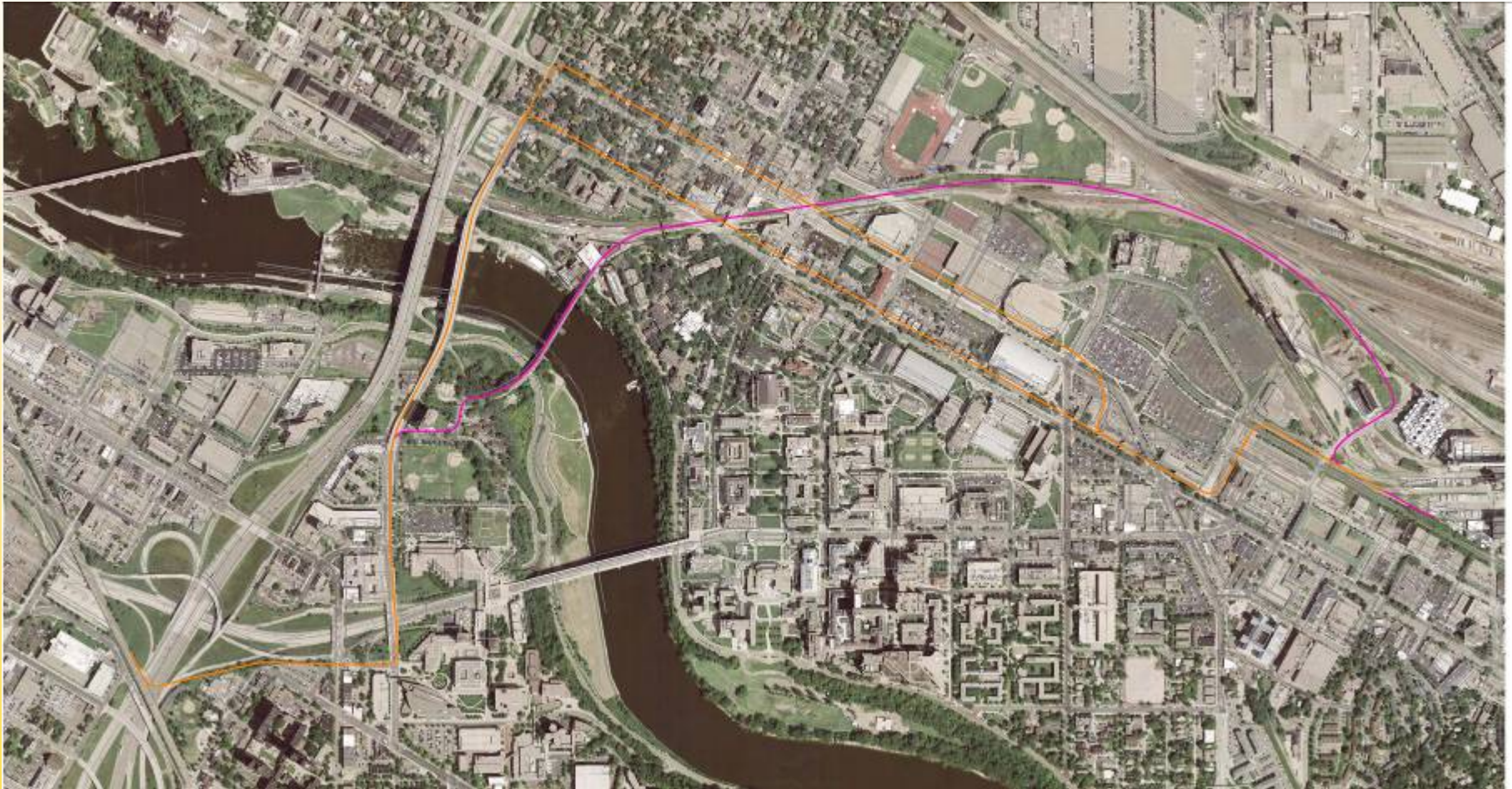
Next Steps

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- Identify all the mitigation actions
- Estimate cost of actions
- Develop funding plan with partners

