

Snelling Avenue Multi-Modal Transportation Plan

Final Report

Minnesota Department of Transportation

SEH No. MNTMD 119512

January 24, 2013



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Snelling Avenue Multi-Modal Transportation Plan

Final Report

Prepared for Minnesota Department of Transportation

Introduction

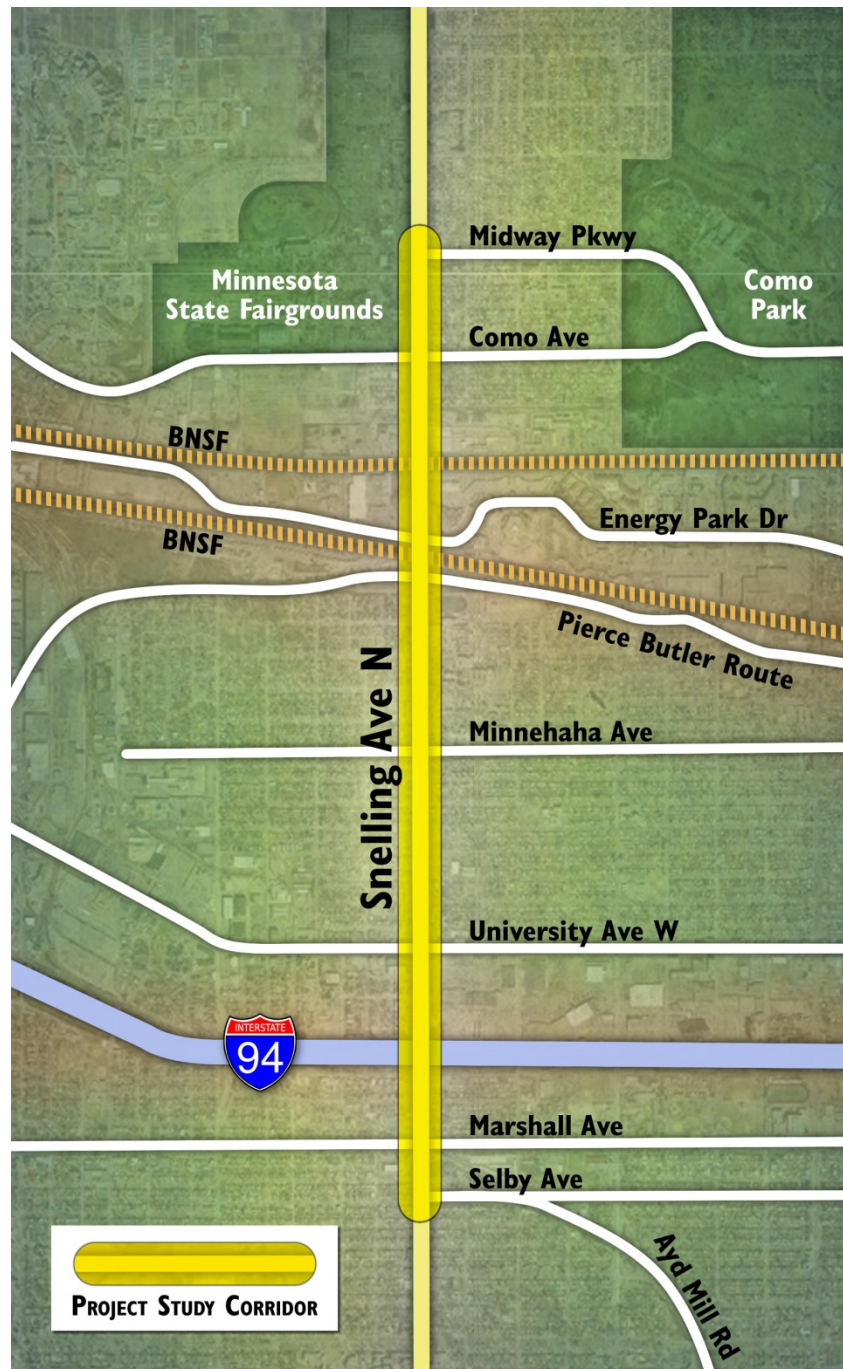
This Report is the final in a series of technical memoranda to address multi-modal transportation system infrastructure needs and requirements of Snelling Avenue between Selby Avenue and Midway Parkway in the City of Saint Paul (see project study corridor graphic on the following page). The Minnesota Department of Transportation (MnDOT), in cooperation with Ramsey County and the City of Saint Paul, initiated this planning effort in February 2012 with the ultimate goal of identifying a planning vision to achieve a balanced transportation system along the study corridor.

Technical Memorandum #1 (Documentation of Existing Conditions) was published on June 29, 2012 and described the existing transportation conditions in the Snelling Avenue corridor. The purpose of the existing conditions analysis was to develop a baseline condition for mobility and safety from which to later compare the benefits of various improvement options.

Technical Memorandum #2 (Design Workshop Summary), which was documented in the form of a presentation, provided a summary of the Design Workshop that was held on July 10-11, 2012. The purpose of the Design Workshop was to provide an opportunity for the design team, agency partners and stakeholders to: assimilate site information and existing conditions, identify programmatic needs of the corridor, refine the project vision, explore a range of solutions, and to recommend potential alternatives for further refinement and consideration. Technical Memorandum #2 was published in July 2012.

Technical Memorandum #3 (Draft Recommendations) was published in December 2012 and presented the draft plan recommendations for public review and comment. It also discussed the conceptual alternative screening process.

This Final Report has been prepared to document the overall study planning process and includes plan recommendations, estimated project costs, and a summary of public and agency comments.



Project Study Corridor

Study Approach and Strategy

The purpose of this section is to document the overall approach that has been followed in completing the Snelling Avenue Multi-Modal Transportation Plan. Key to this study has been balancing the various competing interests and tradeoffs. For instance, improvement concepts require consideration of:

- Removal of turn lanes intermittently
- Removal of parking intermittently
- Additional sidewalk width
- Median reconfiguration or addition
- Flexibility in lane widths for all modes

Snelling Avenue is a busy regional commerce roadway and a vibrant main street serving diverse user groups along the study corridor. The area includes: industrial and office land uses; events at the State Fairgrounds; retail hubs at University, Minnehaha and Selby Avenues; significant transit use at 28 bus stops; and will be a major stop for the future Light Rail Transit Green Line (Central Corridor).

There is a long history of concern about this corridor, in particular at the University Avenue and Snelling Avenue intersection. Neighborhoods and advocacy groups are concerned about traffic impacts as well as pedestrian and bicycle access and safety. At the same time, businesses in the area are concerned about growing and maintaining business in the area and providing better access and parking for customers. The roadway also serves a major intermodal truck transfer facility. The corridor serves all modes including automobiles, trucks, transit, bicycles and pedestrians. Accommodating the needs of all of these modes in a balanced manner is the principal challenge of this project.

Study Purpose and Goals

The purpose of this study is to achieve a balanced multi-modal transportation system along Snelling Avenue between Selby Avenue and Midway Parkway. The goals of the study are to:

- Improve the safety and mobility of bicycling and pedestrian travel while maintaining the safety and mobility for all users and modes of transportation
- Improve directness of routes for pedestrians and bicyclists to key destinations
- Provide ADA- (Americans with Disabilities Act) compliant corridor
- Improve transit connections and mobility
- Connect neighborhoods across the study segment
- Develop designs that are appropriate for the multiple land use contexts along the study segment
- Coordinate with and leverage the recommendations from other projects/studies to benefit the study segment
- Develop both short-term and long-term recommendations

Study Givens

There are several “given” conditions that create specific parameters under which the corridor will need to continue to function in the future. These represent both constraints and opportunities for the multi-modal transportation planning study and include the following:

- Snelling Avenue will continue to be a major bus route and all-day bus service will continue to be provided along the corridor.
- Snelling Avenue will continue to function as an urban arterial.

-
- All improvements developed for Snelling Avenue will be compliant with guidance implementing ADA.
 - The existing geometry of University Avenue (currently under construction to incorporate light rail transit) will not change.
 - There are many established residential areas and business districts that define the character of the study corridor. These are not expected to change and designs will respect the character of these areas.
 - Snelling Avenue will continue to function as a freight corridor serving the intermodal facility at Pierce Butler and the school bus yard.

Study Approach

The overall study approach is built around the following major tasks:

- Stakeholder/public involvement and community engagement
- Documentation of existing and forecast conditions
- Potential design alternatives and analysis
- Impact assessment and cost estimate preparation

Plan Coordination with Related Studies

The evaluation of Plan concept alternatives included the assumptions and findings of related projects currently programmed or in the planning stages. Draft findings from the Northwest Area Study have been considered throughout the concept screening process with the preliminary finding being that the project alternatives explored in the Northwest Area Study will have the greatest impact on the reduction of heavy commercial truck traffic north of Pierce Butler Route along Snelling Avenue. There is no reduction anticipated south of Pierce Butler Route due to the project alternatives.

The bridge deck over Interstate 94 is planned for a re-decking project in 2017. As a result, the Plan's draft recommendations for the deck and immediate area reflect the potential to redesign the street cross section.

Metro Transit is presently studying the potential to make Snelling Avenue a rapid bus corridor with stops located at Como Avenue, Hewitt Avenue, Minnehaha Avenue and University Avenue. The preferred operation of these stops is that they are far side of the intersection within the travel lane and include an 80-foot long raised platform. The Plan's recommendations include items that support these potential rapid bus plans and preferred transit stop treatments.

Charles Avenue is being planned as a bike route including a design for a closed median with bicycle pass-through opportunities at Snelling Avenue. The most recent design plans for this project also include a median at Sherburne Avenue restricting access to allow only southbound lefts and eastbound/westbound rights. The current design has been included in the Plan recommendations.

The City of Saint Paul is currently developing the Citywide Bike Plan and a Street Design Manual which will provide direction on complete street design for city streets. Updates for progress and findings for each of these efforts have been provided throughout the study to ensure study concepts did not present major conflicts with either effort.

Overall, this planning effort has been an iterative process to find the right balance between the various modes given the unique characteristics of the Snelling Avenue corridor.

Study Guidance and Public Involvement

The Snelling Avenue Multi-Modal Transportation Plan study process included a public and agency involvement program that was initiated at the beginning of the study. There were several elements to the involvement program, which are detailed below.

Technical Advisory Committee (TAC)

The TAC was formed to provide technical input to the study and to review the technical work of the consultant team. TAC agencies include:

- MnDOT
- City of Saint Paul
- Ramsey County
- Metropolitan Council/Metro Transit
- Consultant Team (SEH, Zan Associates, Alta Planning + Design)

To date, the TAC has met 10 times. The TAC members have guided the study process, reviewed technical products, and served as a conduit between the study team and the organizations they represent.

Snelling Avenue Task Force

The Snelling Avenue Task Force was formed to provide community input to the study and review recommendations of the study's consultant team. Organizations represented on the Snelling Avenue Task Force include:

- Active Living Ramsey Communities
- District Councils 10, 11, 12, and 13
- Energy Park Business Association
- Hamline University
- Hancock Elementary School
- Met Council Transportation Accessibility Advisory Council
- Midway Chamber of Commerce
- Minnesota Freight Alliance
- Office of Saint Paul Councilmember Russ Stark
- Sierra Club
- Saint Anthony Park Neighborhood
- Saint Paul Bike Coalition
- Saint Paul Smart Trips
- Saint Paul Transportation Committee
- Transit for Livable Communities
- University United

The Snelling Avenue Task Force members have guided the study process, reviewed technical products, and served as a conduit between the study team and the organizations they represent. To date, the Snelling Avenue Task Force has met four times. Meeting summaries for the Snelling Avenue Task Force meetings can be found in Appendix A.

