



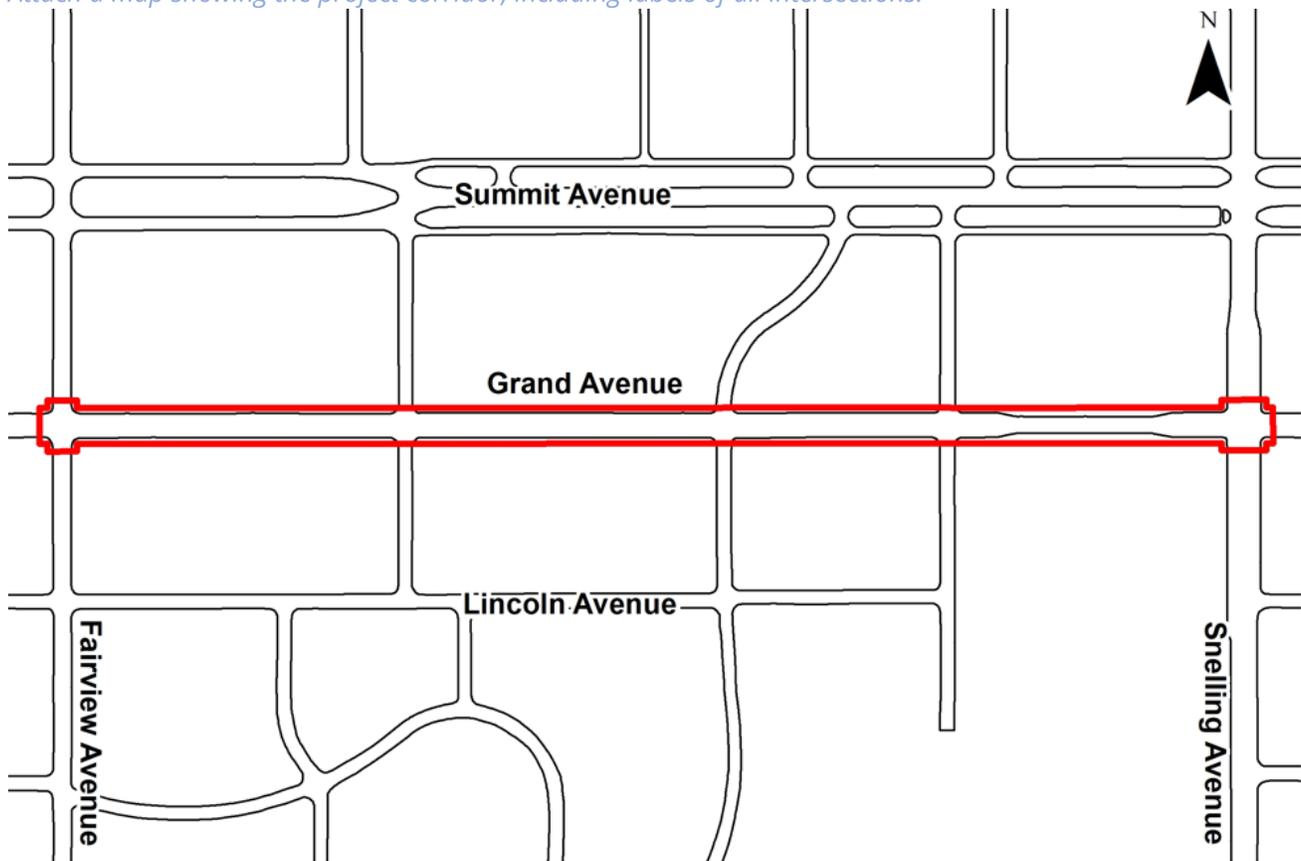
1. Project Scope

1.1 Describe the Project Scope

Describe scope and extent of project.

Full street reconstruction of Grand Avenue from Fairview Avenue to Snelling Avenue is programmed for 2024. This will include full-depth reconstruction of the road surface, curb and gutters, street lighting replacement, reconstruction of sidewalks, replacement of the traffic signal at Fairview Avenue and Snelling Avenue and geometric changes to intersections.

Attach a map showing the project corridor, including labels of all intersections.



1.2 Identify Key Partners and Stakeholders

Identify agency with road or trail jurisdictional authority. Are there critical adjacent land owners, political realities, or other persons that need to be engaged?

- Macalester College
- Hidden River Junior High
- MnDOT (Snelling/TH 51)
- Grand Avenue Business Association
- District 14 – Macalester Groveland Neighborhood Council



- City Council Ward 3
- Grand Avenue Business Association

2. Project Purpose

2.1 Describe the Project Purpose

Why are we doing this work? Including purpose and need, safety issues, overview of current conditions.

Describe pedestrian, bicycle, transit, and freight project needs identified by staff and the general public related to this project.

The project is intended to reconstruct Grand Avenue from Fairview Avenue to Snelling Avenue.

Currently pavement condition ranges from near failure (0-20 PCI) within Macalester College, poor (21-40) from Fairview Avenue to Cambridge Street, to moderate (41-60) between Cambridge Street and Macalester College.

There are three locations along Grand Avenue between Macalester Street and Snelling Avenue where pedestrians frequently cross mid-block. However, these crossings are not ADA compliant and are not formally designated as crosswalks. There is also a major crossing for students who attend Hidden River Junior High. These crossings should be evaluated and improved as needed.

Metro Transit's route 63 bus currently travels down Grand Avenue and has multiple stops along this segment of Grand. Transit conditions should be evaluated and improved as needed.

There is no identified bikeway along Grand Avenue, Summit Avenue has existing bicycle facilities 450 feet to the north which will be evaluated for upgrading with the Summit Avenue Master Plan.

Grand Avenue is not on an identified truck route, nor are there plans to designate it as such, however large trucks do frequently use Grand Avenue to supply businesses which are located on the street.

2.2 Public Works Project Goals

Are there key outcomes that we can use to inform decision-making on this project? Why were these goals selected?

