

Transportation Feasibility Study Report

Marshall Street NE

10th Ave NE to St Anthony Parkway

Minneapolis, MN December 5, 2018



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1 Key Findings

Hennepin County and the City of Minneapolis partnered in studying the need for improvements on Marshall St NE in Northeast Minneapolis between 10th Ave St NE and Saint Anthony Parkway. The need for the study was based on the condition of the roadway's pavement and the recognition that the corridor lacks adequate facilities for non-motorized travel desired by the community and identified in various city and county plans. The County and City formed a Study Committee who included neighboring residents and business owners, in identifying goals for the corridor. Once the goals were identified, the County, City and the Study Committee collaborated on alternative concepts and ultimately a preferred concept for the corridor.

1.1 Preferred Concept

The study concluded that it is desirable to change Marshall St NE by adding a protected bikeway, narrowing vehicular lanes and removing parking from one side of the street, while maintaining sidewalks on both sides of the street. A typical cross section of existing conditions and the preferred concept is shown in **Figure 1.1** and **Figure 1.2** respectively.

An opinion of construction costs for this concept is between \$18 and \$22 million in 2018 dollars. The County is pursuing federal funding to support the financial needs required to build the desired improvements between 16th Ave NE and 27th Ave NE.







Figure 1.2: Marshall St NE Preferred Concept Typical Section



2 Goals and Objectives

2.1 Motivations

The following were key motivators driving the study.

- Age of roadway and pavement condition warrant reconstruction
- Limited effectiveness of further maintenance repaving projects
- Growth of corridor as an entertainment, dining, retail and services destination
- Desire of neighborhood residents to connect to the river, green space and businesses
- Federal grant funding opportunity summer of 2018
- Lack of multi-modal accommodations

2.2 Goals

The roadway's current condition coupled with its surrounding context, city and county goals, policies, plans and the desires expressed by local area stakeholders, resulted in the following list of critical study goals:

- Balance all modes of travel
- Improve connections and access to the Mississippi River and area green spaces
- Create safe and accessible spaces for pedestrians and bicycles
- Strengthen nearby businesses with improved connections with neighborhoods and the greater City
- Find workable solutions related to parking by engaging key stakeholders
- Improve connections with transit (i.e. bus stops)
- Develop strategies that green the corridor

2.3 Public Engagement

The County and City engaged the public by holding periodic working groups with neighbors and business owners identified in Table 2-1. Concepts were brought forward with these groups to discuss benefits, stakeholder concerns and suggested changes. The City and County also held standalone neighborhood group meetings with neighbors identified below. Nancy



Przymus of the Bottineau Neighborhood Association chaired the Marshall Street Study Group, working as a liaison between county and city staff and neighborhood residents, neighborhood groups and businesses. Other attendees included:

Table 2-1: Study Stakeholders

Businesses	Residents from the following Neighborhoods	Agencies/Organizations
Grayco	Bottineau	Metro Transit
Psycho Suzies/Betty Dangers	Sherridan	Minneapolis Park and Rec Board
PCA	Marshall Terrace	Mississippi River Watershed Management Organization
Worrell		City of Minneapolis Community Planning and Economic Development
The Food Building		Our Streets MPLS
Hair-o-Smith		
NE Fitness		
Blumentals Architecture		
56 Brewing		
Northeast Bank		
Marshall Concrete		
The Sample Room		

3 Background and Context

The segment of Marshall St NE under study is located in Northeast Minneapolis just east of the Mississippi River, between 10th Ave NE and Saint Anthony Parkway NE (St. Anthony Pkwy), a distance of approximately two miles. The street's pavement condition is poor, especially north of Lowry Ave NE (Lowry Ave) with only three to five years remaining in a useable condition. South of Lowry Ave, the expected pavement life is slightly longer at five to eight years. The street has poor pedestrian accommodations with sidewalks immediately behind the curb and lacks accommodations for bicyclists. Ongoing changes in land use along the corridor are a driving force behind improving non-motorized facilities.

The purpose of this study was to develop a concept for reconstructing Marshall St NE that prioritizes pedestrian and bicycle users in the corridor. Hennepin County will use the information presented in this study to seek federal construction funding assistance grants, solicited through the Metropolitan Council. Hennepin County (County) and the City of Minneapolis (City) are partners in this effort. Together they hosted a study advisory group made up of corridor residents, business owners, and other stakeholders.

