SAINT PAUL STREETCAR FEASIBILITY STUDY

Summary Report

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SAINT PAUL

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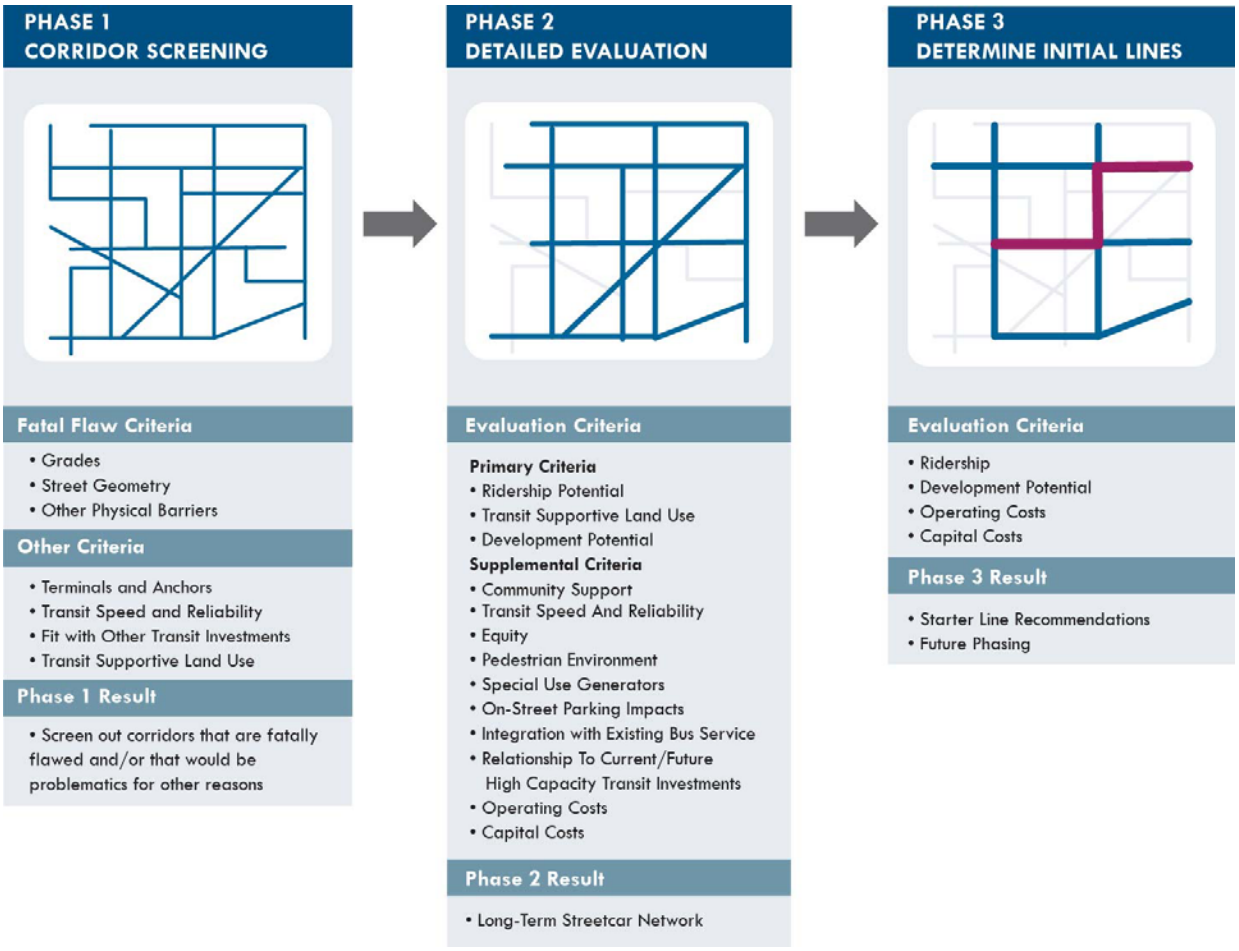
1 INTRODUCTION/OVERVIEW

Since late 2012, the City of Saint Paul has been conducting a streetcar feasibility study to:

- Evaluate the feasibility of developing streetcar services in Saint Paul.
- Identify a long-term network of proposed lines where streetcar could improve transit options and stimulate development, and where the types of changes that streetcar could bring would be desired by the communities that it would serve.
- Prioritize potential initial segments for streetcar investment.

The study is being conducted in three phases, which are (see also Figure 1):

Figure 1: Evaluation Framework



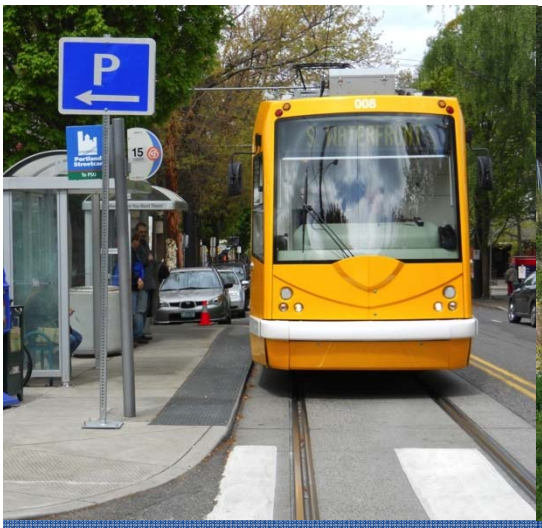
- A **Phase 1 Corridor Screening** that screened the universe of candidate *corridors* to where streetcar could provide the benefits described above.
- A **Phase 2 Detailed Evaluation** that consisted of the development of potential streetcar lines that could serve the individual corridors or combinations of corridors, and the evaluation of those lines. This phase culminated in the development of the proposed Long-Term Network.
- A **Phase 3 Evaluation of the Individual Lines in the Long-Term Network** to determine the proposed "Starter Line," and potential phasing for future lines.

A variety of other related work was also conducted, including the evaluation of vehicle types and funding options. This document presents an overview of the study and its recommendations.

2 WHAT IS STREETCAR SERVICE?

Put simply, in most respects, streetcar service is scaled-down light rail service. It is scaled back to the extent that it typically operates in mixed traffic rather than in a dedicated right-of-way, operates for shorter distances, and has smaller stations that are spaced more closely together (see Figures 2 and 3).

Figure 2: Streetcar in Mixed Traffic and Light Rail in Dedicated Right-of-Way



Portland Streetcar in mixed traffic

Hiawatha Line, Minneapolis

Figure 3: Streetcar and Light Rail Stations

Streetcar Stop, Portland | Future Westgate Station, St. Paul

Beyond those basic differences, streetcar service is also very flexible in that it can operate in many different ways. One of the most visible differences is with the type of vehicles used. As is envisioned for Saint Paul, most new streetcar services that are being developed do or will use "modern streetcars" (for example, Portland, Seattle, Minneapolis, and Kansas City) that are very similar to light rail vehicles, but sometimes narrower and that usually operate as single vehicles (see Figure 4). However, many older streetcar services use historic vehicles. This is usually done to maintain the same type of service that has always been run and/or to appeal to tourist markets (for example, New Orleans, Memphis, and San Francisco's Embarcadero Line). Streetcars can also operate as a hybrid of the type of service described above and light rail service. For example, lines that operate in tunnels as light rail in downtown Boston, Pittsburgh, and San Francisco operate as streetcar service in mixed-traffic outside of downtown. Other differences are summarized in Table 1.

Figure 4: Streetcar Vehicles

Modern Streetcar, Toronto | Modern Streetcar, Portland | Historic Streetcar, Memphis

Table 1: Typical Differences between Streetcar and Light Rail

Service Element	Streetcar	Light Rail
Vehicles	Modern or Historic Streetcar	Modern LRV
Train length	One	Two to three
Line Length	Shorter	Longer
Running Way	Mixed-traffic	Dedicated right-of way
Fare Collection	On station platform or on vehicle	On station platform
Stations	Short platforms; modest facilities	Long platforms; significant facilities
Station Spacing	2 to 3 blocks	½ to 1 mile
Speed	Slower	Faster
Development Benefits	Along line	Around stations
Construction impacts	Minor to moderate	Major

Over the past decade, streetcar service has become increasingly popular. There are now over 45 different lines in various stages of development throughout the United States, including in Minneapolis on Central and Nicollet Avenues. The current desire to develop streetcar service is for two reasons. First, newer shorter lines have proven to be very effective at serving shorter trips within neighborhoods and downtowns and thus add a new type of transit service that can fill gaps in existing bus services. Second, it has also proven to be very effective in stimulating development. Most new streetcar services are being developed to both stimulate development and improve transportation (see Figure 5).

Figure 5: Development Occurring Along Seattle's South Lake Union Streetcar Line

South Lake Union Streetcar Corridor, Seattle

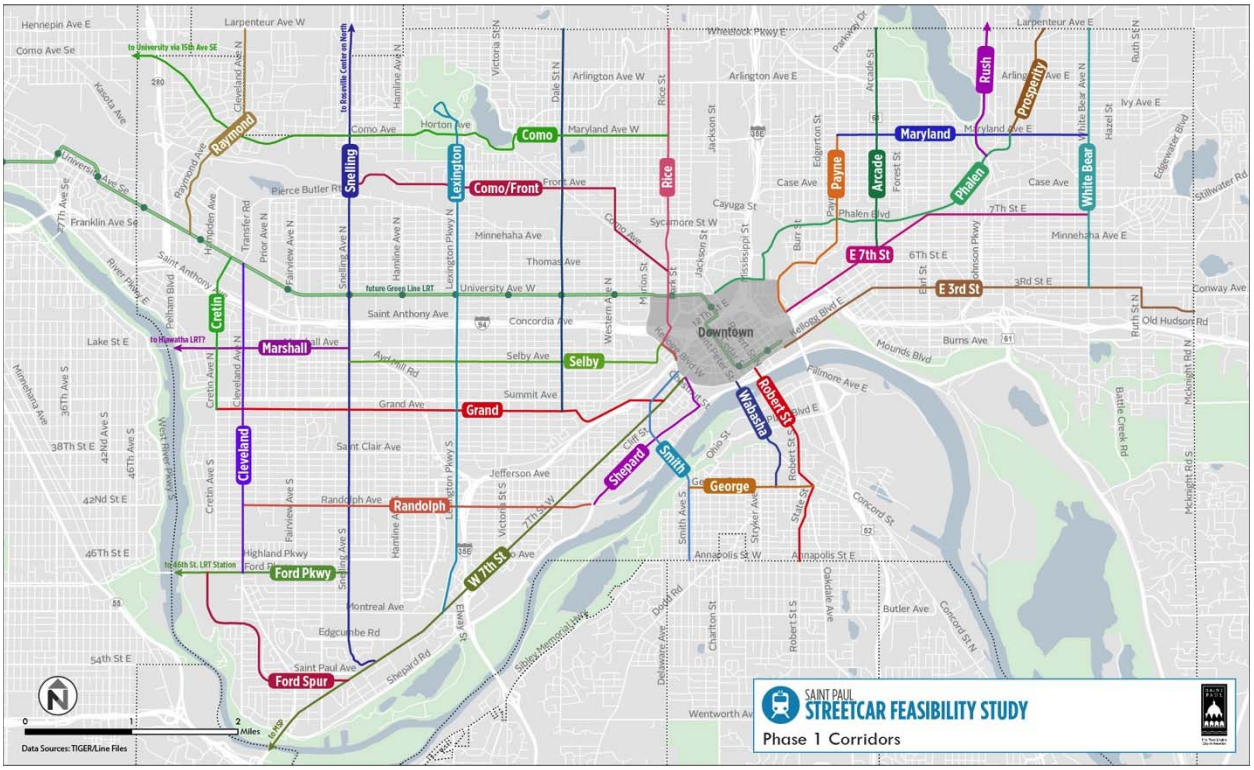
3 DEVELOPMENT OF LONG-TERM NETWORK

As described earlier, the proposed Long-Term Network was developed through a process that began with the identification of the universe of potential corridors, and an evaluation process to determine which lines would be feasible and produce the desired outcomes.

