

Grand Avenue 2024 Reconstruction

Concept Plan and Location Options
Review



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Grand Avenue Reconstruction



Project Extent:
From Snelling Ave to
Fairview Ave intersection

The City has been awarded funds from MnDOT to include safety improvements and signal replacement for Snelling Ave



Background and context – Engagement Activities

Phase 1 engagement

- Multiple meetings with corridor stakeholders
 - Macalester College
 - Hidden River Jr High
 - Metro Transit
 - MnDOT
- Open House #1
- Public events held
 - At Macalester College
 - Along Grand Ave
 - Included corridor walk to connect with businesses
- Online Survey + interactive mapping
 - 260 general survey responses
 - 60 Macalester student survey responses
 - 150 interactive mapping tool responses
- 500+ members of the public engaged





Background and context – What We Have Heard

Key points of focus have come about from in-person engagement to date

- Overall
 - Vehicle speeds are too high through the corridor.
 - Road width is wider than necessary to accommodate existing vehicle needs.
 - Sidewalk width is inadequate for business patio seating/product display and high pedestrian traffic.
 - Crossing at any intersection does not feel safe.
 - Tree impact and survivability of trees along the corridor is a concern.
 - Business impacts need to be mitigated as much as possible during construction
- Macalester Campus
 - Current crossing situation is not ideal as it can be confusing for both pedestrians and motorists and lacks accessibility
 - Existing median works well both aesthetically and to slow vehicles
- Hidden River Jr. High
 - Cambridge St crossing inadequate for students crossing. Vehicle yielding is inconsistent and vehicle speeds on Grand are too high.
 - Pick up and drop off times can cause long vehicle queuing and unsafe driving behavior.



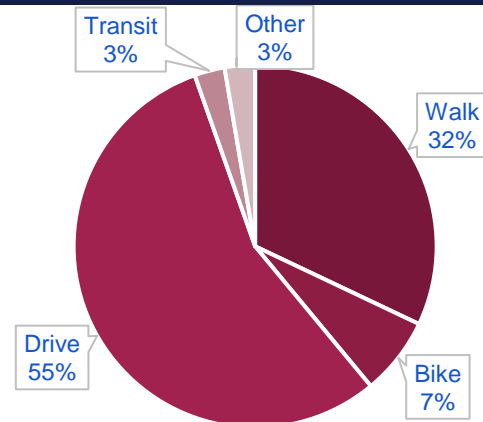
Background and context – What We Have Heard

Key takeaways from surveys

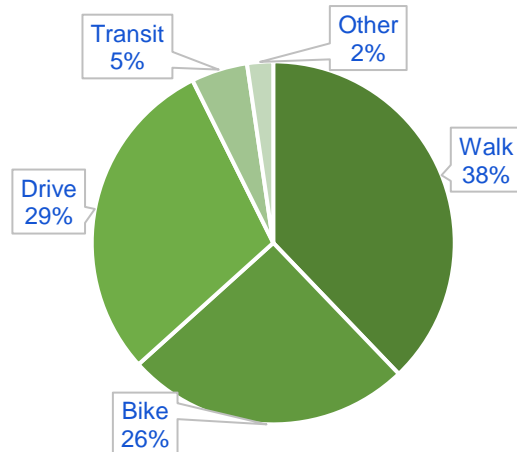
Survey respondents:

- Majority currently drive to, across or along corridor (55%) but would like to walk or bike (64%)
- Safety (28%) and pedestrian comfort (27%) are the most cited limiting factors to use or enjoyment of the corridor
- Safety and pedestrian use were the top two categories' respondents wanted to be addressed with this project
- Macalester students indicated that Grand Avenue is a barrier on campus, and that yielding and speeding are both the top two biggest issues crossing Grand

Q.3: With which mode do you *typically use* to travel along or across Grand Avenue?



Q.4: With which mode would you *prefer* use to travel along or across Grand Avenue?





Background and context – Additional Data

Conducted pedestrian crossing counts at each intersection and mid-block through Macalester in the project corridor.

- Pedestrian activity is highest at or near Macalester College.
- Hidden River Junior High drives high volumes of pedestrians across Grand, with 405 crossings on a school day and a peak crossing hour seeing nearly 100 crossings at 3 PM, the hour when school let out for the day.
- Pedestrian traffic falls significantly as one moves west down Grand, as residential density falls and the mixing of uses decreases.