Public and Agency Involvement Activities

Snelling Avenue Task Force Field Review

The first Snelling Avenue Task Force meeting was held on April 17th at Hamline University. After being provided with an overview of the study, Task Force members participated in a field walk of Snelling Avenue between University Avenue and the bridge north of Pierce Butler Route. During the field walk, Task Force members were asked to observe and comment on items related to:

- Crosswalks and intersections
- Traffic signals and pedestrian signals
- Sidewalk design and condition
- Traffic speeds
- Land uses
- Streetscaping and landscaping
- Pedestrian origins and destinations
- Existing challenges for pedestrians and bicyclists
- Recommendations for improvement
- Any other issues of concern

The information collected during the field walk and subsequent Task Force discussions provided valuable input into the assessment of problems in the corridor.

Non-Motorized Data Collection Effort

Task Force members, along with other citizen and agency volunteers, graciously volunteered their time over a three-day period in late-April to assist in the collection of bicycle and pedestrian usage data at 25 locations along the study corridor.

Public Open House Meetings

The study planning process included two public open house meetings at Hamline University (Kay Fredericks Ballroom in the Klas Building). The first public open house meeting was held on June 12, 2012.

Approximately 40 people attended the open house. The purpose of the meeting was to introduce the study to the public and gather input on study area issues and concerns. It also provided an opportunity to share the results contained in this Existing Conditions Technical Memorandum with the public.

A second public open house meeting was held on November 27, 2012. Approximately 50 people attended the open house. The purpose of the meeting was to present the study's recommendations for meeting multi-modal transportation needs in the corridor.

Appendix B contains a summary of the public and agency comments received on the Plan recommendations.

Design Workshop

Utilizing the public input from the first public open house meeting, a Design Workshop was held on July 10-11 at Hamline University. The purpose of the Design Workshop was to bring together agency staff, project consultants and stakeholders to review existing conditions along the corridor, assess existing needs of the corridor, and explore a range of solutions, both short-term and long-term. There was discussion about a long-term multi-modal vision for Snelling Avenue as well as discussion of short-term, low-cost solutions that could be implemented in the near future. During the workshop, several short-term and long-term alternatives were identified that were further refined and analyzed by the consultant team. A summary of the workshop is provided in Technical Memorandum #2 (Design Workshop Summary).

Study Newsletters

During the course of the study process, five electronic newsletters were published to notify the public of open house meeting dates and to provide study updates. Newsletters have been posted on the project's website and have been electronically distributed to the local units of government for dissemination. A final newsletter will be distributed upon completion of the plan which will summarize the findings contained in this report.

Study Website

A study website was developed and maintained by MnDOT on the internet at www.dot.state.mn.us/metro/projects/snellingstudy. The site provided an additional means of distributing information and gathering input with an e-mail reply feature. Throughout the study process technical and public involvement materials have been provided to MnDOT for posting on the study website.

Multi-Modal Transportation Plan Recommendations

Three primary recommendations were developed as part of the Snelling Avenue Multi-Modal Transportation Plan. The recommendations reflect the current perception of Snelling Avenue as a “Great Divide” in the community. The current design and function of the four-lane divided State Highway inhibits the ability of pedestrians and cyclists to cross the street and gain access to adjacent neighborhoods, businesses and transit. Additional barriers to non-motorized travel along the corridor include the inadequate facilities to traverse the railroad tracks and I-94. Plan recommendations respond to this theme and the goals set forth at the beginning of the project. Review of the specific recommendations will show that many are interrelated and rely on one another to achieve maximum safety and operational benefits.

The recommendations presented in this report are conceptual in nature and will require additional refinement and analysis before any implementation can occur. As projects are identified they will need to follow the project development process which includes preliminary and final design and environmental review (if required). In addition, public and agency involvement will be necessary to achieve consent and implementation of the recommendations.

Recommendation #1 – Improve Accessibility

It is recommended that as improvements are considered for Snelling Avenue a review of accessibility-related items is completed and mitigation for these items is included in the implementation of Plan projects. For the purposes of such a review, an *Accessibility Checklist* has been developed to provide guidance to agency partners to gain a comprehensive understanding of accessibility deficiencies and gaps as Plan projects are implemented.

Appendix C includes the full *Accessibility Checklist* which includes provisions for:

- Sidewalk Zone
- Crosswalks
- Sidewalk Cross-Slope
- Median Refuge
- Pedestrian Surface
- Push Buttons
- Openings and Grates
- Signal Heads
- Curb Ramps Detectable Warnings
- Lighting

The *Accessibility Checklist* augments efforts already underway by MnDOT to improve accessibility at pedestrian ramps.

Recommendation #2 – Establish Parallel Bike Routes

It is recommended that parallel bike facilities be implemented east and west of Snelling Avenue (see Figure 1). The streets identified to serve as parallel routes include Aldine Avenue or Fry Avenue on the west and Pascal Avenue on the east side of Snelling Avenue. The recommendation includes route enhancements similar to those typically used for Bicycle Boulevards to maximize use of these routes by all bicyclist types. The City of Saint Paul is currently developing a Complete Streets Design Manual which should inform the appropriate suite of treatment options to apply to these routes.

Hewitt Avenue is the recommended bicycle route connection to Snelling Avenue at the north end and as such should be a designated and marked bike route between Pascal Avenue and Aldine or Fry Avenue. The recommended treatments for the connection to Snelling Avenue are shown in more detail as part of Plan Recommendation #3.

Recommendation #3 – Implement Comprehensive Multi-Modal Improvements

It is recommended that comprehensive multimodal improvements be implemented to improve pedestrian, bicyclist and transit access across and along Snelling Avenue. The recommendations include three primary elements:

- 3a.) On-street bike lanes between Marshall Avenue and St. Anthony Avenue
- 3b.) On-street bike lanes between Hewitt Avenue and Midway Parkway
- 3c.) Intersection improvements

Appendix D contains figures that show all of the recommendations as well as current deficiencies which led to the recommendations. Items 3a and 3b are shown on the figures with bike lane striping layouts including proposed buffer striping, conflict zone areas and intersection treatments. The recommendations for intersection improvements include corridor-wide enhancements such as pedestrian-scaled ornamental lighting and well-lit high visibility crosswalks at all intersections and intersection specific improvements such as modified free-right geometry and at-grade median refuge pass-through areas for both pedestrians and bicyclists. Alternate treatment options are depicted for some locations as well as magnified views of particular areas showing more detail of proposed treatments.

Comparison of Plan Recommendations and Goals

The Plan Recommendations compare well with the Plan Goals set forth at the outset of the project (see Table 1 on the following page). Overall, this plan sets a vision for creating a Multi-Modal Snelling Avenue Corridor from Selby Avenue to Midway Parkway.

**Table 1 –
Comparison of Plan Recommendations and Goals**

PROJECT GOALS	FINAL RECOMMENDATIONS				
	RECOMMENDATION #1 Provide ADA Improvements along Snelling Avenue and at Intersections	RECOMMENDATION #2 Provide Bicycle Facilities along Parallel Streets	RECOMMENDATION #3		
			#3a) Provide Bike Lanes Across I-94 (Marshall to St. Anthony)	#3b) Provide Bike Lanes Across Railroads (Hewitt to Midway Parkway)	#3c) Make Intersection Improvements throughout Corridor
Provide ADA compliant corridor	X				X
Improve safety and mobility of bicycling and walking while maintaining the safety and mobility of all users and modes of transportation	X	X	X	X	X
Improve directness of routes for walkers and bicyclists to key destinations	X		X	X	X
Improve transit connections and mobility	X		X	X	X
Connect neighborhoods across the study segment	X		X	X	X
Develop designs that are appropriate for the multiple land use contexts along the study segment	X	X	X	X	X
Coordinate with and leverage the recommendations from other projects/studies to benefit the study segment	X	X	X	X	X
Develop both short-term and long-term recommendations	X	X	X	X	X

Cost Projections and Implementation Strategies

Limitations of Cost Projections

The cost projections included in Appendix E define the potential costs associated with implementing the Snelling Avenue Multi-Modal Transportation Plan Recommendations. The projections are based on a combination of site-specific issues and professional judgments based on projects of similar size and characteristics. The projections are based on 2012 dollars, which will require inflation adjustments over time.

Projecting the costs for developing these projects without the benefit of site surveys and design layouts offers certain practical limitations. Given this, it is important to underscore that the cost projections presented here are for planning purposes and that more detailed evaluation is required to firm up costs. To remain relevant, the cost projections should be updated on a periodic basis to stay in alignment with potential cost increases over time, and to factor in costs to replace items that have subsequently worn-out.

Items Not Included in Cost Projections

The following items are not included in the cost estimates:

- Infrastructure replacement beyond what is needed for the multi-modal improvements (e.g., bridges, pavement, sidewalks, utilities and drainage)
- ADA items identified after completing detailed inventory
- Off corridor improvements/parallel routes and Snelling connection improvements
- Rapid bus stations and technology

Use of the Cost Projections

The intended use of the cost projections is to aid the State, County, and City in developing an overall funding and implementation strategy, including:

- Defining the potential magnitude of the public investment needed to develop a multi-modal corridor,
- Comparing the relative cost of one improvement over that of another,
- Prioritizing and budgeting for initiatives based on funding availability, and
- Coordinating implementation of related or adjacent projects.

Note that the projections are limited to the Snelling Avenue study corridor only. Given the uncertainties of size and scale associated with implementing the related projects, projecting costs for these elements is too uncertain at a system planning level to be reliable.

Implementation Strategies to Achieve Multi-Modal Planning Vision

This Snelling Avenue Multi-Modal Transportation Plan establishes an overall vision for the corridor that is ambitious yet realistic if incrementally implemented. An important consideration for implementing incrementally, however, is the interrelated nature of the recommendations. For example, the safety benefits of crossing improvements are limited with pavement marking and signing recommendations alone. The reduction of motor vehicle travel speeds along the corridor and the provision of adequate lighting are integral to pedestrian safety. Thus, it is critical that as the recommendations are considered for implementation those which do the following must be completed in conjunction with pavement markings and signing:

- Reduce motorist speeds through geometric changes,
- Improve visibility of non-motorized users, and
- Provide protection through buffers and refuges.

Further, implementing improvements by location requires that end-treatments accommodate all users safely and in some cases may result in the need for spot temporary installations until all recommendations/projects are fully implemented. The remainder of this section sets forth considerations and outlines near-term opportunities. As identified in Table 2, near-term opportunities include leveraging existing planned and programmed projects to accomplish the goals set forth in this Plan.

**Table 2 –
Near-Term Opportunities**

Title	Proposer	Construction Timeframe
Charles Avenue between N. Aldine Street and Park Street	City of Saint Paul	2012-2013
Rapid Bus	Metropolitan Council/ Metro Transit	2014-2015
Minnehaha Avenue to Taylor Avenue	City of Saint Paul	TBD
I-94 Overpass (Redecking)	MnDOT	2017
CCLRT Mitigation Funding	Metropolitan Council/ Metro Transit	2013

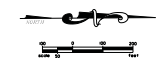
In addition, recurring funding sources/grants that could be pursued for implementation of the types of improvements outlined in this Plan include:

- Recurring funding grants and programs such as:
 - ADA – Annual amount for standalone projects is \$1 million and 2016 is the next available funding year.
 - MnDOT Annual Cooperative Agreement Funding – The Municipal Agreement Program is a program that allows locally developed projects to receive trunk highway dollars to partially fund Cooperative Agreement projects. It is a mutually beneficial construction project developed and administered by a local government unit where MnDOT funds are utilized to pay for a portion of the project cost. The project must include a trunk highway component and/or benefit.
- Redevelopment adjacent to the corridor provides the opportunity to increase setbacks and improve sidewalk width and transit station areas.
- Programmatic Asset Management
 - Pavement condition (e.g., mill and overlay, full-depth reclamation, reconstruction)
 - Bridge condition (e.g., bridge replacement; bridge rehabilitation, including deck replacement, railing replacement, painting, etc.)
 - Roadside infrastructure condition (e.g., culverts, signs, ITS infrastructure, lights, signals, pavement markings, overhead structures)

In addition to the funding opportunities identified above, there are regional funding opportunities available that include competitive solicitations. It should be assumed that funding any particular project will require a partnership between agencies that could bring multiple sources of funding together.