IDENTIFICATION OF POTENTIAL CORRIDORS

The development of the Long-Term Network began with the development of a long list potential streetcar corridors that included nearly all major arterial corridors in Saint Paul (see Figure 6). These corridors were identified and selected through the work of the project team, the project's advisory committees, and input from other stakeholders.

Figure 6: Phase 1 Corridors



PHASE 1 SCREENING PROCESS

Once the Phase 1 corridors had been identified, they were then screened using seven criteria:

- **Grade.** Saint Paul has a number of steep grades that could inhibit streetcar operation, or make streetcar operation too expensive. While modern streetcars can climb grades as much as 9% for short distances (approximately 700-800 feet), sustained grades over 7% are generally discouraged, particularly in climates where snow and ice are regular occurrences. Thus, corridors with grades between 7 and 9% would be carried forward to Phase 2 only if they passed all other screening criteria.
- **Street Geometry.** Especially between downtown and the neighborhoods, there are a number of streets in Saint Paul where streetcars could be difficult to operate due to street geometry. This criterion identifies whether street geometry would *inhibit* streetcar operation, or require significant capital investments that make operation infeasible. These include major modifications to interchanges, exclusive right-of-way needs or other types of transit infrastructure that would be required (such as bridges, underpasses, etc.).
- **Other Physical Barriers.** Other physical barriers besides grade and street geometry could inhibit streetcar operations without significant capital expenses. Examples include low bridges or skyways, streets that are too narrow and at-grade freight railroad crossings.
- **Transit Supportive Land Use.** As a major transit investment, it is important to ensure that any new streetcar investments serve areas that are "transit supportive." Transit supportive land uses are generally medium or high intensity development, and can also be major activity center such as colleges and universities.
- **Terminal Locations.** As with any transit service, a strong destination–or terminal–helps improve the attractiveness of service. Thus, this measure evaluated whether there could be strong anchor locations at each end of potential lines–for example, downtown Saint Paul, colleges and universities, and the Green Line.
- **Transit Speed and Reliability.** Since streetcar service would operate entirely or largely in mixed traffic, it will be important to ensure that service would be able to operate with at acceptable speeds and reliability.
- **Compatibility with Other Transit Investments.** There are a number of new or potential additional transit investments that are currently being considered in Saint Paul. Additionally, some projects may already be under construction or in design, which could conflict with a potential streetcar alignment. This measure examined the degree to which streetcar service would compliment those other efforts, duplicate them, or potentially replace them.

The first three criteria–Grade, Street Geometry, and Physical Barriers–were used to ensure that there were no fatal flaws that would preclude the development of streetcar service or make it prohibitively expensive. The second four criteria–Terminal Location, Transit Speed and Reliability, Other Transit Investments, and Transit-Supportive Land Use–were used as an initial screening of how well streetcar service would likely perform.

For each criterion, the screening was designed to evaluate corridors using both qualitative and quantitative data, as well as comparing and contrasting the corridors against each other. Based on the result, for each criterion, a rating of Best, Good, and Fair was assigned. The ratings reflected relative, rather an absolute, scores.

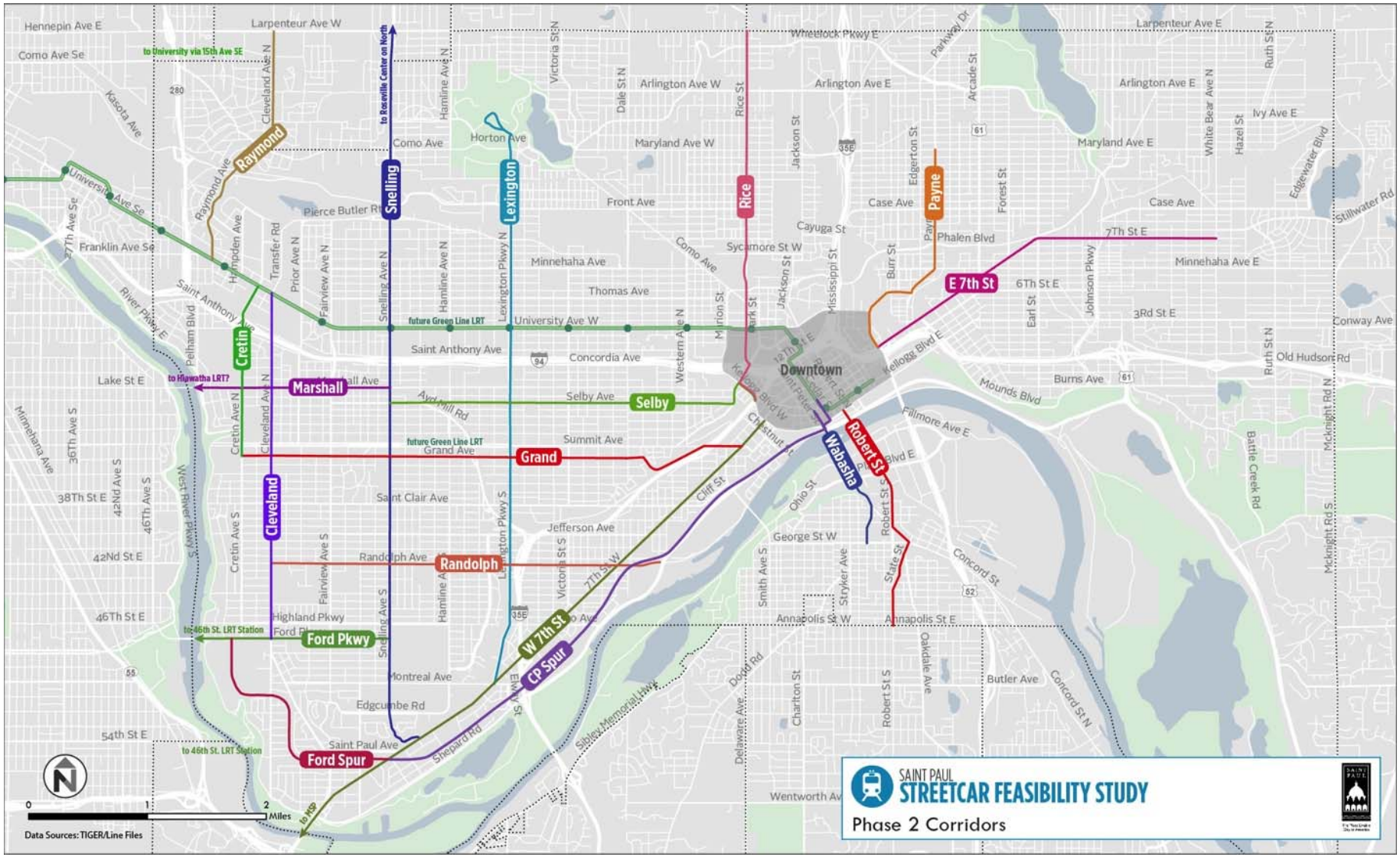
PHASE 1 RESULTS

It was determined that none of the corridors would have construction-related fatal flaws. Thus the Phase 1 recommendations were based on the four effectiveness criteria, and all corridors that received at least three best or good rankings were brought forward into Phase 2 (see Table 2 and Figure 7). On this basis, 16 of 28 corridors were brought forward into Phase 2. These corridors were:

Table 2 – Summary of Phase I Screening Ratings

	Physical Criteria			Other Criteria				
Corridor	Grade	Street Geometry	Physical Barriers	Transit-Supportive Land Use	Terminal Locations	Transit Speed and Reliability	Other Transit Investments	Carry Forward
Arcade	✓✓ Best	✓✓ Best	✓✓ Best	⚠ Fair	⚠ Fair	✓ Good	✓ Good	
Cleveland	✓✓ Best	⚠ Fair	⚠ Fair	✓✓ Best	✓ Good	✓ Good	✓ Good	Yes
Como	✓✓ Best	✓ Good	⚠ Fair	⚠ Fair	⚠ Fair	✓ Good	✓ Good	
Como/Front	✓✓ Best	✓ Good	✓✓ Best	⚠ Fair	⚠ Fair	✓ Good	✓ Good	
Cretin	✓✓ Best	✓✓ Best	⚠ Fair	✓ Good	✓ Good	⚠ Fair	✓ Good	Yes
Dale	⚠ Fair	✓✓ Best	⚠ Fair	⚠ Fair	⚠ Fair	✓ Good	✓ Good	
E 3rd St	⚠ Fair	⚠ Fair	✓✓ Best	⚠ Fair	✓ Good	✓✓ Best	⚠ Fair	
E 7th St	✓✓ Best	✓ Good	✓ Good	⚠ Fair	✓ Good	✓ Good	✓✓ Best	Yes
Ford Pkwy	✓✓ Best	✓✓ Best	⚠ Fair	✓ Good	✓ Good	✓ Good	✓✓ Best	Yes
Ford Spur	✓✓ Best	✓✓ Best	⚠ Fair	✓ Good	✓ Good	✓✓ Best	⚠ Fair	Yes
George St	⚠ Fair	⚠ Fair	✓✓ Best	⚠ Fair	⚠ Fair	✓ Good	✓ Good	
Grand	✓✓ Best	✓ Good	⚠ Fair	✓ Good	✓✓ Best	✓ Good	✓✓ Best	Yes
Lexington	✓ Good	✓ Good	⚠ Fair	⚠ Fair	✓✓ Best	✓ Good	✓ Good	Yes
Marshall	✓✓ Best	✓ Good	✓✓ Best	✓ Good	✓ Good	✓ Good	✓✓ Best	Yes
Maryland	✓✓ Best	✓✓ Best	⚠ Fair	⚠ Fair	⚠ Fair	✓ Good	✓ Good	
Payne	✓ Good	✓ Good	⚠ Fair	⚠ Fair	✓ Good	✓ Good	✓ Good	Yes
Phalen	✓✓ Best	✓ Good	✓ Good	⚠ Fair	⚠ Fair	✓✓ Best	✓ Good	
Prosperity	✓✓ Best	⚠ Fair	✓✓ Best	⚠ Fair	⚠ Fair	✓ Good	✓ Good	
Randolph	✓✓ Best	⚠ Fair	⚠ Fair	✓ Good	✓ Good	✓ Good	✓ Good	Yes
Raymond	✓✓ Best	⚠ Fair	⚠ Fair	✓✓ Best	✓ Good	✓ Good	✓ Good	Yes
Rice	✓✓ Best	✓✓ Best	✓✓ Best	✓ Good	⚠ Fair	✓ Good	✓ Good	Yes
Robert St	✓✓ Best	✓ Good	⚠ Fair	✓ Good	⚠ Fair	✓ Good	✓✓ Best	Yes
Rush	✓✓ Best	✓✓ Best	✓ Good	⚠ Fair	⚠ Fair	✓✓ Best	✓ Good	
Selby	⚠ Fair	⚠ Fair	✓✓ Best	✓✓ Best	✓✓ Best	✓ Good	✓ Good	Yes
Shepard	⚠ Fair	✓✓ Best	⚠ Fair	⚠ Fair	⚠ Fair	⚠ Fair	✓ Good	
Smith	✓✓ Best	✓ Good	✓✓ Best	⚠ Fair	⚠ Fair	✓ Good	✓ Good	
Snelling	⚠ Fair	✓✓ Best	⚠ Fair	✓✓ Best	✓✓ Best	✓ Good	✓✓ Best	Yes
W 7th St	✓✓ Best	✓✓ Best	⚠ Fair	✓ Good	✓✓ Best	✓ Good	✓✓ Best	Yes
Wabasha	✓✓ Best	✓ Good	✓✓ Best	✓✓ Best	⚠ Fair	✓✓ Best	✓ Good	Yes
White Bear	✓✓ Best	✓✓ Best	⚠ Fair		⚠ Fair	✓ Good	✓ Good	

Figure 7: Phase 2 Corridors



- Cleveland
- Cretin
- Grand
- East 7th
- Ford Parkway
- Ford Spur
- Lexington
- Marshall
- Payne
- Randolph
- Raymond
- Rice
- Robert
- Selby
- Snelling
- Wabasha
- West 7th

PHASE 2 EVALUATION PROCESS

Once the Phase 2 corridors had been determined, the next step was to determine how streetcar service could logically operate within the corridors. In this respect, important considerations were service within the corridor, logical terminal points, and connections to downtown Saint Paul, other transit services (particularly the Green Line), and major activity centers. The 19 potential lines that were developed are shown in Figure 8.