Several past studies and engagement efforts have influenced the work involved in this study. These include:

- Marshall Street Design Investigation (2000)
- Marshall Street Corridor Report (2003)
- Study Group Meetings (2014 present)
- Hennepin County 2040 Bicycle Transportation Plan (2015)
- Protected Bikeway Update to the Minneapolis Bicycle Master Plan (2015)
- Marshall Street NE Parking Studies (2016, 2017)

3.1 Land Use

Throughout the Marshall St NE corridor, a mixture of land uses exists, including single and multiple unit residential, industrial, commercial, retail, dining, and commercial and retail services. Land use in the area has been shifting with an increase in higher density multiple unit residential, offices, retail, and dining land uses gradually replacing industrial and industrially



related commercial land uses. Park land is also an expanding land use, as the Minneapolis Park and Recreation Board (Park Board) anticipates establishing an almost continuous park along the Mississippi River between 16th Ave NE and 28th Ave NE. Currently, Sheridan Memorial Park, Gluek Park, Edgewater Park and Marshall Terrace Park exist on the west side of the street, providing access to the river.

These shifts and mixture of land uses have created several high pedestrian activity nodes along and near the corridor.

3.2 Existing Conditions

Marshall St NE is a Hennepin County State Aid Highway (CSAH), designated as CSAH 23. It functions as an A Minor Arterial Reliever corridor whose regional purpose is to provide supplementary capacity for congested, parallel principal arterials including Interstate 94. This corridor also serves local businesses and neighborhoods which is further described below.

There are five signalized intersections along this segment, including at Broadway St, 13th Ave NE, Lowry Ave, 27th Ave NE, and St. Anthony Pkwy. Marshall St NE crosses the BNSF Railway at-grade immediately north of 16th Ave NE. Adjacent and just south of this railroad crossing, Marshall St NE crosses the partially constructed Mississippi East Bank Trail, a trail which currently continues south to Sheridan Memorial Park and Boom Island Park. Broadway St and Lowry Ave provide connections across the Mississippi River.

Figure 3.1 show the general existing cross sectional dimensions and available right-of-way. At higher-volume signalized-intersections, the parking is prohibited, allowing for an additional through lane in both directions which also better accommodates turning vehicles.

Figure 3.1: Existing Section



3.2.1 Vehicular Context

Marshall St NE carries approximately 10,800 vehicles per day south of Lowry Ave and 8,200 vehicles per day north of Lowry Ave¹. Within 20 years, the traffic is expected to grow to between 10,000 and 15,000 vehicles/day². The vehicles using the facility are mostly cars and light trucks. A small percentage of heavy trucks serve nearby businesses, such as delivery trucks for commercial businesses and tractor-trailer trucks serving industrial businesses. The Metropolitan Council has identified Marshall St NE as a Tier 1 Regional Truck Corridor, north of Broadway St, due to its importance of serving as a last mile connection to freight destinations.

3.2.2 Transit Context

Marshall St NE lacks north/south transit service along its corridor, however there is some service along streets that cross Marshall St NE. Marshall St NE crosses bus transit Route 30 (Broadway Crosstown) at Broadway St NE. Route 32, connecting Robbinsdale to Rosedale, crosses Marshall St NE on Lowry Ave.

¹ Source Traffic and Turning Movement Counts | Hennepin County

² Source: Hennepin County Comprehensive Plan 2040 - Figure 4-13



Both of these crossings have stops at or near Marshall St NE. Route 824, connecting downtown Minneapolis to Fridley, uses Marshall St NE north of Lowry Ave but currently has no stops on Marshall St NE.

3.2.3 Pedestrian Context

There are sidewalks on both sides of Marshall St NE that are 6 to 8 feet wide for most of the corridor, except for north of 30th Ave NE where sidewalks are only on the west side of the street. The sidewalks are directly adjacent to parking or turn lanes throughout most of the corridor. South of 11th Ave NE, there is a boulevard between the curb and the sidewalk.

Due to key destinations on the west side of the corridor, such as several popular restaurants and parks coupled with long north/south blocks, there are locations where users cross Marshall St NE at mid-block or are using unmarked crosswalks at an intersection without signal control.

