DEPARTMENT OF PLANNING &
ECONOMIC DEVELOPMENT
Cecile Bedor, Director

CITY OF SAINT PAUL
Christopher B. Coleman, Mayor

25 West Fourth Street
Saint Paul, MN 55102

Telephone: 651-266-6700
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DATE: November 25, 2013

TO: Planning Commission

FROM: Zoning Committee

SUBJECT: Results of November 21, 2013 Zoning Committee Hearing

NEW BUSINESS

		Recommendation: Staff	Recommendation: Committee
1.	**ABRA Auto Body & Glass (13-247-486)** Conditional use permit for an auto body shop	Approval with conditions	Approval with conditions (6 - 0)

Address: 1190 University Ave W between Griggs and Dunlap

District Comment: District 13 made no recommendation

Support: 0 people spoke, 0 letters

Opposition: 0 people spoke, 0 letters

Hearing: Hearing is closed

Motion: Approval with conditions

		Recommendation: Staff	Recommendation: Committee
2.	**Transition Homes Corporation (13-247-501)** Conditional use permit for transitional housing facility with modifications of the permitted number of residents (25 currently permitted, 31 proposed)	Approval	Approval (6 - 0)

Address: 1956 Feronia Ave SE corner at Prior

District Comment: District 13 recommended approval

Support: 0 people spoke, 0 letters

Opposition: 2 people spoke, 1 letter

Hearing: Hearing is closed

Motion: Approval

		Recommendation	
		Staff	**Committee**
3.	**BLD Property Management (13-247-474)** Establishment of legal nonconforming use status as an administrative office	Denial	Laid Over (6 - 0)

Address: 260 Aurora Ave
between Galtier and Marion

District Comment: District 8 made no recommendation

Support: 2 people spoke, 1 letter

Opposition: 0 people spoke, 0 letters

Hearing: Hearing is closed

Motion: Laid over to December 12, 2013

city of saint paul
planning commission resolution
file number
date

WHEREAS, Abway LLC, File # 13-247-486, has applied for a conditional use permit for an auto body shop under the provisions of §65.701 and §61.501 of the Saint Paul Legislative Code, on property located at 1190 University Ave W, Parcel Identification Number (PIN) 342923410051, legally described as Midway Industrial Division Subj To Esmt & Vac St Accruing & Fol; Part Of Lots 2,9,10, & Lot 11 Blk 1 & Part Of Lot A Blk 1 E Of Ext Cl Of Lot 4 & Part Of Lots 4,5 & Lot 6 Blk 2 All Lying Nly And Wly Of A Line Beg At Nw Cor Of S 200 Ft Of Blk 2 Th E 264 Ft; and

WHEREAS, the Zoning Committee of the Planning Commission, on November 21, 2013, held a public hearing at which all persons present were given an opportunity to be heard pursuant to said application in accordance with the requirements of §61.303 of the Saint Paul Legislative Code; and

WHEREAS, the Saint Paul Planning Commission, based on the evidence presented to its Zoning Committee at the public hearing as substantially reflected in the minutes, made the following findings of fact:

1. In August 2013 the City Council amended the zoning code to allow for auto body shops in T4 zoning districts with a conditional use permit. Pursuant to that action, Abway LLC has come forward to apply for a conditional use permit for an auto body shop in a T4 zoning district at 1190 University Avenue.
2. §65.701 *Auto body shop* lists three standards that auto body shops must comply with:
    a) *A ten (10) foot buffer area with screen planting and an obscuring wall or fence (not including cyclone fence with vinyl slats) shall be required along any property line adjoining a residential zoning district.* This condition is met. Abway LLC intends to install a 10-foot screening fence on the portion of the property used by ABRA Auto Body and Glass, as shown on the attached site plan.
    b) *All repair work shall be done within an enclosed building. All vehicles awaiting repair shall be stored in an enclosed building or within an area enclosed by a wall or fence (not including cyclone fence with vinyl slats) that provides an opaque screen. There shall be no exterior storage of parts or merchandise.* This condition is met. The applicant states that all service and repair activities will occur within the building and there will be no outside storage of parts or merchandise.
    c) *All trash shall be stored within an enclosed obscuring wall or fence, shall not exceed the height of the wall or fence, and shall be removed from the lot by licensed waste disposers at least once per week.* This condition is met. The

moved by _____
seconded by _____
in favor _____
against _____

trash storage area will be maintained within the fenced area as shown on the attached site plan.

3. §61.501 lists five standards that all conditional uses must satisfy:
   1) *The extent, location and intensity of the use will be in substantial compliance with the Saint Paul Comprehensive Plan and any applicable subarea plans which were approved by the city council.* This condition is met. The city's Comprehensive Plan (2010) seeks to provide land for jobs. ABRA provides jobs to neighborhood residents. In addition, the Comprehensive Plan Land Use Chapter identifies University Avenue as a mixed-use corridor. Land Use Policy 1.24 supports a mix of uses on mixed-use corridors.
   2) *The use will provide adequate ingress and egress to minimize traffic congestion in the public streets.* This condition is met. There is adequate ingress and egress to the site. The use is not changing and operations on the site are not expected to increase, leaving traffic patterns to the site the same as the current condition.
   3) *The use will not be detrimental to the existing character of the development in the immediate neighborhood or endanger the public health, safety and general welfare.* This condition is met. The existing character of development in the immediate neighborhood is one of mixed use service and retail. ABRA provides a needed service to the community and is an existing use. The facility complies with all local, state and federal regulations regarding noise and pollution and will not endanger the public health, safety and general welfare.
   4) *The use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.* This condition is met. This use is a continuation of an existing use and will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.
   5) *The use shall, in all other respects, conform to the applicable regulations of the district in which it is located.* This condition is met.

NOW, THEREFORE, BE IT RESOLVED, by the Saint Paul Planning Commission, under the authority of the City's Legislative Code, that the application of Abway LLC for a conditional use permit for an auto body shop at 1190 University Ave W is hereby approved, subject to the following conditions:

1. Final plans approved by the Zoning Administrator for this use shall be in substantial compliance with the plan submitted and approved as part of this application.
2. There will be no outside storage of parts or merchandise.

city of saint paul
planning commission resolution
file number
date

WHEREAS, Transition Homes Corporation, File # 13-247-501, has applied for a conditional use permit for transitional housing facility with modifications of the permitted number of residents (25 currently permitted, 31 proposed) under the provisions of § 65.159; § 61.501 and § 61.502 of the Saint Paul Legislative Code, on property located at 1956 Feronia Ave, Parcel Identification Number (PIN) 332923310106, legally described as Union Park Lot 1; and

WHEREAS, the Zoning Committee of the Planning Commission, on November 21, 2013, held a public hearing at which all persons present were given an opportunity to be heard pursuant to said application in accordance with the requirements of §61.303 of the Saint Paul Legislative Code; and

WHEREAS, the Saint Paul Planning Commission, based on the evidence presented to its Zoning Committee at the public hearing as substantially reflected in the minutes, made the following findings of fact:

1. Transition Homes Corporation established a transitional housing facility for 25 residents at the property in 2012. At this time, the corporation wishes to add an additional six beds bringing the total population to 31. This requires a conditional use permit with modification to permit more than the current allowed number of residents.
2. §65.159, *Transitional housing facility*, defines transitional housing and lists five standards that these facilities must satisfy:
   a) *In residential, traditional neighborhood and OS – B2 business districts, a conditional use permit is required for facilities serving more than four (4) adult facility residents and minor children in their care.* This condition is met. The applicant has applied for a conditional use permit.
   b) *In RL – RT2 residential districts, the facility shall be a minimum distance of one thousand three hundred twenty (1,320) feet from any other transitional housing facility…*This condition does not apply. The property is zoned OS.
   c) *Except in B4-B5 business districts, the facility shall not be located in a planning district in which one (1) percent or more of the population lives in licensed community residential facilities, emergency housing facilities, shelters for battered persons…overnight shelters and/or transitional housing facilities…* This condition is met. The total population of District 13 in 2010 was 18,405. One percent is 184 residents. Existing facilities in the community, including the 25 residents in this facility

moved by _____
seconded by _____
in favor _____
against _____

currently have 119 residents. This is 65 residents fewer than 1 percent of the district population. This facility proposes six additional residents, leaving a balance of 59 available spaces in the planning district.

d) *...In RT2 residential, traditional neighborhood, OS-B3 business and IR-I2 industrial districts, the facility shall serve sixteen (16) or fewer adult facility residents and minor children in their care.* This condition is not met under the applicant's proposal. The applicant proposes 30 program residents and one facility manager for a total of 31 residents. The applicant has asked for a modification of this requirement. The existing conditional use permit modified this requirement to permit 25 residents.

e) *In RL-RT2 residential districts, the facility shall not be located in a two-family or multi-family dwelling unless to occupies the entire structure.* This condition does not apply. The property is zoned OS.

f) *In residential districts, facilities serving seventeen (17) or more facility residents shall have a minimum lot area of five thousand (5,000) square feet plus one thousand (1,000) square feet for each guest room in excess of two (2) guest rooms.* This condition does not apply. The property is not located in a residential district.

