

SUMMIT AVENUE REGIONAL TRAIL PLAN

PARKS AND RECREATION COMMISSION

APRIL 13TH, 2023



Review Process



SAINT PAUL
MINNESOTA



SUMMIT AVENUE REGIONAL TRAIL



EAST - WEST
connection across the city



SAINT PAUL
MINNESOTA



SAINT PAUL
Parks and Recreation



BOLTON
& MENK

SUMMIT AVENUE REGIONAL TRAIL PLAN

Why is this being considered + why now?

1

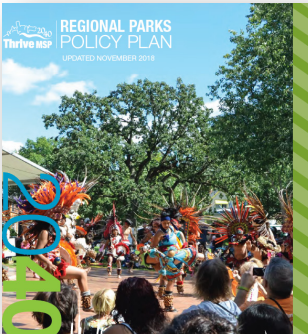
Long-range
planning

2

User
Experience

3

Existing
Infrastructure



BICYCLIST DESIGN USER PROFILES

Interested but Concerned

51%-56% of the total population

Often not comfortable with bike lanes, may bike on sidewalks even if bike lanes are provided; prefer off-street or separated bicycle facilities or quiet or traffic-calmed residential roads. May not bike at all if bicycle facilities do not meet needs for perceived comfort.

Somewhat Confident

5-9% of the total population

Generally prefer more separated facilities, but are comfortable riding in bicycle lanes or on paved shoulders if need be.

Highly Confident

4-7% of the total population

Comfortable riding with traffic; will use roads without bike lanes.



LOW STRESS TOLERANCE

HIGH STRESS TOLERANCE

Note: the percentages above reflect only adults who have stated an interest in bicycling.

Source: U.S. Department of Transportation - Federal Highway Administration Bikeway Selection Guide, 2019



Existing Bicycle Lanes



The Roadway



Many segments of Summit Avenue have not been reconstructed for more than 100 years.

Over time, roadways need to be reconstructed to replace aging infrastructure, this includes underground utilities, roadway base structure and surface, lighting, curb & gutter and sidewalks.

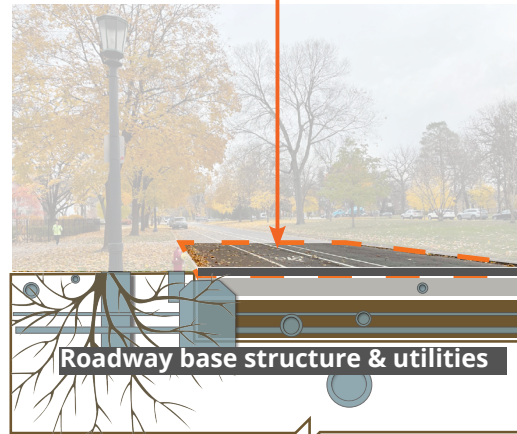
Improvements

Near-Term (2-3 yr.)

- Surface treatments
 - Lexington to Victoria
 - Portions west of Snelling
- Maintains existing bike lanes
- Funded for construction

Long-Term (Phased process, ~10-15+ yr)

- Roadway Reconstruction
- Regional Trail Facility
- NOT funded for construction



ROADWAY Composition & Construction

SURFACE IMPROVEMENTS
Occurs every 8-10 years*



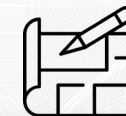
STREET RECONSTRUCTION
Occurs every 50-100 years*

*Specific scope and timing of roadway construction projects vary depending on existing conditions and funding availability

How does this relate to a trail facility?



The most cost-effective opportunities to add pedestrian and bicycle improvements come when roads are being fully redesigned.



Separated Trail Facility

Industry Best-Practices, Recommended Facility

This table outlines current best practices for bicycle facilities based on traffic volumes. Based on the existing annual average daily traffic counts on Summit Avenue, the majority of the corridor falls into the >6,500 vehicles per day category. The segment from Ramsey St to John Ireland Blvd is 3,900 vehicles per day.

Roadway Traffic Volume (vehicles per day)	Posted Roadway Speed	Recommended Facility Type		
		FHWA Bikeway Selection Guide	MnDOT Bicycle Facility Design Manual	NACTO Designing for All Ages and Abilities
< 3,000	25-30 mph	Shared Roadway or Bike Boulevard	Shared Roadway or Bike Boulevard	Bike Boulevard (<25 mph)
3,000-6,500	25-30 mph	Bike Lane (buffer preferred)	Bike Lane (buffer preferred)	Bike Lane (<6,000 AADT and <25 mph)
>6,500	25-30 mph	Separated Bike Lane or Sidepath	Separated Bike Lane or Sidepath	Separated Bike Lane or Sidepath

Fig. 4-33 | Recommended Facility Types



Community Engagement



1,316

Survey Participants
Engage Saint Paul Site
10/01/2021 - 10/17/2022

119

Public Information Session*
June 2022 - 30% design update
* Figure reflects registered participants

289

Community Open House*
October 2022
* Figure reflects registered participants

593

Comments received
60% Draft Document - Engage Saint Paul

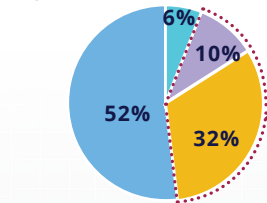
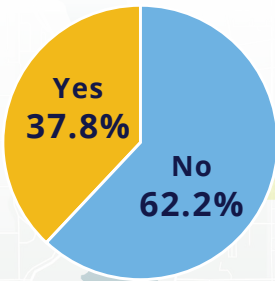
720

Comments received
90% Draft Document - Engage Saint Paul

Focused Engagement Surveys

Do you currently use the on-street bikeways on Summit Avenue?

If you answered no, why not?



42% of those who do not currently use the bikeways on Summit, indicated either accessibility or the on-street bikeway experience as a barrier to their use.