*Full data can be found in engagement report on project website.



1,892 total crossings
212 peak hour (9AM)

988 total crossings
105 peak hour (6PM)

1,744 total crossings
174 peak hour (6PM)



Pedestrian Crossings



Cambridge St

West leg:
405 crossings
88 peak hour (3PM)
East leg:
101 crossings
20 peak hour (5PM)



Snelling Ave

West leg: 580 crossings
59 peak hour (1PM)
East leg: 595 crossings
72 peak hour (12PM)
North leg: 588 crossings
71 peak hour (1PM)
South leg: 805 crossings
88 peak hour (12PM)



Fairview Ave

West leg: 154 crossings
16 peak hour (7PM)
East leg: 182 crossings
21 peak hour (5PM)
North leg: 167 crossings
18 peak hour (7PM)
South leg: 192 crossings
17 peak hour (6PM)



Macalester St

West leg: 534 crossings
54 peak hour (12PM)
East leg: 552 crossings
55 peak hour (4PM)
North leg: 731 crossings
74 peak hour (3PM)
South leg: 707 crossings
74 peak hour (12PM)

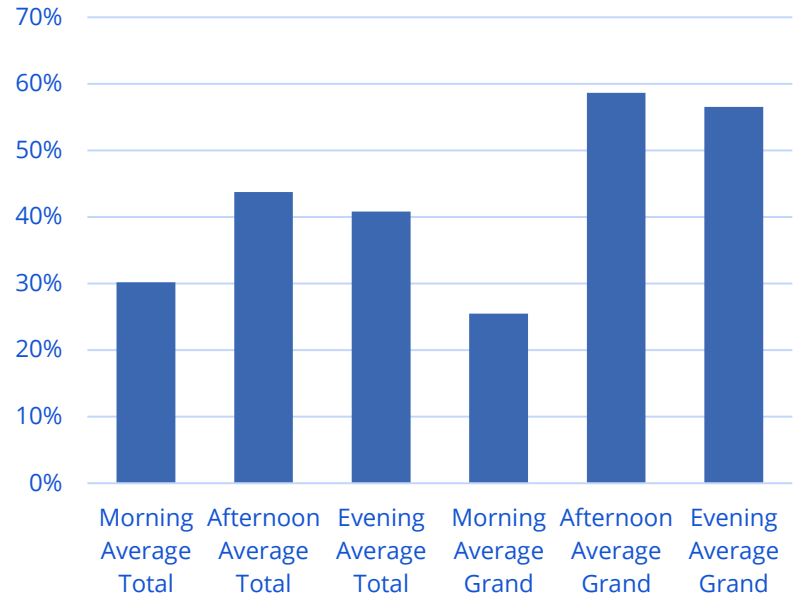


Parking Utilization

Conducted parking counts along Grand Avenue and along cross streets. Counts were conducted from early May to early June.

- Two counts were taken during each phase of the day during weekdays and weekends (morning 7-9 AM, afternoon 12-5 PM, and evening 6-8 PM).
- Grand Avenue has higher peaks in afternoon (59%) and evening (57%) occupancy than the corridor when including cross streets.
- Peaks in the afternoon time frame at 45% for the corridor as a whole and 59% for Grand Avenue.
- Evening average sees close to afternoon for occupancy.
- Morning occupancy is lower on Grand Ave (25%) than the corridor all together (30%).