List of Figures

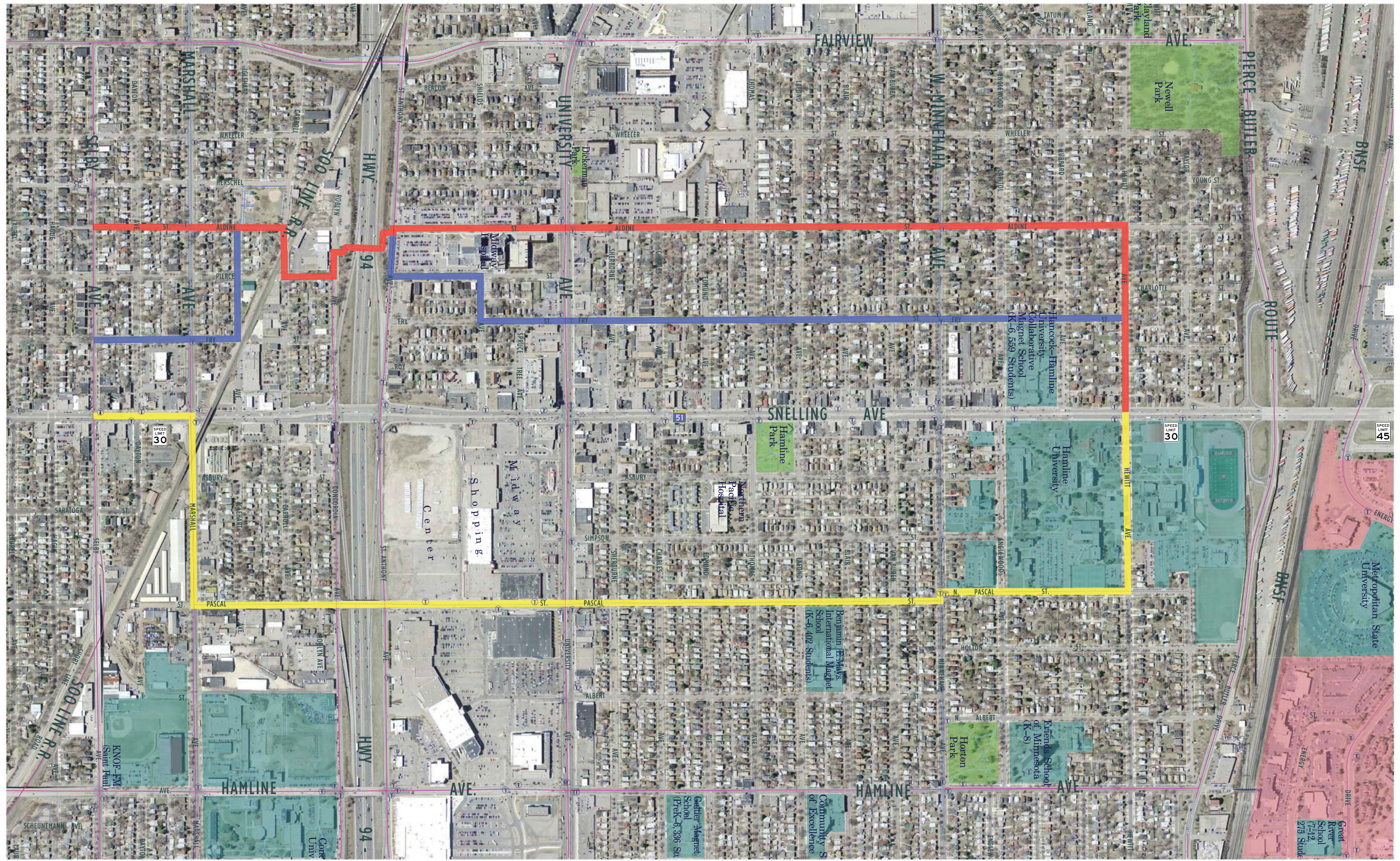
Figure 1 – Parallel Bike Routes Map



PARALLEL BIKE ROUTE OPTIONS

Aldine, Fry, & Pascal

FIGURE 1



Appendix A

Snelling Avenue Task Force Meeting Summaries

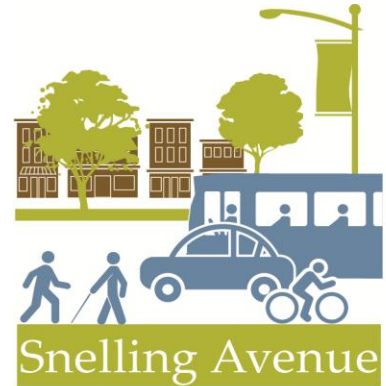
Meeting Dates:

- April 17, 2012
- July 10, 2012
- September 11, 2012
- November 13, 2012

Meeting Notes

TASK FORCE

SNELLING AVENUE MULTI-MODAL TRANSPORTATION PLAN



April 17, Noon – 3:00 p.m.

Room 318, Drew Science Center, Hamline University
1536 Hewitt Avenue. Saint Paul

Attendance: Listed at end of notes

Attachments:

1. Welcome and Introductions

- Bill Goff, MnDOT Project Manager opened the meeting with introductions
- Scott McBride, MnDOT Metro District Engineer, provided opening remarks, noting that things could be better along Snelling Avenue. He noted that there are several constraints including the existing width, the freeway connection, and LRT on University Avenue. He stated that MnDOT hopes the outcome of the project will be a more multi-modal corridor that is a better neighborhood. MnDOT is very interested in the process and in the community's input.
- Mark Benson, the consultant team project manager, provided a brief overview of the project noting that purpose of the project, the role of the committee, and the coordination with other studies in/near the corridor. He also stated that bicycle/pedestrian counts would be conducted next week and asked for volunteers to assist with those counts.

2. Goals of the Study

- Mark Benson described the goals for the project (see attached presentation)
- It was suggested that "pedestrians" be used rather than "walkers" because it is a more inclusive term.
- What is the working definition of mobility? What does this mean for all modes? What metrics will be used, especially for bicycles and pedestrians? Is there an openness to use metrics other than the traditional A-F level of service? Response: There are accepted metrics for bicycle/pedestrian "comfort" that have been around for about ten years. Yes, there is openness to looking at other metrics.
- Will streetscaping/landscaping be considered? This affects traffic speeds. Response: Study will look at building front to building front.
- It was recommended that the consultant team review the "Green Streets" plan as well as the Hamline-Midway Plan.
- Is there funding for short-term improvements? Response: That is uncertain at this time but there are some potential sources, such as Cooperative Agreements which are grants up to \$500,000 with a local match that can be explored. Federal funding is up in the air right now. It is important that recommendations come out of the study so that project funding can be pursued.

- Will there be special assessments? Response: MnDOT does not use special assessments but cities sometimes do.
- Have there been counts done to determine the number of trucks? Response: Additional counts are being done in the next month, including time of day counts, to determine the number and types of trucks using Snelling Avenue.
- Is the role of the corridor as a freight destination a given or are other sites being considered? Response: Yes, the terminal is a private facility and cannot be easily moved. It is at capacity so a new terminal is needed but this will likely be a supplemental, not a replacement, facility. The area is zoned industrial and that is not likely to change. However, there is interest in a more efficient way to get to I-94 and that could potentially reduce truck traffic on Snelling Avenue.
- Are there counts for pedestrians and bicycles? Response: Pedestrian/bicycle counts are being conducted next week. Counts will only be done next week and these counts will be adjusted using factors for other times of the year.

3. Field Walk

- The group was divided into four teams for the field walk. Two teams walked Snelling Avenue between Hamline University and the bridge north of Pierce Butler. Two teams walked Snelling Avenue between Hamline University and University Avenue. Comments from the teams are below:
- **North End**
 - High speeds on north end
 - Some crosswalks are only 6' wide – should be 10'
 - Inconsistent design of intersections
 - Lots of bikes – half on street; half on sidewalk
 - Narrow sidewalk on bridge; low railing – not safe for bikes
 - What are the options for biking on Snelling?
 - Gateway element on southbound for traffic calming; Hamline University is open to, and has talked of, establishing a gateway treatment on Snelling Avenue leading into the campus--landscaped medians, signage, archways, etc.
 - Hamline University students live west of Snelling
 - Signal stop sign at southbound Snelling
 - Narrow sidewalk on bridge
 - Poor sight lines/turning angles on bridge particularly at the ramps, and especially concerning bike/pedestrian visibility
 - Southbound traffic speed is excessive, especially coming over the bridge
 - Bridge not pedestrian and bike friendly
 - Start bridge section at Taylor Ave – when speed goes up – similar issues need to be addressed near I-94
 - No sidewalk on bridge at Como
 - Inconsistent shoulder
 - Transit stop north of intermodal facility – how do pedestrians and bikes get there?
 - Why bikes on Snelling? Why not alternate route? Only place to get over railroad
 - Schools
 - Charter schools in area (may be others as well)
 - Hamline University has approximately 2,000 undergraduates, with on-campus housing for 950 students. Including, the Law School, Graduate School, and evening classes, enrollment is approximately 5,000 persons

- Street lights are mid-block, and in some areas, obstruct walkways
 - Bike/pedestrian conflicts at each ramp leading to and from Snelling Avenue on the bridge
 - Odd looking and outdated landscaping and streetscape features along this section of Snelling; very worn and dated
 - Wide gutter flag on the west side of Snelling Avenue may be ideal for a bike lane
- **Hewitt intersection**
 - Hewitt and Snelling has many accessibility and ADA issues
 - Signal timing on Hewitt is too short for both pedestrians to cross and vehicular traffic
 - SW corner had large curb radius – could be tightened up
 - Hewitt – width of crosswalk, refuge needed
 - NW corner at Hewitt – signal crowds the NW corner; narrow ramp
 - South of Hewitt – use wide gutter pan
 - Hewitt – sensors for bike to trigger light – could have it at Minnehaha too – detectors do NOT work
 - Island at Hewitt pulled back – has pedestrian push button that is not ADA compliant – median not big enough for refuge
 - Hearing assisted crosswalks are recommended at Hewitt, and all along the corridor
- **Taylor intersection**
 - Taylor – bus stop on both sides of Snelling but unmarked crosswalk
 - Bus stop at Taylor – pedestrians crossing at unsignalized intersection
 - A cross walk should be striped at Taylor and Snelling; students utilize this as a crossing quite frequently
- **Pierce Butler intersection**
 - Right turn lane approaching Pierce Butler – should this be removed?
 - Eastbound Pierce Butler to SB Snelling – poor sightlines
 - SW corner – south of Pierce Butler, cross-slope is steep and right against wall
 - Right turn lane is conflict for pedestrians
 - Light post in sidewalk south of Pierce Butler – only 3 feet
 - Bicyclists ride on sidewalk over Pierce Butler
 - Some drivers avoid intersection with ramps at Pierce Butler – fast traffic, trucks, merging traffic
 - Can right turn lanes be eliminated?
 - Better signal/stop sign treatment may be warranted at eastbound Pierce Butler ramp to Snelling Avenue
- **Energy Park Drive intersection**
 - By freight yard and Energy Park Drive – there are “goat trails” from the bus stops
 - Lots of schools on Energy Park Drive with lots of student traffic
 - Energy Park Drive office buildings – no bikers – hard for bicyclists to access Energy Park
 - Commercial properties don’t get requests for bike racks – sign of unfriendly bike environment
 - 2000 employees in Energy Park – no bicyclists