Project goals for Grand Avenue include meeting the objectives identified in the Comprehensive Plan for reconstructed rights-of-way. Grand Avenue is a key east-west thoroughfare through St Paul that includes many destinations for those traveling by transit, foot, bike or car, balancing mode share to encourage non-automotive travel through this area should be pursued. Additionally, Grand Avenue travels through the Macalester College campus and should serve as a connection between campus, not as a barrier. This segment of Grand Avenue has poor pavement condition for the majority of its length, signals at Fairview Avenue and Snelling Avenue are in need of replacement and pedestrian crossings and facilities should be reviewed and upgraded if warranted.



3. Relevant Plans and Policies

3.1 Comprehensive Plan

Cite relevant goals and policies from the city's [Comprehensive Plan](#).

Policy T-2. Use surface condition and multimodal usage rates to prioritize transportation projects and ensure well maintained infrastructure that benefits the most people

Policy T-3. Design rights-of-way per the following modal hierarchy:

1. Pedestrians, with a focus on safety
2. Bicyclists, with a focus on safety
3. Transit
4. Other vehicles

Policy T-7. Implement intersection safety improvements such as traffic signal confirmation lights, pedestrian countdown timers, and leading pedestrian signal intervals. Reduce pedestrian roadway exposure via median refuge islands, curb extensions, narrowed travel lanes and other elements designed to lower motor vehicle speeds

Policy T-9. Design the rights-of-way for all users, including older people, children and those with mobility constraints

Policy T-37. Maintain roadway pavements in pursuit of achieving a Pavement Condition Index (PCI) of 70 on all City-owned streets

3.2 Safe Routes to School Plan(s)

*Is project location identified in a [Safe Routes to School Plan](#)? Yes / **No***

If yes, describe:

N/A

3.3 High Frequency Transit

*Is the project location on an existing or potential high-frequency transit route (pg 6.28)? **Yes** / No*

If yes, describe:

Route 63 is identified by Metro Transit as a high frequency transit route. It connects multiple universities, downtown St Paul and the 3M campus to the Grand Avenue corridor.

Metro Transit's A-Line aBRT route runs down Snelling Avenue with adjacent enhanced bus stops at the Grand Ave and Snelling Ave intersection. Grand Ave is being considered for future aBRT service by Metro Transit however Route 63 has yet to be formally recognized in future aBRT plans.

3.4 Neighborhood or Small/Station Area Plan

*Is project location referenced in an adopted [Saint Paul neighborhood plan or station area plan](#)? **Yes** / No*

If yes, describe:

Below will be relevant excerpts from the Macalester-Groveland Community Plan (adopted August 2016).



Environment and Water Resources

- 6.3 Advocate for the connection of districts bike paths to the citywide network.
- 6.4 Work with the City and other responsible parties to identify and address locations within the district that may be problematic or dangerous to pedestrians and bicyclists.
- 6.5 Prioritize pedestrian needs when updating or installing new street lighting.
- 6.6a Dedicate more bike routes within the district and City.

Transportation

- T1.4d Explore the demand and identify options for improving community access to Metro Transit services.
- T2.1a Continue to educate residents concerning the current pedestrian laws and statutes and bicycle laws and statutes focusing on the duties and obligations of the driver, bicyclist and pedestrian.
- T2.2 Promote the enforcement of existing transportation laws.
- T3.1d Provide safe and well-lit bus stops and streets by partnering with the City of Saint Paul and Metro Transit to locate bus stops at well-lit intersections and by encouraging the City to increase the lighting standard on bus routes.
- T3.1e Research and implement, as appropriate, diverse and effective methods of traffic calming techniques in order to slow vehicular traffic.
- T3.2b Support the implementation of comprehensive citywide bicycle policies that are easily adaptable to a growing bicycle community.
- T3.2d Support reduced speed limits around schools with the establishment of school zones as stated in Section 7 of the Minnesota Manual of Uniform Traffic Control Devices. Work with Public Works to establish the first school zone.
- T3.3 Encourage more secure bike parking at schools, businesses and multifamily units concurrent with new development. Request that the City of Saint Paul allow for alternatives to parking requirements to allow for on street bicycle parking as permitted by MN Statute 169.22 Subd. 9b.

3.4 Historic District

*Is the project located in a local, state or national historic district? (Contact PED). **Yes** / No*

If yes, identify:

Grand Avenue itself is not located within an historic district, however part of the Macalester College campus north of Grand Ave and Hidden River Junior High School are both within the West Summit Avenue Historic District.

3.5 Bicycle Planning

*Does the project location form or connect to a route on the [Saint Paul Bicycle Plan](#) (Fig 2-5), the Met Council's [Regional Bicycle Transportation Network](#) (Fig 6), or a planned regional or state bike trail (Fig 7)? **Yes** / No*

If yes, describe:

Cambridge Street, which intersects Grand Avenue, is designated on the Bicycle Plan as a bicycle boulevard.



3.6 Roadway Safety Plan

Is the project corridor identified in the [Saint Paul Roadway Safety Plan](#) or the [Ramsey County Roadway Safety Plan](#)? **Yes** / No

If yes, describe:

Grand Avenue is identified in the Roadway Safety Plan as a candidate for infrastructure-based safety investments.

Grand Avenue is identified as one of the top five segments for highest amount of severe pedestrian and bicycle collisions with 3 severe and 37 total incidents identified in the Plan.

3.7 Street Design Manual

Identify the preferred and minimum frontage zone, pedestrian zone, and boulevard/furnishing zones for this corridor type. See the [Saint Paul Street Design Manual](#) (pg 25).

Grand Avenue is designated a Mixed-Use Corridor outside of Macalester College (Institutional). For this corridor, design requirements are as follows:

- Preferred 2-foot building frontage zone, none required
- Preferred 8-foot pedestrian zone, 6-foot required
- Preferred 6-foot boulevard zone, 5-foot required
- Curb and gutter zone varies

3.8 Pedestrian Planning

Identify whether this segment falls into a high, medium or low priority area for walking investment in the [Saint Paul Pedestrian Plan](#).