- Location/Proximity - I don't travel or connect to places near Summit Avenue
- Safety/Comfort/Experience - Biking on-street does not feel safe to me
- Accessibility - Bikeway is not ADA accessible or I do not have a bicycle
- Interest - I am not interested in biking



How has engagement informed the Regional Trail Plan?



• Tree preservation

- Disturbance utilizes roadway footprint
- Framework for constrained conditions when needed

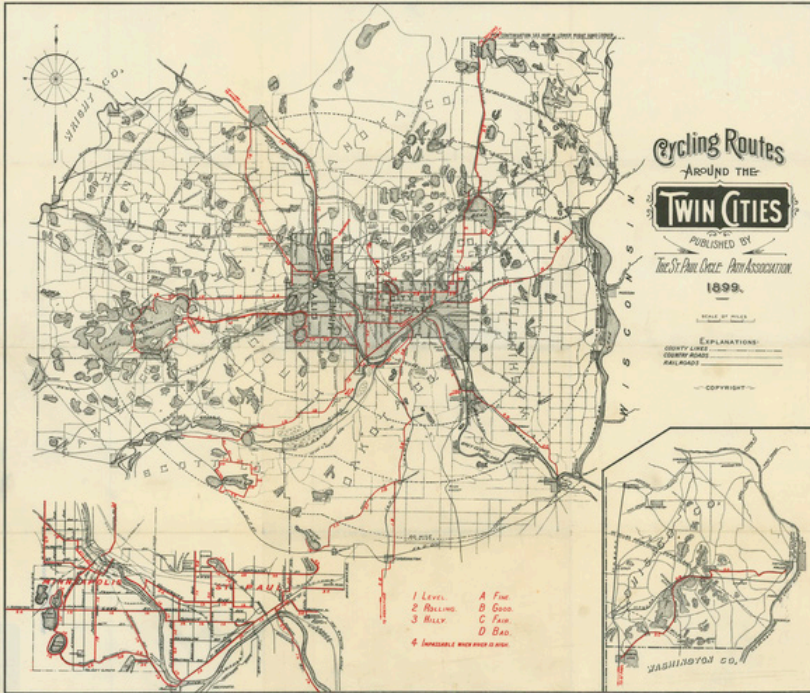
• Safety & User Experience

- Physical separation
- Removes two-way trail & contra-flow
- Intersection toolkit

• Historical Significance

- Roadway footprint reflects travelway
- Patterns and symmetry
- Future formal SHPO and HPC reviews

Recreational Planning



CITY OF ST. PAUL - DEPT. of COMMUNITY SERVICES - DIVISION of PARKS and RECREATION

recreational path:

No additional paths or walks will be installed on the residential side of MRB. A continuous hard surface path will be installed on the bluff side of the boulevard.

- TYPE: Combined pedestrian/bike casual recreational path.
- LOCATIONS: The path will be continuous the length of the parkway and located on the bluff side to take advantage of the river corridor's scenic quality.
- WIDTH: Typically 8' 0" but narrower where limited space exists. Separated pedestrian/bike paths where space permits adjacent the Ford Motor Co.
- MATERIAL: Bituminous pavement with an earthtone color crushed gravel surface (seal coat).
- OTHER CONSIDERATIONS: A turf boulevard strip will be provided between the path and the roadway wherever possible as an aesthetic and protective buffer and for utilities, park furnishings, trees, and snow storage. The provision of a boulevard will take precedence over path width. The path will be reduced in width up to a minimum of 4' 0" to accommodate the boulevard.



MRB at MAGOFFIN AVE.



MRB NORTH of SHADOW FALLS



Council File # 93-793
Green Sheet # 23334

RESOLUTION CITY OF SAINT PAUL, MINNESOTA

Presented By _____
Referred To _____ Committee: Date _____

WHEREAS, the quality of our urban environment requires that the City address the problems associated with pollution from automobile emissions; and

WHEREAS, carbon dioxide and carbon monoxide emissions can be reduced by using alternative forms of transportation; and

WHEREAS, bicycling emits no undesirable emissions as well as being a popular commuting and recreational activity for many residents of the City of Saint Paul; and

WHEREAS, Summit Avenue is a popular bicycling route due to its continuity between Mississippi River Blvd. and the Capitol/Downtown area as well as its aesthetic appeal; and

WHEREAS, the Public Works Department placed a bicycle test section on Summit Avenue between Mississippi River Blvd. and Wheeler St. in August, 1992; and

WHEREAS, two neighborhood meetings and hundreds of calls to the Citizen Service office have indicated popular acceptance to the concept; and

WHEREAS, Public Works has observed no operational problems and an early indication of



SAINT PAUL
MINNESOTA



SAINT PAUL
Parks and Recreation



BOLTON
& MENK

Summit Avenue Corridor



Roadway construction near Summit Avenue and Grotto, 1915
Credit: Minnesota Historical Society



View of Summit Ave. looking west, circa 1900
Credit: Minnesota Historical Society



View of Summit Ave from rooftop, looking northwest, circa 1900
Credit: Minnesota Historical Society