Northern Alignment Alternatives



Northern Alignment



- Considered Bridge #9 alignment in Alternatives Analysis (2001-02)
 - Bridge #9 not wide enough
 - Impacts to Mississippi National River and Recreation Area
 - Distance from destinations
 - Eliminated from further study

Northern Alignment Alternatives

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May/June

Complete draft feasibility study

June/July

Stakeholder review

August

Scope decision

Reject
Alternative

Accept
Alternative

Sept '08

Request to enter
Final Design

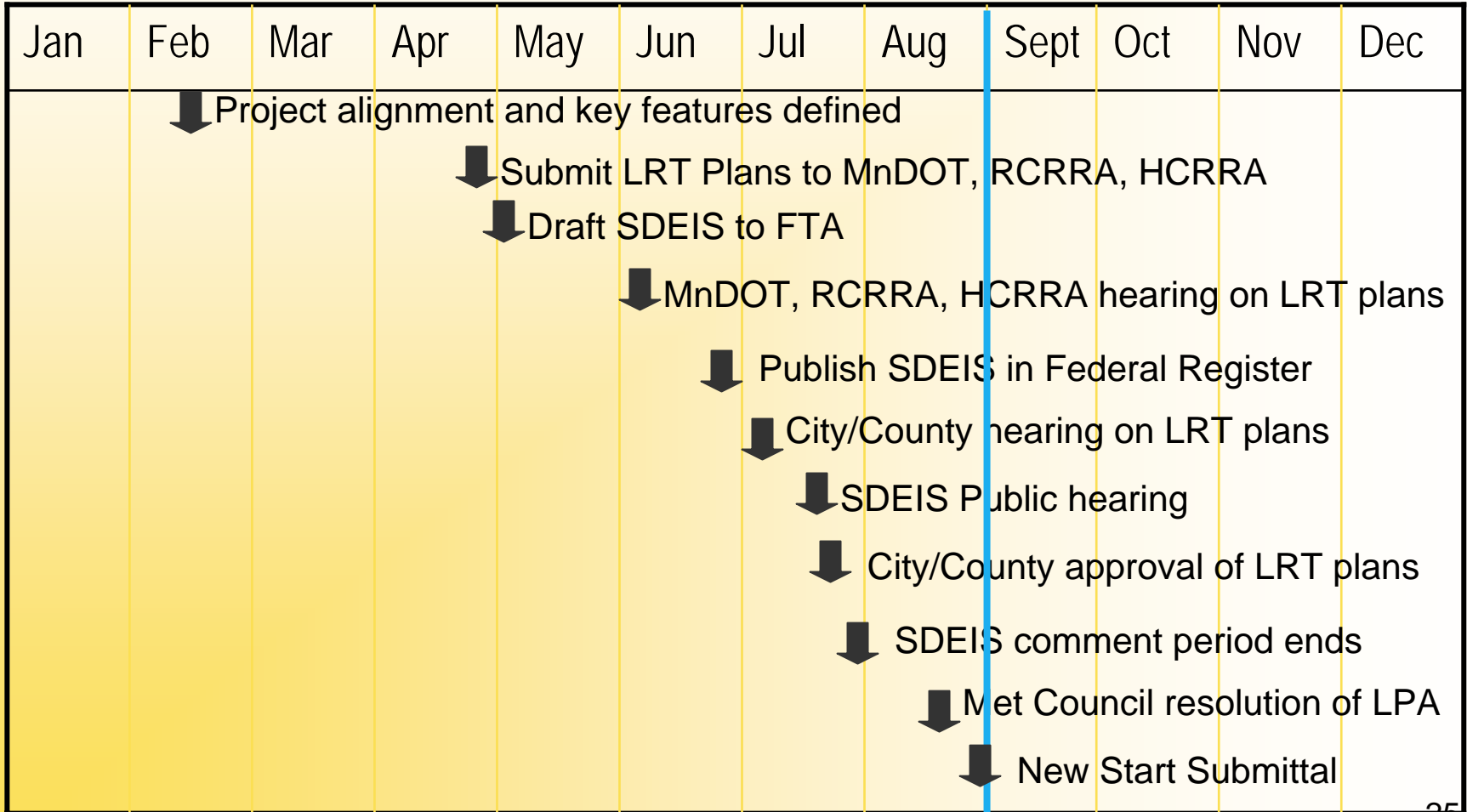
Sept. '09