Once these lines had been developed, they were evaluated and the proposed long-term network developed as part of a three-step process:

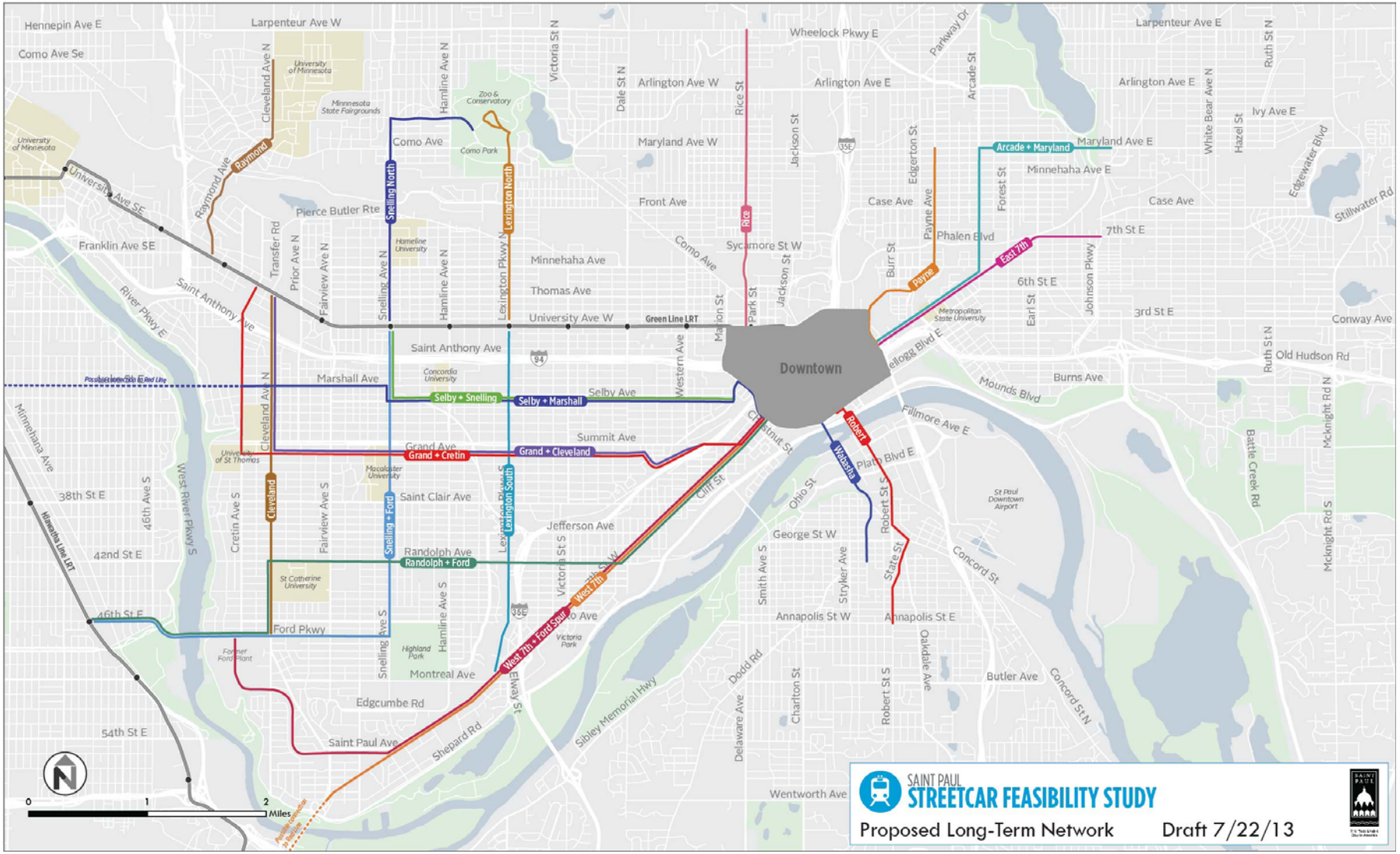
1. First, each line was evaluated based on three primary criteria, which were potential demand, land use, and development potential. These three criteria were considered to be the most important for the following reasons:

    - Potential Demand: First and foremost, streetcar lines provide transportation, and to be successful, they must be implemented in areas where there is sufficient demand for the type of service that they provide.

    - Land Use: Streetcar lines are most successful when they operate in areas where there is activity throughout the day and night, which are areas with mixed-use development. In areas with dominated by a single land use type (for example, residential or industrial), most activity occurs during commute hours, with much less activity during the midday and at night.

    - Development Potential: A second major benefit of streetcar service is that it can stimulate economic development, and this is an explicit goal for streetcar service in Saint Paul. Areas that would provide the greatest potential are those where there is local demand for development, potential for mixed-use development, and a significant amount of undeveloped or underdeveloped land that could be redeveloped to higher value transit-oriented uses.

Figure 8: Phase 2 Streetcar Lines



2. For the lines that met all three primary criteria, each was further examined to determine whether all three conditions would be met along the entire line. In cases where they would not, the lines were shortened to the lengths that would meet all three.

3. Finally, the lines were further screened using the supplemental criteria. This was done for two reasons:

    - To determine whether there are issues that could preclude the development of a specific line.

    - In cases where two lines would serve a similar area (Robert and Wabasha, and Payne and Maryland+Arcade) to determine which of the two would be more desirable.

In many respects, this was a process of elimination–the elimination of lines that did not meet the primary criteria, and the elimination of lines that would largely duplicate others. The remaining lines then became the recommended long-term network described below.

PHASE 2 EVALUATION RESULTS

As described above, the lines, or segments of lines, included in the long-term network are those that ranked well (Best or Good) in terms of potential demand, land use, and development potential (see Table 3). In terms of the primary criteria, these lines and segments would be:

- **Arcade+Maryland** overall rated Best for ridership and development potential and Good for Land Use. However, potential demand along Maryland Avenue is relatively low, leaving the segment between Maryland Avenue and downtown as the best suited for streetcar service.
- **East 7th Street** overall also rated Best for ridership and development potential and Good for land use. However, ridership and development potential is low beyond Hazelwood Street, leaving the segment between Hazelwood Street and downtown as the best suited for streetcar service.
- **Grand+Cleveland** overall rated Best for ridership and land use and Good for development potential. However, ridership and development potential past the University of Saint Thomas is low, and land use becomes much more residential. Thus, the segment best suited for streetcar service is between University of Saint Thomas and downtown.
- **Grand+Cretin** rated essentially the same as Grand+Cleveland, with strong potential performance between University of Saint Thomas and downtown, and low potential beyond there. The segment best suited for streetcar service is between University of Saint Thomas and downtown or the same as Grand+Cleveland.
- **Payne** rated Best for potential demand and Good for land use and development potential, with strong potential through the end of the line at Maryland Avenue.
- **Rice** rated Best for potential demand and land use, and Good for development potential. The potential for each criterion varies throughout the line, but overall is good or better throughout the entire line between the city line and downtown.
- **Robert** overall ranked Best in all three categories. However, potential demand would be relatively low south of George Street, leaving the segment between George Street and downtown as providing the best potential for streetcar service.
- **Selby+Marshall** ranked Best for potential demand and land use, and good for development potential. However, the potential in all three areas, although somewhat variable, would be much lower west of Snelling Avenue, and thus the segment between Lexington Parkway and downtown would have the highest potential.

Table 3: Phase 2 Primary Criteria Ratings and Strongest Segments

Alternative	Ridership Potential	Land Use	Development Potential	Bring Forward?	Streetcar Supportive Segment
Arcade+Maryland	✓✓ Best	✓ Good	✓✓ Best	Yes	Maryland Ave – Downtown
Cleveland	✓ Good	⚠ Fair	⚠ Fair		
East 7th	✓✓ Best	✓ Good	✓✓ Best	Yes	Hazelwood St - Downtown
Grand+Cleveland	✓✓ Best	✓✓ Best	✓ Good	Yes	University of Saint Thomas - Downtown
Grand+Cretin	✓✓ Best	✓ Good	✓ Good	Yes	University of Saint Thomas - Downtown
Lexington North	⚠ Fair	⚠ Fair	⚠ Fair		
Lexington South	⚠ Fair	⚠ Fair	⚠ Fair		
Payne	✓✓ Best	✓ Good	✓ Good	Yes	Maryland Ave - Downtown
Randolph+Ford	⚠ Fair	✓ Good	⚠ Fair		
Raymond	⚠ Fair	✓ Good	⚠ Fair		
Rice	✓✓ Best	✓✓ Best	✓ Good	Yes	City Line/Larpenteur Ave - Downtown
Robert	✓✓ Best	✓✓ Best	✓✓ Best	Yes	George St - Downtown
Selby+Marshall	✓✓ Best	✓✓ Best	✓ Good	Yes	Snelling Ave - Downtown
Selby+Snelling	✓✓ Best	✓✓ Best	✓ Good	Yes	Hameline University - Downtown
Snelling+Ford	⚠ Fair	✓ Good	✓ Good		
Snelling North	⚠ Fair	✓ Good	⚠ Fair		
Wabasha	✓✓ Best	✓✓ Best	✓✓ Best	Yes	George St - Downtown
West 7th	✓✓ Best	✓✓ Best	✓✓ Best	Yes	Victoria Park - Downtown
West 7th+Ford Spur	✓ Good	✓ Good	✓✓ Best	Yes	Victoria Park - Downtown

- **Selby+Snelling** ranked Best in all three categories, and better than Selby+Marshall because of much stronger potential along Snelling Avenue between Selby Avenue and University Avenue than along Marshall Avenue west of Snelling Avenue, and because of the connection with the Green Line. The entire line would provide strong potential for streetcar service.
- **Wabasha,** similar to Robert overall ranked best in all three categories, and also with potential demand relatively low south of George Street. The rankings would be similar because both the Robert and Wabasha lines would serve much of the same area.
- **West 7th** ranked Best for potential demand and land use and Good for development potential. Potential is strong from the planned Victoria Park development (south of Otto Avenue) to downtown.

- **West 7th+Ford** ranked Good for potential demand and land use and Best for development potential. Compared to West 7th, potential demand and compatible land use are lower due to lower performance between Victoria Park and the former Ford plant, and development potential ranks higher due to the inclusion of the former Ford plant. In spite of the former Ford plant at the outer end, demand between there and Victoria part would be too low to justify the entire line, and the segment with strong streetcar potential would be the same as for West 7th, which would be between Victoria Park and downtown.

These lines were then further screened using the supplemental criteria. While there would be some issues with all of the potential lines, none would be seen as sufficiently significant to preclude a line from further consideration, and thus the last step in developing the long-term network was to select between lines that would service similar areas.

Finally, it should be noted that many of the Transit Integration and Relationship with High Capacity Transit (HCT) ratings were only Fair. This is largely because streetcar lines would serve a local market for shorter trips while most Metro Transit routes and new high capacity routes would serve longer and more regional trips. The evaluation framework had initially anticipated that streetcar service could replace more local bus service and supplement more HCT than it now appears would be the case, and the ratings were developed to reflect potential savings. The resulting findings instead indicate that streetcar would serve new markets rather than replace other existing and planned services.

SERVICE TO SIMILAR AREAS

Two sets of lines would serve very similar areas, and as a result, ranked essentially the same (see Figures 9 and 10):

- On the east side of Saint Paul, Arcade+Maryland, Payne, and East 7th.
- In the West Side neighborhood, Robert and Wabasha.