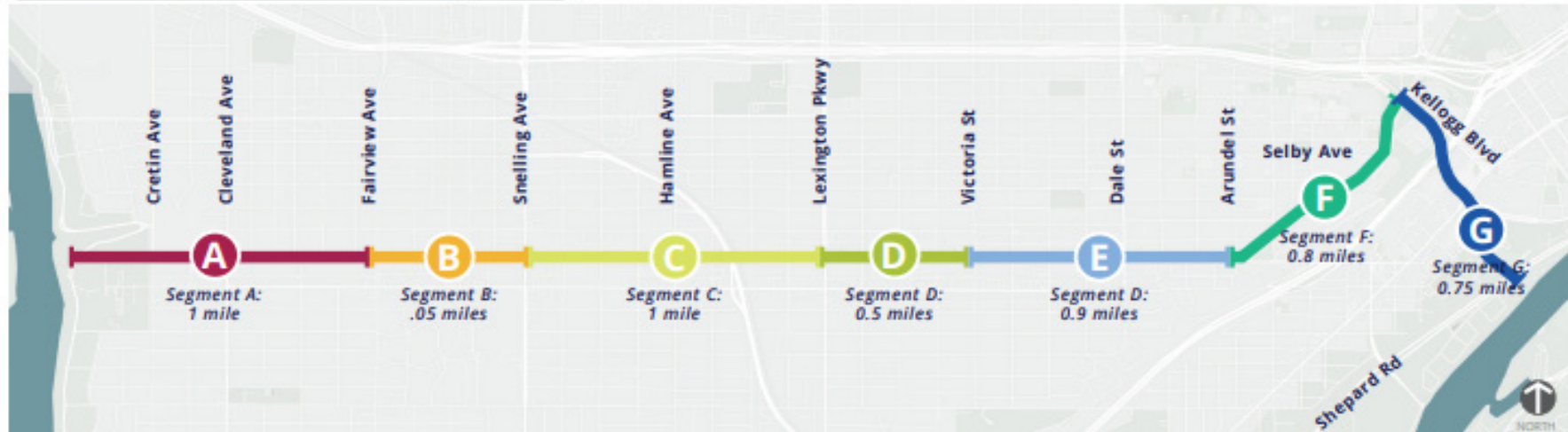
Consistency & Adaptability

- Wide Public Right-of-Way & Parkway Design
- Expansive, park-like Green Spaces
- Pattern and Rhythm of Landscape and Public Space
- Materials & Movement
 - Pavements
 - Walkways
 - Bikeways



Corridor Layout

Summit Avenue Corridor Segments



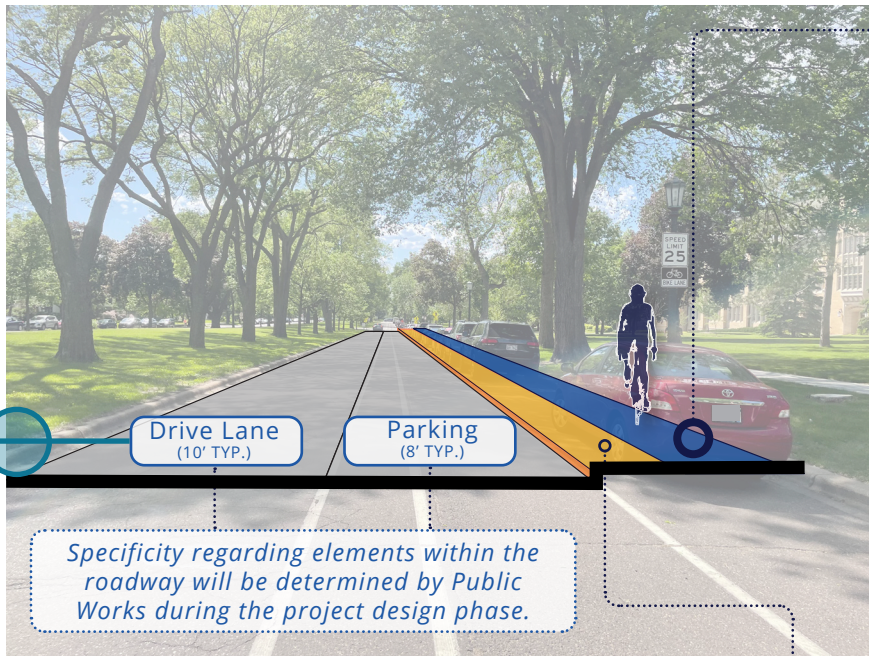
Preferred Proposed Corridor-wide Trail Alignment



Legend

- Proposed Bike Facility - Two One-Way Facilities
- Proposed Bike Facility - One Two-Way Facility
(Kellogg & Eagle Parkway)

Proposed Components of the Transportation Envelope



1'-2'
Curb
reaction

Drive Lane
(10' TYP.)

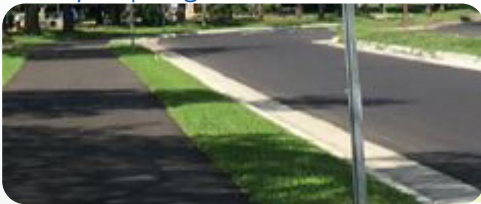
Parking
(8' TYP.)

Specificity regarding elements within the roadway will be determined by Public Works during the project design phase.

Example | Paved Buffer:



Example | Vegetated Buffer:



Buffer

recommended width: **4'**
minimum width: **2'clear**



One-Way
Trail Facility

OR

Two-Way
Trail Facility

recommended width: **8'**
minimum width: **7'**
constrained condition: **6'**



Kellogg and Eagle Pkwy only

recommended width: **14'**
minimum
width: **12'**



- Familiar to drivers and current users of the Summit Avenue bike lanes
- Easier to maintain consistent facility through project implementation
- Predictable movement between modes at intersections and transition points
- Easier and less costly to maintain
- Smaller overall facility - easier to implement in existing roadway with limited impact
- Align with City and other policy recommendations



Note: all facility dimensions to be verified at the time of design and implementation

Drive Lane Widths & Design Minimums



10' recommended for traffic calming
(Requires 1'-2' curb reactions, i.e. 11'-12')



1

Sidewalks

Variable widths, 6'-10'