Request to enter
Final Design²⁴

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2008 Timeline

FTA
Submittal
Deadline



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University Ave. Updates

- Bus Service
- Infill Stations
- Reconstruction

Central Corridor Bus Transit Service

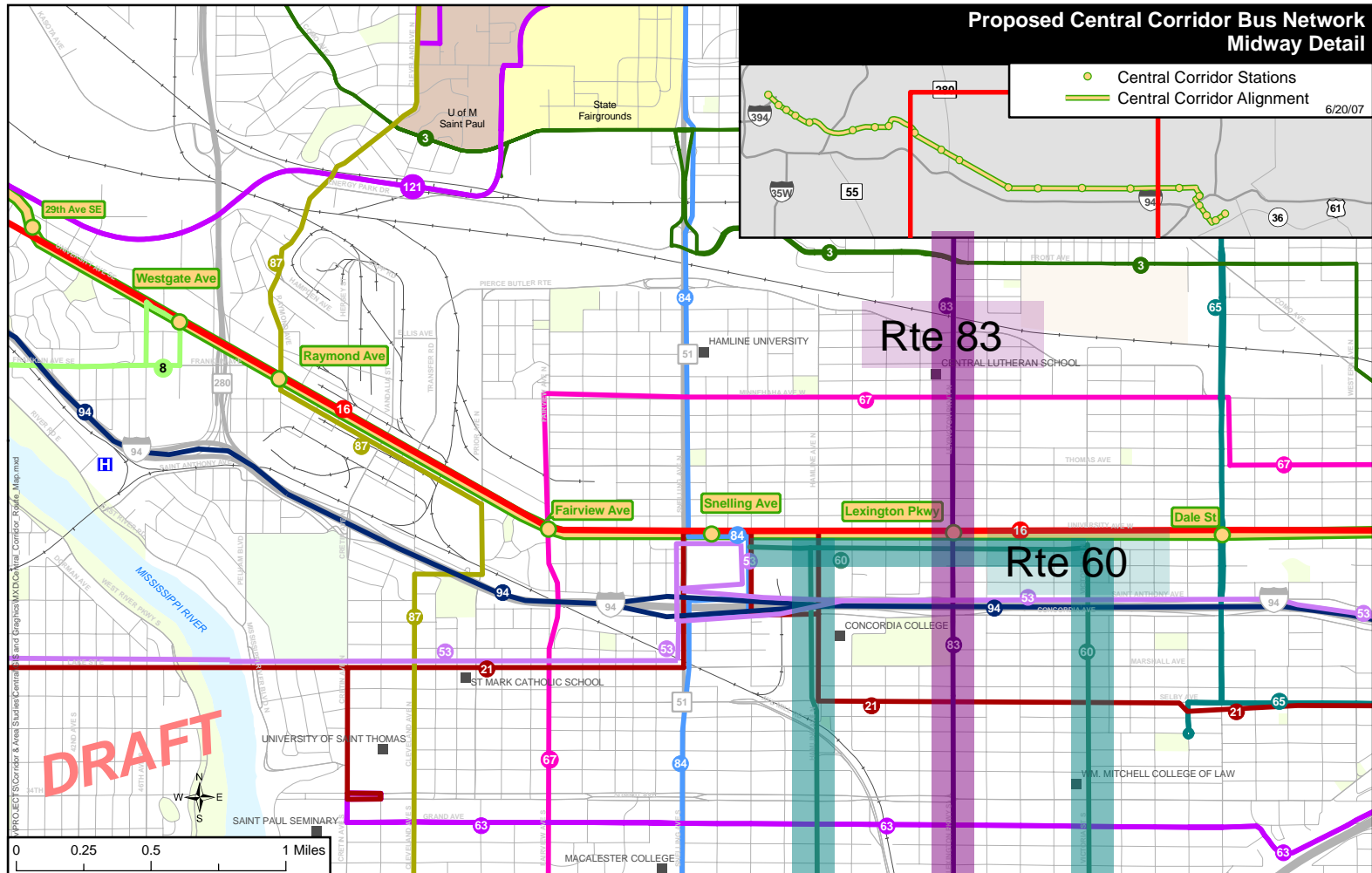
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- Compliments light rail service
- Connecting bus routes
 - Integrate existing radial and crosstown routes with LRT
 - Restructure bus routes so most residents will be within ¼ mile of transit service

