



Riverview Corridor Transit Study

Potential Routes and Transit Vehicles:

Initial Screening Results Summary: Feb 2016

What is the Riverview Corridor Transit Study?

The Riverview Corridor is a transportation route that runs from Union Depot in downtown Saint Paul to Minneapolis-St. Paul International Airport and the Mall of America. This transit study will assess the viability of transit modes, transit route location, engineering and environmental issues, community needs and preferences, and estimated costs. The study is a joint local and regional planning effort led by Ramsey County Regional Railroad Authority.

What is the status of the Riverview Corridor Transit Study?

- ➔ Over the summer/fall of 2015 all potential routes and transit vehicles were evaluated through the Initial Screening process.
- ➔ Specific criteria were applied to the transit vehicles and routes, and as a result the transit vehicles and routes were narrowed down. **See back for details.**

What criteria were used to narrow down the transit vehicles?

The criteria used to screen the vehicles included:

- ➔ Serves a variety of trip purposes/travel markets
- ➔ Compatibility with demand for frequent, all-day service

What criteria were used to narrow down the routes?

The trunk routes are routes that may potentially serve as the main route of an improved transit system. The criteria used to screen the trunk routes included:

- ➔ Serves key activity centers
- ➔ Proximity to transit reliant populations
- ➔ Connects people who bike and walk
- ➔ Major constraints / right-of-way considerations
- ➔ Economic development

Subareas had the following additional criteria applied



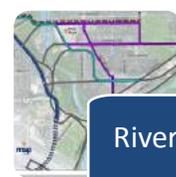
Downtown

Leverages existing transit spines in downtown



Ford Site

Would serve as transit spine of redeveloped Ford site



River Crossings

Environmental and cultural resource considerations

Next Steps

The vehicles and routes recommended from the Initial Screening will move into the Detailed Evaluation phase. The detailed evaluation will pair the routes and vehicles recommended by the initial screening to form "Alternatives". The detailed evaluation draft results are expected to be completed at the end of summer 2016.