2

Amenity Areas

Space for rest, furnishings

3

One-Way Trail

Grade Separated

4

Buffer

Grass

5

**Vehicle
Corridor**

6

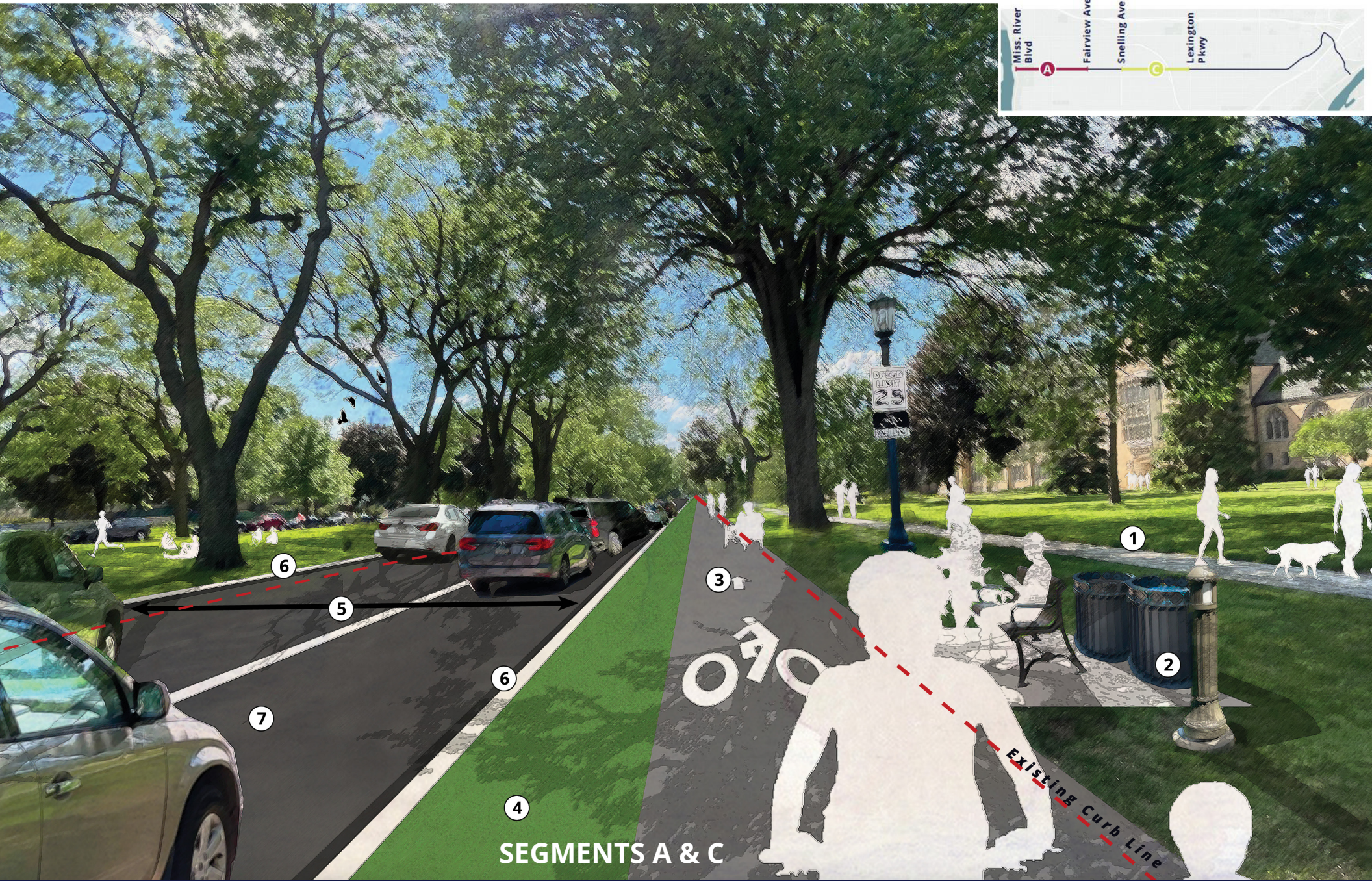
Curb

6" Height

7

Parking

On-Street



SEGMENTS A & C

1

Sidewalks

Variable widths, 6'-10'