3. §61.501 lists five standards that all conditional uses must satisfy:

a) *The extent, location and intensity of the use will be in substantial compliance with the Saint Paul Comprehensive Plan and any applicable subarea plans which were approved by the city council.* This condition is met. The use is in compliance with the housing chapter of the Saint Paul Comprehensive Plan, which seeks to increase housing choices across the city to support economically diverse neighborhoods and, in Strategy 3, seeks to ensure the availability of affordable housing across the city, which includes transitional housing facilities. Specifically, Strategy 3.4 states that the city will "assist in the preservation and production of homeless and supportive housing." 3.4(f) states that the city will "encourage non-city funding sources to continue to provide resources for supportive and homeless housing."

b) *The use will provide adequate ingress and egress to minimize traffic congestion in the public streets.* This condition is met. There are two curb cuts into and out of the property's parking lot area. The parking lot has 14 spaces, including four in a garage. The use is not anticipated to generate a lot of traffic, in part because those living in transitional housing typically do not own vehicles. According to the applicant, staff will use four of the spaces.

c) *The use will not be detrimental to the existing character of the development in the immediate neighborhood or endanger the public health, safety and general welfare.* This condition is met. The neighborhood is a mix of residential and industrial land uses. OS is intended to serve as a transitional use between the more intensive uses of land such as commercial districts and light industrial districts and less intensive uses of land such as residential.

d) *The use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.* This condition is met. The use is not out of character with the surrounding uses. The neighborhood is a mix of residential and industrial land uses.

e) *The use shall, in all other respects, conform to the applicable regulations of the district in which it is located.* This condition is met. The use conforms to the applicable regulations of the OS district.

4. The planning commission may approve modifications of special conditions when specific criteria of §61.502 are met: *strict application of such special conditions would unreasonably limit or prevent otherwise lawful use of a piece of property or an existing structure and would result in exceptional undue hardship to the owner of such property or structure; provided, that such modification will not impair the intent and purpose of such special condition and is consistent with health, morals and general welfare of the community and is consistent with reasonable enjoyment of adjacent property.* This finding is met. The applicant states that with the current configuration and 25 residents, often large areas of the house go unused, allowing for isolation of residents, which is counter to the program requirements and goals. Making better use of the internal space and offering more rooms for residents better meets program goals and better serves the community, according to the applicant. In addition, the additional revenue provided by six additional residents will provide funding for a new, evidence-based, long-term recovery strategy called "Change for Life." Rezoning the facility would permit more residents but the site would have to get a variance for lot area. The intent of the code is to locate larger facilities in residential districts. This property is zoned OS, but was previously zoned RM2, has had previous multiple family uses, and is proximate to a multiple family district. This use is consistent with past uses and the adjacent district and is thus consistent with the health, morals and general welfare of the community and is consistent with reasonable enjoyment of adjacent property

NOW, THEREFORE, BE IT RESOLVED, by the Saint Paul Planning Commission, under the authority of the City's Legislative Code, that the application of Transition Homes Corporation for a conditional use permit for transitional housing facility with modifications of the permitted number of residents (25 currently permitted, 31 proposed) at 1956 Feronia Ave is hereby approved.

DEPARTMENT OF PLANNING &
ECONOMIC DEVELOPMENT
Cecile Bedor, Director

CITY OF SAINT PAUL
Christopher B. Coleman, Mayor

25 West Fourth Street
Saint Paul, MN 55102

Telephone: 651-266-6565
Facsimile: 651-266-6549

DATE: November 22, 2013

TO: City of Saint Paul Planning Commission

FROM: Transportation Committee

SUBJECT: Saint Paul Streetcar Feasibility Study, Final Report for Public Comment

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Introduction
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 City of Saint Paul's Planning and Economic Development Department has been managing the study, with a Working Group of staff from additional City departments and regional partners, and with the Planning Commission's Transportation Committee acting as the Steering Committee. A consulting team from Nelson\Nygaard, HDR and Richardson Richter and Associates conducted the analysis.

Streetcar Study Process
The Feasibility Study was conducted in three phases:

- 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.
- A Phase 3 Determination of Initial Operating Segments that determined which of the Phase 2 lines, or portions of those lines, should become Saint Paul's first modern streetcar line. Phase 3 was divided into two parts; Part 3.1 selected the initial streetcar line and Part 3.2 refined the line's alignment, given a reasonable fiscal constraint.

At the conclusion of Phase 2, with the development of a recommended Long-Term Streetcar Network, there were two open houses, opportunities for public comment on Open Saint Paul, presentations to

the Transportation Committee and the Planning Commission, and presentations to District Councils, business associations, and other community groups across the city.

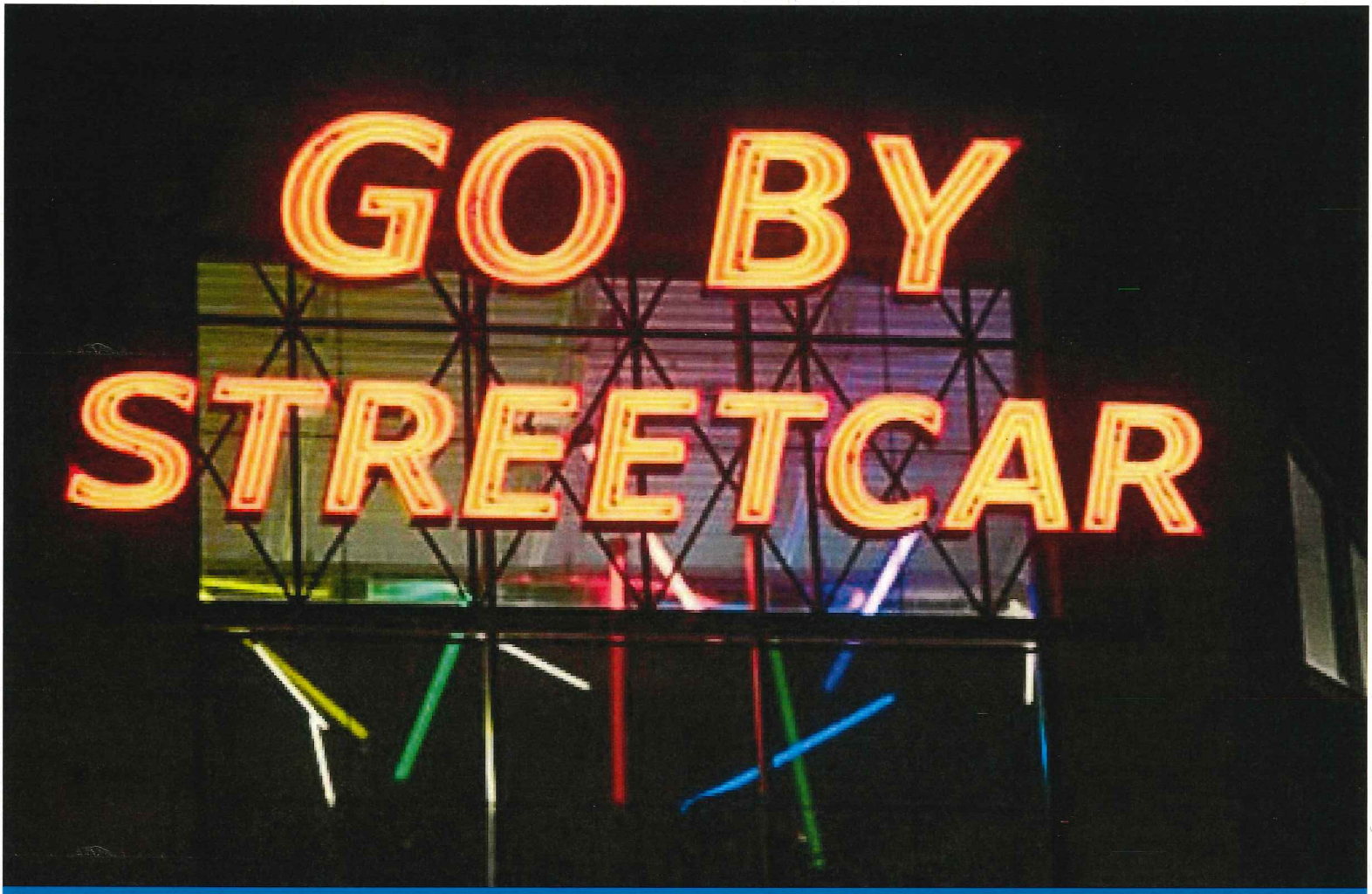
Study Recommendations

The analysis and final recommendation of the study is summarized in the attached memo. In brief, the Saint Paul Streetcar Feasibility Study recommends:

- A **Long-Term Network** of streetcar lines in Saint Paul on East 7th Street, West 7th Street, Rice Street, Robert Street, Selby Avenue, Grand Avenue, and Payne Avenue (See attached map).
- A **Starter Network** of streetcar lines on East 7th, West 7th, Rice and Robert.
- A **Starter Streetcar Line** connecting East 7th at Arcade to West 7th at Randolph, running through downtown Saint Paul.

Next Steps

The Transportation Committee requests that the Planning Commission release the draft Final Report and Recommendations for public review and comment, and hold a Public Hearing on January 24, 2014. Open Houses will be held for this study in January prior to the Public Hearing. Open Saint Paul will be used to take feedback on the study results as well. After the public comment period, the Transportation Committee and Planning Commission will make their final recommendation to the City Council on the Streetcar Feasibility Study.



SAINT PAUL
STREETCAR FEASIBILITY STUDY

Initial Streetcar Line
Draft: November 13, 2013

SAINT PAUL

NELSON NYGAARD

HDR

RRa richardson, richter & associates

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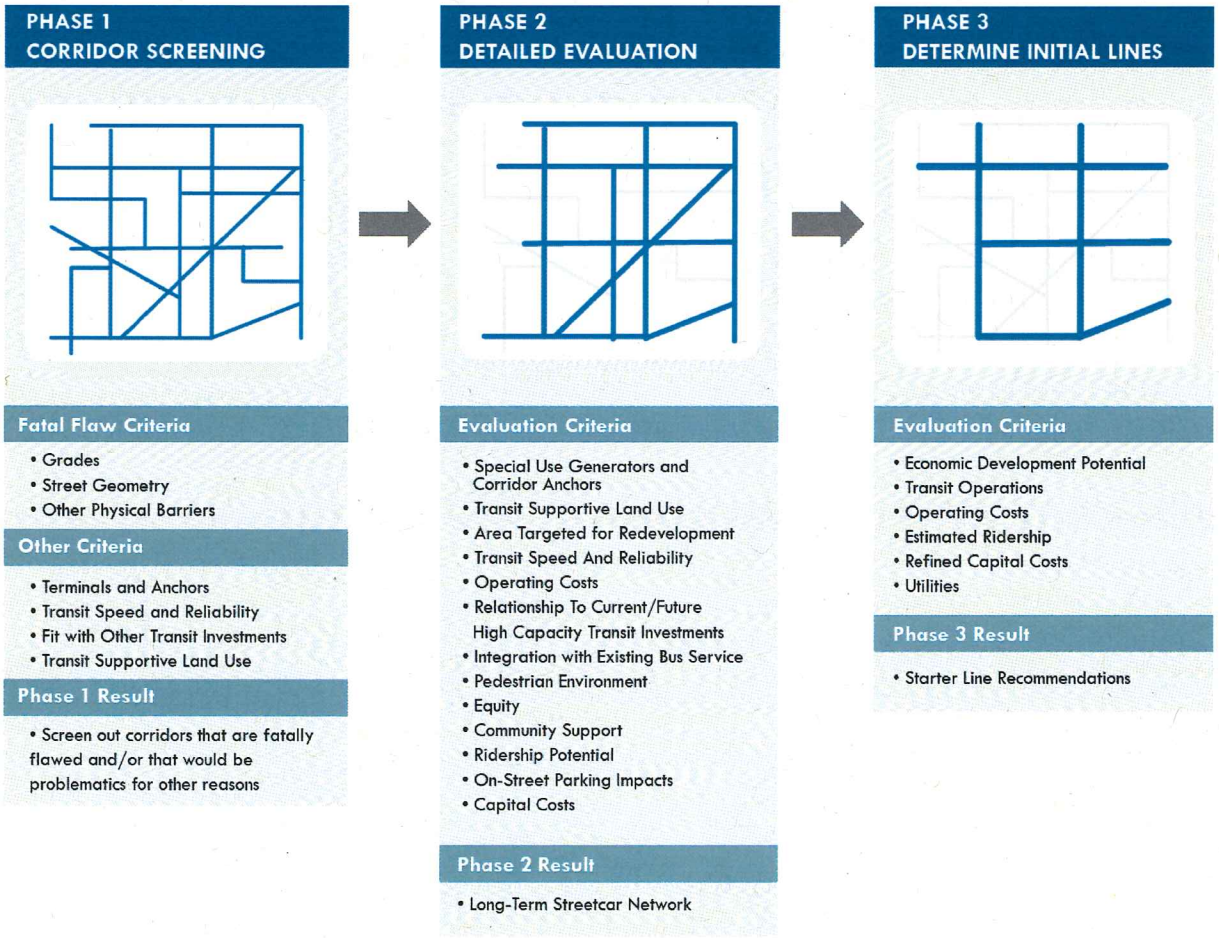
1 INTRODUCTION/OVERVIEW

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 – Corridor Evaluation Process



- 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.
- A **Phase 3 Determination of Initial Operating Segments** that determined which of the Phase 2 lines, or portions of those lines, should become Saint Paul's first modern streetcar line. Phase 3 was divided into two parts; Part 3.1 selected the initial streetcar line and Part 3.2 refined the line's alignment, given a reasonable fiscal constraint.

This document presents the results of the study through the end of Phase 3, including the presentation of the recommended initial streetcar line, which described at the end of the document and shown in Figure 12 on the last page.

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 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 planned 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. These 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 F Line). Streetcars can also operate more like 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

Table 1 – Typical Differences between Streetcar and Light Rail

Service Element	Streetcar	Light Rail
Vehicles	Modern or Historic Streetcar	Modern LRV
Train length	One vehicle	Two to three vehicles coupled together
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	¼ mile to ½ mile	½ to 1 mile
Speed	Slower	Faster
Development Benefits	Along line	Around stations
Construction impacts	Minor to moderate	Major