3.2.4 Bicycle Context

Marshall St NE currently lacks a dedicated facility for bicycles. Bicyclists, have to share the road with vehicles. This section of the corridor carries 130 to 200 bikes per day³. Hennepin County's 2040 Bicycle Transportation Plan identifies an off street facility for this corridor as part of the overall Regional Network connecting key destinations and is also shown in the county's Enhanced Bikeway Network. Marshall St NE is also identified as a corridor in the City of Minneapolis' Protected Bikeway Plan. The corridor is also identified as a Tier 1 Alignment as part of the Metropolitan Council's Regional Bicycle Transportation Network. The Marshall St NE facility would connect to several existing or planned bicycle facilities, including:

- Existing on street bike lanes on Marshall St beginning south of 10th Ave NE to Hennepin Ave NE
- Existing bicycle boulevard at 16th Ave NE
- Existing bicycle boulevard at 22nd Ave NE
- Existing protected bicycle lanes on 27th Ave NE
- Existing Park Board Mississippi East trail
- Existing off street trail on St. Anthony Pkwy
- Existing on street protected facility on 8th Ave NE

³ Source: Minneapolis Pedestrian and Bicycle Counts http://www.minneapolismn.gov/bicycles/res/WCMS1P-135614

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3.2.5 Parking

Marshall St NE is home to several businesses that generate a substantial demand for parking, including popular entertainment destinations and restaurants. The City and County evaluated the parking supply and use and engaged businesses about time of day parking needs.

Parking Space Methodology

To determine the total number of existing parking spaces on each block along the study corridor, a formula was used to estimate various street characteristics recorded during field work. First, each block length was measured using Google Earth or in the field. Next, areas along the streets where parking is prohibited all day or during peak traffic hours were subtracted from the total block length, including signed no parking areas, buffer areas near intersections and in front of fire hydrants, driveways, and crosswalks. State parking regulations are defined by Minnesota Statutes section §169.34. For each driveway, the driveway width and five feet on each side of the driveway was subtracted. Ten feet was subtracted from each side of a fire hydrant, thirty feet was subtracted from each side of intersections with stop signs or traffic signals, and twenty feet was subtracted from each side of intersections without stop signs or traffic signals.

After subtractions were made from the total block lengths, the remaining distances were divided by twenty-two feet to calculate the total approximate number of parking spaces on each block. The numbers were then rounded down to the nearest whole number. Twenty-two feet is regarded as the standard parking space length in the *Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD)*.

Parking bay markings on Marshall Street NE were installed in October 2016 after the parking supply inventory was completed. Parking bay markings are not accompanied with no parking signs and motor vehicles have been observed parking outside of the parking bay markings.

Along the corridor, there are locations with restricted parking during peak travel times for commuting. In some locations, parking is restricted during morning peak hours (7 to 9 am Monday through Friday), some is restricted during evening peak hours (4 to 6 pm Monday through Friday), while other locations are restricted during morning and evening peak hours Monday through Friday. Generally, the west side of Marshall Street NE has morning



peak hour restricted parking near St. Anthony Parkway, Lowry Avenue NE and Broadway Street NE, while the east side of Marshall Street NE has evening peak hour restricted parking for the reverse motor vehicle commute near the same locations. Cross streets vary from no peak hour restricted parking to morning and evening peak hour restricted parking. For the parking analysis, all peak hour restricted parking spaces, regardless of timeframe restrictions were removed to determine a conservative number of available peak hour parking spots. Peak hour parking space data was used to calculate parking utilization along each block of the study corridor, which is detailed in subsequent sections.

Parking Utilization Methodology

To determine the parking utilization percentages along the study corridor, the study team first collected parking counts. The counts were collected by recording the parking usage along the corridor during three time periods (Wednesday between 7 and 9 AM, Friday between 5 and 9 PM, Saturday between 5 and 9 PM. The data was reviewed to determine the number of cars parked.

The parking counts were divided by the existing peak parking spaces on a block-by-block basis. The formula used the highest parking counts between the peak weekday and weekend evening as well as peak morning counts to determine the maximum peak parking utilization percentages. The peak parking utilization percentages were documented for the east and west side of Marshall Street NE, as well as all cross streets.