2

One-Way Trail

Grade Separated

3

Buffer

Paved

4

**Vehicle
Corridor**

5

Curb

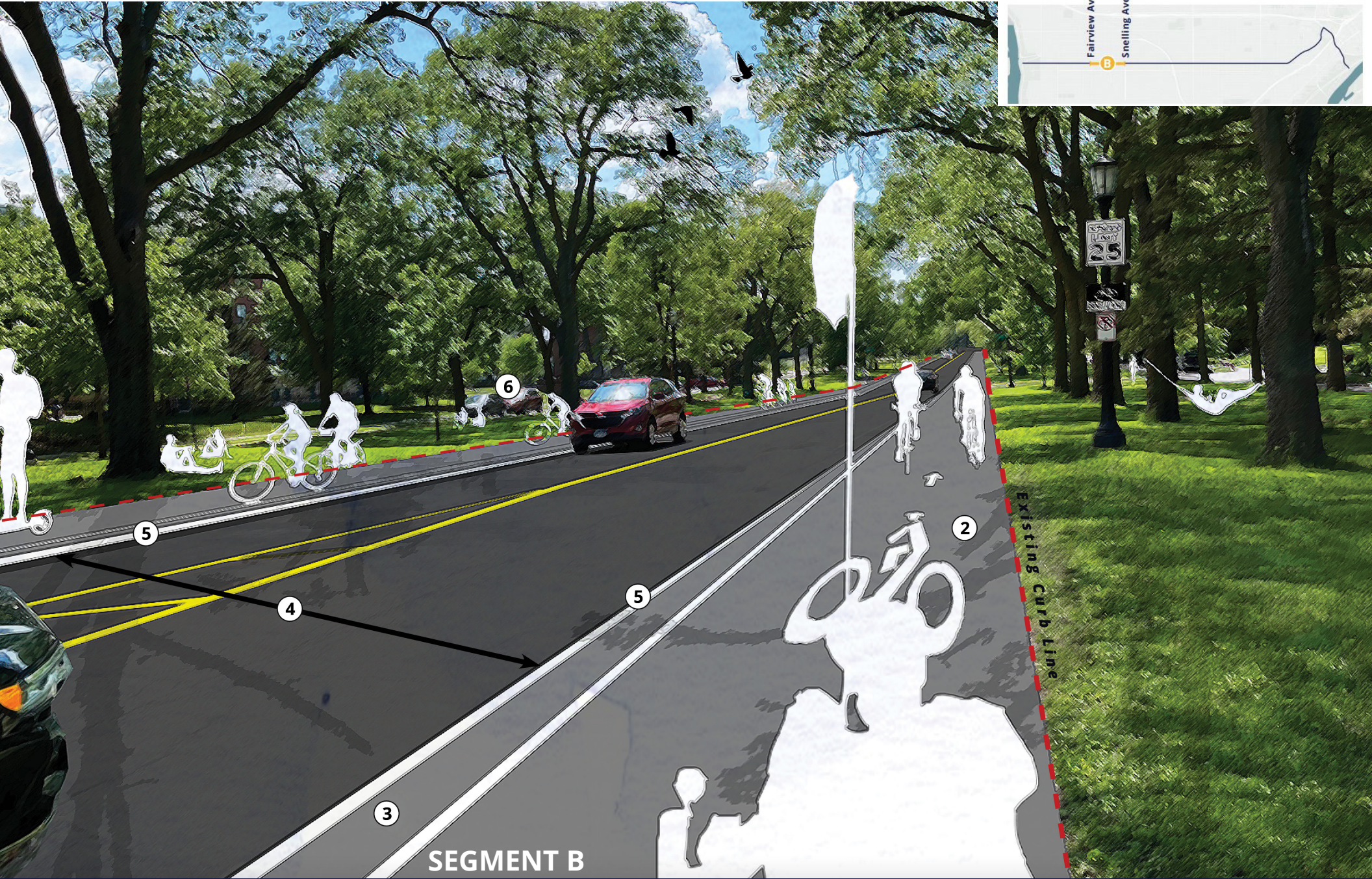
6" Height

6

Parking

Frontage Roads

Fairview Ave
Snelling Ave



SEGMENT B

①

Sidewalks

Variable widths, 6'-10'

②

Tabled Crossing

Trail and sidewalk raised 6" above street level

③

One-Way Trail

Grade Separated

④

Buffer

Paved

⑤

Vehicle Corridor

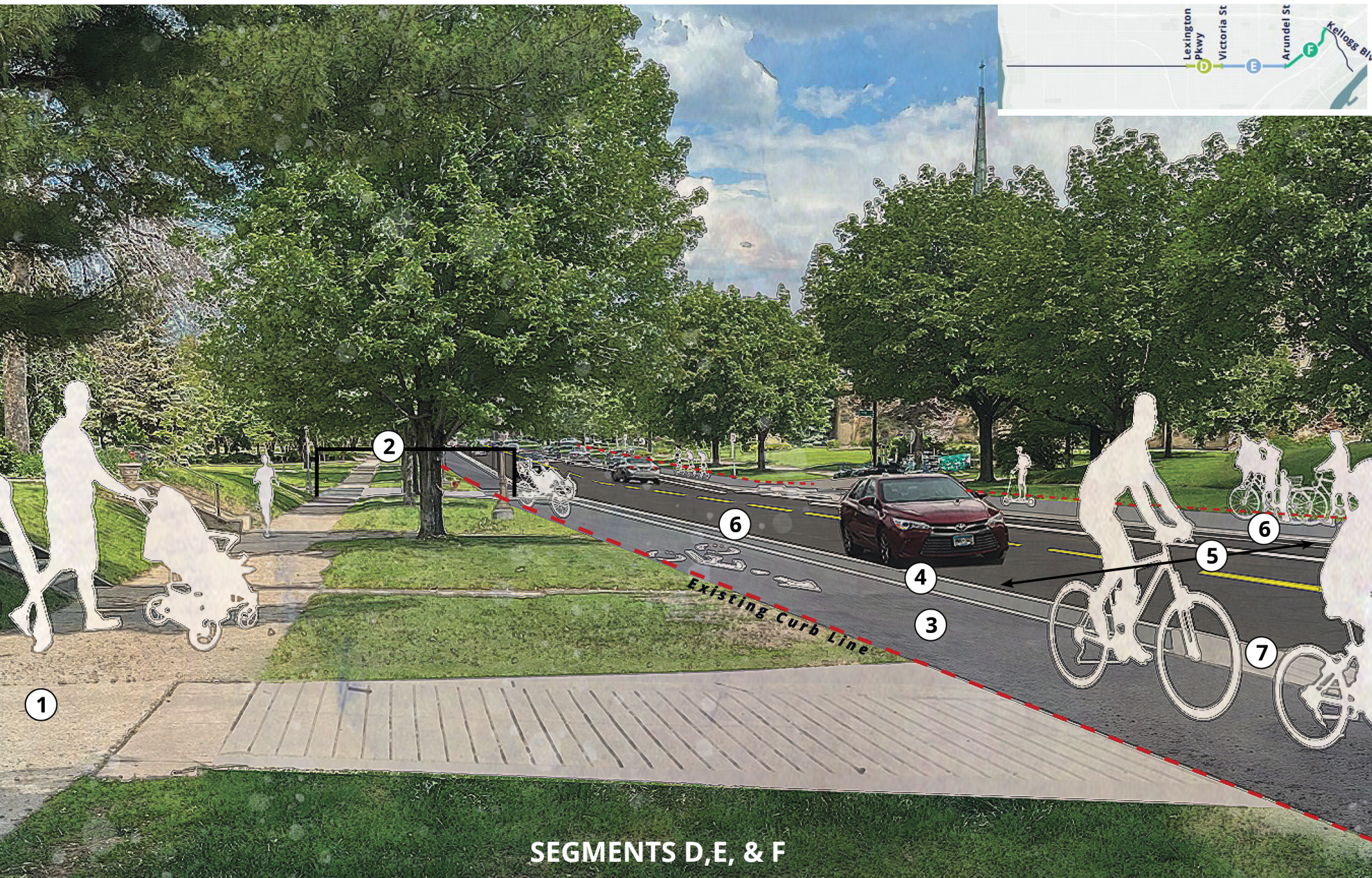
⑥

Curb

6" Height

⑦

Driveway Apron



SEGMENTS D, E, & F

Historic Lens

Engagement & Review Processes

• Plan Development

Technical Advisory Committee (TAC)