Figure 9: East Side Phase 2 Lines

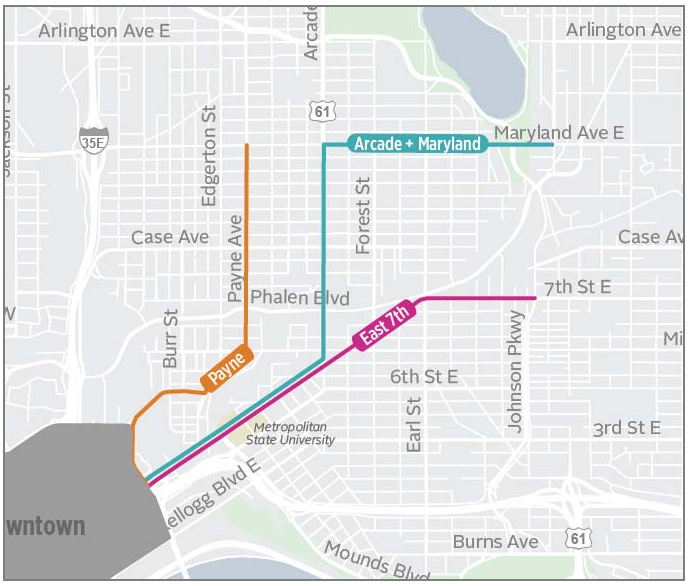


Figure 10: West Side Phase 2 Lines

The lines were compared in a number of ways that resulted in the selection of Payne and Robert:

- Between **Arcade+Maryland, Payne, and East 7th**, there were a number of considerations. First, Arcade+Maryland would operate along the same alignment as East 7th from downtown to

Arcade Street, and between there and Maryland, largely "splits the difference" between Payne and East 7th. The area where Arcade+Maryland would provide the most unique service would be along Maryland Avenue, but as described above, potential demand in this area would be low. Finally, there appears to be greater community support for streetcar service along Payne Avenue and West 7th Street than along Arcade Street. On this basis, to avoid duplication but also to maximize coverage, Payne and East 7th were selected to provide east side service.

- Between **Robert and Wabasha**, Robert was selected due to greater ridership and development potential, and greater community support.

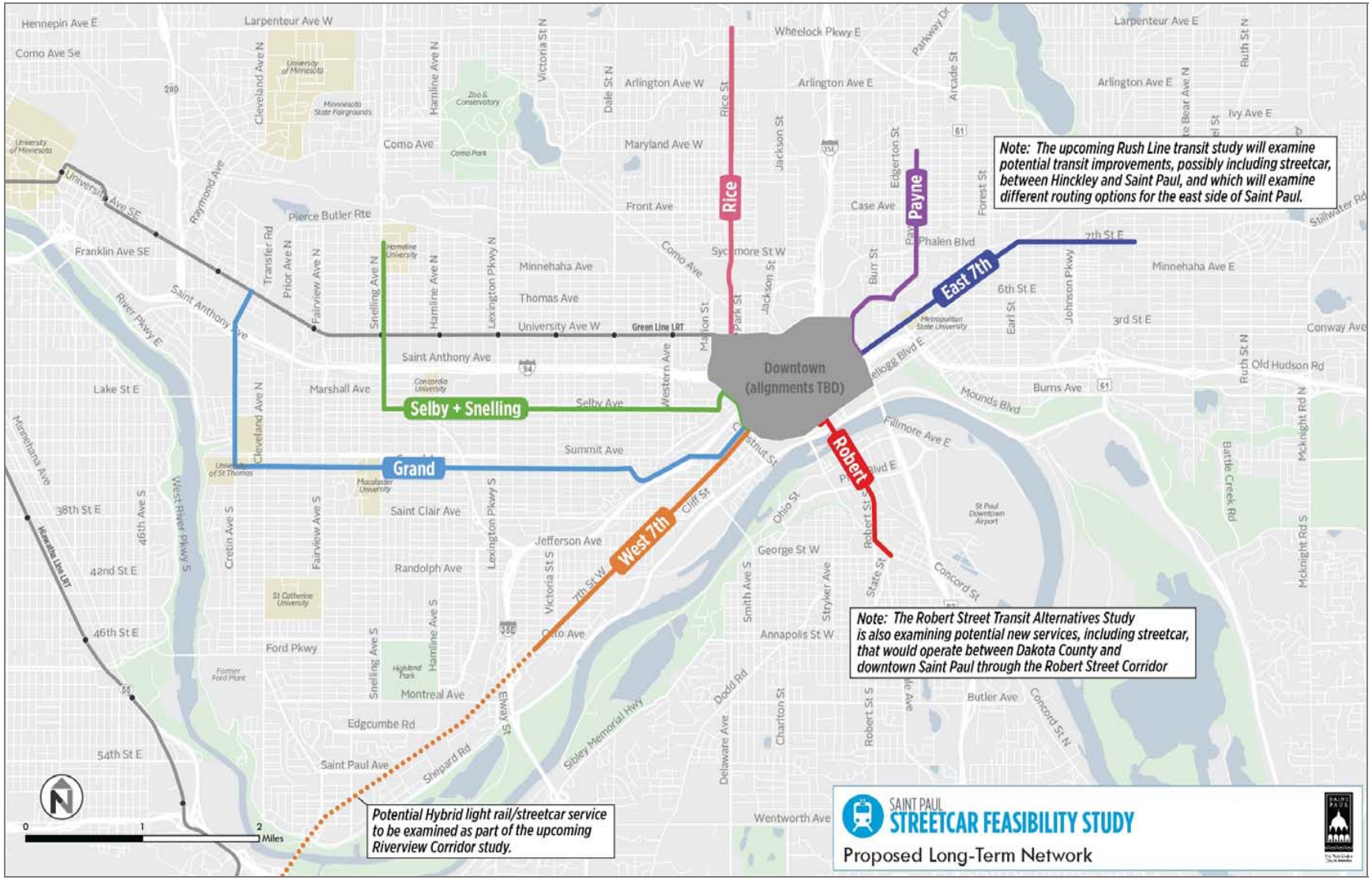
RECOMMENDED LONG-TERM NETWORK

Based on the above evaluation, the recommended long-term network consists of seven lines. With names revised to reflect proposed origins and destinations, and as illustrated in Figure 11, these would be as follows:

Line	Origin-Destination
East 7th	Hazelwood Street - Downtown
Grand+Cretin	University Avenue - Downtown
Payne	Maryland Avenue - Downtown
Rice	City Line/Larpenteur Avenue - Downtown
Robert	George Street - Downtown
Selby+Snelling	Hamline University - Downtown
West 7th	Victoria Park - Downtown

Most of these lines would be subsets of the Phase 2 lines, and would represent the segments that would provide strong potential for streetcar service. Exceptions are Grand+Cretin, Payne and Rice, which would be the same as the Phase 2 lines, and Selby+Snelling, which would be extended to Hamline University.

Figure 11: Proposed Long-Term Network



4 STREETCAR PHASING AND PROPOSED STARTER LINE

As with the development of any network, a fundamental question is "where to start?" For this effort, the proposed approach is to start with the strongest potential project, and to then build from that. It was also recognized that the strongest initial line could be either a single line in the Long-Term Network, a subset of a single line, or as with the approach in Minneapolis, a combination of a subset of two lines.

PHASE 3 EVALUATION PROCESS AND RESULTS

The Phase 3 evaluation process used to determine the "Starter Line" and phasing was similar to and consistent with the Phase 2 evaluation, which was to focus primarily on ridership and development potential, and to use supplemental criteria as needed to distinguish between similarly performing lines. In this case, the supplemental criteria were capital costs and operating costs.

Ridership

Ridership estimates were developed for each of the lines in the Long-Term Network using a methodology that considered existing transit ridership, other available transit options, changes in overall transit service levels, improvements in comfort and legibility, and the amount of new activity that would result from new development. The resulting projections represent order of magnitude estimates once the systems have matured and induced development has occurred, and were designed to provide for reasonable comparisons between lines; more detailed estimates would subsequently be developed during the project development phase for each line.

Based on this process, the East 7th and West 7th Lines would attract the highest number of total riders and new riders. On a line-by-line, basis, and relative to each other, key findings were (see also Table 4):

Table 4. Ridership Projections (Weekday)

Line	Total Riders	New Riders	Rating
East 7th	2,500	1,700	✓✓ Best
Grand+Cretin	2,800	1,200	⚠ Fair
Payne	2,100	1,400	✓ Good
Rice	2,300	1,300	✓ Good
Robert	2,200	1,600	✓ Good
Selby+Snelling	3,100	1,200	⚠ Fair
West 7th	2,900	1,800	✓✓ Best

- **East 7th** would carry would have among the strongest development-related ridership increases and would carry approximately 2,500 total passengers and 1,700 new transit riders, and would be the second best performing line (after West 7th).
- **Grand+Cretin:** The Grand+Cretin Line would carry among the highest ridership of all lines (approximately 2,800). However, most of these riders would shift from existing bus services, and coupled with lower development related increases than other lines, this line would carry among the fewest new transit riders (1,200). Consequently, the Grand+Cretin Line was rated as Fair, with the rating based largely on the lower number of new transit riders that the line would carry.
- **Payne:** The Payne Line would carry would carry approximately 2,100 total riders and 1,400 new transit riders. This would among the lowest total ridership, while new transit ridership would be in the middle of the range. The combination of total ridership that would be on the lower side of the range, but relatively high numbers of new transit riders combined to produce a Good rating.
- **Rice:** The Rice Line would carry approximately 2,300 total riders and 1,300 new transit riders. All of these figures placed the Rice Line in the middle of the range, with a rating of Good.
- **Robert:** The Robert Line would carry 2,200 total riders and 1,600 new transit riders, and was also rated as Good. However, it should be noted that a much larger proportion of Robert would be new ridership produced by new development, and that initial ridership would be lower on this line than on most others.
- **Selby+Snelling:** Similar to the Grand+Cretin Line, the Selby+Snelling Line would carry among the highest ridership of all lines (approximately 3,100). However, most of these riders would shift from existing bus services, and coupled with lower development related increases than on other lines, this line would carry among the fewer new transit riders ((1,200). Also similar to the Grand+Cretin Line, the Selby+Snelling Line was rated as Fair.
- **West 7th:** The West 7th Line would carry among the highest total ridership (approximately 2,900) and new transit riders (1,800), and consequently was rated as Best.

Development Potential

The Phase 3 evaluation used the same development potential estimates as the Phase 2 evaluation. A recap of the results for the lines in the Long-Term Network is that the East 7th, Robert, and West 7th Lines would provide the greatest development potential (see also Table 5).

Operating Costs

Annual net operating costs for the seven lines would range from $6.9 million (East 7th and West 7th Lines) per year to $10.5 million (Grand+Cretin Line) (see Table 6). In general, these costs are most related to two factors: (1) the length of the line, and (2) the potential for offsetting local bus service costs. The two lines with the greatest offsetting bus savings–Grand+Cretin and Selby+Snelling–would have annual net operating costs of $1.4 million and $1.3 million per mile, respectively. Four lines–East 7th, Payne, and West 7th–would have operating costs of between $1.8 and $2.0 million per year. The Robert Line would have the highest cost per mile at $2.6 million.

Table 5 – Development Potential

Line	Desire for Development Rating	Redevelopment Potential Rating	Redevelopment Value/ Mile	Overall Rating
East 7th	Best	Good	$48.2 M	✓✓ Best
Grand+Cretin	Fair	Good	$46.88	✓ Good
Payne	Good	Good	$61.4 M	✓ Good
Rice	Best	Fair	$20.4 M	✓ Good
Robert	Best	Best	$136.1 M	✓✓ Best
Selby+Snelling	Fair	Good	$63.8 M	✓ Good
West 7th	Best	Good	$50.2 M	✓✓ Best

Table 6. Annual Operating Cost Estimates ($2013)

Alternative	Streetcar Operating Cost	Bus Operating Cost Savings	Net Operating Cost	Net Operating Cost/ Route Mile
East 7th	$6.9 M	--	$6.9 M	$1.9 M
Grand+Cretin	$12.5 M	$2.0 M	$10.5 M	$1.4 M
Payne	$6.3 M	--	$6.3 M	$2.0 M
Rice	$6.9 M	$0.2 M	$6.7 M	$1.8 M
Robert	$3.9 M	--	$3.9 M	$2.6 M
Selby+Snelling	$10.1 M	$2.4 M	$7.7 M	$1.3 M
West 7th	$6.9 M	--	$6.9 M	$2.0 M

Capital Costs

In 2013 dollars, capital costs for all lines would be in a relatively narrow range of $59.9 to $61.7 million per mile. This range is narrow because there are no particular characteristics along any of the lines that would greatly increase or reduce costs. The one possible exception is downtown, where the specific alignment would be determined during more detailed project development, and where costs could be higher or lower. Costs could be higher if particular challenges are identified at that time (although none were identified during the initial screening conducted for this study), or could be lower if streetcar service were to use Green Line tracks and stations. For the purposes of these estimates, downtown costs were assumed to be $60 million per mile, consistent with costs outside of downtown.