The Grand Avenue corridor is one of the most walkable areas of the city, featuring a mix of uses providing ample employment and services to residents and visitors. The Macalester Groveland neighborhood is well served by pedestrian infrastructure, and has high median household income, thus, this segment of Grand Avenue falls within the low priority area for walking investment.

4. Existing Conditions

4.1 Existing Typical Section

Provide graphic(s) of existing cross-sections (use [streetmix.net](#) or other graphic program). Include widths for all functions in the ROW. Describe where each cross-section is on the corridor if necessary.



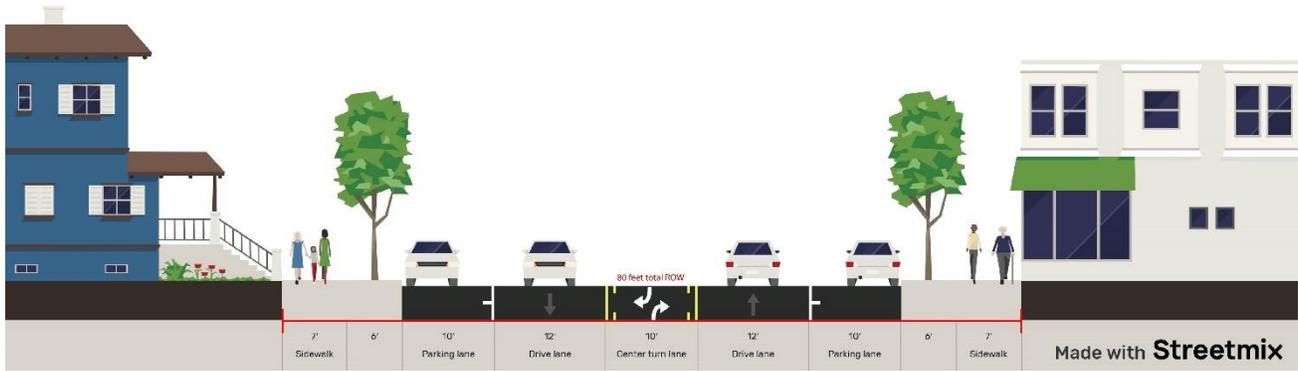
Grand Ave - Macalester College



Cross sections for Grand Ave from Macalester St to Snelling Ave (80-foot total ROW):

- Variable but significant frontage zone
- 7-foot pedestrian zone
- 15-foot boulevard zone
- 14-foot drive lane
- 8-foot raised median

Grand Ave - Macalester to Fairview



Cross sections for Grand Ave from Fairview Ave to Macalester St (80-foot total ROW):

- Minimal frontage zone (0 to 2 feet)
- 6-foot pedestrian zone
- 7-foot boulevard zone
- 10-foot parking lane (unmarked)
- 12-foot drive lane



- 10-foot center left turn lane

4.2 Land Use Context

EXISTING LAND USE

Describe existing land use context, including any major trip generators along the project. E.g. schools, parks, libraries, hospitals, large employers. Ideally, show these destinations on a map of the corridor.

This segment of Grand Avenue runs through Macalester College which is the major source of trips along and across the street. Outside of Macalester College, Grand Avenue is a mixed-use corridor with this particular segment featuring dozens of businesses within pre-war building stock and small-scale multifamily buildings. Additionally, Hidden River Junior High School is located at the intersection of Grand Avenue and Cambridge Street.

Existing land use definitions along the corridor include Retail and Other Commercial, Mixed-Use Residential, Single Family Residential, Single Family Attached, and Institutional.

FUTURE LAND USE

Describe the future land use context; what land use changes are planned in the [2040 comprehensive plan](#)?

There are three major future land use types which are found along Grand Avenue. Those land use types are; Civic and Institutional, Mixed-Use, and Urban Neighborhood.

The intersection of Grand Ave and Fairview Ave is identified as one of the city's neighborhood nodes. The Comprehensive Plan outlines multiple policies specific to neighborhood nodes, relevant policies are as follows:

Policy LU-30. Focus growth at Neighborhood Nodes using the following principle(s):

2. Prioritize pedestrian-friendly urban design and infrastructure that emphasizes pedestrian safety

KNOWN REAL ESTATE DEVELOPMENTS

Describe the known real estate developments along the corridor. Contact PED neighborhood liaisons or the Transportation Planning and Safety Site Plan Review staff for projects.

There is a currently under construction project at 1769 Grand Avenue. This project is constructing a 5-story multi-family residential structure containing 12 units and 12 off-street parking spaces. The parking access will be through the rear of the property to the alley, there will be no new curb cuts and the project should not impact the right-of-way of Grand Avenue.

4.3 Pedestrian Facilities

SIDEWALK CONNECTIVITY

Does sidewalk exist the entire length of the project area on both sides of the street? Yes / No

If no, identify gaps in the sidewalk network:

N/A – sidewalk currently exists on both sides of Grand Avenue.

SIDEWALK SURFACE CONDITION

Describe the general condition of the sidewalk surface (e.g. asphalt patches, cracks, tree heaves, ponding, slopes, pavement condition).



What percentage of sidewalk does not meet ADA requirements?

What percentage of curb ramps do not meet ADA requirements?

There are 26 curb ramps found along Grand Ave between the Fairview Ave and Snelling Ave intersections. Of those, 21 feature ADA compliant facilities and 5 do not.

A desktop review of sidewalk condition indicates poor condition for much of the sidewalks along Grand, heaving and cracks are clearly visible. A more comprehensive review of sidewalk conditions bears out these existing conditions. Sidewalk panels will need to be replaced through the project extent.

SIDEWALK ZONE USES AND EFFECTIVENESS

Describe uses and widths within each sidewalk zone (frontage zone, pedestrian zone, boulevard and furnishings zone). Characterize materials in the boulevard zone (e.g. grass, pavement, boulevard trees, etc.). Describe how snow storage is achieved. Refer to the [Saint Paul Street Design Manual \(pg 24\)](#) for descriptions of sidewalk zones.