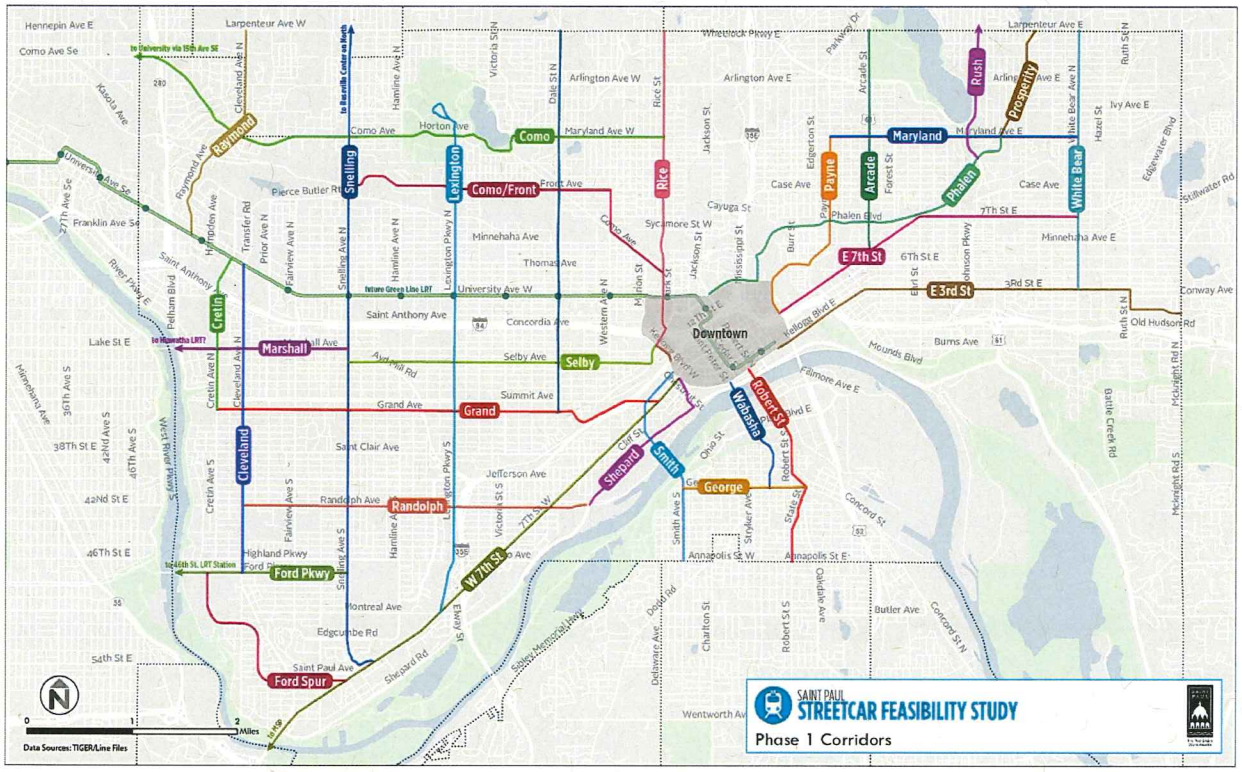
Over the past decade, streetcar service has become increasingly popular. There are now over 45 different lines in various stages of development throughout the United States, including in Minneapolis on Central and Nicollet Avenues. The current desire to develop streetcar service is for two reasons. First, 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.

3 PHASE 1 SCREENING

PHASE 1 PROCESS

As described above, the long-term network and the recommended initial streetcar line were developed as part of a screening process that began with the development of a long list of potential streetcar corridors that included nearly all major arterial corridors in Saint Paul (see Figure 5).

Figure 5 – Phase 1 Corridors



Those corridors were 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% were carried forward to Phase 2 only if they pass all other screening criteria.
- **Street Geometry.** Especially between downtown and the neighborhoods, there are a number of streets in Saint Paul where streetcars may 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 may inhibit streetcar operations without significant capital expenses and were identified. Examples include low bridges or skyways, streets that are too narrow and at-grade freight railroad crossings. As noted above, some bridges may exhibit steep grades, but were also identified here if these bridges could inhibit streetcar operation.
- **Terminal Location.** As with any transit service, a strong destination–or terminal–helps improve the attractiveness of service. Thus, this criterion evaluated whether there is a reasonable location for a streetcar line to terminate where connections to other transit service can be made, such as a university/college, transit center, Green Line LRT station or other major activity center.
- **Transit Speed and Reliability.** As with any transit service, but especially for a transit investment like streetcar that will operate entirely or largely in mixed flow traffic, it is important to maintain adequate speed and operate reliably. Thus, corridors with substantial traffic congestion, and where exclusive ROW is not possible, may be unable to meet minimum service standards.
- **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 criterion determined the degree to which streetcar service could compliment those other efforts, duplicate them, or potentially replace them, without unfairly penalizing corridors that have not been studied or considered for transit investment.
- **Transit Supportive Land Use.** As a major transit investment, it is important to ensure that any new streetcar investment serve areas that are as "transit supportive" as possible. Transit supportive land uses are generally medium or high intensity development, but could also be a major activity center such as a college or university. This criterion evaluated planned land use types (by square footage or units per acre) within ½-mile of each potential streetcar corridor.

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 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.