Because the range of the cost per mile estimates was so small, the primary determinant of total capital costs would be the length of the streetcar line. Thus, the shorter lines–Robert and Payne–would have the lowest total capital costs, at $110 and $182 million), and the longer lines–Selby+Snelling and Grand+Cretin–would have the highest costs, at $353 and $439 million (see Table 7). (Note that all cost estimates are in $2013, and that due to inflation, year of expenditure costs would be higher.)

Table 7 – Capital Cost Estimates ($2103)

Alternative	Length (Route Miles)	Cost Per Mile	Total Cost
East 7th	3.6	$59.9 M	$215.5 M
Grand+Cretin	7.1	$61.7 M	$438.9 M
Payne	3.0	$61.1 M	$183.2 M
Rice	4.1	$61.5 M	$253.3 M
Robert	1.8	$60.8 M	$110.3 M
Selby+Snelling	5.9	$60.1 M	$352.7 M
West 7th	3.6	$59.9 M	$216.1 M

Overall Ratings

Based on the primary criteria–ridership potential and development potential–East 7th and West 7th were rated the highest, followed by Robert, Payne, and Rice (see Table 8).[1]

Table 8 – Summary of Phase 3 Part 1 Evaluation Ratings

	Primary Criteria		Secondary Criteria	
Long-Term Network Streetcar Line	Ridership	Development Potential	Capital Costs	Operating Costs
E 7th Street	✓✓ Best	✓✓ Best	$215.5 M	$6.9 M
Grand+Cretin	⚠ Fair	✓ Good	$438.9 M	$10.5 M
Payne	✓ Good	✓ Good	$183.2 M	$6.3 M
Rice	✓ Good	✓ Good	$253.3 M	$6.7 M
Robert	✓ Good	✓✓ Best	$110.3 M	$3.9 M
Selby+Snelling	⚠ Fair	✓ Good	$352.7 M	$7.7 M
W 7th Street	✓✓ Best	✓✓ Best	$216.1 M	$6.9 M

IDENTIFICATION OF PROPOSED STARTER LINE

As described above, of the lines in the Long-Term Network, the East 7th and West 7th Lines would perform best in terms of ridership and development potential, and thus they would be logical starting points for the redevelopment of streetcar service in Saint Paul. Either line could be constructed in its entirety as a "starter line," or as is being done in Minneapolis with the Nicollet-Central streetcar line, the inner ends of the East 7th and West 7th Lines could be developed first with service through downtown. In this manner,

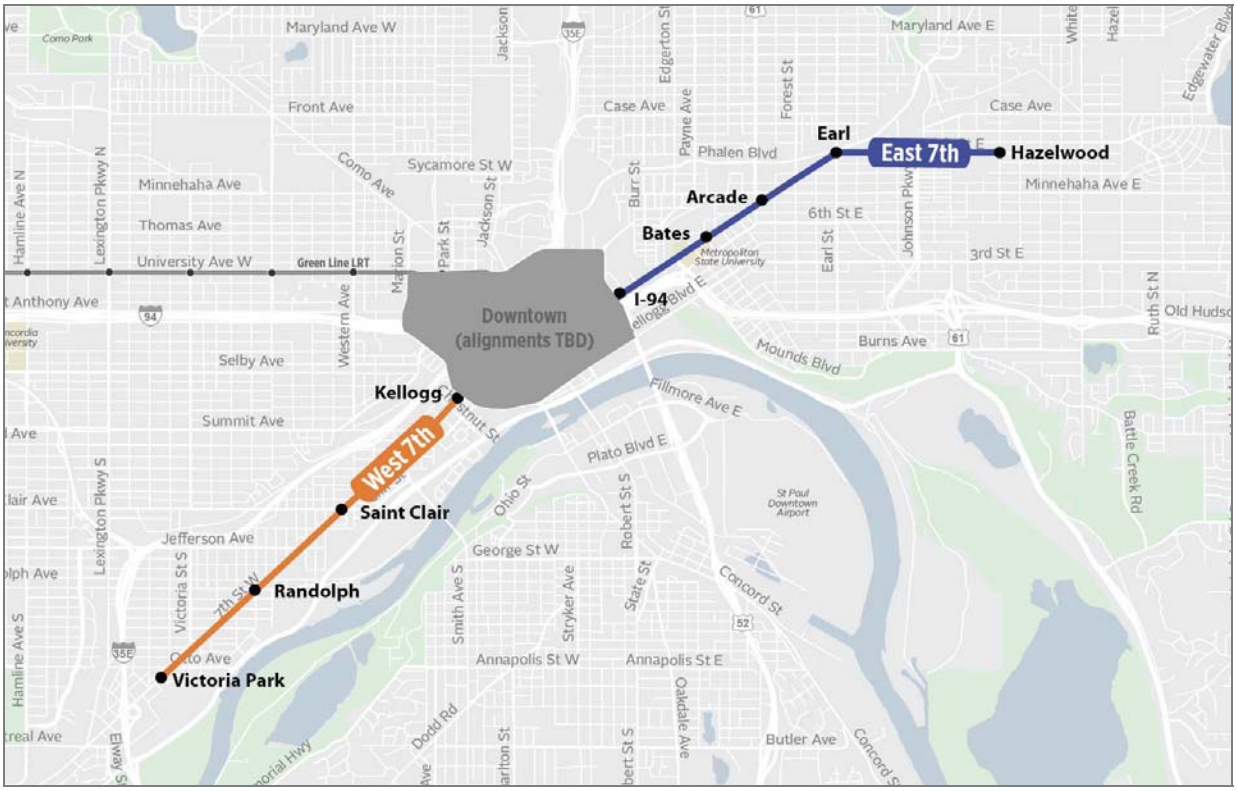
[1] Note that as described at the beginning of this chapter, the ratings are relative within the Long-Term network. Thus, a Fair rating indicates that a lines performance would be "fair" relative to better performing lines, and not in absolute terms.

the strongest segments of those lines could be constructed first, in order to provide the greatest benefits from the start, spread the benefits to different parts of the city, and provide the strongest foundation for future growth.

Strongest Segments of East 7th and West

To determine which segments of the East 7th and West 7th Lines would produce the most effective starter line, three considerations were used: (1) ridership, (2) development potential, and (3) capital costs. In terms of ridership and development potential, the criteria was simply which segments would produce the highest ridership and help spur the greatest amount of development. In terms of capital costs, an important consideration is to develop a project that would be eligible for FTA Small Starts funding, which has a cap of $250 million in total project costs. The segments that were considered are shown in Figure 12.

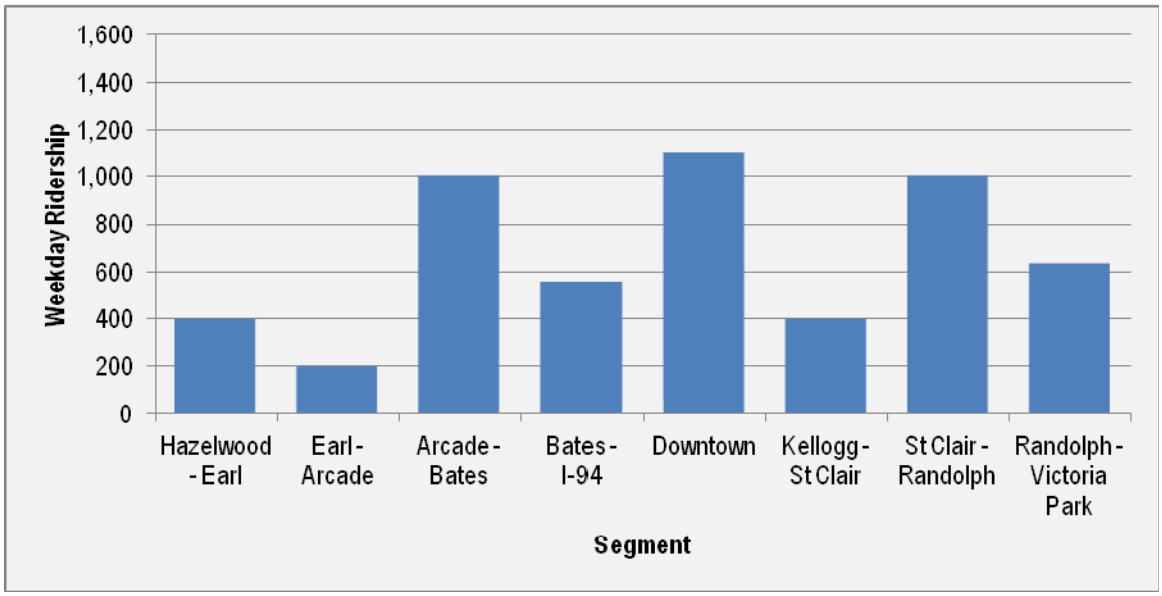
Figure 12: East and West 7th Segments



Ridership

In terms of ridership per route mile, the heaviest ridership segments along the East 7th and West 7th lines would be in downtown, on East 7th between Arcade Street and Bates Avenue (Metropolitan State University), and on West 7th between Saint Clair Avenue and Victoria Park (see Figure 13).

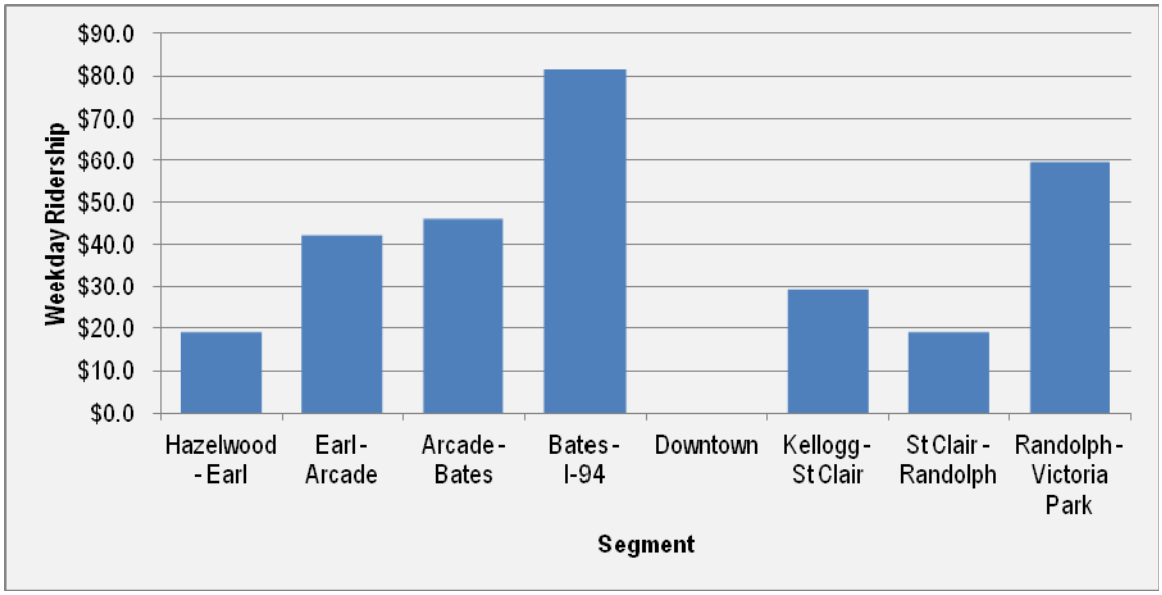
Figure 13: Ridership by Route Mile along East 7th and West 7th Lines



Development Potential

Outside of downtown,[2] the greatest potential for new development would be along East 7th south of Earl Street, and the outer end of the West 7th Line between Randolph Avenue and the vicinity of Victoria Park (see Figure 14).