From Fairview Avenue to Macalester Street

- Frontage zone: Varies (0 – 2 feet)
- Pedestrian zone: 6 feet
- Boulevard zone: 7 feet
- Curb and gutter zone: 2 feet

The pedestrian zone in commercial areas can be too narrow to accommodate higher pedestrian volumes and sidewalk seating or product display for businesses. Snow storage is adequate.

Through Macalester College

- Frontage zone: Varies (0 – 50+ feet)
- Pedestrian zone: 7 feet
- Boulevard zone: 15 feet
- Curb and gutter zone: 2 feet

Significant space exists for the boulevard zone. Pedestrian zone can be too narrow to accommodate large pedestrian volumes found on Macalester College campus.

CROSSINGS

List and describe existing crosswalk enhancements at any intersections or midblock crossings in the project area, e.g. bumpouts, pedestrian refuge islands, RRFBs, HAWKS, marked crosswalks, enhanced marked crosswalks:

At the Grand Ave and Snelling Ave intersection, a marked crossing is present, however the crossing is in the form of colored pavement and does not meet Saint Paul's Street Design Manual for pedestrian markings.

Through Macalester College, there are three mid-block crossings. They each feature walkways which lead to the roadway, none of these crossings have ADA accessible ramps or markings on the roadway. Grand Avenue moves through the Macalester College campus, with large flows of pedestrians around the school and crossing Grand Avenue.



Bumpouts are found at each intersection quadrant and marked crossings are found at the Macalester St intersection. Existing roadway markings take the form of colored pavement and do not meet Saint Paul's Street Design Manual for pedestrian markings.

A marked and signed crossing is found at the intersection of Grand Ave and Cambridge St, with temporary bumpouts installed (paint and potentially bollards at one point in time). The bumpouts are not maintained as the bollards no longer exist to demarcate the bumpout extent.

PEDESTRIAN COUNTS/DEMAND

List available pedestrian counts collected on the corridor. Include location, peak hour counts, and dates of collection:

Identify any known high-demand pedestrian generators, crossings, or attractions that have not already been stated. Identify or estimate the magnitude of crossings at these locations, if known.

Fairview Avenue intersection:

- West Leg (Grand Ave): 154 – peak hour: 16
- East Leg (Grand Ave): 182 – peak hour: 21
- North Leg (Fairview Ave): 167 – peak hour: 18
- South Leg (Fairview Ave): 192 – peak hour: 17

Wheeler Street intersection:

- West Leg (Grand Ave): 67 – peak hour: 8
- East Leg (Grand Ave): 55 – peak hour: 7

Cambridge Street intersection:

- West Leg (Grand Ave): 405 – peak hour: 88
- East Leg (Grand Ave): 105 – peak hour: 20

Macalester Street intersection:

- West Leg (Grand Ave): 534 – peak hour: 54
- East Leg (Grand Ave): 552 – peak hour: 49
- North Leg (Macalester St): 731 – peak hour: 74
- South Leg (Macalester St): 701 – peak hour: 74

Snelling Avenue intersection:

- West Leg (Grand Ave): 580 – peak hour: 59
- East Leg (Grand Ave): 576 – peak hour: 72
- North Leg (Macalester St): 588 – peak hour: 71
- South Leg (Macalester St): 805 – peak hour: 88

Macalester College mid-block crossings:



- Western Crossing: 1,892 – peak hour: 212
- Center Crossing: 988 – peak hour: 105
- Eastern Crossing: 1,744 – peak hour: 174

4.4 Bicycling Facilities

EXISTING FACILITIES ALONG CORRIDOR

Existing bicycling facility along the project corridor? Yes / No

If yes, identify facility type, dimensions, pavement condition, and extent of the facility.

If yes, how is snow storage achieved?

N/A

EXISTING FACILITIES ACROSS CORRIDOR

Do existing bicycling facilities cross the project corridor? Yes / No

If yes, identify facility type, dimensions, and extent of the facility.

Cambridge Street is identified for a future bicycle boulevard.

Fairview Avenue has been identified for a future in-street separated lane. Fairview Avenue is currently identified on the map of existing bicycling facilities as having striped shoulders.

BICYCLE COUNTS/DEMAND

List available bicycle counts collected on the corridor. Include location, peak hour counts, and dates of collection.

Bicycle counts were collected at Cambridge Street crossing Grand Avenue with pedestrian counts.

Daytime total crossings: 72

4.5 Transit

BUS ROUTES

Do any buses operate on the corridor? Yes / No

If yes, which routes? (list general frequencies if available)

Route 63 operates along Grand Avenue. Route 63 is identified by Metro Transit as a high frequency route.

Through the project extent there currently are three stops in each direction. One at the Snelling Avenue intersection on the Macalester College campus, one at the Cambridge Street intersection and the other at the Fairview Avenue intersection.

General frequencies are 15-minute headways during peak time Monday through Friday, off peak frequencies are 30-minute headways.

IMPROVED BUS STOPS

How many improved bus stops are on the corridor (meaning there is a bus pad, bench, and/or shelter):

There are two improved bus stops along the project segment of the corridor, one stop is located eastbound on Grand Avenue at the Snelling Ave intersection. The other is located eastbound at the



Fairview Avenue intersection. The Fairview Avenue station was moved to the far side of the intersection in 2020.

There are other stops with benches and concrete bus pads, however they do not have shelters and thus do not meet the standard for improved bus stop.

There are three stops with a sign and bench, two of those stops feature concrete bus pads. The Wheeler St stop was removed in 2020.

UNIMPROVED BUS STOPS

How many unimproved bus stops are on the corridor (i.e. sign only):

There are two unimproved bus stops along the segment, one is located for westbound buses at the Fairview Avenue intersection, this stop only features a sign and is located within a curb cut for CVS. This stop has been moved to the far side of the intersection in 2020, it is still an unimproved stop.