Average Parking Occupancy



Total parking spaces in corridor

- Grand Ave: 134
- Cross streets: 132
- Off-street: 355

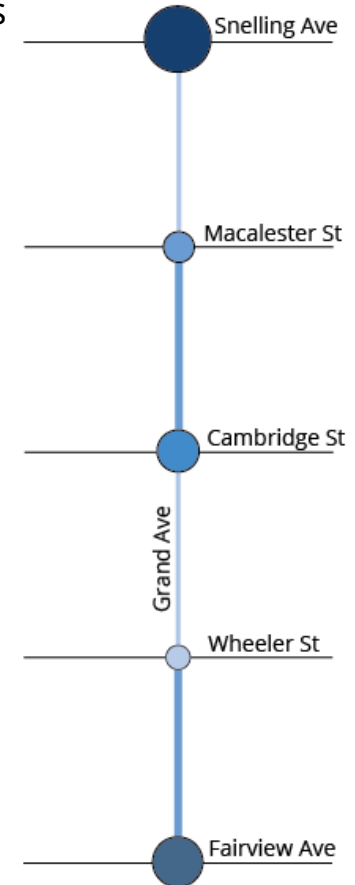


Crash Study

- Time frame: data collected for previous decade (2011-2021)
- Source: MnDOT's MnCMAT2 an archive for all reported vehicle crashes in the state via police reports
- Total incidents: 151 crashes
 - 8% of crashes involved pedestrians (9) or bicyclists (3).
 - The Snelling Avenue intersection saw the most crashes of any intersection or segment at 60.
 - Only one crash resulted in a fatality, a pedestrian at the Fairview Avenue intersection.
 - Six crashes resulted in injuries, 4 of those were pedestrians.