Figure 14: Development Potential per Mile along East 7th and West 7th Lines



[2] As described previously, this study did not include the impacts of new development in downtown, as most of the routes that were examined would operate to and from downtown, and the inclusion of those figures would have made the comparison of impacts outside of downtown more difficult.

Capital Costs

By segment, capital costs would range from $23 million to $77 million, and the cost to build both lines in their entirety would be $367 million in 2013 dollars (see Table 8). With the objective to keep the cost of the starter line at less than $250 million, and to provide service both north and south of downtown, the cost to construct service between Arcade Street to the north and Randolph Avenue to the south would be $230 million.

Table 8 – Capital Cost Estimates ($2103)

Segment	Both Lines End-to-End	Arcade - Randolph
Hazelwood - Earl	$56.7	
Earl - Arcade	$34.0	
Arcade - Bates	$22.7	$22.7
Bates – Lafayette	$34.0	$34.0
Downtown	$77.0	$77.0
Kellogg – Saint Clair	$56.7	$56.7
Saint Clair - Randolph	$39.7	$39.7
Randolph – Victoria Park	$45.4	
	$366.7	$230.2

(Important notes about these capital costs are that they are in 2013 dollars, and that ultimate construction costs will be higher based on the amount of inflation that occurs between now and the time of construction. Also, the FTA $250 million total cost threshold in year of expenditure dollars, and this threshold may or may not be raised to reflect inflation.)

Operating Costs

Operating costs would largely reflect the length of the line. The full line would cost over $11 million per year to operate, while an Arcade - Randolph Line would cost $8.0 million (in 2013 dollars).

RECOMMENDED STARTER LINE

As stated above, important objectives for the city's first streetcar line are that it would maximize ridership and development benefits, provide service to multiple neighborhoods, and that total capital costs be kept within $250 million. A starter line that operates along East and West 7th Streets between Arcade Street and Randolph Avenue via downtown, as shown in Figure 15, would best achieve these objectives:

- It would serve 3,100 passengers per weekday, or 72% of the riders of the full lengths of both the East 7th and West 7th Lines. These ridership levels would compare favorably with other U.S. streetcar lines (see Figure 16).
- It would support development in many of the areas with the greatest potential, including between Arcade Street and downtown. It would also support further development along West 7th Street, south of downtown, and set the stage for subsequent extension further south where development potential would be the highest.

Figure 15: Proposed Starter Line

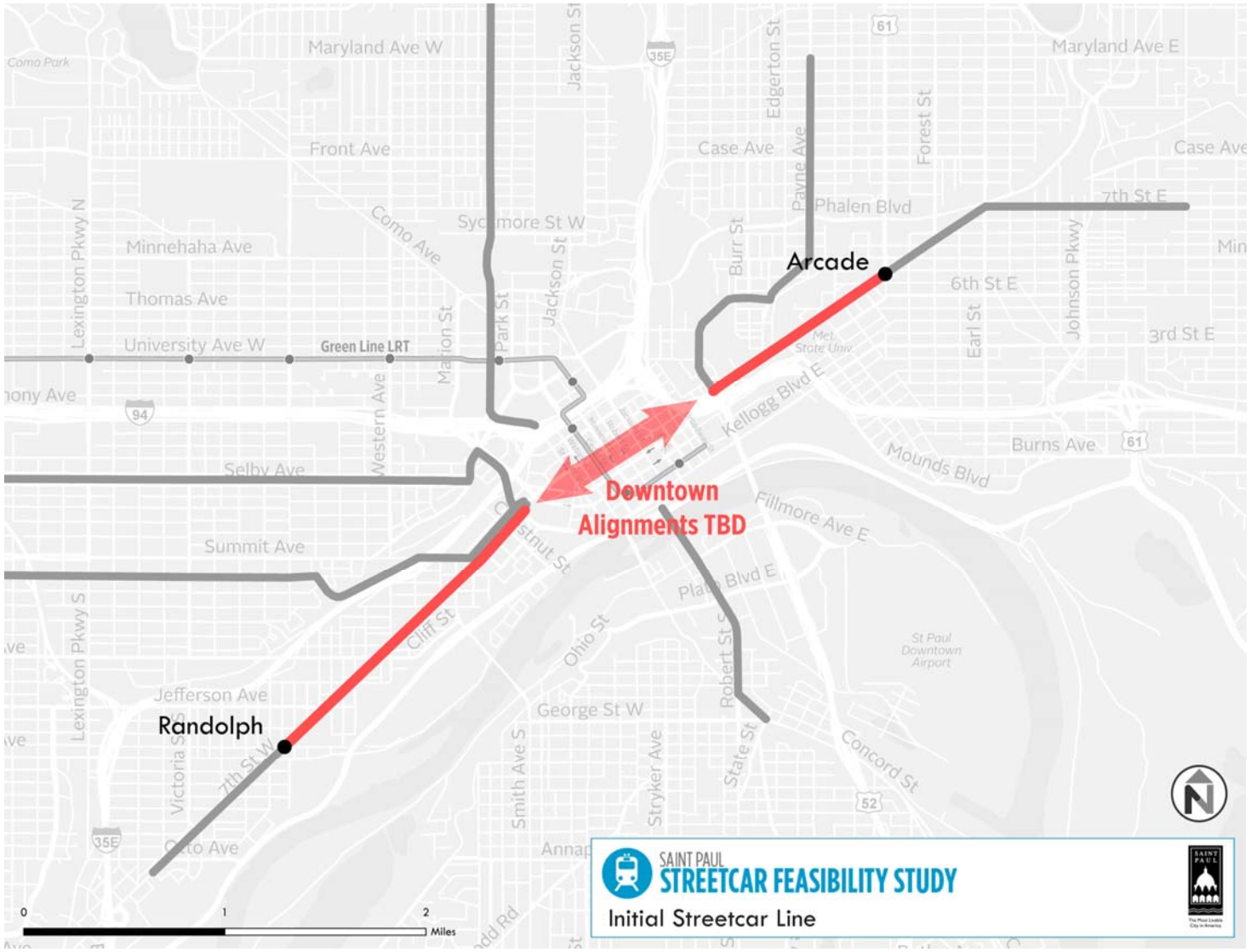
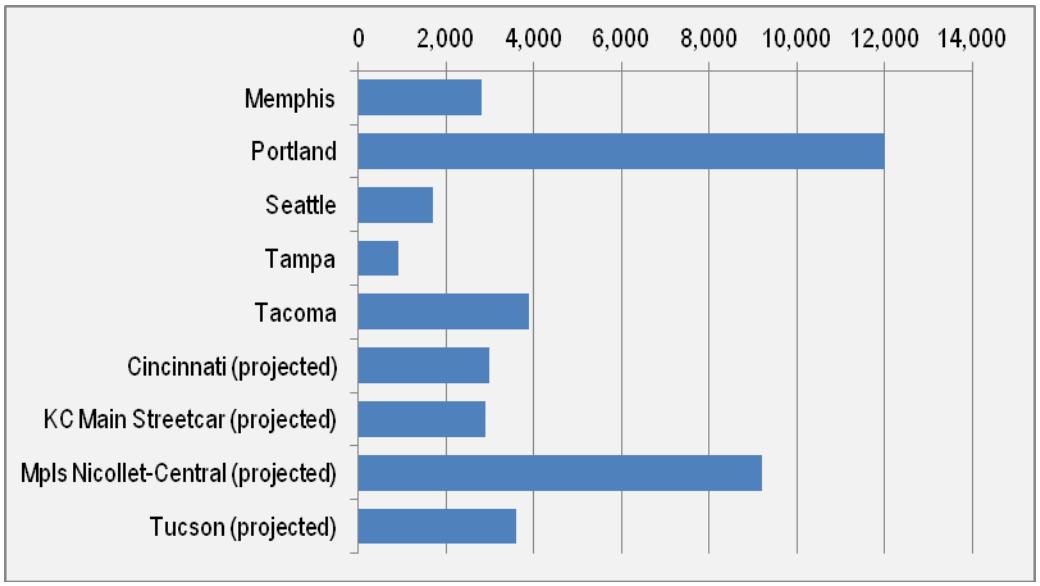


Figure 16: Ridership on Other Streetcar Projects (Weekday)



- In 2013 dollars, capital costs would be below the FTA's $250 million threshold for Small Starts funding. While year of expenditure costs will certainly higher, especially if the first line is built later rather than sooner, there are potential savings that were not fully explored in this study such as the joint use of Green Line tracks in downtown. These could keep year of expenditure costs below $250 million. As part of further project development, additional steps could also be taken to reduce costs by shortening the line somewhat.

Phase 2

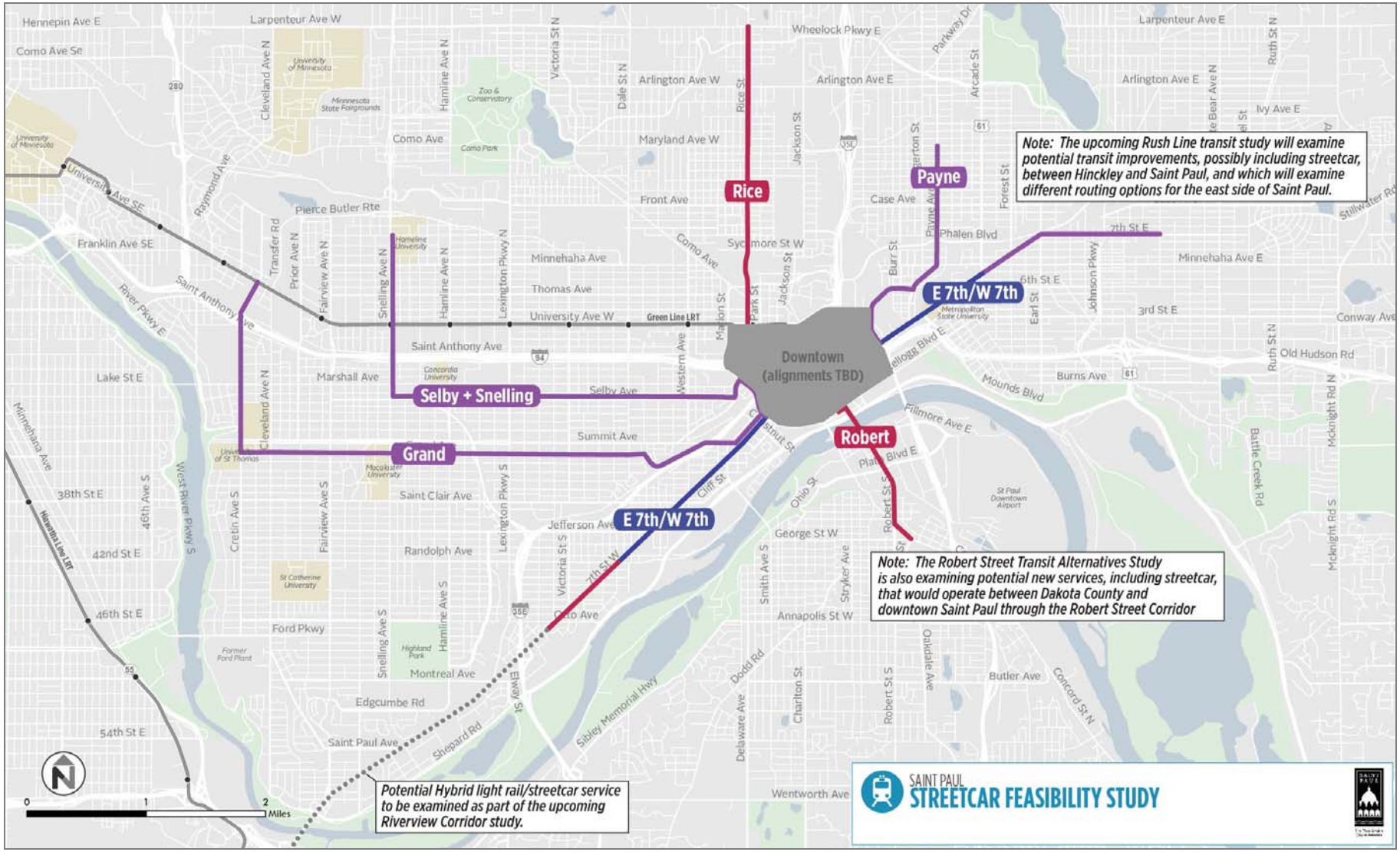
An East 7th/West 7th Starter Line would represent the starting point toward the development of the Long-Term network. Based on the work described above, and to achieve the greatest benefits soonest, Phase 2 of streetcar development should consist of (see Figure 17):

- An extension of West 7th Street further southward to the vicinity of Victoria Park
- Development of the Robert Line
- Development of the Rice Line.