The other is located at the Wheeler intersection. This stop has been removed in 2020 and consolidated with adjacent stops.

RELEVANT ADJACENT BUS STOPS

How many bus stops on corridor adjacent to controlled crossing of corridor?

There are A-Line enhanced aBRT stations along Snelling Avenue at the Grand Avenue intersection. The southbound A-Line station is physically contiguous with the eastbound Route 63 improved stop.

TRANSIT ACTIVITY (BOARDING/ALIGHTING COUNTS)

Identify stop locations and most recent year counts.

- Eastbound Fairview Avenue: 23 boarding, 12 alighting (2019) *relocated to far side
- Westbound Fairview Avenue: 11 boarding, 23 alighting (2019) *relocated to far side
- Eastbound Wheeler Street: 12 boarding, 7 alighting (2019) *Removed 2020
- Westbound Wheeler Street: 9 boarding, 10 alighting (2019) *Removed 2020
- Eastbound Cambridge Street: 15 boarding, 10 alighting (2019)
- Westbound Cambridge Street: 11 boarding, 16 alighting (2019)
- Eastbound Snelling Avenue: 156 boarding, 55 alighting (2019)
- Westbound Snelling Avenue: 36 boarding, 137 alighting (2019)

All counts are daily average counts for the year.

PLANNED IMPROVEMENTS

Identify any planned improvements to transit service and/or bus stops in the project area.

A major route restructuring took place for Route 63 in 2020 by Metro Transit and the City. This restructuring included stop station replacement and moving, and stop consolidation. This restructuring impacted the Wheeler Street stops which were removed and the Fairview Avenue stops which were moved far side placement on the intersection.

Metro Transit studied route 63 for future aBRT upgrades, but the route was not included in the Metro NEXT study, however Metro Transit staff have indicated that future aBRT studies will continue to consider the corridor for upgrades.



4.6 Motorized Traffic Conditions

ROADWAY FUNCTIONAL CLASSIFICATION

Select one: A Minor, B Minor, Collector, Residential

Grand Avenue is classified as a B-Minor Arterial.

MUNICIPAL STATE AID (MSA)

Is this a State-Aid route? : [Yes](#) / [No](#)

Grand Avenue is a Municipal State Aid route. MSAS 141.

AVERAGE DAILY TRAFFIC (ADT)

State the most recent ADT (Year):

6,882 AADT (2022)

POSTED SPEED LIMIT

State the Posted Speed Limit:

25 MPH

SPEED STUDIES AND CONTEXT

List the dates and locations of any relevant speed studies, as well as 50% and 85% speeds:

Are there any known community speed concerns? Where?

There have been no speed studies conducted within the project segment of Grand Avenue. However there has been a study done along Grand Avenue between Hamline Avenue and Syndicate Street in 2012. This location is less than a half mile to the east. The posted speed limit was 30 mph when these speed studies were conducted.

- 50th percentile: 31 MPH
- 85th percentile: 36 MPH

HEAVY VEHICLES

Is the corridor a [Truck route](#)? Do any truck routes cross the project area? Describe any major sources of heavy truck traffic nearby.

Grand Avenue is not an identified truck route. However, the presence of multiple businesses along the corridor segment are sources of occasional truck traffic for unloading of supplies.

PAVEMENT CONDITION

What is existing pavement condition?

Fairview Ave to Cambridge St: 33

Cambridge St to Macalester St: 51

Macalester St to Snelling Ave: 13 (Note: This segment received a thin bituminous overlay in 2020)

4.7 On-Street Parking

ON-STREET PARKING PHYSICALITY

Describe on-street parking elements: parking lane width, locations, metering, time restrictions, nearby permit parking.



Parking is permitted along both sides of Grand Avenue from Fairview Ave to Macalester St. There is no parking permitted through the Macalester campus.

Parking is restricted to 2 hours from 8 AM to 9 PM Monday through Friday for the majority of the corridor.

There are minor zones throughout the corridor with greater restrictions:

- 1 hour zone in front of Abbot Paint and Carpet and CVS near the Fairview Ave intersection.
- 15-minute zone in front of 1770 and 1764 Grand Ave.
- 15-minute zone in front of Dog Days Daycare and Boarding mid-block near Wheeler intersection.
- 30-minute zone in front of Johnson and Sons Florists and Flower at Wheeler St intersection.
- 15-minute zone in front of Frattallone's Ace Hardware at the corner of Cambridge St.

There is no marked parking lane, the distance from the left turn lane marking to the curb line is approximately 22 feet.

There is no nearby residential permit parking.

Parking is not permitted overnight on Mondays for street cleaning and following snow events.

SNOW STORAGE

Describe how snow storage is achieved.

Snow is stored along the boulevard zone.

PARKING UTILIZATION

Has Parking utilization been analyzed? Explain.

The proposed project may only eliminate less than a handful of parking space, however a parking study was performed to understand current utilization. Parking counts were conducted along the project extent during May and June of 2022. These counts included Grand Avenue and adjacent side streets and were conducted during the morning, afternoon and evening both during the week and the weekend.

Overall parking use is highest between Cambridge Street and Macalester Street, where the majority of business activity takes place through the project extent. Average parking use declines west of Cambridge Street.

Grand Ave Average Utilization by Segment:

- Fairview Ave – Wheeler St: 40% - peak utilization: 50% (weekday afternoon)
- Wheeler St – Cambridge St: 48% - peak utilization: 73% (weekend afternoon)
- Cambridge St – Macalester St: 65% - peak utilization: 93% (weekend afternoon)
- Macalester St – Snelling Ave: N/A (no parking allowed)

Grand Ave Average Utilization by timeframe:

- Morning Average: 25%



- Afternoon Average: 59%
- Evening Average: 57%

Total Corridor Average Utilization by timeframe (including side streets)

- Morning Average: 30%
- Afternoon Average: 44%
- Evening Average: 41%

ADDITIONAL PARKING CAPACITY

Describe additional parking on or near corridor (e.g. significant off-street parking facilities, available side street parking):

Patagonia and French Meadow bakery have a joint off-street parking facility on the northwest corner of the Macalester St intersection with 35 spaces.