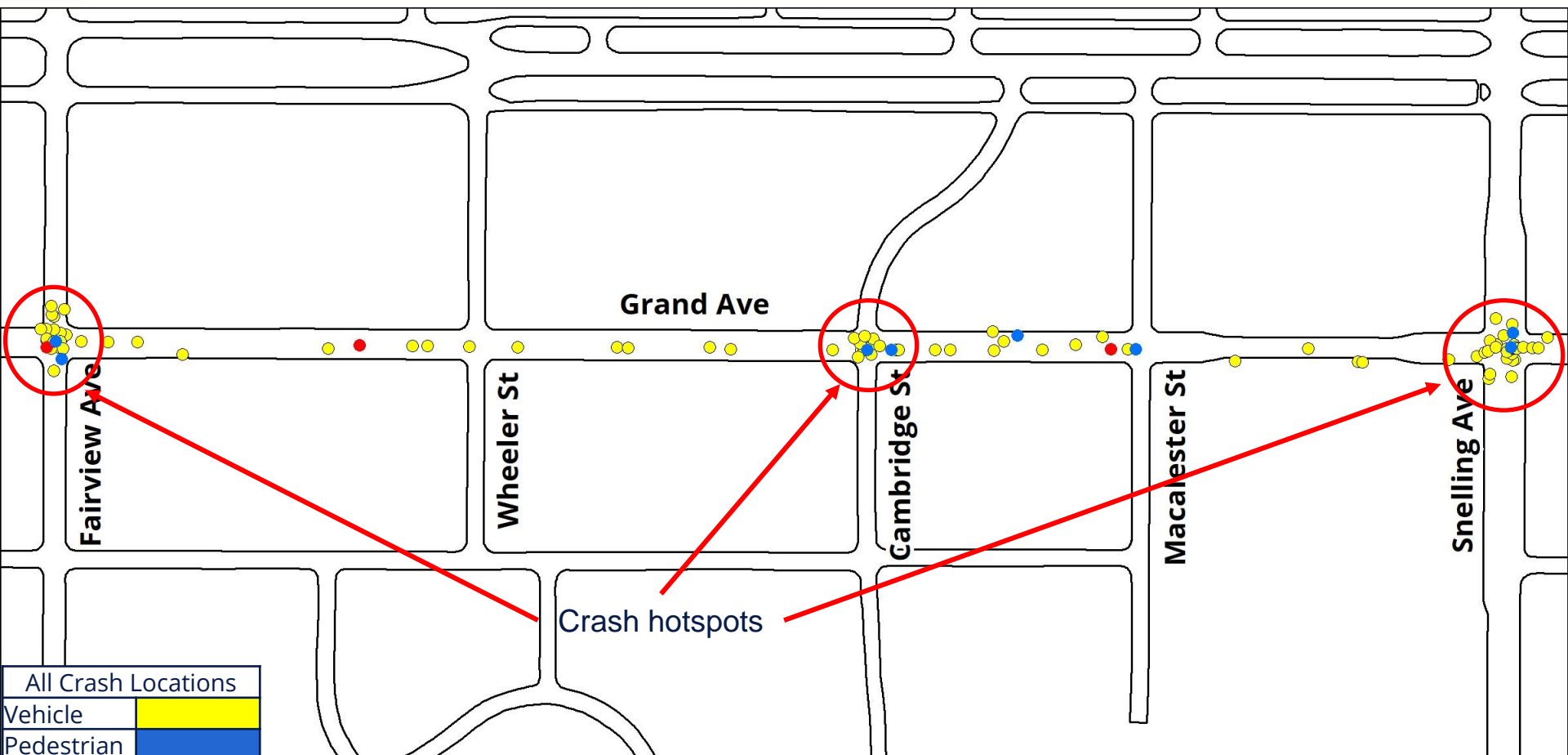
Crash locations

Number of Crashes by Intersection and Street Segment	
0-5	
5-15	
15-30	
30-50	
50+	





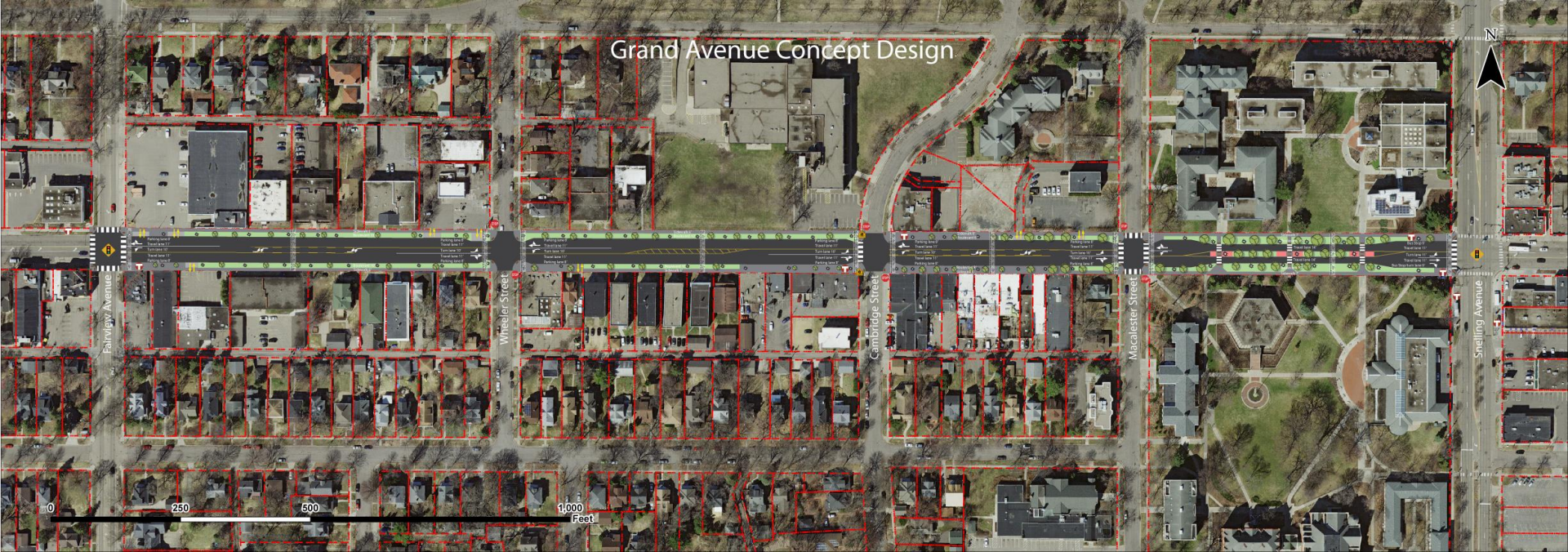
Crash Study – Crash hotspots



All Crash Locations	
Vehicle	Yellow
Pedestrian	Blue

Overall:

- Curb-to-curb width narrowed from 56 feet to 48 feet (8-foot roadway width reduction)
- Total non-vehicle space widened from 24 feet to 32 feet
- Bumpouts installed at non-signalized intersection narrowing crossing distance from 56 feet to 36 feet