FOR MORE INFORMATION OR TO PROVIDE COMMENTS

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INITIAL SCREENING RESULTS

TRANSIT VEHICLES RECOMMENDED FOR DETAILED EVALUATION

Arterial Bus Rapid Transit

Dedicated Bus Rapid Transit

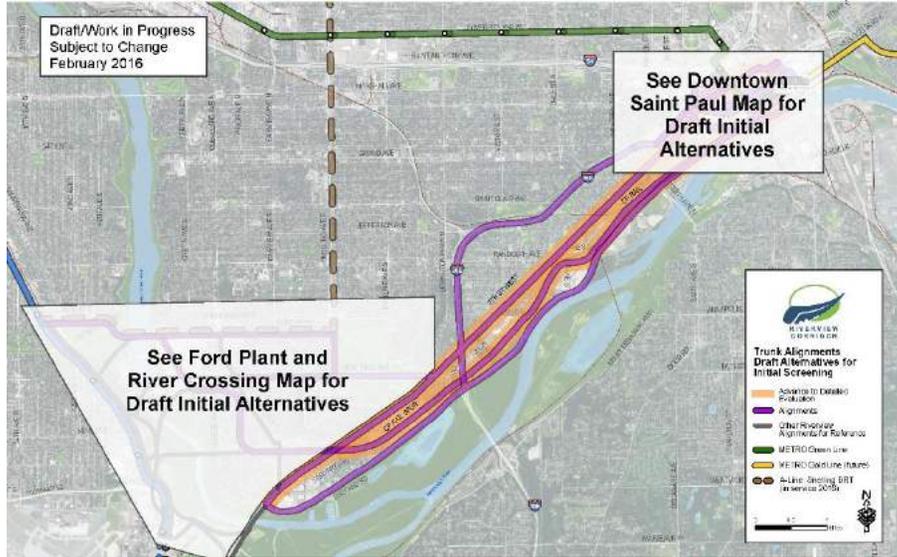
Modern Streetcar

Light Rail Transit

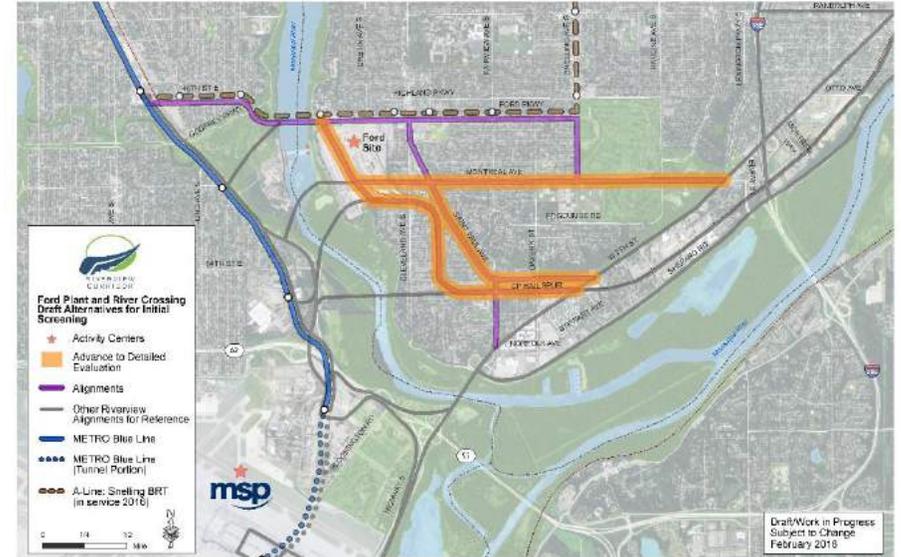
Diesel Multiple Unit

ROUTES RECOMMENDED FOR DETAILED EVALUATION

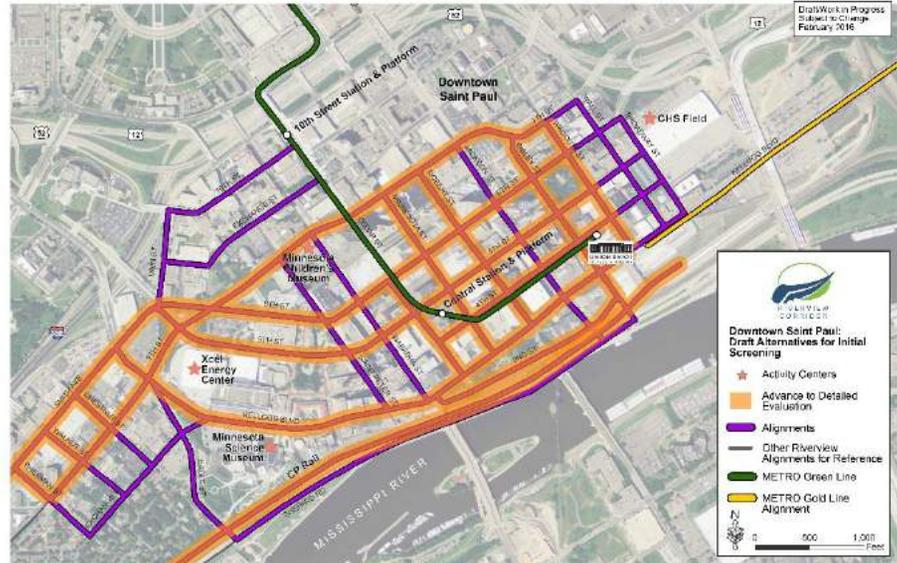
Trunk Routes



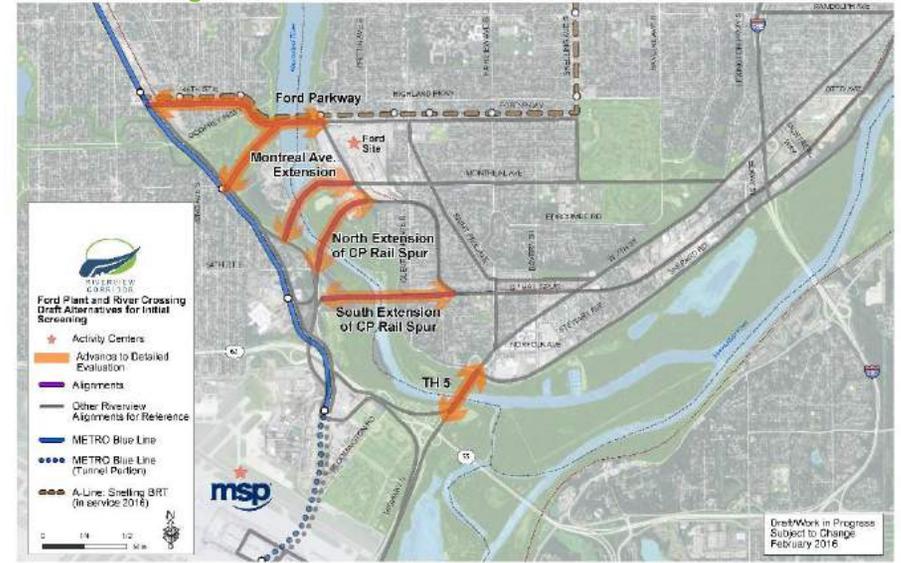
Ford Site Routes



Downtown Routes



River Crossing Routes



Summary of Transit Modes for Detailed Evaluation



Arterial Bus Rapid Transit (BRT)



Swift, Everett, WA
Local example: A Line BRT

“Arterial” meaning BRT operates on arterial roads or busy urban streets.