CVS has a large off-street parking facility on the northeast corner of the Fairview intersection with 72 spaces.

Abbott Paint and Carpet has an off-street facility with 20 spaces.

There are smaller back-alley parking areas for other businesses, but none amount to more than 10 spaces per parcel. Total off-street parking through the project corridor is 355 spaces.

OTHER CURBSIDE USES

Describe any delivery/loading zones on the corridor and any other unique back of curb uses.

There are no designated loading zones along the corridor segment, businesses have back-alley access. However, the prevalence of businesses and multi-family buildings would indicate some usage of loading or unloading along Grand Ave, likely in the bi-directional left turning area.

Businesses utilize sidewalk ROW space for outdoor café seating and product display, weather permitting.

Within the Macalester College campus there are two bus pullout areas which existed prior to stop consolidation. These areas have been identified by Macalester staff and through observation as needed for on-campus use including loading and unloading for campus events and ride share drop off/pick up and deliveries.

4.8 Visibility

EXISTING STREET LIGHTING CONDITIONS

Describe existing street lighting. (e.g. twin lantern, wood pole, single globe lantern, etc.)

Grand Avenue is well-lit, featuring a mixture of twin-lantern fixtures and overhead lighting fixtures. The area is part of an above-standard lighting district.

EXISTING VISIBILITY CHALLENGES

Describe any known visibility challenges on the corridor (short sight lines due to intersection configurations or grades, shrubbery, etc.).



There are visibility challenges at intersections mainly related to parked vehicles and users crossing Grand. Grand Avenue is a highly parked corridor and within block segments that see the highest parking utilization motorists will typically park too close to the intersection and reduce visibility for crossing users including pedestrians, motorists and cyclists.

5. Proposed Improvements

5.1 Proposed Typical Section

Provide graphic(s) of proposed cross-sections (use streetmix.net or other graphic program). Include widths for all functions in the ROW. Describe where each cross-section is on the corridor if necessary.

The preferred concept layout proposes to narrow the overall curb-to-curb width from 55-feet to 48-feet through the project extent, the only exception to this width will be at the Route 63 bus stop area at the Grand Avenue and Snelling Avenue intersection where the curb-to-curb width will be 52-feet to accommodate increased bus dwelling time for the highest ridership stops on the route.

Overall typical features are listed below:

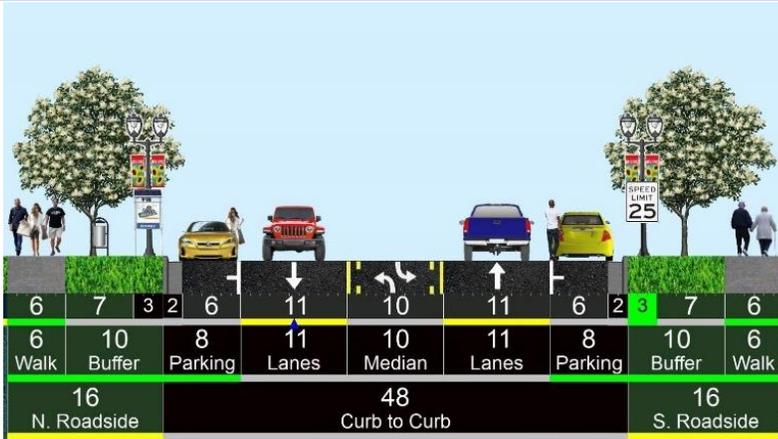
- Through-traffic lanes: 11-feet
- Center left turn lane: 10-feet
- Parking lane: 8-feet
- Boulevard: 10-feet (8-feet in high pedestrian traffic areas)
- Sidewalk: 6-feet (8-feet in high pedestrian traffic areas)

Through Macalester College features are listed below:

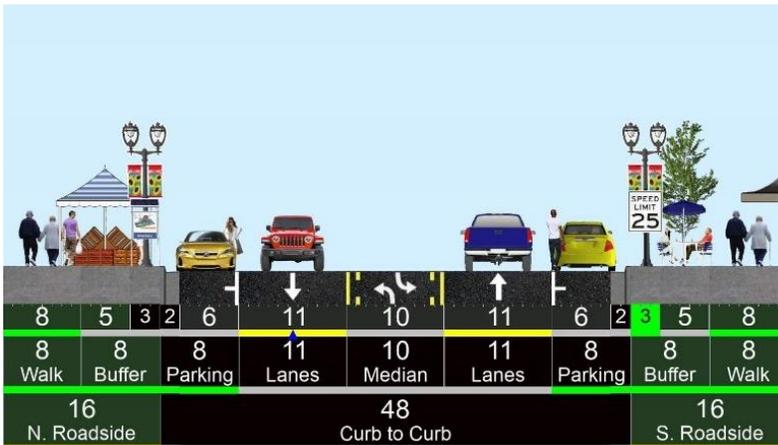
- Through-traffic lanes:
 - 14 feet (mid-block)
 - 11 feet (at intersections)
- Center median:
 - 8 feet landscaped median (mid-block)
 - 10 feet left turn lane (at intersections)
- Parking lane: N/A
- Boulevard: Varies (6 feet to 14 feet)
- Sidewalk: 8 feet

At intersections typical features are listed below:

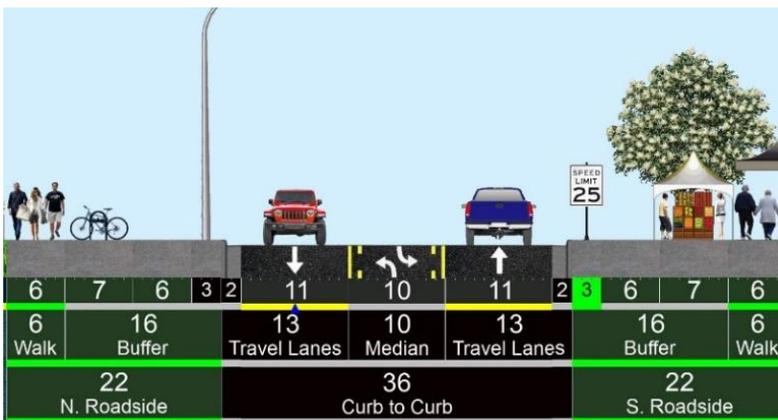
- Through-traffic lanes: 13 feet
- Center left turn lane: 10 feet
- Boulevard (including sidewalk extension): 16 feet
- Sidewalk: 6-feet (8 feet in commercial areas)