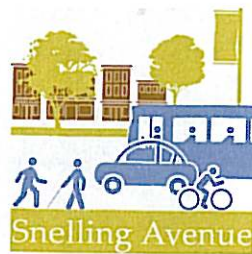
- **Hancock intersection**
 - Median refuge – really useable – by Hancock and rec center
 - Hawk signal
 - Planting along medians
 - Private businesses have taken charge of median maintenance
- **Hubbard intersection**
 - Crosswalk at Hubbard – move to north side; remove right turn threat
 - Stop bars right at crosswalk versus set back from intersection
 - Hancock students – at signalized crossing hard to cross all students during one cycle
 - La Fond, Hubbard – why median continued through Snelling? Why opened up?
 - ADA issues at crosswalk
 - Median at Hubbard allows safer pedestrian crossing – has ramps for ADA
 - Plantings need to be maintained
 - Hubbard Ave./Snelling pedestrian crossing needs flashers or a hawk signal
- **Englewood**
 - No signal; unmarked crossing
 - Englewood – near elementary school and Hamline University; major student crossing point; unsignalized; pedestrians afraid to cross road; possible to have an activated pedestrian signal crossing?
 - ADA curb cut needed at Englewood – SE corner
 - The north side of the intersection is stripped. The west side of the intersection is ramped as a crossing, with no stripping.
- **Minnehaha**
 - Minnehaha crossing – farside stop for bus; narrow sidewalk; dated landscape
 - Audio signal – has been a good thing since installed – more needed
 - Better to have farside than nearside bus stop
 - SE corner needs a sidewalk “bump-out” – prevent cars from whipping around the corner and would widen sidewalk
 - Driveway between Minnehaha and Van Buren – good place to take away driveway – access business from alley – what is process for closing driveway?
 - Minnehaha – hard during winter with snow
 - Bike lanes at Minnehaha don’t lead anywhere
 - Cars are turning to/from Snelling into crosswalk area – very dangerous – visibility poor due to building setbacks
 - Minnehaha/Snelling will most likely be a Rapid Bus Transit (RBT) Station; likely a far side station stop. However, under the existing configuration, shelter space is limited due to the current size of the crosswalk
- **Van Buren**
 - Curb cut in median – opportunity and safety hazard for bicyclists – could offset crossing in median – good place to focus crossing for bicyclists – however, prioritizes cars – better to have signal – may be confusing to visually impaired
 - Bicyclists – opportunity to cross at intersection without light
 - Could also be a safety hazard with median in Snelling

- **Blair**
 - Bicyclists crossing – waiting at median – conflict with vehicles making U-turns
 - Difficult to see pedestrians when making left turns
 - Why isn't median extended with marked crosswalk (north side)?
- **Asbury & Blair**
 - Improve side streets to help with issues on Snelling
 - Hamline U – has made a push to have students travel on side streets
 - Have to keep in mind/balance that Snelling is main street with businesses that depend on foot traffic
 - Paint the pavement at Asbury and Blair
- **General Snelling Avenue**
 - Get bike lane by reducing road width
 - Shifting of sidewalks and curbs is unsettling
 - Pedestrian overlay – parking lots abut sidewalk – parking lots not attractive; multiple business access – reduce number of driveways
 - Priority to sidewalks over driveways
 - New sign – created issue with where it was placed
 - Need pedestrian scale lighting
 - Consider snow/winter impacts – sidewalks are bad in the winter – people in wheelchairs use the street; snow removal is a problem for pedestrians along the corridor--sidewalks often get narrowed and clogged by snow storage
 - Would BRT stops be elevated? How much?
 - Several pinch points along Snelling
 - Sidewalks are old
 - Landscaping is old, dated and worn along the boulevards
 - Parking on side streets – will people use as park and ride when LRT starts up – is this being considered?
 - Pedestrian crossings are scary in places
 - Every intersection is a legal crossing – people don't know this
 - Curbs need updating
 - Sidewalks are narrow
 - Bus stops – will they be in the traffic lane or pull-out
 - Driveway access management – can some driveways be closed?
 - Maintain balance for businesses, pedestrians and bicyclists
 - No parking for bicyclists
 - Some areas are not ADA compliant
 - Add no turn on red
 - Look at building and business interfaces – sticking into pedestrian areas
 - Hazardous blind spot on south side of stadium
 - Use different sides to separate bicyclists east and west
 - Can there be two marked sides of crossing vs. one (i.e., crosswalks on both sides the intersection rather than just one)?
 - Need to apply crosswalks consistently so ADA community has consistency at crosswalks
 - High speeds
 - Wide parking bays and narrow gutter – can this be widened for bikes?
 - Opportunity to reapportion space – especially in front of Lloyd's

- Geometry encourages fast moving vehicles
- Side streets don't have crosswalks marked or stop bars
- Lots of lack of yielding to pedestrians
- **General Comments**
 - Public doesn't know about crosswalk law – staffing issue for enforcement
 - Education need on how motorists act at crosswalks
 - Need 90° pedestrian ramps, parallel to crosswalks
 - Are farside or nearside bus stops preferable?
 - Look at things beyond ADA – universal design
 - Need to set priorities
 - Pedestrian friendly sidewalks
 - Bike lanes
 - BRT considerations
 - Greening of corridor
 - Make sure to take a look at the neighborhood's greening plan – are city and Hamline U willing to help?
 - Need to try to reach a broader group (churches, immigrant populations, apartment buildings, reach out for public meetings, post notice
 - Can funds be shifted to address a specific issue that's needed?
 - More money can go a long way.
 - Contact businesses sooner rather than later if a project moves forward

4. Next Steps

- A public open house meeting will be scheduled in June.
 Note: Since the April 17 Task Force meeting, the open house has been scheduled for:
 Tuesday, June 12
 4:30 PM-6:30 PM
 Presentation scheduled at 5:15 PM
 Hamline University, Kay Fredericks Ballroom in the Klas Building
- Another Task Force meeting will be scheduled in July.
 -Details will follow.



Snelling Ave Project Task Force Committee SIGN-IN SHEET

Meeting Date April 17, 2012

Initials	Name	Organization	E-mail Address
	Adam Harrington	Metro Transit	adam.harrington@metc.state.mn.us
	Amy Sparks	District Council 12	amy@sapcc.org
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	Bill Goff	MnDOT Planning and Program Management	william.goff@state.mn.us
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<i>JH</i>	Jim Henricksen	MnDOT Traffic Forecasting	Jim.Henricksen@state.mn.us
<i>JZ</i>	Joe Zilka	MnDOT	Joseph Zilka State, MN-US
<i>JML</i>	John Mark Lucas	St. Anthony Park Neighborhood	johnmark@greenway-consulting.com
<i>JD</i>	Jon Delude	Minnesota Freight Alliance	jon_delude@jbhunt.com
<i>JL</i>	Joseph Lux	Ramsey County Planning	joseph.lux@co.ramsey.mn.us

Meeting Notes

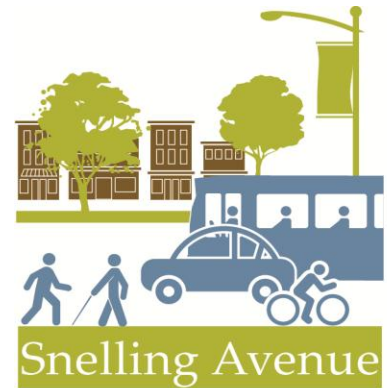
TASK FORCE

SNELLING AVENUE MULTI-MODAL TRANSPORTATION PLAN

July 10, 2012 – 1-3 pm

East Hall Room 4, Hamline University

1536 Hewitt Avenue. Saint Paul



Attendance: Listed at end of notes

Attachments:

1. Introductory Comments

- Mark Benson, consultant team project manager, provided an overview of the two-day staff design workshop, noting that the purpose of the Task Force meeting is to provide an opportunity for Task Force members to comment on the work completed to date and provide input on the issues to be addressed and the alternatives that are being considered. He noted that goals and objectives as well as givens for the multi-modal study had been discussed at the last Task Force meeting. The consultant team has spent the past two months compiling existing conditions—crash history, volumes, operations, bike/ped count, etc. The detailed existing conditions report is available on the project website and this information serves as the starting point for the design workshop.
- Heather Kienitz, consultant team member, presented a list of design guidelines that will also serve as a starting point for the design workshop. These included the following:
 - Travel lane – 11'
 - Left turn lane – 11' (10' + 1' gutter)
 - Right turn lane – 11' (10' + 1' gutter)
 - Median – 6-8'
 - Buffered bike lane – 8' (5' + 3' buffer)
 - Bike lane – 6' desirable; 5' minimum
 - Parking lane – 8'
 - No bus pull-outs
 - Sidewalk – 12' desirable; 10' minimum
 - Rapid bus station – 12'
- The design exercise will identify the implications of adding a bike lane, with or without a buffer, to Snelling Avenue. These design guidelines have been discussed with MnDOT and the City of St. Paul and, in some cases, they are lower than existing MnDOT design standards.

- Dru van Hengel and Steve Durrant, consultant team members, presented examples of the different types of bicycle facilities that are being considered including examples of buffered bike lanes, conventional bike lanes, cycle tracks, and parallel bike boulevards.

2. Buffered Bike Lanes

- Buffered bike lanes typically include a 5-6' bike lane plus a 2-3' stripped buffer between the bike lane and the travel lane. This is the city's preferred bike lane design. Sometimes a buffer is also provided between the bike lane and parked vehicles. The buffered space marks out a zone for opening car doors.
- An aerial layout was presented that showed a general idea of where a buffered bike lane would fit in the corridor (using the above design guidelines) without impacts to parking lanes, travel and turn lanes, sidewalks, etc.
- Comments and questions about buffered bike lanes:
 - How wide is the road south of Pierce Butler?
 - Can we use the bus bays for bike lanes?
 - How will the buffered bike lanes work with rapid bus?
 - It doesn't appear there was any consideration for widening the sidewalks.
 - Are any bus stops going away?

3. Conventional Bike Lanes Without Buffer

- Bike lanes without a buffer are typically 5-6' wide. Since most areas south of Pierce Butler could not accommodate a buffered bike lane without impacts to other uses, an analysis was done of the impacts of a conventional 5' bike lane. There are several places where there is room for a conventional bike lane but not room for a buffered bike lane. There are also many places where there are still conflicts with other uses.
- Color pavement or skip striping can be used to designate "conflict zones". These are areas such as right turn lanes where motorists and bicyclists need to be aware that they are sharing the space.
- Comments and questions regarding the conventional bike lane option included:
 - What is state right-of-way and what is city right-of-way?
 - Is parking controlled by the city or the state?
 - How much does on-street parking impact bikes (only one-quarter of available parking is used today)
 - Was a parking utilization study done?
 - Parking provides a buffer for pedestrians
 - Parking is located where the sidewalks are the narrowest – could widen the sidewalks if there was no parking
 - Parking is useful to the small businesses along Snelling
 - Retail space is under-utilized; don't want to further impact this
 - A discussion of trade-offs is warranted
 - Pedestrians may need more space

- What are the modal priorities?
- Bikes have other options; pedestrians do not
- Only Class A bicyclists are going to use a bike lane on Snelling
- Use will depend on the speeds
- Bike lane is a buffer for pedestrians if the parking goes away.