Parking Analysis Results

Figure 3.2 through **Figure 3.7** show the parking utilization density in and around Marshall St NE on two sampled Wednesday (morning and evening), Friday and Saturday summer 2017 evenings, generating the following information:

- Generally Wednesday evenings have adequate on-street parking supply. On Wednesday mornings a high parking demand zone exists on Marshall St NE and Grand St NE between 14th and 16th Ave NE. Off – street parking near these areas have some available capacity however.
- On Friday and Saturday evenings, a high parking demand zone exists just east of Marshall St NE on 13th Ave NE, 14th Ave NE, and on Grand St NE, NE Main St and NE Main St between 14th Ave NE and 13th Ave

NE. This demand presumably serves a number of establishments like Dusty's Bar (adjacent to Marshall St NE) and Dangerous Man Brewing Company along NE 2nd St. Although the demand is high on these streets, Marshall St NE appears to have some available capacity to address overflow needs.

- A high parking demand zone exists on Marshall St NE and Grand St NE between 18th Ave NE and 22nd Ave NE presumably serving popular destinations such as Psycho Suzies Motor Lounge and The Sample Room. On street, the available public parking doesn't appear to meet the demand. Private parking areas serving industrial businesses however, are not fully utilized during these times that could help in serving this demand.
- A high parking demand zone exists on Marshall St NE, 26th Ave NE and Grand St NE just north of Lowry Ave presumably serving Betty Danger's Country Club and Tony Jaros River Garden. The streets near these two destinations appear to have some residual parking during these peak times. Private parking areas nearby could also help in serving the demand.



Figure 3.2: Wednesday Morning Parking Density South





Figure 3.3: Wednesday Morning Parking Density North



Figure 3.4: Friday Evening Parking Density South

5 to 9 p.m.



5 to 9 p.m. 00-51 at Park Hennepin No Det \bigcirc \bigcirc dard. High July 28 and August 4, 2017

Figure 3.5: Friday Evening Parking Density North

Distributed This map (i) is furnished *AS (5' with no expresentation as to completeness or accuracy (i) is furnished with no warranty of any kind; and (iii) is not suitable for legal, engineering or soveying purposes wentepin County shall not be liable for any damage, injury or loss resulting from this map.

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Figure 3.6: Saturday Evening Parking Density South





Figure 3.7: Saturday Evening Parking Density North

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4 Concepts

The study considered various typical section concepts. Once the preferred concept was determined, corridor layouts were developed identifying crossing locations, crossing strategies, opinion of construction costs, and greening strategies.

4.1 Typical Section Options Considered

The following typical section concepts were developed and presented to the area project stakeholders.

4.1.1 Reconstruction Concepts

Typical sections for four reconstruction options were developed with a focus of adding protected bicycle facilities and enhancing the pedestrian space the corridor along the corridor (see **Figure 4.1** through **Figure 4.4**). The option that received the most support from the stakeholders was the Two-way Off Street Protected option. This option is considered the preferred option (see **Figure 4.4**) because it:

- 1. Maintained parking on at least one side of the road
- 2. Separated bicycle users from pedestrian users
- 3. Separate the bicycle and pedestrian facilities from vehicles

The Shared Use Trail option was not favored because it did not have separate facilities for bicyclists/pedestrians (see **Figure 4.1**). The One-way On Street Protected option (see **Figure 4.2**) required more space for the one-way bikeways which resulted in narrower sidewalks and less pedestrian space when compared to the preferred section. The Two-way On Street option (see **Figure 4.3**) didn't provide the amount of separation and comfort between bicyclists and motor vehicles preferred by stakeholders.

Figure 4.1: Shared Use Trail



Figure 4.2: One-way On Street Protected





Figure 4.3: Two-Way On Street Protected



Figure 4.4: Two-Way Off Street Protected (Preferred Option)



4.1.2 Retrofit Option

A retrofit option was developed and considered as a possible low cost option in case the project was unsuccessful in obtaining funds for near term reconstruction (see **Figure 4.5**).

Figure 4.5: Retrofit



4.2 Preferred Concept Layout

Once the preferred typical section option was identified it was adjusted by elevating the bikeway and incorporating turn lanes at high volume signalized intersections. The following figures (**Figure 4.6** through **Figure 4.14**) illustrate applying the preferred option to Marshall St NE, creating a Preferred Concept Layout. (To remain legible, this layout has been subdivided into nine figures in this report. The illustrative figures begin at the southern end of the project at the intersection of Marshall St NE with 10th Ave NE and proceeds north to St. Anthony Pkwy.)