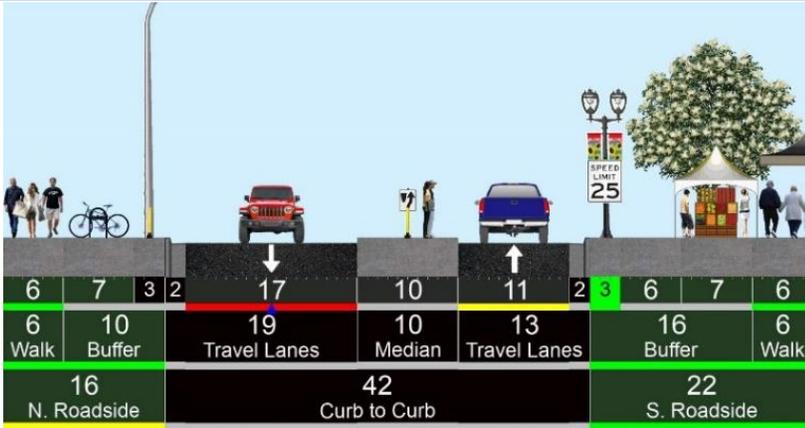
Typical mid-block section



Typical commercial mid-block section



Typical intersection with bumpouts



Cambridge Street intersection with pedestrian refuge island

MUNICIPAL STATE AID

Does your project involve minimum widths for travel lanes, bicycle lanes, or parking lanes as defined by Minnesota State Aid? If so, explain your design decision.

Yes, lane widths will conform with 11-foot recommended widths, parking lanes will conform with 8-foot recommended widths and the center turn lane will conform with a 10-foot minimum width per State Aid standards.

Grand Avenue is being proposed to be narrowed to 48 feet from curb-to-curb. This design will meet state aid standards due to the variety of users of the street today, including a high frequency bus route, local freight traffic and emergency vehicle use. Meeting state aid standards, while narrowing intersections further, allow for pedestrian safety improvements at legal crossing points, while also maintaining critical access for both residents and business along the street today.

5.2 Proposed Pedestrian Improvements

SIDEWALK CONNECTIVITY

*Will sidewalk be installed as part of this project (or existing sidewalk remain in place) running the entire length of the corridor on both sides of the street? **Yes / No***

If no, identify remaining gaps in sidewalk network and explain why they could not be addressed:

N/A – sidewalks currently extend the entirety of the project extent and will be replaced in-kind.

SIDEWALK SURFACE CONDITION

Describe any proposed improvements to the general condition of the sidewalk surface and the pedestrian zone.

6-foot sidewalks currently exist through the project extent. The proposal calls for replacing 6-foot sidewalks through most of project extent. Sidewalks will be widened to 8-feet in high pedestrian traffic segments between Cambridge St and Snelling Ave.

FRONTAGE ZONE OR BOULEVARD

Describe any changes or improvements to the frontage zone or boulevard/furnishings zone. Include a description of snow storage capacity.



Boulevard space will be expanded throughout the project extent. Between Fairview Avenue and Cambridge St, boulevard width will be widened to 10-feet. From Cambridge St to Macalester St, the boulevard will be 8-feet to provide additional sidewalk space for high pedestrian activity. Boulevard space within Macalester College will vary from 8-feet to 14-feet.

ADA COMPLIANCE

Describe how the project will address ADA compliance of curb ramps, alleys and driveways.

Curb ramps and pedestrian warning strips will be installed at every crossing point through the project extent. Bumpouts are proposed to be installed at every intersection, where feasible, which will allow for directional curb ramps for both crossing legs to be installed to improve ADA crossing needs. Additionally, the project proposing to install raised crossings at two midblock crossing points within Macalester College to maximize ADA improvements, facilitate high pedestrian volumes during school year, calm motor vehicle traffic through a high pedestrian volume area and provide visual enhancements for the campus setting.

CHANGES TO EXISTING ENHANCED CROSSINGS

List and describe proposed changes to crosswalk enhancements at any intersections in the project area, e.g. bumpouts, pedestrian refuge islands, RRFBs, HAWKS, marked crosswalks, enhanced marked crosswalks. Refer to the [Saint Paul Street Design Manual](#) (pg 142) to describe recommendations for removing, replacing, or adding crosswalk enhancements in the project corridor.

Fairview Avenue intersection: Bumpouts will be installed into Grand Ave at each quadrant. Improved block style crossing markings with improved visibility will be installed to improve on the existing parallel bar markings today.

Wheeler Street intersection: Bumpouts will be installed into Grand Ave at each quadrant. Pedestrian crossing study at this intersection did not observe crossing volumes high enough to warrant marked crossings.

Cambridge Street intersection: Bumpouts will be installed into Grand Ave at the southwest, southeast, and northeast quadrants. A pedestrian refuge island will be installed within the western leg of Grand Ave into the center turn lane area to facilitate student crossings to the adjacent Hidden River Jr High. Both legs of Grand Ave saw enough crossing volume to warrant marked crossings and will see high visibility block markings installed.

Macalester Street intersection: Bumpouts are already present at this intersection and will be maintained. Both legs of Grand Ave saw high volumes of pedestrian crossings to warrant marked crossings and will see high visibility block markings installed.