4. Cycle Tracks

- A cycle track is a bike lane that is separated from traffic by bollards, planters or curbs stops. It may be two-way on one side of the street or one-way with lanes on each side of the street. For Snelling Corridor, it may be possible to do a two-way cycle track on Hamline from University Ave to Taylor. North of Taylor, it may be possible if the auxiliary lane can be repurposed. Crossing intersections is a particular challenge for a two-way facility on one side of the street. More bicyclists appear to be coming to/from the east, rather than the west, so a two-way cycle track on the east side of Snelling would likely have fewer users needing to cross Snelling.
- Questions and comments about the cycle track option included:
 - Eliminating SB Snelling turns to Taylor would allow easier pedestrian access.
 - Hamline University would accept eliminating on-street parking near the stadium; would like to see speeds reduced on Taylor
 - The sidewalk on the bridge needs to be widened – it is only 4 feet and needs to meet ADA requirements.
 - Could the cycle track be a multi-use trail (bicycles and pedestrians)?
 - Need to look at lanes on both sides of Snelling
 - Would there be any issues on bridge loading if traffic was shifted?
 - Would there be any behavioral issues that would need to be addressed where transitioning from one type of bike lane to another?
 - What are the grades? Are there grade limits for bicyclists?
 - Is hanging a pedestrian walkway off the side of the bridge an option?
 - Can protected bike lanes be considered, particularly from Taylor to Como, perhaps using Jersey barriers, parked cars or other devices, such as plastic poles, especially where posted vehicle speeds exceed 30 mph? A barrier provides psychological and physical protection that "buffering" does not.

5. Parallel Routes to Snelling – Bike Boulevards

- Bicycle Boulevards are parallel low volume, low speed residential streets where improvements have been made to give bicyclists some priority for travel. These streets are suitable for all classes of bicycle riders.
- A map was presented showing potential routes for parallel bike boulevards – there was good feedback at the public open house regarding preferred alternatives to Snelling. Identified routes included: Aldeen and Fry west of Snelling, and Pascal east of Snelling. These routes provide crossings over I-94. Each route has some issues. It may be desirable to consider both a bike lane along Snelling and a parallel bike boulevard route.
- Comments and questions regarding the bike boulevard alternatives:

- Neighborhood has been told to use Fry to go south
- Aldeen and Pascal are too far away from Snelling – Would Simpson be better?
- Redevelopment of the Midway Shopping Center would help to re-establish the street grid and that would be helpful to bicyclists
- Pascal is a very busy street but still good for biking – it is difficult to turn right at University and the block between University and Sherburne is challenging. There are a lot of stop signs but it connects to a lot of facilities
- Parallel routes should compliment, not substitute for, major routes such as Snelling

6. Crosswalks and Bicycle Crossings of Snelling

- The consultant team has not looked in detail at crossings yet but that will need to be addressed in the future.
- Comments and questions regarding crosswalks and bicycle crossings of Snelling:
 - Minnehaha is an important crossing because there are bike lanes on Minnehaha and it is a signalized intersection
 - Thomas is important - a potential high quality route, signal for crossing Snelling
 - Is Englewood or Hubbard more important for purpose of student crossings?
 - No turns at Hubbard
 - No light – too close to Minnehaha
 - Students living west of Snelling cross at Hubbard to get to the Hamline campus
 - New building entry to campus (front door on Snelling) – may change pedestrian dynamics
 - Defer to Hamline University
 - Spruce Tree intersection
 - Signal is too close to Snelling – can it be taken out?
 - Provides access to shopping center
 - Lots of pedestrians at this intersection
 - Charles – there is a neighborhood meeting coming up related to the bus stop
 - Blair – why – doesn't make sense
 - Hewett – elementary students cross here and at Minnehaha
 - Taylor – speed transition; student housing nearby
 - Need to look at events at the State Fair and pedestrian needs associated with these events
 - Intersections to look at include:
 - Thomas
 - Minnehaha
 - Hubbard
 - Charles
 - Englewood
 - Spruce Tree

7. Sidewalks

- Use saw cuts, not expansion joints
- Consider color concrete at crosswalks to help people with visual impairments
- Should require a 4' setback for new developments for added sidewalk width like was done for University Avenue
- Will the study recommend sidewalk widths? Is the study looking at building face to building face or curb to curb?
- A zoning study would be helpful if this project made redevelopment a possibility
- Consider how bicycle parking would fit with sidewalks – better to use auto parking space for bicycles than sidewalk space
- Pedestrians need to be a major part of this study
- There are light poles in the sidewalk near the Hamline Stadium – Hamline is working with Xcel to get these relocated
- Priorities should be based on vulnerability (pedestrians, bicycles) – cars should be at the bottom of the list
- Should consider shared parking
- How can we reduce truck traffic/freight movement on Snelling – how can we get them to use Territorial/Ellis more
- It would be nice to have green medians as traffic calming but may not fit in with what's needed to accommodate facilities for bicycles and pedestrians
- Should consider the Green Streets Study – it includes some recommendations for planted medians
- Connie Bernardy provided copies of comments received about Snelling Avenue at a public open house held by Active Living Ramsey County and Sierra Club.
- Recommendations should not stop at ADA requirements; they should go beyond to consider safety and convenience for all.

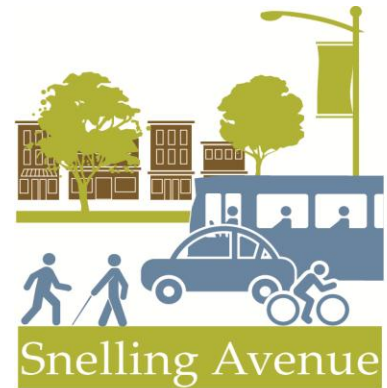
8. Next Steps

- During the remainder of the design workshop, today and tomorrow, the staff team will be looking at design issues and will begin to identify targeted areas for improvements. Task Force members were invited to return on Wednesday afternoon at 4 pm to hear a progress report on the design work. Following the workshop, the alternatives will be developed in more detail and operational analysis will be done to determine how well they work. The next Task Force meeting will be in September. Links to the various studies related this project are provided on the Snelling project website.

Meeting Notes

TASK FORCE

SNELLING AVENUE MULTI-MODAL TRANSPORTATION PLAN



September 11, 2012 – 1:00 – 3:00 p.m.

Room 305, Anderson Center, Hamline University

Attendance: Listed at end of notes

Attachments:

1. Recap of Design Workshop

- Mark Benson, consultant team project manager, provided an overview of the design workshop that was held in July and meetings that had been held with various agencies since that time.
- Comments and questions from Task Force members
 - What are the minimum lane widths? *Response:* 11 foot travel lanes and 8 foot parking lanes
 - If used 10 foot travel lanes and 7 foot parking lanes would that make a difference? *Response:* Yes, that would make a difference but it is not recommended due to the high volume of traffic on Snelling and the large number of trucks and buses. It is not desirable if the bike lane is also minimum width.
 - Was removing parking an option? *Response:* Yes, there were a number of locations where removing parking, removing turn lanes and/or removing the median were the only options for accommodating a bike lane.
 - What are the ramifications of going from 11' to 10' lanes and 8' to 5' bike lanes? *Response:* A buffered 8' bike lane is preferred for safety reasons on high volume roadways. It is not desirable for all dimensions on a high volume roadway to be at the absolute minimum. Minnehaha, east of Snelling Ave, is an example of a street that uses 10' lanes, 5' bike lanes, 7' parking. This can work on lower volume streets. Marshall Avenue (between Snelling and Cretin) is also an example of a street that uses 11' lanes, 5' bike lanes, 7' parking.
 - When using only paint for lane marking, it is important to ask if it is making the situation safer for bicyclists. It does legitimize bicycling but trucks can encroach on the lanes.
 - In order for people to obey the law, they must have the space to stay in their own lane while passing. A school bus legally cannot pass a bicycle operating in the same lane.
 - Have there ever been bike lanes in the middle of a street? *Response:* Yes, Hennepin Avenue had bike lanes in the center of the street (one-way traffic with a contraflow bus lane). This was changed to move the bike lanes to the outside when the street was changed to two-way because there was a high number of bike crashes involving left-turning vehicles.

2. Alternatives Update

- Mark Benson described the technical work completed to date and described the alternatives that are being explored further including:

- Parallel bike routes
- Improvements along Snelling and at intersections to allow better access to and across Snelling for both pedestrians and bicyclists
- Buffered bike lanes and widened sidewalks in Zone 5 (Hewitt to Midway Parkway)
- Possible improvements between Marshall and University Avenue

3. Comments/questions from Task Force members about Snelling between University and Hewitt:

- Snelling Avenue should be a great place for walking – a green street is a priority.
- It is important to slow traffic and this will make things better for everyone.
- Have medians now and still can't get across Snelling – need wider sidewalks and medians.
- First priority should be to provide a good pedestrian space.
- Don't have parallel routes far from Snelling – this takes people away from Snelling when we want them to be going to businesses on Snelling. Pascal is too far away.
- In an effort to extend bike lanes south to Minnehaha Avenue: Between Englewood and Minnehaha, businesses have parking in the back but parking is broken up and hard to access. If the city and businesses could redesign and open up the alley parking on the west side of Snelling for this one-block stretch so it was connected and more accessible (and the city or MnDOT would pay for it), perhaps businesses would be amenable to eliminating the few on-street parking places.
- Does city have any plans for business redevelopment similar to things that were done along Snelling – for example, programs for improving back entrances? *Response:* The city is planning to do a zoning study along Snelling – this would be a long-range option.
- Bike lanes get cyclists off the sidewalks – need to consider that 90% of the cyclists along Snelling use the sidewalks
- High trade-offs and very difficult but there are safety benefits for pedestrians with bike lanes.
- It will be very important to have outreach to businesses in advance before recommending the removal of any parking.
- The Aldine pedestrian bridge will likely be replaced within the next ten years.
- Pascal is nice because the freeway crossing is on the street, rather than a separate bridge in “no man's land”
- What about a wide outside lane?
- Can there be supplemental signal activation in the median at unsignalized intersections to make it easier for people to get all the way across Snelling.
- Hamline University has explored with Xcel the possibility of removing the utility poles in the sidewalks (near Hewitt) but there are no specific plans in place to do so at this time.
- Are there places where signal phasing might be changed or a regular pedestrian crossing cycle might be added rather than an activated walk signal? Pedestrians should be able to cross on every cycle.
- Are we keeping existing restrictions on right turns on red? Are there other locations where right turns on red should be banned?
- Would St. Paul consider using “Hawk” signals?
- It is important to have directionally aligned truncated domes at intersections.
- Have to be careful about what plantings are used in medians.
- What about widening sidewalks and making wider bus stops for Rapid Bus?
- Narrow lanes are not really pedestrian refuges.

- There is not enough space on the northwest corner of Hewitt and Snelling to wait with 30-40 kids (the elementary school crosses here to go to swimming).

4. Comments/questions from Task Force members about Zone 5 (Hewitt to Midway Parkway) suggested improvements:

- There need to be more pedestrian crossings north of Hewitt – especially need them at transit stops.
- Will the proposed design allow lower posted speed limits than existing? Speeds really need to be reduced in the section between Hewitt and Midway Parkway.
- Are the improvements proposed in Zone 5 long-term or short-term improvements?
- There are other tools for lowering speeds (enforcement, for example) – will these be used in the short-term?
- There is a “cow path” on the west side at Energy Park where people are trying to get to the bus stop – need to provide pedestrian access in this area.
- There is a lot of pedestrian activity under the bridge at Como – it is especially busy during the State Fair. This is a bus route connection – could there be a more significant bus passenger facility in this location?
- Lots of bicyclists will not want to go down and up the ramps as proposed.
- Where would bikes go past Midway?
- Hope that one recommendation is speed reduction – there are many ways to accomplish this besides rebuilding the street.
- This is a terrible place to try a two-way cycle track.
- Could the bike lane be extended to Minnehaha to connect to the bike lane on Minnehaha? Could parking be removed between Hewitt and Minnehaha and would a bike lane fit if the parking were removed? Could connect to the bike lane on Minnehaha, at least in a long-term scenario, if parking could be removed.
- Parking is used all of the time between Minnehaha and Englewood.