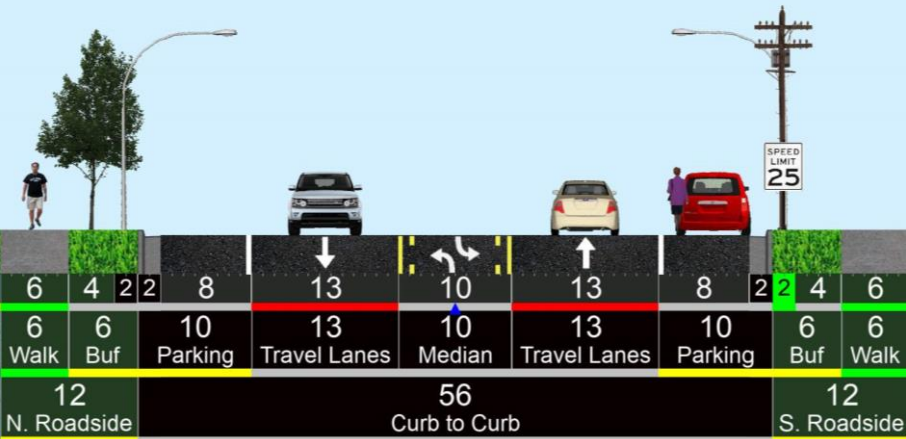


Concept Drawings + Review

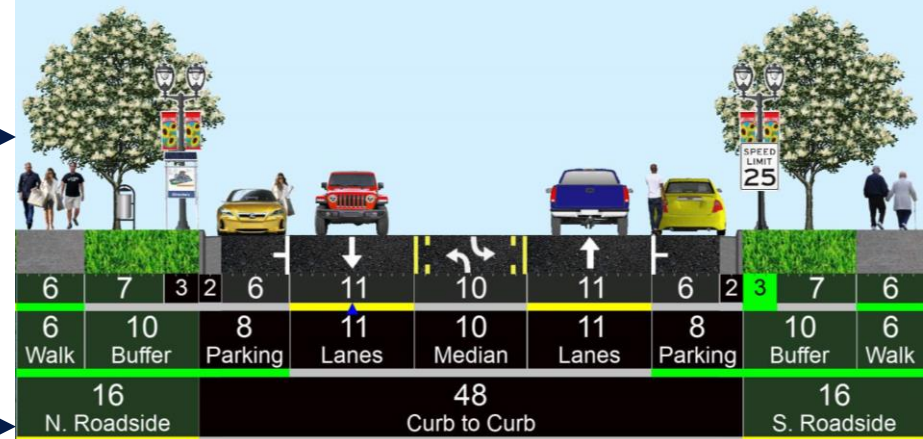
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Existing Typical Cross Section



Concept Typical Cross Section



Median Options:

- No median
 - Narrowed cross section
 - 10-foot boulevard
- Landscaped median
 - 11-foot turn lanes
 - 9-foot boulevard
 - Increased maintenance requirements
- Hardscaped median
 - Fit within existing turn lane space
 - Reduced maintenance requirements

Legend	
	Tree
	Crosswalk
	Street Light
	Bus Stop
	Parcel Line
	Roadway
	Sidewalk
	Driveway
	Green Space

Grand Avenue Design Concept Options

Grand Avenue No Median Option



Grand Avenue Median Option (hardscaped)



Grand Avenue Median Option (landscaped)