Staff from Heritage Preservation Commission (HPC) and State Historic Preservation Office (SHPO) are invited to participate in TAC meetings to provide guidance and initial feedback

BEYOND THE PLAN PROJECT UNDERTAKING | SECTION 106

• Design & Engineering

Formal Review

Depending on funding sources, Local, State, and Federal Review Processes Apply

Any undertaking identified in the National Historic Preservation Act (NHPA) as a project, activity, or program that is funded in whole or in part with federal financial assistance requires that affects to designated or potentially eligible structures are identified and assessed

Departure from the typical section would be determined during design and engineering, constrained conditions could remove parking or reduce paved surface dimensions as a way to adapt to site conditions within the roadway.

• PARKING

• PAVED TREADWAY

- ① Sidewalks
Variable widths, 6'-10'
- ② Amenity Areas
Space for rest, furnishings
- ③ One-Way Trail
Grade Separated
- ④ Buffer
Grass
- ⑤ Vehicle Corridor
- ⑥ Curb
6" Height
- ⑦ Parking
On-Street



Evaluating Potential Tree Impacts

Risk to trees is highly variable depending on specific site conditions, health of tree, and tree species.

Potential risk to trees was evaluated for corridor-wide concepts based on proximity of root zones to curb lines. In this study, approximately 8%-15% of the trees in the Summit Avenue corridor could be considered highly vulnerable to construction. Specific impacts and tree preservation strategies are beyond the scope of the Summit Avenue Regional Trail Plan, and will be evaluated during the design and engineering phases of the project.

NOTE: Study was reflective of current conditions and data at the time of evaluation and is subject to change. **Survey data corridor-wide is not available at this time.**



Urban Forestry | Context

- 448** Trees removed along Summit Avenue from 2009 - 2022
- 15%** Average percentage of trees impacted after street reconstruction
*Derived from three case studies of City of Saint Paul street reconstruction projects from 2011, 2014, 2015
- 1:1** Tree Replacement practice. Importance of diversity, both age and species

Existing Condition - Baseline for street reconstruction

Existing Condition

- 1,561 Tree Corridor-Wide
- 132 High Vulnerability Trees (8% of total)



Proposed Trail Concepts

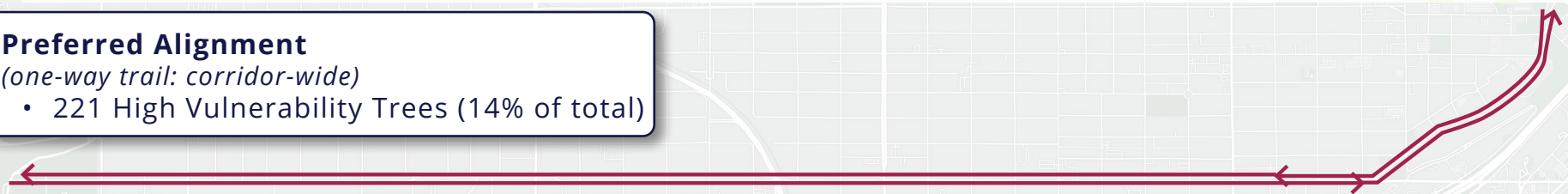
Legend

 One-Way Trail Facilities

Preferred Alignment

(one-way trail: corridor-wide)

- 221 High Vulnerability Trees (14% of total)