Phase 3

The remaining lines would then follow those, with specific timing to be determined as the city's streetcar program continues to evolve.

Figure 17: Streetcar Network Phasing



5 POTENTIAL FUNDING

Pursuing capital funding for streetcar projects is challenging for a number of reasons. First, there is fierce competition for funding at both the federal and local levels. The largest source of capital funds for transit projects is the Federal Transit Administration's (FTA's) New and Small Starts discretionary program. This is the largest discretionary program in the federal government and includes upwards of $2 billion in capital funding for transit projects annually. Second, and particularly in the Twin Cities area, modern streetcar represents a new transit mode, and policy makers are still working to determine how it fits within the region's family of transit services. Finally, and also because it is a new transit mode, it has not been considered in previous regional planning efforts and thus the addition of new streetcar lines to the regional planning program is often viewed as at the expense of other planned transit services, especially new arterial BRT lines.

For these and other reasons, recent streetcar projects have sought new funding mechanisms than those generally used for major capital transit projects, at both the federal and local levels. This chapter describes potential capital funding sources for streetcar service in Saint Paul, and provides examples of how those sources have been used to fund other recent streetcar projects

HOW ARE OTHER STREETCAR PROJECTS BEING FUNDED?

Most current and recent streetcar services are funded with local public funding, supplemented with federal funding, and in limited cases with state funding and private donations (see Table 9).

Table 9: Funding Sources for Capital Costs of Recent Streetcar Projects (in Millions)

City	Federal	State	Local Public	Local Private	Total
Fort Lauderdale	53%	25%	22%	0%	100%
Kansas City*	30%	0%	70%	0%	100%
Cincinnati	34%	0%	66%	5%	100%
St. Louis	72%	0%	28%	13%	100%
Tucson	41%	0%	59%	2%	100%
Washington DC (22-mile system)	2%	0%	98%	0%	100%

On a percentage basis for the sample projects shown in Table 1, local funding has ranged from a low of 28% for Saint Louis' 1.1 mile $43 million project to a projected 98% for Washington D.C.'s 22 mile $913 million planned streetcar system. However, the most common proportion of local funding is 60 to 70%.

Federal funding has ranged from a projected 2% for Washington D.C.'s system to 72% for Saint Louis. In recent years, additional federal funding sources have become available to develop and build streetcar service. A significant example of these funding sources is the United States Department of Transportation's discretionary funding Transportation Investments Generating Economic Recovery (TIGER). TIGER funding is allocated to a wide range of transportation projects, and so the proportion

that is awarded to transit projects is small; and streetcar projects is smaller still. As more streetcar projects are in development, the pool of discretionary funds is split between more projects and individual grants awards have been reduced, which has in turn reduced the share of federal funding. As a result, it is likely the future streetcar projects will need to rely to a greater extent on local funding than those that are either in construction or nearing construction.

Capital funding sources for streetcar projects at the state and local level can vary widely. State funding is only being used in Florida, while local public funding covers between 20% and 98% of capital costs. Local sources range from general funds to local assessment districts. Private contributions have also been used in some projects, providing 2% to 13% of project costs in Saint Louis, Cincinnati, and Tucson.

OVERVIEW OF CAPITAL FUNDING OPTIONS

For Saint Paul, there are a large number of capital funding options, some of which are already utilized in other cities, some that are currently used to fund transit projects but not streetcar projects, some that are not currently being used to fund transit projects that could be, and some that would be entirely new sources (see Table 10).

Table 10: Overview of Potential Funding Sources

Federal	Decision-Making Agency	Currently Used for Streetcar in Other Cities?
Federal		
TIGER funds	USDOT	Yes
FTA Section 5303 Planning	Met Council	Yes
FTA Section 5307 Urbanized Area Formula	Met Council	No*
Section 5309 New Starts	FTA	Yes
CMAQ/STP	Met Council	Yes
Twin Cities Regional		
Motor Vehicle Sales Tax	Met Council	NA
Regional Transit Capital Bonds	Met Council	NA
RRA Property Tax	Ramsey County RRA	NA
State		
Various State Sources	Typically Legislature/state DOT	NA
County		
Various County Sources	County Board	NA
City		
Tax Increment Financing (TIF) District	City Council	Yes
Special Assessment District	City Council or District	Yes
Fees and Taxes (Parking, Entertainment, Lodging, etc.)	City Council	Yes

** Not used for streetcar projects but used as funding for other capital transit projects in new and small starts project development pipeline*

FEDERAL FUNDING OPTIONS

There are a number of sources of federal funding available to fund streetcar capital costs. However, as a practical matter, most current funding is through the TIGER program, with funds allocated at the USDOT's discretion, and through the flexing of flexible CMAQ and STP funds, which is done at the discretion of each region's Metropolitan Planning Organization, which for the Twin Cities is the Metropolitan Council (Met Council).

Transportation Investment Generating Economic Recovery (TIGER) Funds

The American Recovery and Reinvestment Act (ARRA) of 2009 created funding for a variety of short-term infrastructure investment programs, including the Transportation Investment Generating Economy Recovery (TIGER) program. With the economic recovery underway, the TIGER program has shifted its emphasis from stimulus and job creation to longer-term national infrastructure investments, and has provided much of the recent federal funding for streetcar projects:

- Atlanta: $47.7 m
- Cincinnati: 20.0 m
- Dallas: $26.0 m
- Detroit: $25.0 m
- Fort Lauderdale: $18.0 m
- Kansas City: $20.0
- New Orleans: $45.0
- Salt Lake City: $26.0 m
- Tucson: $63.0 m

The future of the program is uncertain, but given its popularity, there are widespread expectations that it will be continued.

Section 5309 Fixed Guideway Capital Investment Grants (New Starts/Small Starts)

The Section 5309 New Starts/Small Starts program awards grants on a competitive basis for major transit investments for new and expanded rail, bus rapid transit (BRT), and ferry services.

Small Starts

Small Starts projects are those with total capital costs of less than $250 million and a federal share of less than $75 million, which encompasses most streetcar projects. Small Starts projects are evaluated using the following criteria:

- Project Justification, which represents 50% of a project's overall rating and is based on cost effectiveness, land use, economic development, congestion relief, environmental benefits, and mobility improvements.
- Local Financial Commitment, which represents the other 50% of a project's overall rating and is based on:
  - Current capital and operating conditions (25% of the local financial commitment rating)
  - Commitment of capital and operating funds (25% of the local financial commitment rating)
  - Reasonableness of capital and operating cost estimates and planning assumptions / capital funding capacity (50% of the local financial commitment rating)

As a conservative approach, most streetcar projects are developed according to FTA project development guidelines so that they will be eligible for New Starts/Small Starts funding. Since 2000, only Portland and

Tucson have received Small Starts funding ($75.0 and $6.0 million, respectively), with other streetcar funding instead flowing through the TIGER program. However, with the changes in the evaluation framework of Small Starts projects under MAP-21–namely, an equal emphasis on all evaluation criteria and a change in the way cost effectiveness is measured–seem to create a more favorable evaluation model for streetcar projects. In fact, since the implementation of MAP-21, two modern streetcar projects have been approved into the Small Starts Project Development pipeline: The Fort Lauderdale WAVE Streetcar in Florida and the Tempe Streetcar in Arizona.

New Starts

New Starts projects are those with total capital costs of over $250 million or that request greater than $75 million in funding. Given the limited amount of federal funds available and the generally high cost of New Starts projects, lower shares are now more typical, and proposed New Starts projects are required to proceed through a rigorous evaluation process. While the evaluation criteria and framework is the same for both New and Small Starts projects, project sponsors of the larger and complex New Starts projects are subject to more stringent technical capacity reviews. This is reflected in FTA's Project Development process, in which New Starts projects have to be approved into and proceed through an additional Engineering phase prior to being considered for a Full Funding Grant Agreement (FFGA).

Flexible Funds

There are two programs under which funds can be used for both transit or highway projects, and that are frequently used to provide funding for streetcar projects:

- **Congestion Mitigation and Air Quality Improvement Program (CMAQ)**, which is jointly administered by the Federal Highway Administration (FHWA) and the FTA and that provides funding for projects that reduce air pollution in areas that do not meet the National Ambient Air Quality Standards (nonattainment areas) and former nonattainment areas that are now in compliance (maintenance areas). This includes the Twin Cities area, and these funds can be used for streetcar projects. The funds can be used for up to 88.5% of capital costs, and for operating costs for up to the first three years of service.
- **Surface Transportation Program (STP)**, which is an FHWA = program that allows states to shift highway funds to transit uses, including the development of streetcar service. Funds can be used for capital purposes, but not for operations.

In large urban areas, both CMAQ and STP funds are allocated by the Metropolitan Planning Organization (MPO), which in the Twin Cities is the Met Council. Funds from the two sources are commonly considered together, and have been used as partial funding for most recent streetcar projects, but usually in limited amounts; for example:

- Atlanta: $1.9 m (CMAQ for partial funding for first three years of operations)
- Fort Lauderdale: $8.1 m (capital)
- Kansas City: $17.1 m (capital)
- Cincinnati: $4.0 m (capital)
- St. Louis: $5.8 m (capital)
- Tucson: $14.0 m (capital)

FTA Section 5303 Metropolitan Planning Funds

FTA Section 5303 provides funding to support cooperative, continuous, and comprehensive planning for making transportation investment decisions in metropolitan areas, and are frequently used for streetcar

planning activities. In the Twin Cities area, these funds flow through the Metropolitan Council, which makes programming decisions for these funds through its regional process.

Section 5307 Urbanized Area Formula Program

In large urban areas such as the Twin Cities, Section 5307 provides formula funding for transit capital purposes, and for some limited operating cost expenses such as preventative maintenance and lease costs. These funds flow to the urbanized area's "designated recipient," which in the Twin Cities is the Met Council.

These funds could conceivably be used for the capital development and construction of a streetcar project but would not likely be, as they would not be new funds, but rather a reallocation of existing and programmed funds and that are currently directed toward other uses. To date, no agency has used Section 5307 funds for a streetcar project.

REGIONAL

Metropolitan Council-Controlled Funds

The Metropolitan Council administers two types of funding that could potentially be used to fund streetcar capital and operating costs: the Motor Vehicle Sales Tax (MVST) and Regional Transit Capital (RTC) bonds. At this time, the Met-Council is still determining where and how streetcar service should fit within the region's overall transit system. The Met Council's current thinking on streetcar service is best expressed in its recent letter to the Minneapolis' mayor,[3] which states in part:

> *"The Council's current Transportation Policy Plan (TPP) is nearly silent on streetcars as a mode of transit in the region, except for a reference to Council-local government collaboration to determine when and where a streetcar project might be appropriate. The TPP also states that projects that show a positive, significant, and cost-effective transportation benefit might be funded with local, regional and federal transportation funds but a project pursued primarily for development outcomes should be funded locally and should not compete with other priorities for federal and state transportation funds. With numerous transit corridors identified for future investment, the demand for transit capital and operating funding greatly exceeds current funding.*
>
> *Both transportation and economic development serve an important role in helping the region grow in an efficient, connected manner and provide justification for investment. I understand that project justification for the Nicollet-Central streetcar is still under discussion by technical staff and policymakers as part of the Nicollet-Central Transit Alternatives Study. It will be important for the project justification to be well developed and vetted prior to it coming forward to the Council for consideration."*

Minneapolis' efforts to develop Nicollet-Central streetcar service will likely accelerate resolution of regional streetcar funding issues, and successful resolution of those issues within the context of that project could facilitate the development of Saint Paul streetcar service.