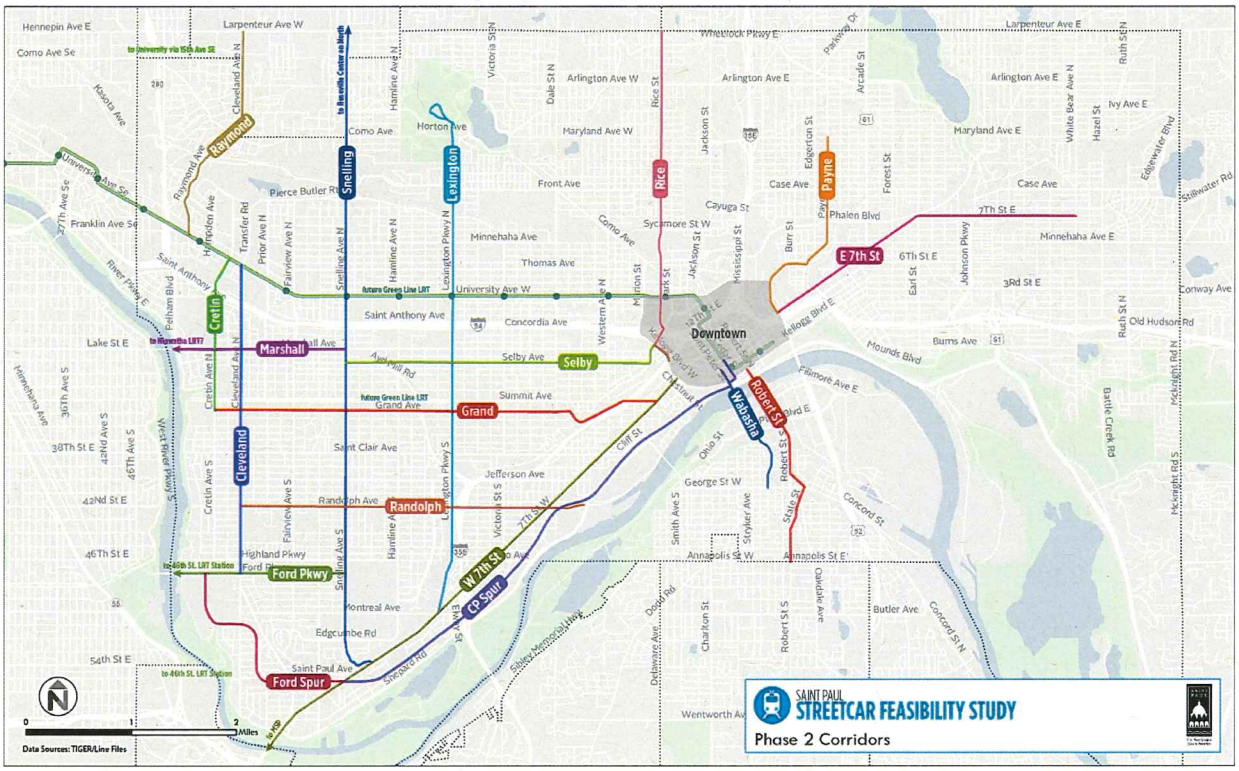
PHASE 1 RESULTS

It was determined that none of the corridors would have construction-related fatal flaws, and 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 6). 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	Terminal Location	Transit Speed and Reliability	Other Transit Investments	Transit-Supportive Land Use	Carry Forward
Arcade	✓✓ Best	✓✓ Best	✓✓ Best	⚠ Fair	✓ Good	✓ Good	⚠ Fair	
Cleveland	✓✓ Best	⚠ Fair	⚠ Fair	✓ Good	✓ Good	✓ Good	✓✓ Best	Yes
Como	✓✓ Best	✓ Good	⚠ Fair	⚠ Fair	✓ Good	✓ Good	⚠ Fair	
Como/Front	✓✓ Best	✓ Good	✓✓ Best	⚠ Fair	✓ Good	✓ Good	⚠ Fair	
Cretin	✓✓ Best	✓✓ Best	⚠ Fair	✓ Good	⚠ Fair	✓ Good	✓ Good	Yes
Dale	⚠ Fair	✓✓ Best	⚠ Fair	⚠ Fair	✓ Good	✓ Good	⚠ Fair	
E 3rd St	⚠ Fair	⚠ Fair	✓✓ Best	✓ Good	✓✓ Best	⚠ Fair	⚠ Fair	
E 7th St	✓✓ Best	✓ Good	✓ Good	✓ Good	✓ Good	✓✓ Best	⚠ Fair	Yes
Ford Pkwy	✓✓ Best	✓✓ Best	⚠ Fair	✓ Good	✓ Good	✓✓ Best	✓ Good	Yes
Ford Spur	✓✓ Best	✓✓ Best	⚠ Fair	✓ Good	✓✓ Best	⚠ Fair	✓ Good	Yes
George St	⚠ Fair	⚠ Fair	✓✓ Best	⚠ Fair	✓ Good	✓ Good	⚠ Fair	
Grand	✓✓ Best	✓ Good	⚠ Fair	✓✓ Best	✓ Good	✓✓ Best	✓ Good	Yes
Lexington	✓ Good	✓ Good	⚠ Fair	✓✓ Best	✓ Good	✓ Good	⚠ Fair	Yes
Marshall	✓✓ Best	✓ Good	✓✓ Best	✓ Good	✓ Good	✓✓ Best	✓ Good	Yes
Maryland	✓✓ Best	✓✓ Best	⚠ Fair	⚠ Fair	✓ Good	✓ Good	⚠ Fair	
Payne	✓ Good	✓ Good	⚠ Fair	✓ Good	✓ Good	✓ Good	⚠ Fair	Yes
Phalen	✓✓ Best	✓ Good	✓ Good	⚠ Fair	✓✓ Best	✓ Good	⚠ Fair	
Prosperity	✓✓ Best	⚠ Fair	✓✓ Best	⚠ Fair	✓ Good	✓ Good	⚠ Fair	
Randolph	✓✓ Best	⚠ Fair	⚠ Fair	✓ Good	✓ Good	✓ Good	✓ Good	Yes
Raymond	✓✓ Best	⚠ Fair	⚠ Fair	✓ Good	✓ Good	✓ Good	✓✓ Best	Yes
Rice	✓✓ Best	✓✓ Best	✓✓ Best	⚠ Fair	✓ Good	✓ Good	✓ Good	Yes
Robert St	✓✓ Best	✓ Good	⚠ Fair	⚠ Fair	✓ Good	✓✓ Best	✓ Good	Yes
Rush	✓✓ Best	✓✓ Best	✓ Good	⚠ Fair	✓✓ Best	✓ Good	⚠ Fair	
Selby	⚠ Fair	⚠ Fair	✓✓ Best	✓✓ Best	✓ Good	✓ Good	✓✓ Best	Yes
Shepard	⚠ Fair	✓✓ Best	⚠ Fair	⚠ Fair	⚠ Fair	✓ Good	⚠ Fair	
Smith	✓✓ Best	✓ Good	✓✓ Best	⚠ Fair	✓ Good	✓ Good	⚠ Fair	
Snelling	⚠ Fair	✓✓ Best	⚠ Fair	✓✓ Best	✓ Good	✓✓ Best	✓✓ Best	Yes
W 7th St	✓✓ Best	✓✓ Best	⚠ Fair	✓✓ Best	✓ Good	✓✓ Best	✓ Good	Yes
Wabasha	✓✓ Best	✓ Good	✓✓ Best	⚠ Fair	✓✓ Best	✓ Good	✓✓ Best	Yes
White Bear	✓✓ Best	✓✓ Best	⚠ Fair	⚠ Fair	✓ Good	✓ Good	⚠ Fair	

Figure 6 – Corridors Carried Forward Into Phase 2



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

In addition, after the Phase 1 screening had been completed, Canadian Pacific (CP) indicated to the city that they could be interested in selling their spur line that runs between West 7th Street and Shepard Road, and this spur could logically connect to the Ford Spur. Rather than go back and conduct the Phase 1 screening on this option, the study team agreed to bring the CP Spur and the Ford Spur forward to Phase 2 for more detailed evaluation.

4 PHASE 2 DETAILED EVALUATION

PHASE 2 PROCESS

Once the Phase 2 corridors had been determined, the next step was to determine how streetcar service could logically operate in 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 7.

Figure 7 – Phase 2 Streetcar Lines

Once these lines were 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 the **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:
   a. **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.

b. **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 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.

c. **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.

For these reasons, the first step in the development of the long-term network was to screen for consistency with the above three criteria, and lines that did not meet all three were eliminated.

2. Next, 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. After the lines were screened based on the primary criteria, they were further screened using supplemental criteria. This was done for two reasons:
   a. To determine whether there were issues that could preclude the development of a specific line.
   b. 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 at the end of this section.

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). These lines and segments would be:

- Arcade + Maryland
- East 7th
- Grand + Cleveland
- Grand + Cretin
- Payne
- Rice
- Robert
- Selby + Marshall
- Selby + Snelling
- Wabasha
- West 7th
- West 7th + Ford Spur

These lines were then further screened using the two supplemental criteria. The first criterion determined whether there were issues that could preclude the development of a specific line. 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. The second selected the most desirable line(s) of lines serving a similar area:

1. **Arcade + Maryland, Payne, and East 7th Street.** These three lines serve a similar area east of downtown Saint Paul. Of these three, Payne and East 7th Street were selected as the most desirable for a number of reasons, including greater community support, greater potential demand, maximized coverage and minimized service duplication.
2. **Robert** and **Wabasha.** Both lines serve a similar area south of downtown Saint Paul. Robert was selected due to greater ridership and development potential, and greater community support

Table 3 – Summary of Phase 2 Detailed Evaluation Ratings

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	Entire Phase 2 Line (Maryland Ave - Downtown)
Randolph + Ford	⚠ Fair	✓ Good	⚠ Fair		
Raymond	⚠ Fair	✓ Good	⚠ Fair		
Rice	✓✓ Best	✓✓ Best	✓ Good	Yes	Entire Line 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	Entire Line
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