Figure 4.6: Concept Layout – From 10th Ave NE to 13th Ave NE

Figure 4.7: Concept Layout – From 13th Ave NE to North of 16th Ave NE

Figure 4.8: Concept Layout – From 16th Ave NE to North of 18th Ave NE

Figure 4.9: Concept Layout – From North of 18th Ave NE to 23rd Ave NE

Figure 4.10: Concept Layout – From 23rd Ave NE to 26th Ave NE

Figure 4.11: Concept Layout From 26th Ave NE to 28th Ave NE

Figure 4.12: Concept Layout – From 28th Ave NE to 30th Ave NE

Figure 4.13: Concept Layout – From North of 30th Ave NE to North of 31st Ave NE

Figure 4.14: Concept Layout I– North of 31St Ave NE to St Anthony Parkway

4.2.1 Mid-block Crossing Options

Two mid-block pedestrian crossing design options were considered which include options for a bulb out and a pedestrian refuge as shown in **Figure 4.15** and **Figure 4.16**respectively. The intent of these options is illustrate examples to improve pedestrian comfort and safety by narrowing the crossings, providing a pedestrian refuge, and making the pedestrian more visible to the motorist. These options could be considered at the suggested crossing locations identified in the concept layout shown earlier. Improving crossing locations helps to strengthen connections between the neighborhoods and the area's various recreational and commercial destinations.

Figure 4.15: Bulb Out

Figure 4.16: Pedestrian Refuge

4.2.2 Lowry Ave Bikeway Connections

Figure 4.17 provides a sketch of how the bikeway on Marshall St NE connects into Lowry Ave NE bikeway. The boulevards are mostly removed to make space for a dedicate turn lane.

Figure 4.17: Lowry Ave Bikeway Connections

4.2.3 Potential Greening Strategies

The corridor was reviewed to identify street level greening strategies which is desired by the adjoining neighborhoods. A community desire for place making including artist designed benches and gateway treatments were discussed at stakeholder meetings. The following summarizes corridor wide strategies that could be incorporated along Marshall St NE. Implementing these strategies will require future coordination with private residential and commercial property owners and the Minneapolis Park and Recreation Board.

Buffered Setbacks. Creating asymmetrical boulevards (i.e. 8 feet on the east side and 3 feet on the west side) would allow the east side of the street to support trees within the right-of-way (see **Figure 4.18**). Trees on the west side of the street would need to be planted outside of the right-of-way on private or public property. Street lights on both sides of the street could define the roadway's edge. The majority of the corridor is identified as a pedestrian lighting corridor in the City's plan.

Low growing shrubs, flowers, and grasses would add interest to these utility corridors and other boulevards and setbacks that lack trees. Vines would be encouraged to grow on any blank facades of adjacent commercial buildings. See **Figure 4.18**.

Figure 4.18: Buffered Setbacks

Partnering with Parks. In locations along Marshall St NE that are adjacent to public parks, more symmetrical boulevards can be incorporated by moving the sidewalk onto adjacent park property, strengthening the connection between the corridor and parks while allowing the sidewalk on the east side of the street to be widened. See **Figure 4.19**.

4.2.4 Opinion of Costs

An opinion of costs was derived from conceptual two-dimensional design shown in **Figure 4.6** through **Figure 4.14.** Costs should be updated as the design progresses and specific information about project information is gathered. Depending on activity type and location of treatment, funding would be needed to come from multiple sources including in some cases private property owner or business improvement districts. Further discussion and buy-in would be needed from all parties before implementation. All amounts are in 2018 dollars.

Construction Cost Yearly Landscaping Maintenance Cost \$18 to \$22 million \$36,000 to \$44,000

4.3 Next Steps

4.3.1 Secure Project(s) Funding

The county has applied for federal funding grants through the Metropolitan Council's Regional Solicitation. If awarded, this grant will allow the county to move forward with design and construction of a portion of the corridor, from 16th Ave NE to 27th Ave NE.

4.3.2 Other Project Requests

Greening Strategies

Strategies and maintenance responsibilities will continue to be evaluated as the project design progresses and funding for construction is secured.

Lighting

Pedestrian scale lighting is part of the potential greening strategy. However, the section of Marshall St NE north of Lowry Ave NE is not currently identified on the City of Minneapolis Street Lighting Plan.

Bury Overhead Utilities

The public has expressed the desire to bury overhead utilities. The County indicated they would consider it but it may be cost prohibited. Early investigations have estimated this could add an additional \$1.2 million in project costs.

Transit on Marshall St NE

The public has expressed a desire to have a transit route along Marshall St NE. The County and City will discuss this request with Metro Transit.