BRT is different from the local bus but similar to limited stop service

- BRT buses have their own look to differentiate these buses to waiting passengers
- High-frequency, limited stop service with fare collected at the station prior to boarding
- High-amenity stations for comfortable customer experience

Shared lanes, faster than local bus

- Operates typically within existing roadways with mixed traffic, but with operational advantages

Station spacing

- Typically one-eighth to one-half mile apart

Span of service

- All day
- Every 10 to 15 minutes most of the day

Dedicated BRT



Health Line, Cleveland, OH
Dedicated BRT in median--doors on both sides of bus
Local example: University of Minnesota transitway

Dedicated BRT uses specialized buses, has high-frequency, limited stop bus service with pre-boarding fare payment and high-amenity stations.

Dedicated lanes for bus traffic

- Makes for faster travel because buses are not delayed by traffic congestion
- BRT lane configurations in road right-of-way can be center-running lanes or curbside-running lanes

BRT lane configuration affects:

- Station locations: center stations or curbside stations
- Bus maneuvers into and out of station
- BRT vehicle specifications

Station spacing

- Typically one-half to one mile apart

Span of service

- All day
- Every 10 minutes during the peak period; 15 minutes during midday

Modern Streetcar



Portland, OR
No local examples

Modern Streetcar system elements include stations and amenities similar to those described for BRT. Modern Streetcar is smaller scale than LRT.

Shared right-of-way

- Embedded tracks that allow streetcar to operate in mixed traffic
- May have dedicated space within the roadway

Station spacing

- Typically one-eighth to one-half mile apart

Span of service

- Typically most of the day
- Every 7 to 15 minutes

Summary of Transit Modes for Detailed Evaluation



Light Rail Transit (LRT)



Twin Cities LRT

Local examples: Green Line and Blue Line

LRT in the Twin Cities hold two tracks and typically are not shared with other transportation modes except at at-grade crossings like intersections.

LRT in Twin Cities = dedicated right-of-way, such as:

- Former rail right-of-way
- Alongside freight tracks
- Along urban streets
- Exception: Green Line at East Bank Station

Station spacing

- One-half to one mile apart

Span of service

- All day
- Every 10 minutes during the peak period; 15 minutes during midday

Diesel Multiple Unit (DMU)



A-Train, Denton County, TX

No local examples

DMU system elements include those similar to LRT and require no overhead electric wires.

DMU operates in an dedicated right-of-way, such as:

- Former rail right-of-way
- Alongside freight tracks
- Shared with freight and passenger tracks
- Along urban streets

DMU can use existing freight tracks (“shared use”)

- “Shared use” governed by the Federal Railroad Administration (FRA) and the individual railroads
- Compare freight train volumes and frequency of transit service

Station spacing

- One-half to one mile apart

Span of service

- All day
- Every 10 minutes during the peak period; 15 minutes during midday

Hybrid Alternatives:

Intended definition of the Riverview Corridor Study:

- Would run in a combination of dedicated right-of-way and mixed traffic
- Strike a balance with various users of right-of-way

“Hybrid Bus”

Example system



Metro Orange Line, Los Angeles County, CA

Runs in dedicated guideway alongside urban streets, and in mixed traffic to Warner Center

“Hybrid Rail”

Example system



J Church, San Francisco, CA

Track transition between dedicated and mixed operations, shared right-of-way on Church Street, and tunnel in downtown

Public Comments and Study Responses



Effective stakeholder and public participation is essential for informed decision-making. Ramsey County Regional Railroad Authority (RCRRA) has actively engaged the public and stakeholders to gather feedback, answer questions and to hear their concerns and recommendations. Public engagement for the Riverview Corridor Transit Study includes a variety of sources: verbal and hand-written comments collected at community meetings, district council meetings and other outreach events; comments submitted through the Riverview information email address (info@riverviewcorridor.com), MindMixer online engagement tool and Facebook site, and comments made directly to the Policy Advisory Committee (PAC).

Below is a summary of the public comments heard and how the PAC responded. For details on how comments were collected and complete engagement activities, go to www.riverviewcorridor.com/documents/ and click on the public engagement summaries.