Central Corridor Light Rail Transit

Central Corridor Bus Transit Service



Central Corridor LRT Stations

Central Corridor Light Rail Transit



Next Steps

Build-out of Infill Station

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- After Central Corridor LRT constructed
 - Follow process for American Blvd/34th Ave. HLRT Station
 - Assemble funding plan; non New Start monies
- Prior to Central Corridor LRT completion
 - Construction negatively impacts travel time, user benefits & CEI
 - FTA unlikely to allow use of New Start funds if CEI exceeds threshold

Next Steps Service Planning



- Analyzed project scope scenario with Rte 16 to improved 15 min. frequency
- Continue to review bus service plans as part of PE

University Avenue Reconstruction

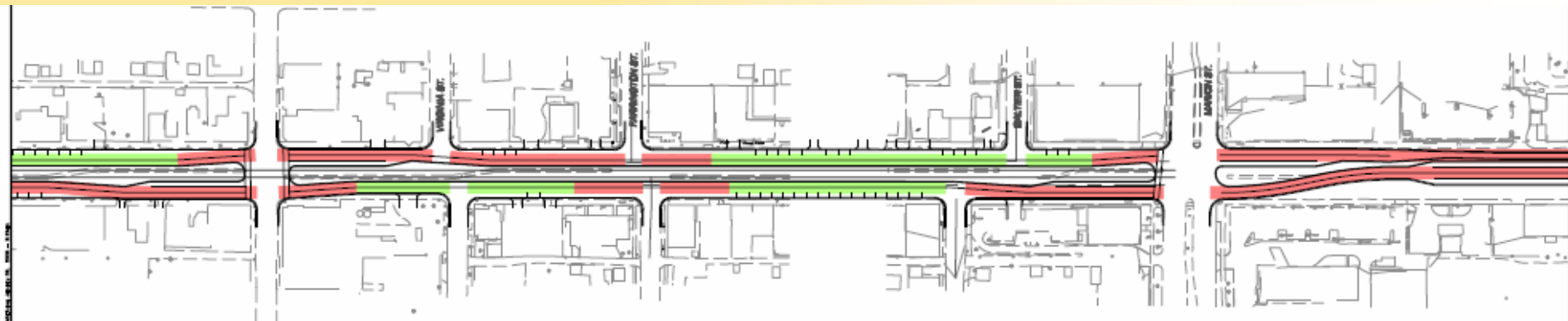
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- DEIS assumed full reconstruction including street, curb and sidewalk
- Preliminary Engineering findings
 - Roadway condition good
 - 85% of curb, gutters and sidewalk impacted

University Ave. Reconstruction

University Ave. Sidewalk & Curb	Feet	%
Impacted by LRT, requires reconstruction	43,435	85%
Not impacted by LRT, does not require reconstruction	7,665	15%



University Ave. Reconstruction



- Resurface University Avenue
 - Saves \$24-27 Million
 - Reduces construction time and impacts
- Replace curb, gutter & sidewalk
 - 85% by the project
 - 15% at local cost

University Ave. Reconstruction Next Steps



- Outreach staff survey businesses
- Business Advisory Council
 - Identify impacts
 - Develop mitigation strategies
 - Seek funding sources
- Engineers develop construction plan and schedule

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Scope Scenarios

Central Corridor Light Rail Transit

Decision Elements



- East Bank- at grade/tunnel
- Infill stations –Hamline/Victoria/Western
- Union Depot – front/concourse
- Hiawatha connection
- Two track connection to maintenance facility
- Vehicle maintenance facility (VMF)
- Washington Ave. Bridge retrofit
- University Ave. reconstruction savings
- Cedar/4th streets intersection
- Additional mitigation
- 2 or 3-car platforms
- **Route 16 frequency**
- Public Art