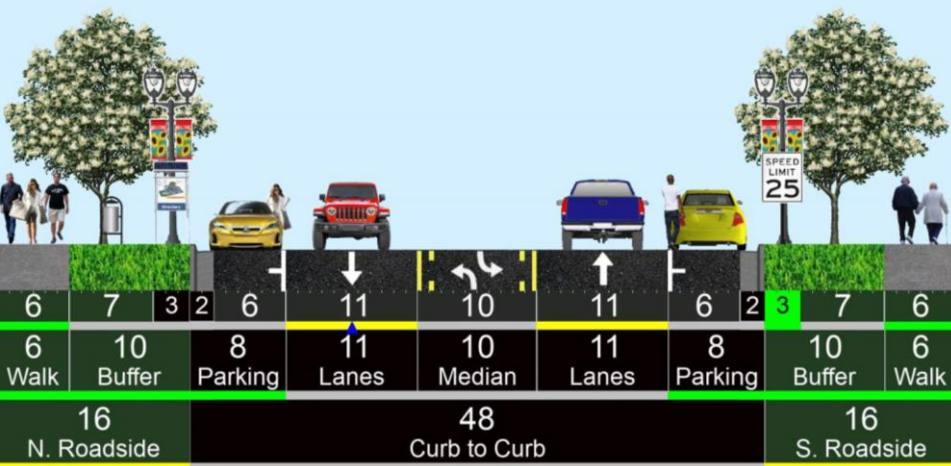


Concept Drawings + Review

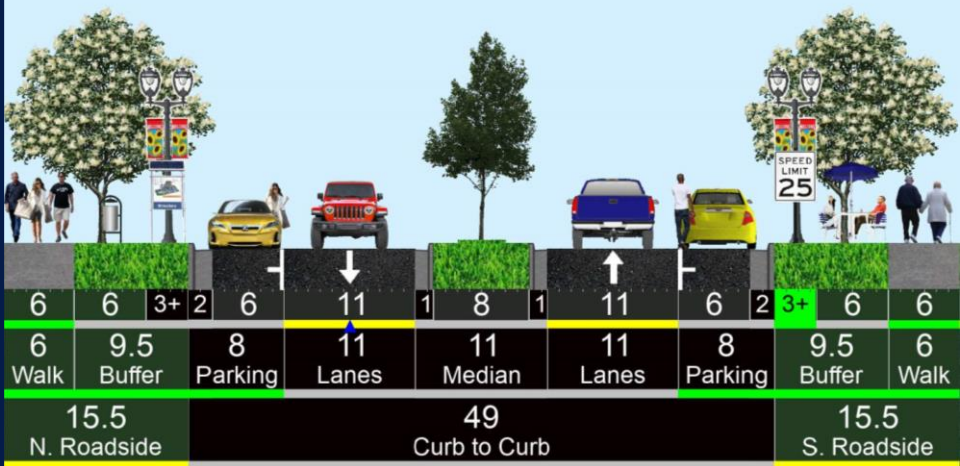
Median Options:

- No median
 - Narrowed cross section
 - 10-foot boulevard
- Hardscaped median
 - Fit within existing turn lane space
 - Reduced maintenance requirements
- Landscaped median
 - 11-foot turn lanes
 - 9-foot boulevard
 - Increased maintenance requirements

Concept design – no median

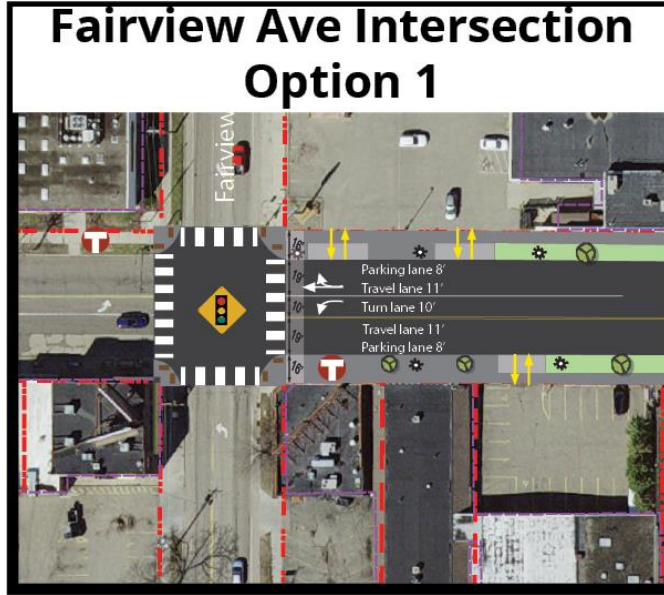


Concept design – landscaped median



Fairview Ave Options:

- No bumpouts
 - No traffic impacts
 - No bus stop impacts
- Bumpouts at each quadrant
 - Reduced crossing distance
 - 48' → 36'
 - Traffic impacts
 - Right turn space removed
 - Bus stop impacts
 - Moved 18'



Cambridge St Options:

- Option 1: Standard 6-foot bumpouts
 - Reduced crossing distance
 - 48 feet to 36 feet
 - No intersection operation impacts
 - Bus stop impacts
 - Moved 18'
- Option 2: Partial intersection median
 - Student crossing with median
 - 13' crossing & 19' crossing
 - Operation impacts
 - Left turn lane removed northbound to Cambridge St
- Option 3: Full intersection median
 - Median covers both crossing points
 - 13' crossing & 19' crossing
 - Operation impacts
 - Left turn lane removed
 - No vehicle through movement on Cambridge St
 - Bicycle boulevard improvements
 - Bike filtering through median

Cambridge St Intersection
Option 1



Cambridge St Intersection
Option 2



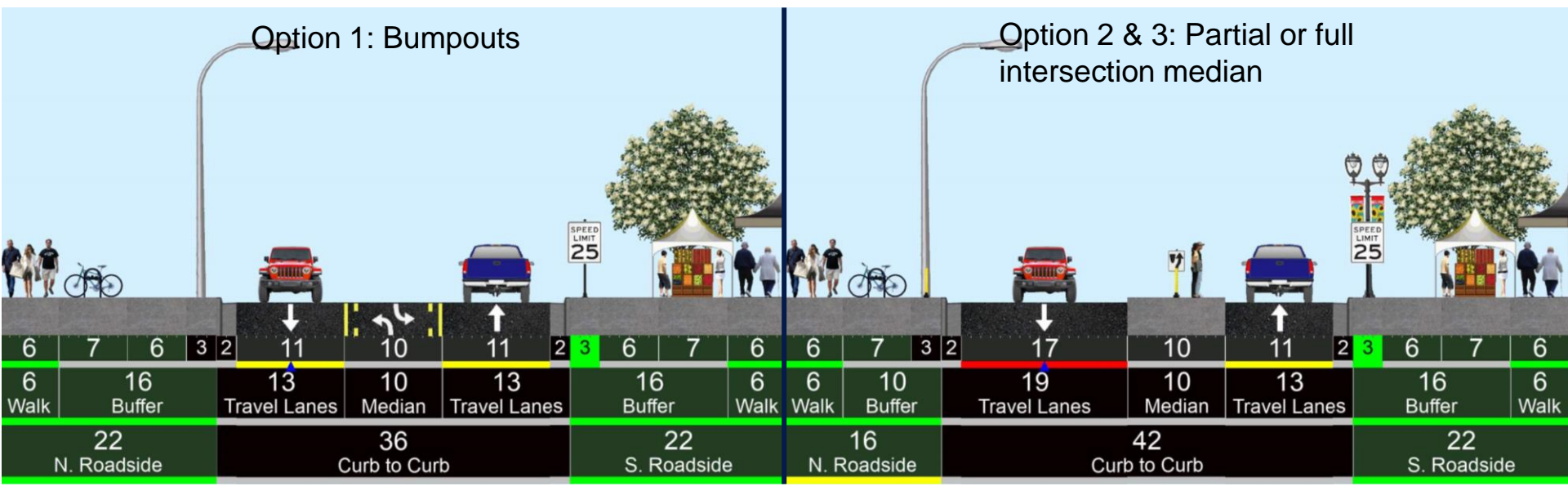
Cambridge St Intersection
Option 3





Concept Drawings + Review

Cambridge St Options:





Concept Drawings + Review

Macalester College Options:

- Option 1: Leave as-is with necessary improvements
 - Crossings remain as-is
 - Pedestrians yield to vehicles mid block
 - ADA improvements at crossing points
- Option 2: CIB Requested Improvements
 - West crossing – widened to 20 ft and formalized
 - ROW given to pedestrians
 - Markings – paint + stop bars + signage
 - Center + east crossings remain as-is
 - Consider marking crossings
 - ADA improvements at crossing points





Concept Drawings + Review

Macalester College Options:

- Option 3: Improved and consolidated crossings
 - East and west crossings widened and formalized
 - Stop bars, markings and signage to give pedestrians ROW
 - Center crossing closed
 - ADA improvements at crossing points
- Option 4: Centerpiece crossing
 - Center crossing improved to large centerpiece crossing with enhanced design
 - Stop bars, markings and traffic signal to give pedestrians ROW
 - Consider raised feature
 - East and west crossings closed
 - ADA improvements at crossing point