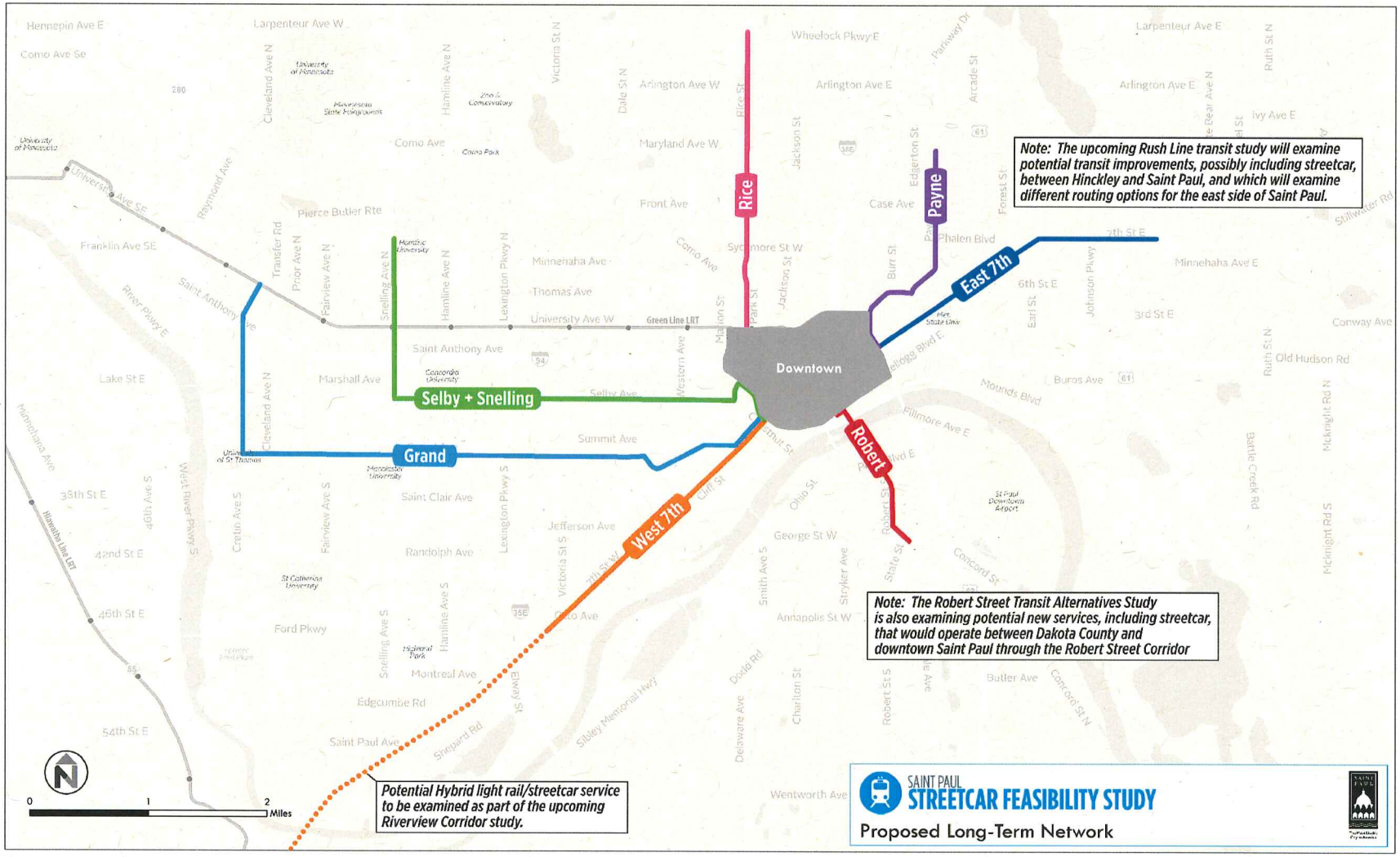
The Long-Term Network

The recommended long-term network consists of seven lines (see Figure 8). This represents a long-term vision of streetcar service throughout Saint Paul. As previously demonstrated, all of these lines would generate significant ridership and have the potential to spur significant development. With names revised to reflect proposed origins and destinations, the lines would be as follows:

Line	Origin-Destination
East 7th	**Hazelwood Street - Downtown**
Grand	**University /Cretin - 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 the strongest potential for streetcar service. Exceptions are Payne and Rice, which would be the same as the Phase 2 lines, and Selby/Snelling, which would be extended to Hamline University.

Figure 8 – Proposed Long-Term Network



5 PHASE 3-1 DETERMINE INITIAL LINE

The Phase 2 detailed evaluation resulted in a long-term network of streetcar lines that are all technically feasible and should be considered as part of Saint Paul's long-term vision for streetcar development. However, there also should be a starting point. To determine what the starting point should be, the Phase 3 Part 1 evaluation determined the priority line for potential implementation. The selection of the initial streetcar line was based on two primary criteria and two secondary criteria. The primary criteria were:

1. **Ridership**. One of the most important reasons to implement streetcar service would be to improve transit service for Saint Paul's residents, workers, and visitors. The Phase 3 ridership analysis developed order of magnitude ridership estimates for each line in the long-term network to better compare the effectiveness of each.
2. **Development Potential**. Also of particular importance to Saint Paul's streetcar vision is the streetcar's ability to stimulate development in ways that improve urban vitality, which requires the streetcar environment to be transit-supportive. The Phase 3 development potential analysis evaluated the transit-supportiveness of each line by identifying districts and neighborhoods that have actively re-zoned for transit-supportive uses or are planning for large-scale redevelopment, and also by evaluating the development potential in those areas.

Following the primary criteria, the lines were evaluated under two secondary criteria based on capital and operating costs. These criteria, while important, are less definitive because they are largely based on the length of the lines and the local characteristics along the lines. Accordingly, the initial part of the Phase 3 evaluation assumed operation along the entire length of each line:

3. **Capital Costs**. An important consideration of any streetcar project is the capital costs to build the line. Capital cost estimates for each streetcar line were developed as a secondary evaluation criterion. These costs include engineering, utilities, structures, stations, traction power and communication systems, vehicles, fare collection equipment, rights-of-way, professional services, and contingencies. The costs were developed based on historic cost data of similar streetcar projects.
4. **Operating Costs**. Similarly, another major consideration of any streetcar project is the ongoing operating and maintenance (O&M) costs of the service. O&M costs were developed as a secondary evaluation criterion. These costs include O&M costs associated with new service and were offset by any potential reductions in bus operating costs possible with the introduction of streetcar service. These costs were developed using unit costs based on three regional streetcar studies currently being conducted.

PHASE 3-1 EVALUATION RESULTS

As described above, the seven long-term network streetcar lines were evaluated under two primary and two secondary criteria. Based on the results of the primary evaluation criteria, **East 7th Street** and **West 7th Street** were projected to generate the highest ridership and have the greatest development potential, and emerged as the top-rated streetcar lines in the primary criteria:

Ridership. All of the long-term network streetcar lines would have significant ridership, though East 7th Street and West 7th Street, especially when the two are considered together as a single line, rose to the top in the ridership estimates. East 7th Street and West 7th Street would serve the greatest number of daily riders and have the greatest increase total ridership along the corridor.

Development Potential. Again, all of the long-term network streetcar lines have the potential to generate significant development, though East 7th Street, Robert, and West 7th Street emerged as the best lines. Each of these lines has significant potential for development and serves neighborhoods and communities with a desire for such development.

Operating and capital costs were also considered to identify any lines with special circumstances that would impact the cost to build and/or operate the line:

Capital Costs. Capital costs on a per mile basis would be in a relatively narrow range of $59.9 to $61.7 million per mile in 2013 dollars. This range is narrow because there are not any particular constraints along any of the lines that would greatly increase costs. The one exception is downtown, where infrastructure and operating constraints could increase capital costs depending on the alignment chosen. At this level of analysis, all capital cost estimates, including downtown, were assumed to be approximately $60 million per mile, with the primary determinant of total capital costs being the length of the ultimate streetcar line, determined in Part 2 of the Phase 3 evaluation.

Operating Costs. Net operating costs on a per route mile basis would range from $1.3 million to $2.6 million per route mile. The range of operating costs is due to the length of the lines and the potential for offsetting local bus service costs. The Grand + Cretin and Selby + Snelling lines would have the lowest net operating cost per route mile, largely as a result of having the greatest potential for savings of offsetting bus service. The Robert line would have the highest cost per mile, and the remaining lines all fall in between.

Based on the findings of the primary and secondary criteria, the **East 7th Street** and **West 7th Street** lines were selected as the preferred initial streetcar line. Both lines were the only lines to score Best in both the Ridership and Development Potential criteria in addition to scoring Good for the Operating and Capital Cost criteria. A summary of the Phase 3 Part 1 ratings is shown in Table 4.

Table 4 – Summary of Phase 3 Part 1 Evaluation Ratings

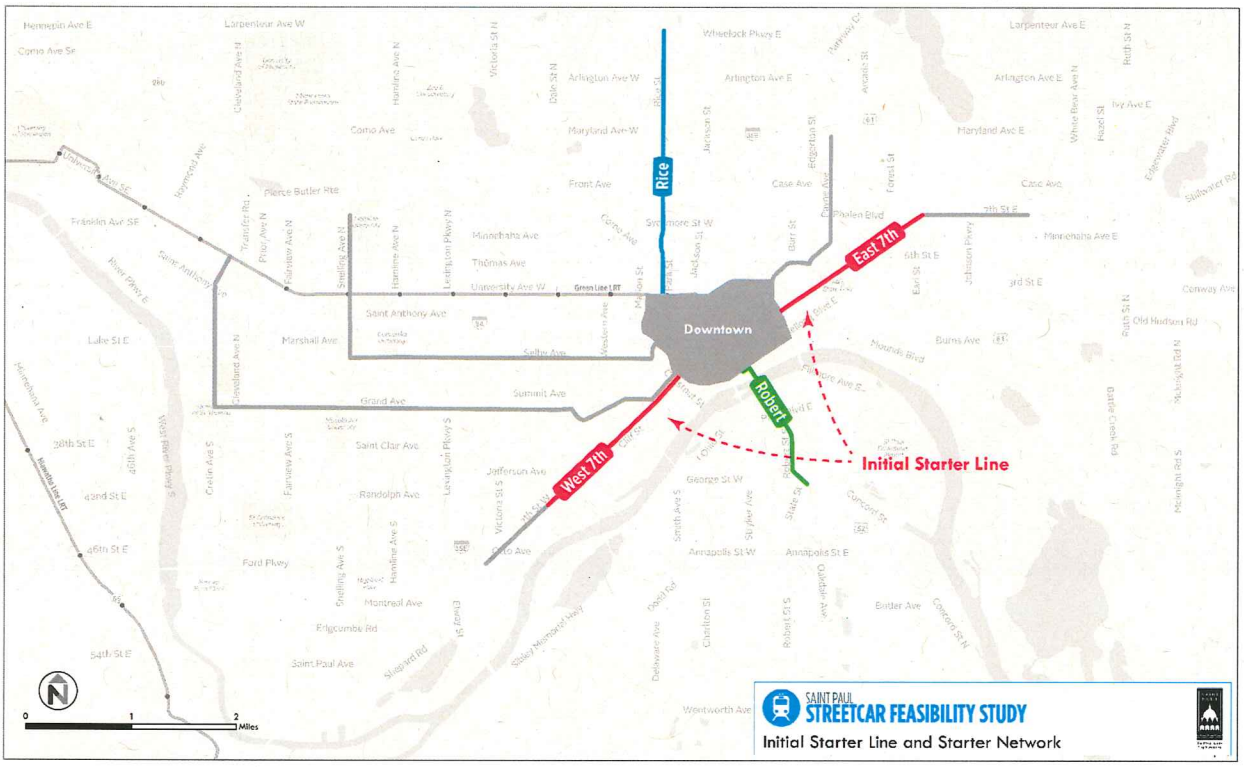
	Primary Criteria		Secondary Criteria	
Long-Term Network Streetcar Line	Ridership	Development Potential	Capital Costs	Operating Costs
E 7th Street	✓✓ Best	✓✓ Best	✓ Good	✓ Good
Grand + Cretin	✓✓ Best	✓ Good	✓ Good	✓✓ Best
Payne	▲ Fair	✓ Good	✓ Good	✓ Good
Rice	✓ Good	✓ Good	✓ Good	✓ Good
Robert	✓ Good	✓✓ Best	✓ Good	▲ Fair
Selby + Snelling	▲ Fair	✓ Good	✓ Good	✓✓ Best
W 7th Street	✓✓ Best	✓✓ Best	✓ Good	✓ Good