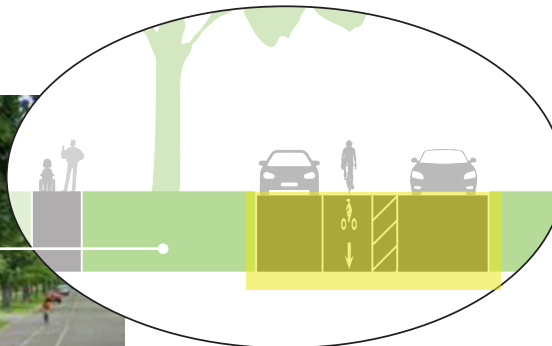
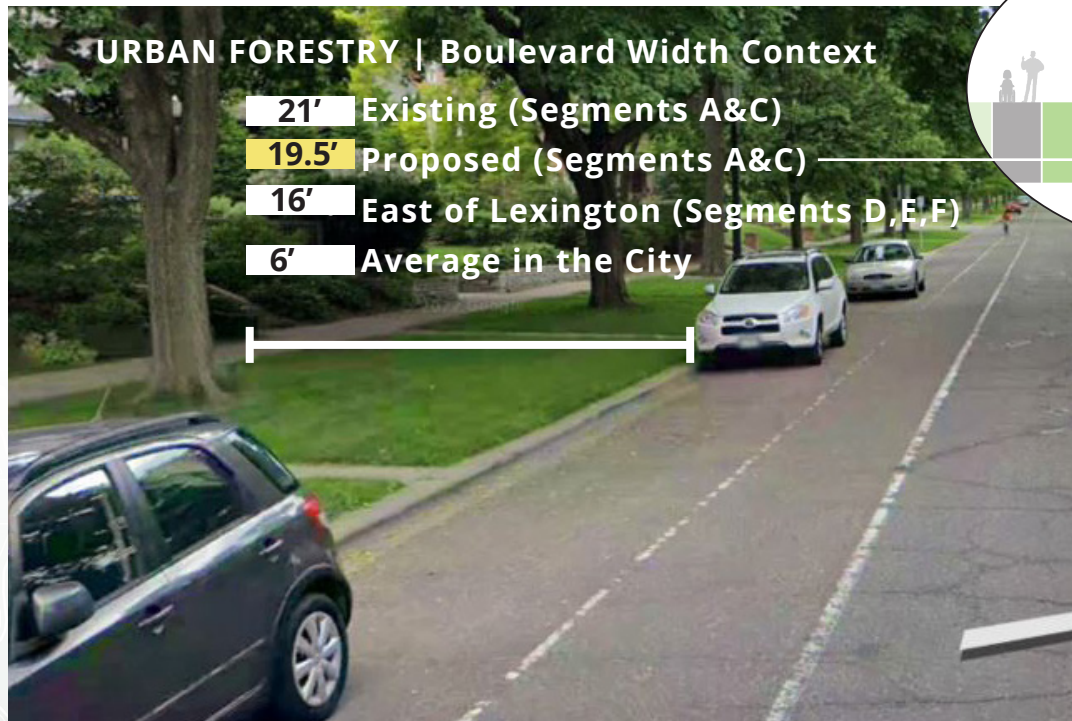
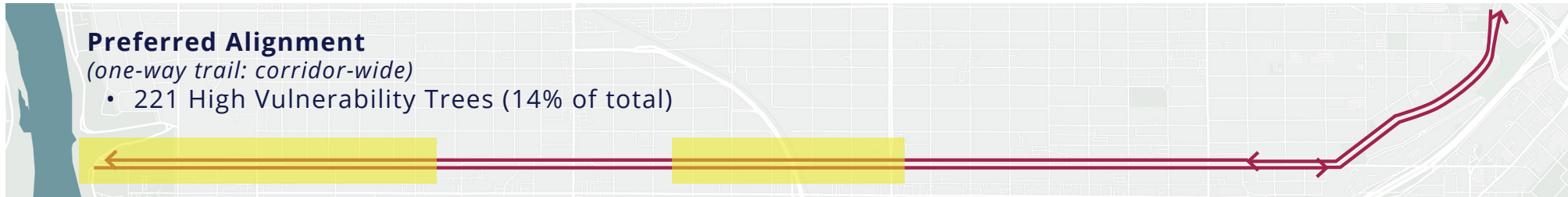
Evaluating Potential Tree Impacts

Risk to trees is highly variable depending on specific site conditions, health of tree, and tree species.

Potential risk to trees was evaluated for corridor-wide concepts based on proximity of root zones to curb lines. In this study, approximately 8%-15% of the trees in the Summit Avenue corridor could be considered highly vulnerable to construction. Specific impacts and tree preservation strategies are beyond the scope of the Summit Avenue Regional Trail Plan, and will be evaluated during the design and engineering phases of the project.

NOTE: Study was reflective of current conditions and data at the time of evaluation and is subject to change. **Survey data corridor-wide is not available at this time.**

Proposed Trail Concepts



SEGMENTS A & C

- Proposed envelope (road + trail) = 31'
- Design narrows roadway space for vehicles

WHY IS THE ENVELOPE LARGER?

- The envelope needs to **fit both trail and roadway**
- 20' min. roadway for emergency vehicle access
- Trail buffer is important here: snow encroachment
- Trees are generally set further back
- Opportunity for enhanced trail experience
- Ability to constrain trail where needed

Driveways

Drivers should yield to cyclists on the trail similar to yielding to pedestrians on a sidewalk. Different treatments of driveway crossings may be necessary depending on their use classification (high, medium, low). Many of the driveways in the corridor are for residential properties and would potentially have a lower use frequency