Macalester College midblock crossings: Currently there are 3 unmarked crossings which do not meet ADA accessibility standards. These crossings see extremely high pedestrian volumes throughout a typical day during the academic calendar. The project will reduce the number of crossing points to 2, but those crossings will be made legal crossings, meet ADA accessibility needs and widened to serve additional traffic from the closing of one of the crossing points.

Snelling Avenue intersection: Bumpouts will be installed into Grand Ave where possible. Bumpouts are proposed on the northern leg of Snelling Ave to match the existing A-Line station curb lines on the



southern leg of Snelling. Improved block style crossing markings with improved visibility will be installed to improve on the existing-colored pavement crossing marking found on the west leg of Grand Ave. Bumpouts will be installed on the northern quadrants of Snelling Ave to match A-Line station curb lines on the southern quadrants.

ALTERNATIVE CROSSINGS

Describe alternative pedestrian crossing enhancements that were considered and why the proposed facilities were selected.

Fairview Avenue intersection: Two options were considered and presented to the public – one option showed bumpouts at each intersection quadrant, the other with no bumpouts installed. The public response was significantly in favor of bumpouts at each quadrant. Additionally, Public Works staff took right turn counts to understand right turning vehicle use onto Fairview Avenue, this data showed that traffic flow will not be noticeably impacted by pushing right turns into the through lane on Grand Avenue.

Cambridge Street intersection: Three options were considered and presented to the public – the first option considered bumpouts at each intersection quadrant, the second option considered a pedestrian refuge island on the western leg of Grand Ave and bumpouts on the eastern intersection quadrants, the third option considered a full intersection closure for Cambridge Street motor vehicle traffic providing a center crossing island for pedestrians and cyclists while forcing motor vehicles to turn right onto Grand Avenue.

Ultimately option two was chosen as the preferred option as it provides enhanced safety for students walking to the adjacent Junior High School where crossing volumes are higher and business needs at this intersection dictate that space needs to exist for larger vehicle turning movements that supply the corner businesses and these businesses desire to see vehicle access maintained. On the west leg of the intersection, the northwest quadrant will not feature a bumpout in addition to the pedestrian refuge island to accommodate turning school bus needs from the adjacent Hidden River Jr High.

Option 2 provides both safety enhancements and also supports local businesses with maintained access.

Macalester College mid-block crossings: Five options were considered and presented to the public –

- the first option was to leave the crossings in place as non-legal crossings with necessary ADA accessibility upgrades.
- the second option considered the western crossing being improved to a legal crossing while leaving the other two crossings in place as non-legal, but ADA upgraded crossings.
- The third option considered closing the center mid-block crossing and improving the western and eastern crossings into legal crossings including being widened, improved signage and marking and ADA accessibility improvements.
- the fourth option considered closing the western and eastern crossings to consolidate into a major center crossing which would be improved into a legal crossing including being widened, improved crossing signage and markings and be raised in order to maximize ADA accessibility and safety for crossing pedestrians.



- The fifth option considered all improvements from the third option with an additional raised tabled feature for the whole of Grand Avenue between each crossing point.

Ultimately, a modified version of option five was chosen as the preferred option with the crossing points raised, but not tabling the entire stretch between the crossings. This was chosen as the public significantly favored raised features for Macalester’s campus crossings, extremely high pedestrian activity which warranted enhanced treatments to facilitate safe and orderly crossing, issues with road space delineation and reduced vehicle speed control, and drainage problems which would arise from a tabled street segment.

5.3 Proposed Bicycling Improvements

*Does the proposed design add or maintain a bicycling route along corridor? Yes / **No***

Grand Avenue is not identified for bicycle facilities in the city’s bike plan.

If along corridor, identify bicycling facility type, its dimensions, and the extent of the bicycle facility.

N/A

Describe gutter pan (if applicable) and storm grate type and widths in relationship to overall width of the bicycling facility:

N/A

How will snow storage impact the bicycling facility?

N/A

Bicycling improvement at intersections? E.g. bike boxes, bicycle signals, additional striping, etc.

N/A

Describe alternative bicycle accommodations that were considered and why the proposed facility was selected:

Grand Avenue has not been and will not be identified for explicit bicycle accommodations. Summit Avenue is currently undergoing a master planning process to improve the regional bicycle facilities along that corridor which is a block north of Grand Avenue and provides adequate bike access to Grand Avenue destinations. Bicycle riders may still use the street and traffic calming features present in the design will slow motor vehicles to increase the comfort of cyclists riding along Grand Avenue.

5.4 Summary of Motorized Transportation Improvements

Describe impacts to motorized street elements. List impacts of the proposed design compared to the existing condition and identify the reason the proposed design was selected.

Mode	Change from Existing Condition	Rationale for Change
Transit	Transit stopping locations will be reconfigured and additional space will be installed for waiting bus users.	To incorporate proposed bumpouts at intersections, bus stops will need to be moved slightly. This change is accounted for, and adequate space will be maintained.



Freight	Pedestrian crossing improvements will impact large vehicle turning radii	Grand Avenue features very high pedestrian volumes. Pedestrian safety is a high priority along corridor. Freight turning movements are being studied and will be ensured to maintain access for freight vehicles at certain intersections.
On-Street Parking	Pedestrian crossing improvements will involve minor impacts to parking. Parking lanes will be narrowed to 8-feet.	In order to improve sightlines and pedestrian crossing safety, intersections will feature bumpouts at all quadrants. This will have minor parking impacts near bus stops. 8-foot parking lane width is standard for new construction.
Travel Lanes	Narrowed to 11-feet.	Typically, new construction projects consider 11-foot standard for travel lanes and more than adequate to accommodate all vehicles utilizing the corridor.

5.5 Visibility

STREET LIGHTING

Describe proposed street lighting and how scale and orientation of lighting system supports non-motorized users (e.g. twin lantern, wood pole, single globe lantern, etc.):

Existing lighting along Grand Avenue consists of a combination of twin lantern style lighting that is more pedestrian scale along with standard overhead lighting. This condition will be maintained following reconstruction with a focus on improving lighting conditions near high volume pedestrian crossings as determined as necessary.