5. Comments/questions from Task Force members about Marshall to University segments:

- Will a median stay between Marshall and St. Anthony?
- St. Anthony is not bad for biking.
- It would be ideal to have a route closer to Snelling than Pascal – perhaps this could be accomplished in the long-term if not in the short-term. Perhaps could look at Asbury?
- There are a lot of bus passengers currently at St. Anthony and Concordia (transfers between I-94 and Snelling Avenue or people accessing I-94 buses)
- There may be some merit to just getting bikes across I-94 even if can’t get them all the way to University. This would get bikes as far as St. Anthony and St. Anthony and Carroll are useful.
- Make sure there is good bicycle parking – both short-term and long-term and provide a variety of parking options, not just lockers at transit stations. Could consider vertical bike parking to reduce the amount of sidewalk space used.

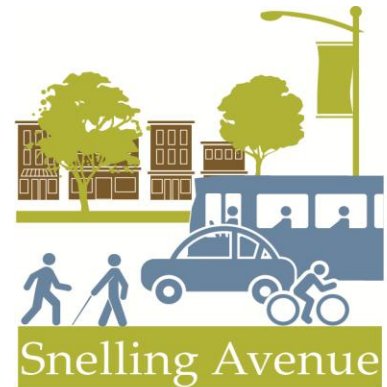
6. Public Involvement Activities/Next Steps

- Presentation materials and documents are posted on the project website at www.dot.state.mn.us/metro/projects/snellingstudy
- Send out a link to the MnDOT bike design manual
- It is best to do the public open house before final recommendations are made.

Meeting Notes

TASK FORCE

SNELLING AVENUE MULTI-MODAL TRANSPORTATION PLAN



November 13, 2012 – 1:00 – 3:00 p.m.

Room 112, Anderson Center, Hamline University

Attendance: Listed at end of notes

1. Task Force Feedback from previous meeting

- Regarding removing parking between Hewitt and Englewood to extend bike lane south of Hewitt(not feasible due to the fact that the additional width would need to come from medians/sidewalks/bump-outs.)
 - Task Force member comment: Would like two 10-ft lanes rather than 11-ft for additional width.
 - Response: Will look at adjusting the outside stripe location to make it as bicycle-friendly as possible.
- Would like to ensure that there's an option for getting across I- 94. Concerned about taking people to St. Anthony and then leaving them there.
- Northbound right turn lane gets used, but not southbound—unused space.

2. Accessibility Checklist Presented

- Focus has been on ramps, but the consultant team is trying to look beyond that as well.
- Want to show a clear pedestrian zone.
- Biggest offender of ADA challenges along Snelling right of way is old driveways that were constructed before ADA requirements (5-9% slope rather than 2%). Others include grate openings, pipes, curb ramps, retaining walls that narrows space and reduces ability for two wheelchairs to pass.
- Task Force Comments and Questions:
 - At Taylor and some high-speed locations, would bollards or something else be considered?
Response: Yes, can consider it.
 - It appears taller lights spread more lighting than the St. Paul historic-style lighting. Is there anything in-between?
Response: Need to take into account where there are trees or obstructions as well.
 - Any plans to do anything with the higher/freeway-style lighting? Concerns that this is a visual signal that Snelling is a highway and people go fast.
Response: Sometimes at intersections taller lighting is used, and lower ones mid-block; need to look at lighting at all intersections versus just those with signals.
 - Often the light poles are an obstruction on the sidewalk
 - There are a lot of unused tree boxes along Snelling; should look at adding trees/landscaping back in.

3. Reviewed Draft Recommendations by Intersection/Area

Task Force Members Comments and Questions:

- Selby Intersection

- Selby bike corral—there are a few racks near Patina and Starbucks; never see those full, is it too much? Take some out or move them to a higher demand area?
- East side has additional demand for bike racks; move some from across the road?
Response: Will need to look at where they are needed during design phases; City staff responded that they would rather over-represent than under-represent.
- Don't think there is enough space for median refuges.
- Could far-side bus stops considered instead of near side?
- People don't know what 'Share the Road' means; sign it differently? Have arrows and signs?
- Could Dayton crosswalk have ped refuge? It's currently very difficult to cross four lanes. Maybe get a setback to provide space or take away left turn lanes. Signalize the intersection? A lot of people cross there; a lot of cut-across vehicular traffic there as well trying to avoid Snelling/Selby.
- What's the net loss of parking at Selby? Need to make note of net loss of parking during design
Response: 2-2.5
- Marshall Ave and Iglehart Ave
 - Iglehart is what people use to get to Pascal typically rather than Marshall; want better signage/guidance for bicyclists in the area
 - The gas station has a convenience store; add crosswalk there?
 - Bike lane between Marshall and Saint Anthony (buffered bike lane included in 2016 bridge redecking over 94)
- Carroll Ave and Concordia Ave—propose improvements for ped ability to cross Snelling
 - Why is "porkchop" at exit from EB I-94 so small? It encourages high speeds from the freeway
- Saint Anthony
 - Check lane widths shown
 - Model may predict more cars storing in a third turn lane; most drivers stay in the two through lanes; is there a way to encourage using the additional lane?
- Shields Ave and Spruce Tree Ave
 - On the northbound/east side of Snelling, is the undeveloped area owned by MnDOT?
Response: Met Council.
 - Why can't we have additional right of way to use here for a bike lane to continue through?; Look into redevelopment opportunities (two-way facility utilizing that location)
 - Transit stop at Spruce Street makes sidewalk very narrow; may be unsafe to put bike racks there and reduce space further. It's a very busy/crowded bus stop. Maybe move the racks around the corner?
- Charles Ave and Edmund Ave
 - Don't understand note about loss of street parking near Midway books? There already isn't parking from University to the alley.
 - Bike ramps are shown next to ped ramps; could they be moved to other side of bus stop?
- Thomas Ave and Lafond Ave
 - West side of road has a narrow transit station—move bike ramps around corner on Thomas or in grassy median to allow more space

- Blair Ave and Van Buren Ave
 - Has bench placement been considered in these plans?
Response: No, that level of detail has not been looked at during this study, but this study can recommend including ped facilities such as benches and trash receptacles, recycling etc.
- Minnehaha Ave and Englewood Ave
 - Removing an entrance at gas station on corner of Minnehaha and Snelling for bike racks would make maneuvering in the lot very difficult (already difficult).
 - West side of Snelling shows on-street parking; this area is narrow for peds and these businesses all have space behind them for parking; recommend removing parking here.
 - The parking back there is narrow and difficult to use; the small businesses depend on the street parking and will not want to give these spaces up
 - Recommend showing another sheet of this area with removed parking and better ped facilities
- Hewitt Ave and Taylor Ave
 - Northbound Snelling Ave turn onto Hewitt—could the turn be shorter to allow more green space?
- Hewitt Ave intersection
 - Reminder that in this area the bike route is Albert, not Pascal—look at a closer route to Snelling such as Asbury or Simpson
 - Include wayfinding signage for bicyclists
- Pierce Butler Route
 - What's the design speed? Currently people travel at high speeds and it's very dangerous
- Energy Park Drive/Bridge
 - Dynamic speed signs have worked in other areas; consider it here to reduce speeds.
 - Signalize ramps?

4. Next steps

- Open House November 27
- TAC Meeting – December 4
- Technical Memo # 3 – Draft Recommendations to be completed in December
- Final Report will be drafted in mid-December and finalized in January



Snelling Ave Project Task Force Committee SIGN-IN SHEET

Meeting Date _____

Initials	Name	Organization	E-mail Address
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	Amy Sparks	District Council 12	amy@sapcc.org
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	Betsy Leach	District Council 11	betsykateleach@gmail.com
	Bill Goff	MnDOT Planning and Program Management	william.goff@state.mn.us
BS	Bill Sylvester	District Council 10	williamsylvester@gmail.com
	Brian McMahon	University United	bmcMahon@universityunited.com
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Snelling Ave Project Task Force Committee SIGN-IN SHEET

Meeting Date _____

Initials	Name	Organization	E-mail Address
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<i>ML</i>	Mark Lindberg	MnDOT Area Engineer	MARK.LINDBERG@STATE.MN.US
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Appendix B

Public and Agency Comment Summary

B-1 – Comments Received on Tech Memo #3 (Draft Recommendations)



SUMMARY OF DRAFT RECOMMENDATION PUBLIC COMMENTS

SNELLING AVENUE MULTI-MODAL STUDY

Comments received as of December 14, 2012

Context Zone-Related Comments

Context Zone 1 ("Selby Mixed-Use")

- I live in the Merriam Park neighborhood and just wanted to voice my concern and thoughts on the Snelling Avenue Study, particularly the intersection of Snelling and Selby.
 - That intersection is a major draw for residents of the neighborhood. We live just a few blocks down on Hague Avenue, towards Fairview. There are a variety of shops, as you know, on "Snelby" and it is a very unique intersection. However, the current freeway-like nature of Snelling really discourages my wife and I from walking up there. Snelling looks and feels like a freeway... It's impossible to cross Snelling anywhere but at Selby. I agree with the idea of using brick pavers at the intersection to not only (hopefully) slow traffic, but make it more aesthetically pleasing, especially since the northwest corner is such a charming corner.
 - I think that intersection has tons of potential (as evidenced by the future redevelopment of the Associated Bank), but the un-friendly nature of the area to pedestrians/bicyclists is a huge turn-off. That unique mix of boutiques, shops, cafes, etc. on that corner makes it a great place wander and stroll. But that is the last thing anyone wants to do with vehicles and semi-trucks whizzing by. I understand Snelling is a major artery and it always will be, but I think more needs to be done all along Snelling to slow people down- make it more of a nuisance and inconvenience to motorists. More emphasis should be put on accommodating pedestrians/bicyclists rather than motorists.
 - There seems to be more and more interest in walkable neighborhoods such as ours. However, it seems that much planning centers around how to accommodate motorists. I believe that Minneapolis and St. Paul are definitely starting to give more priority to pedestrians/bicyclists, as this whole study shows, but I just wanted to voice my support to continue those initiatives that make our neighborhoods more walkable and better places to live. One of the main reasons we chose to buy a home in this neighborhood is because of the walkability factor. I know we are not the only ones who want to live in places that are interesting and walkable. The Snelling and Selby intersection is a great start for the neighborhood/the city, but I think it has much more potential that won't be fully realized until the traffic issue on Snelling is addressed and priority is given to pedestrians/bicyclists.
 - Thank you for your work and taking the time to read my thoughts. Please let me know if I can provide any other information or feedback. I am a big proponent of being involved in neighborhood matters and would love to offer my support and time if needed. I just had one more thought: I've seen so many times individuals turning right on red at Snelling/Selby almost hit pedestrians because they are

looking to their left and not realizing that there are pedestrians coming from their right. So maybe some no right turn on red signs, at least for certain times like 6am - 10pm or something would help to alleviate that issue. Or just making motorists more aware of the fact that priority is given to pedestrians would help them to be more cautious.