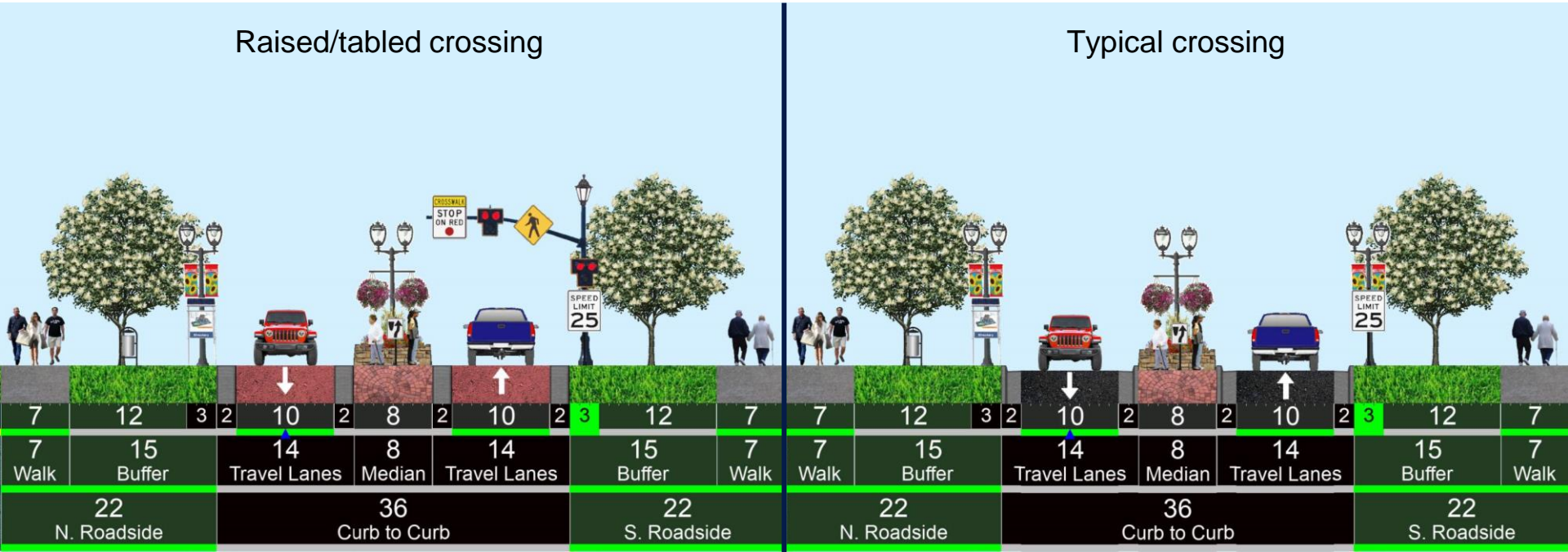


Macalester College Options:

- Option 5: Tabled crossing
 - Roadway surface raised to meet the top of the curb between crossing points
 - Pedestrian crossings level with the roadway
 - East and west crossings widened and formalized
 - Stop bars, markings and signage to give pedestrians ROW
 - Center crossing removed



Macalester College Options:





Further Upcoming Engagement

Public Open House

Wednesday September 28th at 5:30 PM to 7:00 PM

St Paul Planning Commission Transportation Committee

Date: October 3rd at 4:30 PM

Macalester College Open House

Date: Tuesday October 4th at 4:00 PM to 5:00 PM

Macalester Groveland Business Round Table

Date: October 18th at 8:00 AM



Project Timeline

Engagement
Begin - 2022

Preferred Alternative
Review + Approval - 2023

Construction
Start - 2024

Phase 1

Phase 2

Final and Construction design

Phase 2: July-November engagement (produce and review concept design + options)

- July-August – concept and options produced and vetted internally
- September – open survey for concept and location options
- September-November – share concept and location options with public, hold conversations and review

Preferred alternative will be formulated from public feedback / internal discussions

- Additional engagement will be done for preferred concept

Final design and construction

- City staff create construction designs in 2023
- Project will begin in 2024
 - Projected to conclude by end of 2024



Online Resources

Public Works is seeking public review and feedback on concept design and location options

The concept design and location options with an adjoining survey to get respondents preferences can be found at: www.stpaul.gov/grandavenue

Any further questions or comments can be sent to
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