Motor Vehicle Sales Tax

Minnesota Statute 297B.09 allocates 36% of the state MVST funding to the metropolitan area transit fund to be used for capital and operating transit assistance in the metropolitan area. The Metropolitan Council is responsible for allocating the MVST funds to various transit purposes. The funds are primarily used to

[3] Letter from Susan Haig, Chair of the Metropolitan Council to Minneapolis Mayor Rybak, July 12, 2013.

pay for existing transit operations, both rail and bus. MVST funding is allocated annually by the Council through the adopted Regional Transit Operating Revenue Allocation Procedure and Regional Transit Capital Revenue Allocation Procedure (adopted in September 2010).

Regional Transit Capital Bonds

RTC funds are bond funds where the debt service is paid using the Met Council's transit capital levy. The legislature is responsible for authorizing the amount of RTC bonds that may be sold and the Met Council sets the annual levy required to pay the debt. RTC funds are used for transit capital expenditures including assets with shorter than a 20-year life, including transit vehicles and technology. RTC funds may not be used for transit planning and operations. RTC funds are allocated by the Council through the annual development of the six-year CIP.

Counties Transit Improvement Board (CTIB)/Metro Counties Sales Tax

The Counties Transit Improvement Board (CTIB) is a joint powers board consisting of Anoka, Dakota, Hennepin, Ramsey and Washington Counties that, as permitted by Minnesota Statute 297A.99, has enacted a quarter-cent sales tax and $20 a motor vehicle sales tax to invest in and advance transit projects by awarding annual capital and operating grants. The Board works in collaboration with the Metropolitan Council and Carver and Scott counties.

CTIB has adopted a Transitway Investment Framework, which establishes principles and rules regarding how the CTIB will invest in transitway development. At this time, CTIB's Transitway Investment Framework does not provide for streetcar projects to receive CTIB funding. However, CTIB is in the process of updating their investment framework and the inclusion of streetcar service within the regional transitway framework will be considered. In that case, Saint Paul streetcar service could qualify for CTIB funding, and CTIB sales tax revenues could be used to fund up to 30% of streetcar capital costs (if CTIB funded streetcar at the same level they fund LRT projects). The funding would require a minimum of 10% local (non-state) match and 10% state match.

STATE

State funding for major transit capital projects is currently available from three sources: State General Fund, General Obligation (GO) Bonds and Mn/DOT Trunk Highway Funds and Bonds. State statutes does not specifically address streetcars but do prohibit state funds from being used to pay more than 10% of the total capital cost of an LRT project. Additionally, "after operating and federal money have been used to pay for LRT transit operations, 50% of the remaining costs must be paid by the state." Again, streetcars are not currently addressed and would likely require modifications to state legislation in order to apply state funding to a streetcar project.

State General Fund

Funding from the state general fund is made available for transitway projects through appropriations by the state legislature and varies in amount from year to year. General funds are rarely used for capital investments and may include additional restrictions as specified in the appropriation language. General funds may be used for transitway operating costs.

General Obligation Bonds

General Obligation (GO) bonds can provide funding for transitway capital costs and are allocated through state legislative appropriations in varying amounts. Typically, the state authorizes a large bonding bill in even numbered sessions and smaller or no bonding bill in the odd numbered sessions. The specific use of the funds is dictated by the appropriation language. Any capital expenditure funded by GO bonds must be

for a specific capital project that will have a 20-year life and the asset must be owned by the public entity specified in the appropriation. GO bonds may not be used for planning studies, alternatives analysis, technology, vehicles or operating expenditures.

Mn/DOT Trunk Highway Funds and Bonds

Mn/DOT trunk highway funds and bonds may be used on transitway projects that further a trunk highway purpose, which would not be the case for most or all streetcar projects. Trunk highway funding can only be used for trunk highway purposes and cannot be used for transit operations. Capital assets that utilize trunk highway bonds must have a 20-year life, be owned by Mn/DOT and are considered part of the trunk highway system. Trunk highway funding and bonds are authorized through the state legislative process.

COUNTY AND CITY

County General Fund

County general funds may be used on transitway projects as allocated. General funds are allocated through the county budget process and vary in amount from year to year.

County Highway Funds

County highway funds may be used for highway-related transit improvements but may not be used for non-highway transitway purposes. Two potential lines–East 7th and West 7th–would operate along West 7th Street, which is a state highway and thus these lines could potentially leverage County Highway Funds for partial funding.

Highway funds are allocated through the county budget process and vary from year to year.

City General Fund

City general funds may be used on transitway projects as allocated. General funds are allocated through the city budget process and vary in amount from year to year.

Municipal Highway Funds

Municipal highway funds may be used for highway-related transit improvements but may not be used for non-highway transitway purposes. It may be possible to use some of these funds for roadway improvements that are made in conjunction with the development of streetcar lines.

Highway funds are allocated through the city budget process and vary in amount from year to year.

Ramsey County Regional Railroad Authority (RRA)

Regional Rail Authorities (RRAs) in the state of Minnesota have the power to impose a property tax levy up to 0.04835% of the market value of all taxable property within the RRA boundary and to issue bonds to fund transitway-related projects. To date, RRA funds have not been used for streetcar projects although they could be. To do so, the proposed streetcar project would need to be programmed within the RRA's transitway program. Funds can be used planning and environmental work, and for up to 10% of capital costs. However, RRA funds cannot be used for operations in counties that have enacted the Metro Counties Sales Tax (which Ramsey County has).

POTENTIAL NEW FUNDING SOURCES

In addition to the currently available sources described above, there are additional methods that are used in other cities that could potentially be used in Saint Paul. Those with the greatest potential to fund major portions of streetcar projects include Tax Increment Financing (TIF) Districts and Special Assessment Districts. Other potential sources include a variety of fees and taxes, including on parking, lodging, and entertainment tickets.

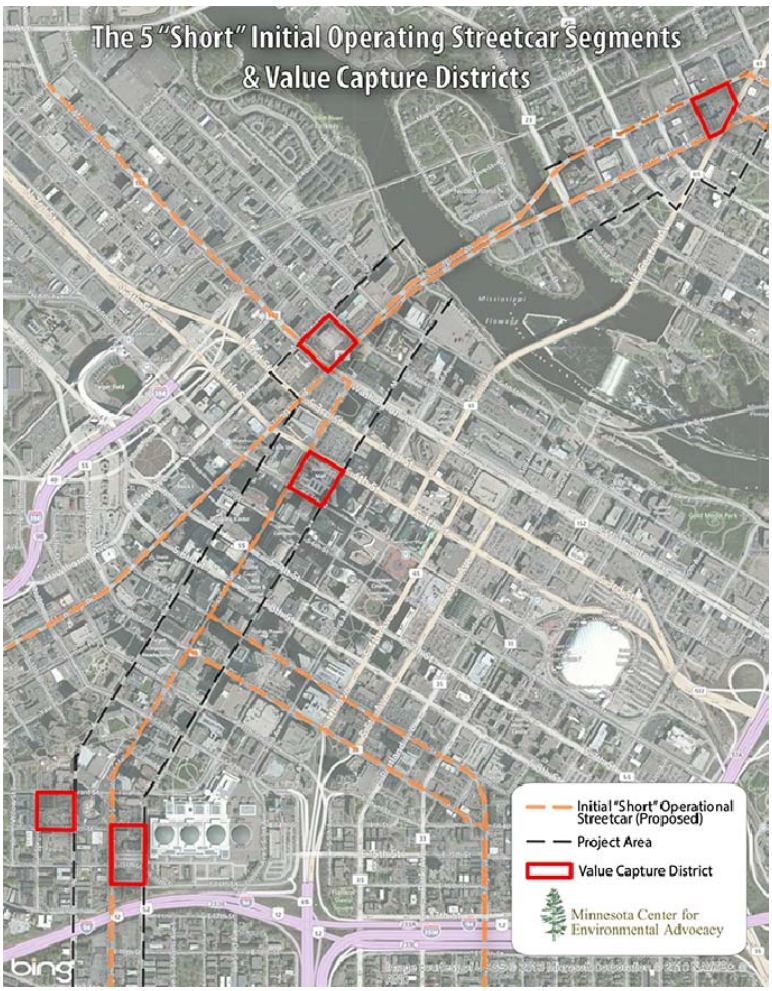
Tax Increment Financing District

Tax Increment Financing (TIF) is a process that involves selling bonds for a project and repaying the bonds with the increases in property tax that are produced as a result of the project. For a streetcar project, a TIF district could be developed that would consist of the area that would benefit from the streetcar service The total amount that could be raised would be based on projections of how much debt service the increases in property values support, and the party issuing the bonds would be responsible for covering any funding shortages should property tax revenues fail to increase to anticipated levels.

A traditional TIF process has not yet been used to fund streetcar service, but is being considered by Washington, D.C. as a way to raise approximately $46 million. However, Minneapolis's new Value Capture District, which will be used to provide $60 million in funding toward its planned Nicollet-Central streetcar service is a form of a TIF District, but unique in two respects:

- Instead of being comprised of the entire area served by the streetcar line, it is comprised of five different parcels along the line; most of the area served by the streetcar line is not in the Value Capture District (see Figure 18).
- Whereas most Tax Increment Financing approaches use tax revenue increases that are produced as a result of the project, development is already planned or underway on each of the Minneapolis parcels, and the increase in property tax values will be based on the values of those properties as of January 1, 2013. Thus the Minneapolis Value Capture District will leverage increases in property taxes from both before and after development

Figure 18: Minneapolis Value Capture District Parcels



Source: Minnesota Center for Environmental Advocacy

of the project.

The Minneapolis Value Capture District required legislative authorization, and the use of a TIF approach in Saint Paul would also require legislative approval.

Special Assessment Districts

Special Assessment Districts are similar to TIF districts in that a special district is created that consists of the area that benefits from streetcar service. However, unlike as with TIF financing, where property owners indirectly pay increased property taxes as a result increases in there property values, in Special Assessment Districts, property owners directly pay a fee or a higher property tax rate that is used to repay bond receipts.

Portland has used Special Assessment Districts extensively to fund its streetcar services. Most recently, Kansas City enacted a special assessment district that extends approximately ½ mile around its planned streetcar line, which it calls a Transportation Development District, or TDD. Within this district, both a property tax surcharge and a 1% sales tax increase have been enacted, and these are projected to fund $83 million in capital costs and ongoing operating costs.

OTHER

There are also a variety of other taxes and fees that can be enacted to fund streetcar service, and which can be enacted in many forms. Those that cities can typically enact include higher charges for on-street parking, taxes/surcharges on parking ramp rates, a tax on entertainment tickets (i.e., sports and theatre events, and lodging taxes.

SUMMARY

There are a large number of ways that streetcar service can be funded, but there is no single easily obtainable source that can provide the most of the funding. Instead, most projects are financed by combining funding from many sources. Primary among these are a significant amount of local funding, which is often generated through the development of a special assessment district, with the most recent examples being Minneapolis and Kansas City. Minneapolis' version is unique that it was consists of specific parcels that are already being developed, and there do not seem to be similar near-term opportunities for Saint Paul. However, a broader special assessment district or a TIF district could provide potential.

Beyond local funds, the most frequently used sources by other projects have been federal TIGER funds, as well as CMAQ and STP funds. The FTA allocates TIGRER funds through a competitive process that requires a well-defined project and commitments of local funding. The Met-Council allocates CMAQ and STP funds, and as described above, Met Council needs to make a number of policy decisions related to the development of streetcar service in the Twin Cities area before these funds could be obtained.

Additional potential funding sources include CTIB sales tax funds and Ramsey County RRA property tax funds. However, as is the case with CMAQ and STP funds, both of those agencies would also need to revise their funding policies to include streetcar service within the array of transitway projects that they will fund.

Many of the required policy changes at the Met Council, CTIB, and Ramsey County RRA will likely be challenging. However, one factor that Saint Paul has working in its favor is that the City of Minneapolis is now addressing the same issues as part of its development of Nicollet-Central streetcar service. Successful resolution of those issues within the context of that project would likely set precedents that could facilitate funding for Saint Paul streetcar service.