- My comment/question for the project involves the installation of pavers in the sidewalks at Snelling & Selby Ave. It appears that this is the only location where brick pavers are used in sidewalks along the project. Snelling & Selby is an area that is already economically vibrant and flourishing. In my opinion, pavers or some other cosmetic enhancement would be better served north of this area, perhaps at Spruce Tree Ave. & Snelling where there is much pedestrian traffic and need for economic improvement or Minnehaha & Snelling. It would also provide more economic equity along the avenue. Are there special interests involved that influenced the decision to install brick pavers at Snelling and Selby Avenues?
- I have owned the property on the Northwest corner of Selby and Snelling Avenue since 2006 when it was condemned. Since my renovation of the corner, a formerly underutilized building has transformed into a flourishing local business destination. I would like to thank you for making the plans for the 2013 Snelling Avenue available online. However, after considerable review, I would greatly appreciate the proposed bicycle corral in front of Flirt Boutique to be moved to one of the following places: the Southwest corner of Snelling Avenue and Dayton Avenue, the Northeast corner of Snelling Avenue and Selby Avenue, or further south in Snelling Avenue near the green space at O'Gara's. My reasoning for the above proposal is that the availability of parking is *imperative* on the Northwest corner of the intersection due to the high concentration of local businesses and residential property; higher than any other corner on the intersection. Keeping the patrons and residents closest to their most frequented corner increases the overall safety of the entire intersection.
- Selby and Dayton: I'm very much in favor of the 2 bumpouts on the east side of the road.
- Marshall/Iglehart: I prefer the Option 1 SN-02 choice. I really like the usage of the medians in this section and the presence of bike lanes from Marshall up to 94.
- [I am] the owner of Patina, at the corner of Snelling and Selby. We are writing in favor of the proposed bike lane along Snelling, but are concerned about the proposed bike rack location. Parking at that corner has been an issue for our customers as well as all the other businesses situated at the corner. To reduce even one parking space, to accommodate a bike rack, is of concern. We would like to propose possible other locations along the corridor: nearby O'Gara's green space, across the street - incorporating it into the new development, or further down Snelling where it is less congestive.
- I am writing to give my comments on the draft recommendations for the Snelling Ave. Transportation Plan. As a merchant/business owner on Snelling Ave, I am opposed to putting a Nice Ride station on the NW corner of Selby and Snelling. There is limited parking in front of our shop as it is, and the proposed construction of the new curbs and putting the bicycles there would further limit the parking. This is a highly trafficked area with customers for all of our shops on the corner and we have had comments from our customers about the lack of convenient parking. It has hindered our business to an extent and I feel that this would further hamper our business. There are so many other

places in this immediate area that would be better for this. Across the street, in front of the bank, where there are no entrances to businesses would be ideal. Or in the green space near O'Garas. We are a small business and dependent upon the available parking for our customers. Please consider moving this to a different corner so that we do not lose the parking in front of our shop, making it very difficult for our customers. Thank you for your consideration.

- We don't want the bump out on the sidewalks. There are seven stores from Dayton Ave to Selby Ave and we don't have enough parking spots as is. By adding bump outs and a bicycle corral you will be hurting businesses. If you don't want to put another locally owned business out of business you will not do this.

Context Zone 2 ("I-94 Interchange")

- Consider "beg buttons" for the pedestrian crossing at Carroll Avenue. The 53 bus stops there and it is a mad dash to get across Snelling to connect to the 84 going north. I doubt an unsignalized crosswalk will stop traffic very much.
- Find a way to better connect the bike lanes that end/start at St. Anthony. This plan dumps cyclists into a very busy intersection that is the most dangerous intersection in the state (according to MnDOT).
- The removal of the left turn at Shields is WONDERFUL. Walking across Shields from the south is very scary as motorists do not look for pedestrians coming north.
- I'm not sure why there is an extra southbound lane on the bridge across I-94 going from the westbound entry ramp to the light by the eastbound off ramp. This extra lane could be used better as a bicycle lane or wider sidewalk. As a driver, it appears to be unnecessary. It does not move traffic through the intersection better, in fact, b/c it causes "zippering" just past that intersection, it often slows it down.
- Traffic accidents on Snelling Avenue near I-94 perennially are the highest in the state. Has this result that gets published every year been forgotten? Would it help if I sent pictures of some of the traffic accidents that I walk past? How does the plan deal with the increasing traffic that has been projected? Won't this approach (lower speed limit, further congestion) further increase the number of traffic accidents for cars and trucks? Ayd Mill Road connection and further Midway/Bus Barn development are currently being talked about. Wouldn't it would be irresponsible to pursue a plan that does not incorporate this larger picture? Should additional connections to I-94 should be part of this?
- Carroll Ave and Concordia: I like the landscaped median and presence of bike lanes.
- St Anthony: I like the landscaped median in the middle.
- Shields Ave and Spruce: I like the large landscaped median.
- I see the traffic light at Spruce Tree to be a big headache. Understood that it is part of a pollution reduction plan, trying to redirect traffic from Snelling and University. This goal would still be achieved if we restricted east and west bound traffic to right turns only. Restricting these to right turns simply means south bound customers will adjust their driving to use Pascal and St Anthony.

Context Zone 3 ("University Neighborhood Center")

- While the plan does add the ability for southbound traffic on Snelling to turn left on Sherburne as an alternative, this is so close to the University and Snelling intersection that it will be difficult during peak periods for drivers to make this turn, due to high volumes of traffic turning right from westbound University onto northbound Snelling. It

is a question of when, not if, someone will get hit while trying to make this turn. The median should be left open at Charles Avenue for a more uniform traffic flow on Snelling that provides shared access for ALL users, not creating a virtually private street for a few local residents at the expense of everyone else.

- I love the cuts in the median north of University, but am concerned about snow removal. We are year-round cyclists and snow removal is critical along the entire area.
- During the initial design, the state indicated that a left hand turn at Sherburne was not safe in light of the closeness to University Avenue intersection which at that time had the highest traffic count in the twin cities. It was deemed too dangerous to place a turn that close to University with all of the traffic on Snelling Avenue. The state had studies as to the number of accidents, cars traveling, etc. and how it would be a hazard. Thus, I find it amazing that now it will be safe to have a left hand turn at Sherburne so close to University when the traffic is essentially even heavier. I travel Snelling several times a day through the intersection of University and Snelling. Going south during the heavier times of travel, often you will have cars waiting to get into the left hand turn lane that will block traffic. With the light rail the left hand turns are very cumbersome with the ongoing traffic so they turn slow and you often only get a couple of cars making left hand turns each light. The other day I turned left and I was the 4th and final car able to turn left with the left hand turn arrow. Suggestions I have for this is that the turn paths around the corner for left hand turns from Snelling onto University in both directions should be marked so people who are turning left know where to travel and another design change should include the extension of the left hand turn lane on Snelling Avenue going south. I realize you are limited going north due to the configuration. However, both of the left hand turn lanes at University often fills up and cars are stuck trying to get into the lane and this blocks traffic as well delaying other cars traveling south. This is also a problem for people turning left north bound at University for the westerly north bound lane which often gets blocked due to cars cueing up to turn west onto University avenue due to the short left hand turn lane. I personally would eliminate the intersection into Midway Shopping Center at that location and move it to the south behind the buildings to give it greater separation from University Avenue.
- University and Sherburne: I appreciate the bulb-outs and grassy media. The sidewalk on Snelling gets really narrow by the northeast corner of Snelling and University with all of the obstacles embedded into it, so the bulb-outs will help a lot.

Context Zone 4 (“Hamline Mixed-Use”)

- I can see no reason to deny the left hand turn from Taylor onto Snelling North. I oppose the recommendation. Most of us only use the turn when traffic is calm and light. Visibility is very good.
- I like that the option of removing parking on Snelling from Englewood to Minnehaha Avenue was included as a possibility in the recommendations. I would add in the comments (somewhere) that:
 - "Choosing this option would enable wider sidewalks and bike lane extensions south to Minnehaha Avenue from Hewitt. This would be beneficial because Minnehaha is already a city-designated east-west bike route with striped bike lanes."

- I would also (in recommendation comments for this option) make it:

"...contingent on the creation of a unified parking district behind the businesses on the west side of Snelling (between Englewood and Minnehaha). The city of Saint Paul could facilitate the creation of a unified parking lot/district by negotiating with building landlords and there is more than enough space behind these buildings to make it happen. Creating such a district would have the added benefit of enabling elimination of several mid-block driveways that exist because the rear parking lots are currently broken up and lack unified access points."
- First, I feel it is a huge mistake to close off any more intersections on Snelling Avenue. In the early 1990s, Snelling was rebuilt and the existing medians were installed. It was a big adjustment for the community, but overall it worked because enough intersections remained open for access to local businesses. I am very concerned about the plan to close off the center median on Snelling at Charles Avenue and at Taylor Avenue. The purpose of the Charles Avenue closure is to create a more bicycle and pedestrian friendly crossing of Snelling. However, the medians are already in place for such a crossing at Edmund and Sherburne Avenues, which are one block north and one block south of Charles, respectively. This only would require people to travel 250 extra feet to cross Snelling using an intersection with a closed median. Blocking the intersection at Charles will turn the northbound portion of Snelling between University and Thomas Avenues into a racetrack because there will not be any slowing of traffic to enter left turn lanes. A four-block stretch without any place for motorists to turn left onto the streets that serve local businesses and high-density apartment buildings will put far too much pressure on the Thomas/Snelling intersection due to the huge increase in left turn movements. Those of us who use Thomas as an east-west neighborhood route, regardless of mode, will face a much more difficult crossing. A significant change to the light cycles will be required in order to accommodate this additional traffic, which will change the through traffic movement on Snelling.
- Closing the median at the Snelling/Taylor intersection doesn't account for the need for left turns to access the Midway Motel. Prior to the early 90s rebuild of Snelling, access to the motel was directly from Snelling. The current motel driveway opens onto Taylor Avenue. As long as motorists can turn left from northbound Snelling onto westbound Taylor, the current arrangement will work for the motel, but a further reduction to their access is unreasonable. This locally owned business pays far more in property taxes and street maintenance fees than just about any resident of the area. If their access is removed, they should have their street maintenance fees greatly reduced to compensate them for the lost access. I don't think the motel owner was included in developing this plan, nor realizes that access to Taylor Avenue will be eliminated for northbound Snelling traffic. What outreach has been done for this business? If none, then this plan should not be adopted until this business owner is in agreement, or else don't close the median at Taylor.
- [One] of my concerns is the idea of shortening the left turn queues, especially the one at Hewitt. This is an important intersection for southbound Snelling traffic to use when getting to Hamline University. Similarly, the Minnehaha intersection needs a sufficiently long left turn queue to hold the waiting traffic so it doesn't back up onto

Snelling. Sometimes larger trucks need to use these intersections to make left turns, and they take up a lot of space in the queue, causing backups.