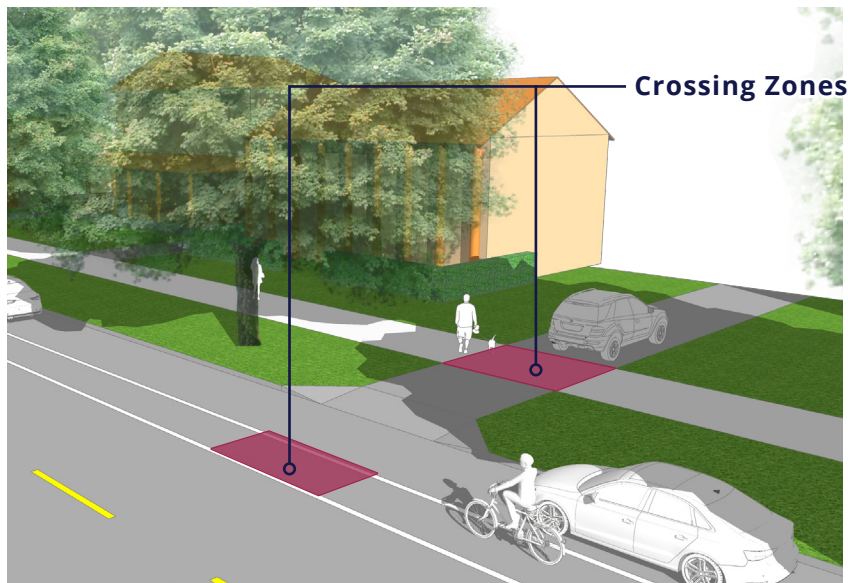


Fig. 4-1 | Typical Driveway Condition - Existing

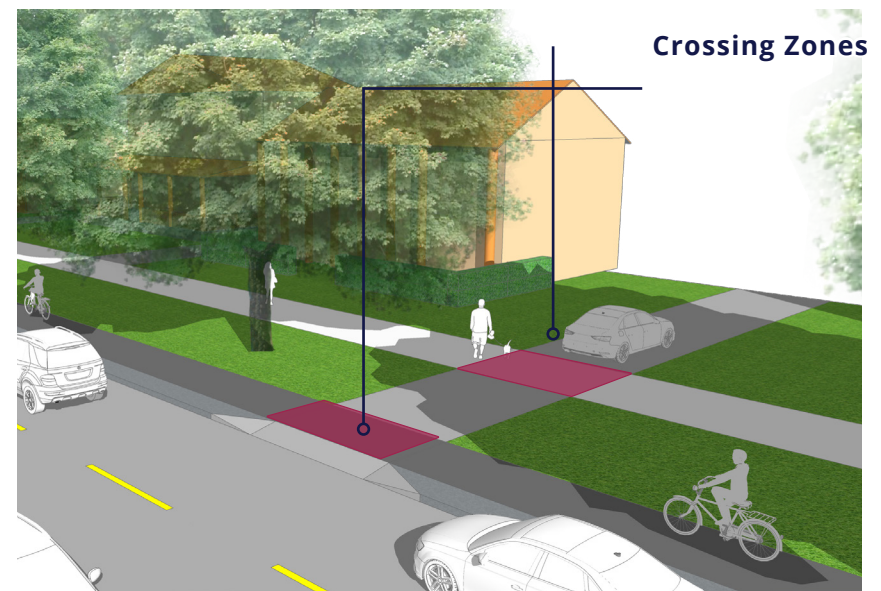


Fig. 4-2 | Typical Driveway Condition - Proposed

Driveways in the public right-of-way will be rebuilt as a part of future street reconstruction. Consider solutions during engineering that maintain usability for residents and keep sight lines open for all modes in crossing zones.

Parking



Citywide planning and policies in general do not prioritize on-street parking for single-occupancy vehicles. Parking counts conducted as a part of master plan analysis phase reflect on-street parking is under-utilized corridor-wide which supports a strategy of reducing on-street parking options to reallocate space for a regional trail facility.

West of Lexington Parkway

- Parking removal if design alternatives are not feasible and is determined to be critical to meet design standards for safety
- Parking to remain typically
- Design flexibility for parking removal at each block to accommodate emergency vehicles and sight lines

East of Lexington Parkway

- Context-based approach - 50% parking reduction assumed (typical)
- Remove parking one-side of street, create lane shift to vary parking locations north/south
- Remove parking both sides: if needed, look for consistency and re-introduce 50% on-street parking options every 1-2 blocks
- Prioritize maintaining 50% parking near areas of multi-unit housing and limited off-street options



one-way, separated trail
(6" above roadway, behind curb)

PROPOSED CONDITIONS - East of Lexington Parkway



- Proximity of modes
- Safety & accessibility
- Perceived comfort
- Seasonal conditions

SUMMIT AVENUE REGIONAL TRAIL



EAST - WEST
connection across the city



SAINT PAUL
MINNESOTA



SAINT PAUL
Parks and Recreation



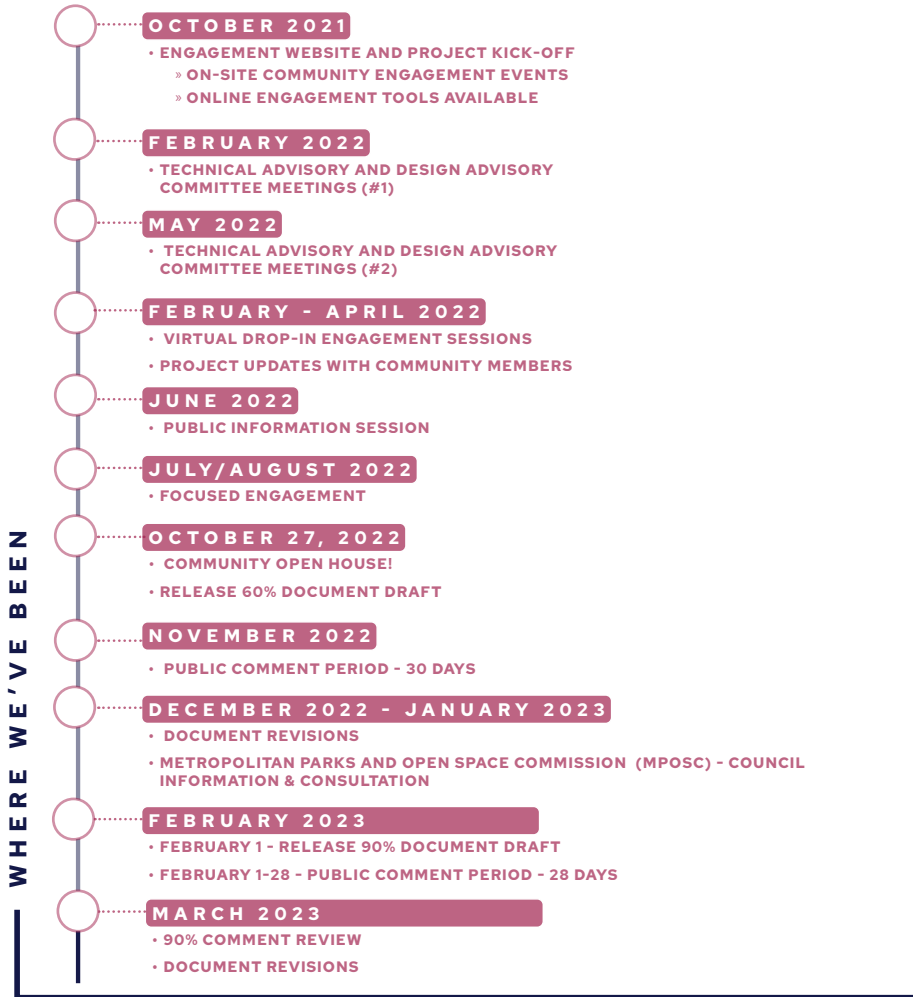
BOLTON
& MENK

SUMMIT AVENUE REGIONAL TRAIL PLAN

Process

Project Timeline

UPDATED 03/31/2023



Updated DRAFT Summit Avenue Regional Trail Plan is available online at www.engagestpaul.org/summit

SUMMIT AVENUE REGIONAL TRAIL PLAN



SAINT PAUL
MINNESOTA