The Starter Network

After the selection of East 7th Street and West 7th Street as the initial starter line, the study team selected additional lines that would complement the initial starter line to form a starter network. The starter network offers a medium-term vision for streetcar service in Saint Paul, and would guide additional investment beyond the initial streetcar line, but precede the full buildout of the long-term network.

Considering the ratings from the Phase 3 Part 1 evaluation criteria and the geographical distribution of the long-term network lines, **Rice** and **Robert** were selected to complement the initial starter line and form the medium-term starter network. The Robert line scored very well on all the criteria, would serve West Saint Paul, and is currently being studied as a candidate corridor for new transit services (including streetcar) as part of the Robert Street Transit Alternatives Study. The Rice line scored relatively well on the evaluation criteria and would serve areas north of downtown, which would complete a streetcar network radiating out in each direction from downtown. The initial line and complete medium-term starter network is shown in Figure 9.

Figure 9 – Initial Line and Starter Network

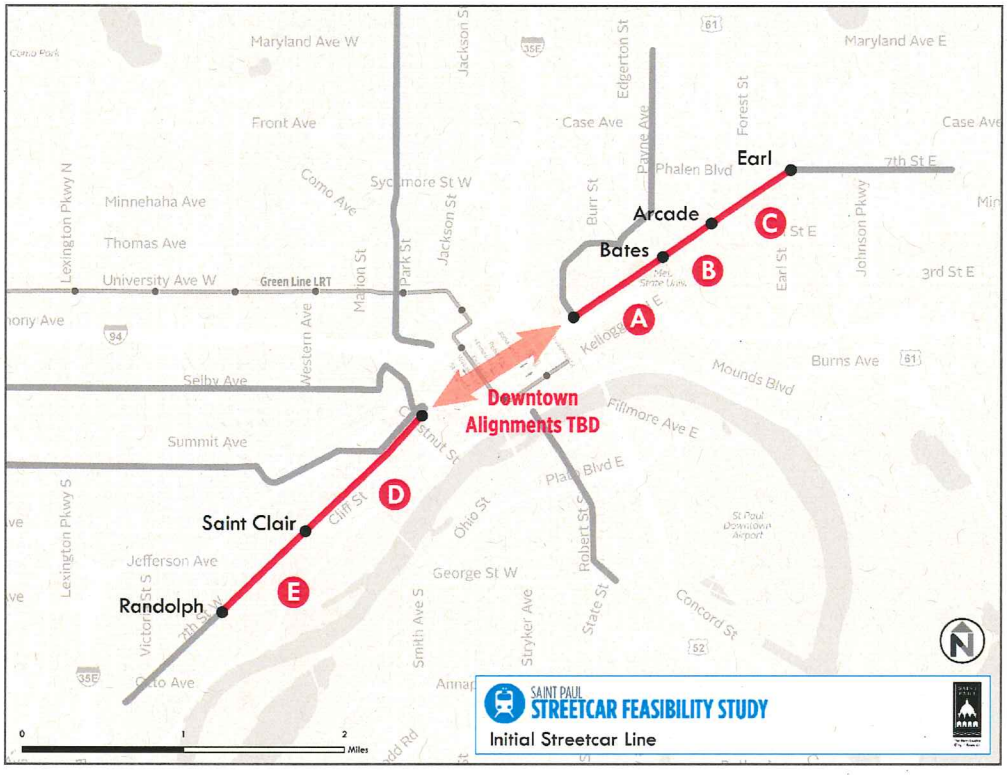


6 PHASE 3-2 REFINE INITIAL LINE

Once Phase 3 Part 1 had determined that East 7th Street and West 7th Street should form the initial streetcar line, it was necessary to select the most beneficial segments of this line. To do so, this phase of the analysis considered not only the operating and capital costs, but also the most beneficial alignment to maximize development and ridership potential. Based on the average capital cost of roughly $60 million per route mile in 2013 dollars, the entire line from Randolph Avenue to Earl Street (at 4.6 route miles) would incur capital costs of approximately $276 million. Although cost constraints are important, it was equally important to select an initial line that encouraged the best potential for redevelopment and ridership. As such, Phase 3 Part 2 refines the initial streetcar line to a somewhat shorter alignment that achieves these goals.

To perform the analysis, the initial streetcar line was divided into six segments (including downtown), as shown in Figure 10 (which also shows the Long-Term Streetcar Network in gray). Note that the alignment downtown has yet to be determined, so this analysis assumed a relatively direct path through downtown to connect the east and west segments of the line. It should also be noted that the capital cost estimate of roughly $60 million per route mile was used to estimate costs throughout Saint Paul. Because operating conditions are more constrained and complicated in downtown, the estimated capital costs in this segment would need to be refined in future studies.

Figure 10 – Initial Streetcar Line Segments



Assuming the streetcar line would be built at least through downtown and also include a combination of segments outside of downtown, there are 11 possible combinations of segments for consideration. The 11 segment combinations range in length from 1.9 to 4.6 route miles as shown in Table 5.

Table 5 – Initial Streetcar Line Lengths (route miles)

		To			
		Downtown	A	B	C
From	Downtown		1.9	2.3	2.9
	D	2.3	3.0	3.3	3.9
	E	3.0	3.7	4.1	4.6

Lengths calculated by drawing potential streetcar lines in Google Maps.

Given that operating and capital costs would be a function of the length of the line, the study team assessed each segment based on its potential to generate ridership and to spur development, two primary goals of the streetcar project.

To estimate each segment's potential to generate ridership, sketch-level ridership estimates for each segment were developed using existing ridership data from Metro Transit bus routes. The study team used boarding and alighting data from three Metro Transit routes that operate in this alignment:

> **Route 61,** which provides service between downtown Minneapolis and downtown Saint Paul. Part of the route directly serves East 7th Street between Arcade Avenue and downtown Saint Paul.

Route 70, which provides service between Cretin Avenue and Ford Parkway in the west, downtown Saint Paul, and Century Avenue in the east. Part of the route provides service directly along the initial streetcar line from Saint Clair Avenue through downtown Saint Paul.

Route 74, which provides service between the 46th Street blue line station in Minneapolis and the Sun Ray Transit Center and Century Avenue in the east. Part of the route provides service directly along the initial streetcar line from Randolph Avenue through downtown Saint Paul to Minnehaha Avenue.