Assumptions



- DEIS LRT and bus operating plan
- DEIS LRT train speeds
- Ridership annualization factor of 331
- 30% contingency for construction
- Washington Ave Bridge retrofit based on URS study

Assumptions



- Property donation
 - RCRRA
 - University of Minnesota
 - State of Minnesota
- No property costs for diagonal in St. Paul
- Private utilities, including District Energy, incur relocation costs

Project Scope Scenario B

At Grade on Washington

- East Bank at-grade on Washington Ave.
 - Open to traffic, left turns or
 - Conversion to transit/pedestrian mall
- Infrastructure for 3 infill stations, Hamline, Victoria, Western
- Stop in front of Union Depot
- Improved HLRT connection
- Maintenance facility in St. Paul, east of concourse
- Two track connection to maintenance facility
- Washington Ave. Bridge retrofit
- University Ave. reconstruction savings
- Diagonal at Cedar and 4th Streets
- Additional mitigation
- 3-car platforms
- Route 16 frequency 20 min peak, 30 min. off peak
- Public Art

Cost \$909 MM, CEI \$23.80

Project Scope Scenario I

At Grade, add Victoria Station

- East Bank at-grade on Washington Ave.
 - Open to traffic or
 - Conversion to transit/pedestrian mall
- Victoria station, infrastructure for 2 infill stations
- Stop in front of Union Depot
- Improved HLRT connection
- Maintenance facility in St. Paul, east of concourse
- Two track connection to maintenance facility
- Washington Ave. Bridge retrofit
- University Ave. reconstruction savings
- Diagonal at Cedar and 4th Streets
- Additional mitigation
- 3-car platforms
- Route 16 frequency 20 min peak, 30 min. off peak
- Public Art

Cost \$913.2 MM, CEI \$24.16

Project Scope Scenario J

At Grade, Rte 16 @ 15 min.

- East Bank at-grade on Washington Ave.
 - Open to traffic or
 - Conversion to transit/pedestrian mall
- Infrastructure for 3 infill stations, Hamline, Victoria, Western
- Stop in front of Union Depot
- Improved HLRT connection
- Maintenance facility in St. Paul, east of concourse
- Two track connection to maintenance facility
- Washington Ave. Bridge retrofit
- University Ave. reconstruction savings
- Diagonal at Cedar and 4th Streets
- Additional mitigation
- 3-car platforms
- Route 16 frequency 15 min peak, 15 min. off peak
- Public Art

Cost \$909 MM, CEI \$24.39

Project Scope Scenarios Summary Matrix

	DEIS	At-grade B	Victoria I	Rte 16 freq J
East Bank tunnel/at grade	2050'	At grade	At grade	At grade
Infill stations (H/V/W)	--	Infrastructure	Victoria + infra.	Infrastructure
Union Depot	In front	In front	In front	In front
Hiawatha connection		Improved	Improved	Improved
Vehicle maintenance facility	Franklin Exp.	St. Paul	St. Paul	St. Paul
Connection to VMF	--	2-track	2-track	2-track
Wash. Ave. Bridge retrofit	--	\$25 MM	\$25 MM	\$25 MM
Univ. Ave. reconstruction	\$55 MM	\$30 MM	\$30 MM	\$30 MM
Cedar/4 th Sts intersection	On-street	Diagonal	Diagonal	Diagonal
Additional mitigation	--	\$20 MM	\$20 MM	\$20 MM
2 or 3-car platforms	2 car	3 car	3 car	3 car
Rte 16 peak frequency	20 min	20 min	20 min	15 min
Public Art	\$3.7 MM	\$3.7 MM	\$3.7 MM	\$3.7 MM
Cost	\$990 MM	\$909.1 MM	\$913.2 MM	\$909.1 MM
CEI	\$26.05	\$23.80	\$24.16	\$24.39 43

Check out our website:

- www.centralcorridor.org

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