Comments	Responses
Public Input: Transit Modes	
<p>Comments were mixed on dedicated guideway modes of Dedicated Bus Rapid Transit (BRT), Light Rail Transit (LRT) and Diesel Multiple Unit (DMU).</p> <p>Comments were mixed on Hybrid Bus and Hybrid Rail modes.</p> <p>Comments indicated a lack of familiarity with Modern Streetcar and interest in learning more about Arterial BRT.</p>	<p>These modes will continue to be analyzed for implementation on W. 7th Street, the CP Rail corridor or a combination of the two. The study team will use digital, physical and virtual modeling to show how each of the modes will fit in the study routes.</p>
<p>Comments did not support continued analysis of Highway BRT and Commuter Rail.</p>	<p>With public support to eliminate Highway BRT and Commuter Rail, these modes will not advance for further study.</p>
<p>Comments to consider Personal Rapid Transit and Vintage Trolley.</p>	<p>Personal Rapid Transit and Vintage Trolley were considered by the TAC and PAC; however, these modes do not meet the Purpose and Need and will not advance for further study.</p>
Public Input: Trunk Routes	
<p>W. 7th Street</p> <p>Comments were mixed on dedicated guideway:</p> <ul style="list-style-type: none"> • Advantages: Closer to transit-reliant population, people and businesses, better pedestrian access • Disadvantages: Disruption, concern for businesses, parking impact, neighborhood impacts, noise and vibration, increased traffic 	<p>Evaluation of the available right-of-way and curb-to-curb width of W. 7th Street is underway to better understand how a transitway could best fit the environment.</p> <p>W. 7th Street route will advance for further study.</p>
<p>CP Rail</p> <p>Comments were mixed on dedicated guideway:</p> <ul style="list-style-type: none"> • Advantages: Existing infrastructure, views of Saint Paul and river valley, less disruptive compared to W. 7th Street • Disadvantages: Indirect access to businesses, destinations, neighborhood; not visible, safety, lacks density, noise and frequency of trains, railroad acquisition • Ongoing capital assessment of CP Rail Spur for freight 	<p>Two community meetings and walking tours have been scheduled to get a better understanding of the CP Spur in relation to nearby development.</p> <p>CP Rail route will advance for further study.</p>
<p>Shepard Road and I-35E</p> <p>Comments did not support continued analysis of I-35E and Shepard Road as trunk routes.</p>	<p>With no public support to retain Shepard Road and I-35E, the PAC eliminated these routes from further study.</p> <p>Segments of Shepard Road may be considered to avoid constrained areas along the corridor.</p>

Public Comments and Study Responses



Comments	Responses
Public Input: Downtown Saint Paul Routes	
<p>Comments varied:</p> <ul style="list-style-type: none"> • Use existing transit infrastructure: Green Line, 5th and 6th Streets • Stay south of 7th Street • Use 2nd Street/Kellogg Boulevard • Desire for fewer stops • Routing should consider proximity to jobs/activity centers • Make it easy for visitors to access hotels and entertainment areas • Consider creating something similar to the Marq2 bus only lanes in downtown Minneapolis 	<p>The PAC approved elimination of a number of routes that did not serve activity centers or utilize existing transit infrastructure.</p> <p>Thirteen downtown Saint Paul routes will advance for further study.</p>
Public Input: Ford Site Routes	
<p>Comments varied:</p> <ul style="list-style-type: none"> • Serve Ford Site; economic development potential; provide additional transit service in southern Highland • Serving Ford leads to an indirect route with travel time concerns; not as many transit-reliant people • Support CP Rail Spur or Saint Paul Avenue routes; support for eliminating the Ford Parkway route • Montreal Avenue concerns: rail vehicle's ability to climb hill; traffic impacts at Montreal/Lexington/W. 7th intersection • Ongoing capital assessment of CP Rail Spur for freight 	<p>The Ford Site needs to be served by public transit. The choice of a preferred route will have to balance the needs for both a competitive end-to-end travel time, and access to the neighborhoods.</p> <p>Ford Site routes that will advance for further study:</p> <ul style="list-style-type: none"> • Montreal Avenue • Saint Paul Avenue • CP Rail Spur
Public Input: River Crossing Routes	
<p>Comments varied:</p> <ul style="list-style-type: none"> • Support for Trunk Highway 5 or Ford Parkway crossing • Both support for and opposition to a new river crossing • Perceived residential impacts on Mississippi River Blvd with South Extension of CP Rail Spur river crossing; close to Coldwater Spring • North Extension of CP Rail Spur perceived to avoid residential displacements compared to South Extension of CP Rail Spur option • Focus analysis on existing river crossings, but continue to analyze new crossings 	<p>The evaluation of river crossings will be influenced by the decision whether or not to serve the Ford Site and the potential environmental impacts.</p> <p>The PAC added the North Extension of CP Rail Spur river crossing back into the study. All five potential river crossings will advance for further study:</p> <ul style="list-style-type: none"> • Ford Parkway • Trunk Highway 5 • Montreal Avenue Extension • North Extension of CP Rail Spur • South Extension of CP Rail Spur
South Loop Routes	
<ul style="list-style-type: none"> • Routes from Minneapolis-St. Paul International (MSP) Airport through the South Loop District to the Mall of America were not evaluated as part of the Initial Screening phase 	<p>South Loop routes will be included with the alternatives advancing for further study. PAC approved incorporation of the following information on the South Loop routes:</p> <ul style="list-style-type: none"> • No rail transit on inbound roads to the MSP Airport • Redesign/reconstruction of Mall of America Transit Center