Ridership was estimated by assuming that only those passengers that started and ended their trip along any of the initial streetcar segments would be candidates to use streetcar. Other factors were applied to the analysis to account for enhanced economic development potential along the initial streetcar line segments, legibility and preference for streetcar over bus, and new riders that would use streetcar for local circulation. Note that this is a high-level ridership estimate used to compare the relative strength of segments along the initial streetcar line. The next phase of the study would perform a more detailed ridership study within the corridor.

To estimate the development potential of each initial streetcar line combination, the study team used a method similar to the development potential evaluation from Phase 2. For Phase 3 Part 2, land uses within ¼-mile of each initial streetcar line segment were evaluated based on their ability to redevelop and increase in value due to streetcar. Again, the development potential analysis is a high level estimate used to compare the relative strength of the segments of the initial streetcar line.

PHASE 3-2 EVALUATION RESULTS

Ridership Potential

Ridership estimates were calculated by each streetcar line combination, not by individual segment. This is because the ridership potential for any given segment would be influenced by where the line terminates on the other side of downtown. For example, the ridership potential of segment D would be higher if segments A, B, or C were also built, since a longer streetcar line would provide more travel options than a shorter line. Ridership estimates for the eleven potential streetcar lines range are from 900 to 3,300 weekday riders (see Table 6).

Table 6 – Initial Streetcar Line Ridership Estimates (Weekday Boardings)

		To			
		Downtown	A	B	C
From	Downtown		900	1,100	1,200
	D	1,900	2,600	2,700	2,900
	E	2,300	2,900	3,100	3,300

Ridership estimation based on Metro Transit ridership data from Fall 2012.

Naturally, ridership increases incrementally outside of downtown, but there are two initial streetcar lines that would generate over 3,000 daily boardings and are considered the best candidates from a ridership persepctive:

- **Randolph to Earl Street (E+D+Downtown+A+B+C)** would generate the highest ridership, with 3,300 daily riders. This line would have a length of approximately 4.6 miles.

- **Randolph to Arcade Street (E+D+Downtown+A+B)** would generate the second highest ridership, with 3,100 daily riders. This line would have a length of approximately 3.3 miles.

Three streetcar lines would generate less than 1,500 daily boardings and were considered fair candidates:

- **Downtown Saint Paul to Earl Street (Downtown+A+B+C)** would generate 1,200 daily riders. This line would have a length of approximately 2.9 miles.
- **Downtown Saint Paul to Arcade Street (Downtown+A+B)** would generate 1,100 daily riders. This line would have a length of approximately 2.3 miles.
- **Downtown Saint Paul to Bates Avenue (Downtown+A)** would generate the least ridership with just 900 daily riders. This line would have a length of approximately 1.9 miles.

Development Potential

Development potential was calculated by segment, as the potential to spur development is primarily localized along each segment and not strongly influenced by the length of the line on the other side of downtown at this level of analysis. Development potential for each segment ranges from $13 million to $73 million (see Figure 11). The development potential figures are incremental and indicate the additional amount of development potential realized by building each segment. For example, building streetcar along segment A would have a significantly higher potential to spur development when compared to other segments.

Figure 11 – Estimated Incremental Development Potential by Segment (Millions)

To convert the development potential of individual segments to the 11 initial streetcar line combinations, the development potential of individual segments was summed accordingly. The total potential of the initial streetcar lines ranges $73 million to $155 million (see Table 7). Note the development potential figures do not include downtown Saint Paul, which would be served by all potential streetcar lines and therefore would not be a differentiating factor between lines.

Table 7 – Initial Streetcar Line Estimates of Development Potential (Millions)

		To			
		Downtown	A	B	C
From	Downtown		$73	$91	$112
	D	$30	$103	$121	$142
	E	$43	$116	$134	$155

The Recommended Initial Streetcar Line

The results of the ridership and development potential estimation were considered in conjunction with the operating and capital costs of each potential alignment, as shown in Table 8. Because the entire initial

streetcar alignment (Randolph to Earl) would generate strong and relatively incremental benefits in terms of ridership and development, the primary criteria for selecting an initial streetcar line was to use cost. The Federal Transit Administration's Small Starts capital investment grant program will consider funding requests (up to $75 million) for projects that that have a total anticipated capital cost under $250 million. Based on this benchmark, the results indicate that building the initial streetcar line from **Randolph Street to Arcade Avenue** (see Figure 12) would provide equally strong ridership and development benefit for the maximum capital cost of $250 million. This 4.1 route mile line could be built for just under $250 million and would carry an estimated 3,100 daily riders, with an estimated operating and maintenance cost of approximately $8 million per year.

Table 8 – Summary of Initial Line Segment Analysis (in descending order of length)

Potential Line		Length (miles)	Ridership (weekday)	Development Potential (millions)	Capital Cost (millions)	O & M Cost (million/yr)
E D DOWN TOWN A B C	Randolph to Earl	4.6	3,300	$155	$276	$8.8
E D DOWN TOWN A B	Randolph to Arcade	4.1	3,100	$134	$246	$8.0
D DOWN TOWN A B C	Saint Clair to Earl	3.9	2,900	$142	$234	$7.3
E D DOWN TOWN A	Randolph to Bates	3.7	2,900	$116	$222	$7.2
D DOWN TOWN A B	Saint Clair to Arcade	3.3	2,700	$121	$198	$7.0
D DOWN TOWN A	Saint Clair to Bates	3.0	2,600	$103	$180	$6.5
E D DOWN TOWN	Randolph to Downtown	3.0	2,300	$43	$180	$6.5
DOWN TOWN A B C	Downtown to Earl	2.9	1,200	$112	$174	$5.9
DOWN TOWN A B	Downtown to Arcade	2.3	1,100	$91	$138	$5.4
D DOWN TOWN	Saint Clair to Downtown	2.3	1,900	$30	$138	$5.4
DOWN TOWN A	Downtown to Bates	1.9	900	$73	$114	$5.4

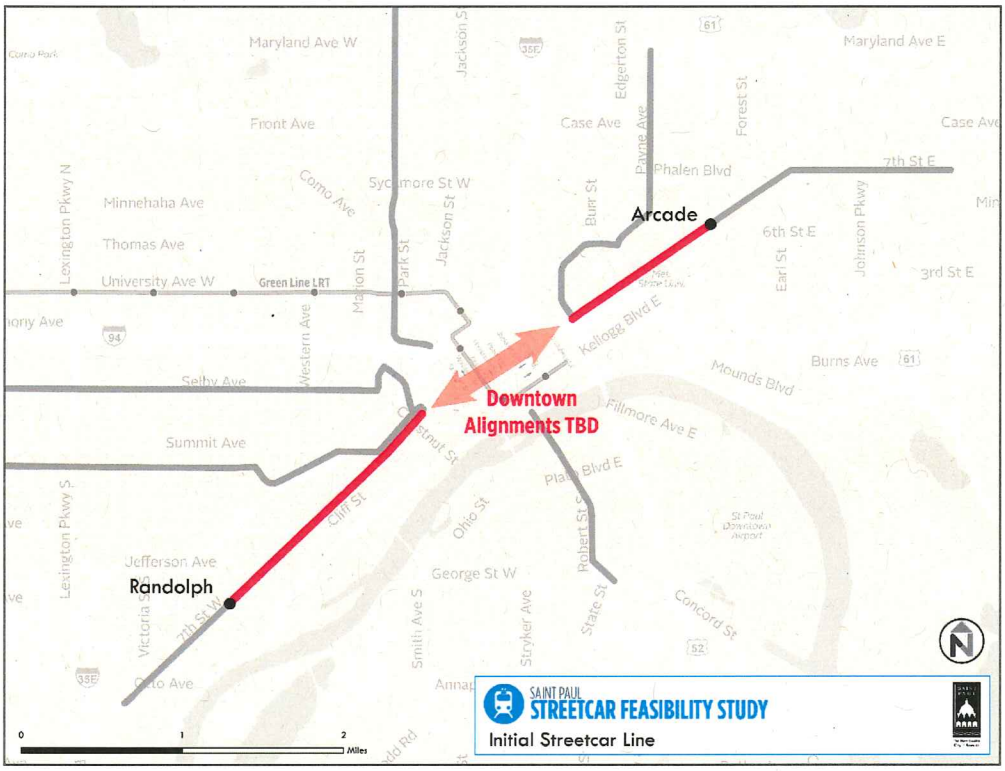



Figure 12 – Recommended Initial Streetcar Line