- Some local residents are advocating removing on street parking on the southbound block of Snelling between Englewood and Minnehaha Avenues. This parking is critical for those businesses - without it their revenues would be greatly reduced, which could cause some of them to fail. The owner of the hardware store told me that he would close the store if the parking in front was removed. People keep saying that they want "shops," but in order for "shops" to be economically viable, there must be convenient motor vehicle access and parking. Do not remove any parking from in front of the businesses on this block.
- I am uncertain that improving the pedestrian crosswalks at Hubbard (particularly) and Englewood is a good idea. Cars traveling southbound on Snelling that catch the green light at Hewitt are often traveling very fast at these intersections. It may be the case that other proposed improvements will help to slow traffic here, but at the moment these crosswalks are IMO a lot more dangerous than similar crosswalks further south on Snelling. I am not sure that we should be encouraging more pedestrians (particularly children heading to or from Hancock) to cross at these intersections.
- The loss of any southbound on-street parking between Englewood and Minnehaha would have a significant impact on at least two businesses there -- Hamline Hardware and Ginkgo's -- that rely heavily on brief in-and-out visits. While a wider sidewalk would be nice, I do not see it as a major priority. And I do not see why a bike rack at Snelling and Minnehaha should take up a parking space. Why not put it on the other side of Minnehaha, next to the bus stop? The gas station takes up more space than it needs anyway.
- I am concerned about the idea of taking the parking away in front of Hamline Hardware to the Ginkgo Coffee house. There is very little parking available for these businesses and they are a large part of making this community vibrant. The sidewalks there are not inadequate.
- I'd like to see a physical barrier, especially on RR and by Taylor, between cars and bikes/pedestrians. It could be elevation difference!
- If you block off Charles Avenue as planned you are essentially eliminating all access to the businesses on the east side of Snelling from Thomas to University except through the neighborhood streets to those businesses. This is contrary to the promise made when Snelling Avenue was initially developed. You indicated that Charles Avenue was chosen as a bike route and thus the reason. The state has control over the design if I recall correctly and allowing left hand turns at Sherburne is a safety issue which should be foremost. Charles Avenue is a terrible choice because the intersection is not controlled and with all of the traffic it is very dangerous. A more appropriate location for a bike path would be on Thomas or Minnehaha where you do have controlled intersections for bicyclists to cross the major streets and in some locations you have parking already limited to only one side. Another option would be for the city to allow the businesses to buy and construct parking lots on the south side of Sherburne Avenue and then eliminate parking on the south side of the street. This would give the city a wider and safer street for its bike path for bicycles and it would be closer to University

so bicycles could go over and cross at a controlled intersection. In view of the number of vehicles going down Snelling Avenue each day, it seems ridiculous to create another traffic impediment when it would be easier to divert the cycles to a street that is better suited and has controlled access at the major arterial streets (Snelling, Hamline, Lexington) but that may be too much common sense for the City planners. I was always told that moving vehicles efficiently is your responsibility and having more places to cross which will increase interference with the flow of traffic does not make a lot of sense to me. People crossing this area will merely slow down traffic and cause delays and be unsafe. Doesn't make sense for people to cross at uncontrolled intersection when they could cross in a controlled intersection nearby.

- Charles and Edmund: I appreciate the grassy median idea. A lot of pedestrian crossings occur on foot in this area, so larger refuge areas are a good idea.
- Minnehaha and Englewood: I appreciate the sidewalk bulb-outs.
- Hubbard: I like the large grassy median.
- Hewitt and Taylor: I like the SN-12 option more because of the standard bike lane approach. The idea of extending the sidewalk width by the Hamline stadium by removing the right turn lane is a fantastic idea!
- There are community created planters along the avenue between Englewood and University. The Maintenance of the planters has been difficult because they are far apart from each other. Volunteers can't haul water, mulch and plants very well along that entire stretch. A recent suggestion by the community was to group them together at a few different nodes, making them easier to maintain. They could be employed at uncontrolled crosswalks as an additional traffic calming element, and a gateway affect? Perhaps on Charles, Lafond and Englewood? Contact Hamline Midway Coalition for more information.
- I notice that the elimination of the northbound left-turn lane on Snelling at/onto Charles Avenue is still called a "recommendation." I hope this recommendation is put on the back burner. I live [on] Edmund Avenue, and my husband and I use this left-turn lane several times per week. We really do not want to have to spend up to five additional minutes driving in a circle around one or more blocks just to get to our garage. As it is, we just pop right in neatly -- quick left onto Charles, quick right into the alley, and we are there. This kind of direct route and convenience is part of why we live in the inner city instead of out in some suburb. Many renters and homeowners on Charles between Snelling and Aldine would probably agree with us on this. Also, I speak as a cyclist. For twenty years, I have crossed Snelling on my bike at Charles and never had a problem. I just pay attention. As a matter of fact, cars in the left--turn lanes have the effect of slowing traffic so that I can easily cross.
- I would really like to see a HAWK signal or some other crossing aide aside from the medians at the Charles Ave bikeway and Snelling Ave.
- I have some concern with the 3 consecutive pedestrian medians at Lafond, Charles, and Edmund Avenues I feel this may be a bit excessive and could cause issues for businesses along Snelling, I think it will do a ton to increase safety for drivers wanting to turn Left onto Snelling, but may increase speeds between Thomas and University.
- I would really like to see a HAWK signal at Taylor. I think installing a median to try to prevent crossings there is a poor choice and taking the easy way out.

Context Zone 5 (“Expressway”)

- I cannot see the logic for denying a right hand turn onto Dan Patch. Onto Snelling, yes because people do speed.
- I have requested before now that the signs on the bridge going south warn people that the speed limit ahead -- preferably listing the distance -- is 30 mph. Most people fly through the Hewitt lights. 40 mph is common; I have seen people clocked at 50. This is critically important. The "safety zones" do not protect against aggressive drivers.
- I'm very supportive of the reduction in speed over Energy Park, and Pierce Butler, as heading south, speeding prior to, and into our neighborhood is an issue.
- I recognize that it would be ideal to rebuild the Snelling Bridge completely and that the bridge section is not due to be rebuilt for some years (2025?). However, I greatly appreciate the design considerations to work with what we have now, and I look forward to any effort to fund and implement all of the design applications.
- I am strongly in favor of improvements that will make Snelling more friendly to bicycles between Taylor and Midway.
- There is significant semi-truck traffic turning onto and off of Snelling Avenue at Pierce Butler and Energy Park. I am enthusiastic about the proposed geometric improvements at these intersections to slow turning traffic and make this area a safer one for bicyclists traveling northbound and southbound on Snelling. However, I am concerned that the tighter turns required of trucks may present a hazard to bicyclists also trying to turn onto or off of Pierce Butler and Energy Park. When a semi turns right, the cab swings forward and out (as if traveling the two shorter sides of a right triangle), while the rear wheels travel a more direct line (as if along the hypotenuse), thus creating a major hazard for cyclists to the truck's right. Of course, this is an issue at any intersection, but given the volume of truck traffic at these intersections, I think it is of particular concern here. It may be the case that the geometric improvements will not force a sharp enough turn by trucks to make this a concern, but I thought I would raise the issue.
- It is not clear to me what provisions are being thought of for clearing bike lanes of snow in the winter on the stretch between Taylor and Midway. Though I no longer routinely bike that route in the winter, I did several years ago; snow plowed off of the roadway was generally dumped onto the sidewalk, making it impassable for any but the most intrepid pedestrians. If there is a physical barrier of some kind between vehicle traffic and bicycle traffic, how will snow be cleared from the bike lanes?
- I prefer Option 1 for Energy Park (cycle tracks on the road, rather than the sidewalk).
- I realize that Pierce Butler and Energy Park are industrial areas, but I would suggest reducing the speeds down further to 30 mph all the way to the Fair Grounds. I have found motorists to be courteous, but the current speeds are a little scary while on bike.
- I love the idea of making Snelling more bike and pedestrian-friendly - especially across the bridge by Pierce Butler to the Fair Grounds.
- I hope something can be done about the speed zone between Pierce Butler Rte and Como Ave. I should think that the "natural speed" will go down if/when these improvements are implemented, but a 45 mph speed zone is simply too high in an urban environment like this.
- Removal of jerseys or wall down middle of bridge sounds insane—safety! There are a lot of semi-trucks on that bridge! Maybe cables through [area]?

- Southbound on Snelling bridge at night—it is a maze of lights and hard to see even Hewitt lights. Suggest “down lighting” only there—try it at night!
- Wind barrier on Snelling bridge like on St. Paul I-94 bridge (Cedar Ave!)—more comfortable on open spans
- Plowing on Snelling bridge—now takes week or two to clear walks!
- Pierce Butler / Energy Park drive / Como / North of Como: I'm loving the geometric improvements at the interchanges and replacing the median barrier with the landscaped median. The median today is too tall and ugly, especially by the fairgrounds. I like the bike lane idea but I think the green pavement for the bike lanes is a little unnecessary and tough to maintain. I like the speed limit reduction idea to 40 mph. I also like the wider sidewalks.
- Nowhere in this section of the plan did I see any mention of railing height along the Snelling bridges over the railroads. I would like to see high railings or pedestrian safety fencing included. MN-DOT went as far as to do this on Hiawatha Ave over Lake Street which is also a MNDOT highway, so why won't they do this on Snelling Ave? The bridges over the railroad tracks are a major concern. On a windy day, it is easy to be blown up against the existing waist high railing.
- I thank you for taking comments on the Snelling Avenue study. Making Snelling Avenue pedestrian friendly at Energy Park, Como and over the railroad is more than simply providing additional pedestrian and bike lanes. The areas are visually unappealing and therefore unappealing to pedestrians. One way to improve these areas is the green space around the off and on ramps. These mowed areas continue to burn out during the summer creating an eye sore. I understand that with shrinking state budgets, the Department of Transportation is not immune to budget cuts. One opportunity to address beautification and maintenance costs while addressing storm water concerns would be to team up with the Capitol Region Watershed District to install prairie restorations and rain gardens. By partnering with the CRWD, MnDOT could leverage grant dollars to defray up-front costs of installation and reap the benefits of long term maintenance costs.
- The bike lane does not cross Como Ave bridge. This seems almost cruel, as that is such an easy (but currently dangerous) route for a bicycle. I understand the exit and on-ramps would be a challenge, but bikes will continue to use the Como Bridge and we should plan for that.

Parallel Bikeway-Related Comments

- It is nice considering bike lanes on Snelling, but has any consideration been given to how the laws of the road will be enforced if these lanes are put in? There are bike lanes on Como under Snelling east and west, it is amazing no one has been killed since 9 of 10 riders run every stop sign all the way from Lexington to Cleveland. They will run a stop sign right in front of a Metro Bus and expect that bus to stop for them. I am very much aware of the stop sign violations since I work at the Minnesota State Fairgrounds. There has to be consideration given how enforcement will be handled before adding more lanes and enforcing the stop sign violations on Como.
- Snelling is not appropriate for biking although some do. I am a former bicyclist and biked all over NYC and will not bike here. I realize my City Council representative wants St. Paul to be bike friendly. However, he is young and healthy. And St. Paul is not

Eugene, Oregon or Davis, California where bicyclists control the roads. Midwestern infrastructure is not designed for bicyclists.

- Allowing only bicyclists to make certain left hand turns is ill-thought out and dangerous. Does the DOT really think this will save lives? In any event, it is important that all bicyclists follow the rules of the road: most do but not all. Bicycling on Snelling in the winter with snow and ice can cause even the best bicyclist to wipe out.
- I am a bike advocate. I bike-commute to work, to church and on errands and ride most days of the year. I average well over 4000 miles/year of riding in the Twin Cities, in both winter and summer. My normal commuting routes take me along University Avenue as well as Pierce Butler; thus I'm accustomed to riding in traffic. Snelling Avenue is two blocks from my home and I occasionally ride it. It's not my favorite street for cycling. The traffic is heavy, the lanes are cramped, and there's not a lot of room for a bike without occupying a traffic lane. I'd love it to be a bike route. Nevertheless, the plans for Snelling strike me as poorly thought-out. I have several comments and questions.
 - As a cyclist, I would DEARLY love for there to be a good route along Snelling across the BN/SF tracks. Under the proposed plan, any time I rode the Snelling bridge and had a car to my left, I would have to worry that it might hit me as it tries to exit onto Energy Park or Como. As such, the proposed plan is little improvement over the current, intensely dangerous, situation for bikes. **I think by far the best solution would be a shared bike/pedestrian sidewalk along Snelling, which would protect bikes by removing them from the traffic, in contrast to the present plan**.
 - Don't place the bike lanes to the left of the parking lanes--if they are placed to the right of the parking lane, bikes will be protected from traffic.
 - Q: What makes a cyclist comfortable? A: Distance from traffic. --If the bike lane HAS to be to the left of parked cars, provide a wider buffer between cars and bikes by taking space from the 10' median.
 - Snelling would not be a good bike-route if it ended at the Fair Grounds. If you're going to encourage bikes, allow bike traffic all the way to the obvious destinations: Rosedale and beyond!
 - As you're well aware, Snelling is a main North-South artery. Unless cars are suddenly going to evaporate (--and I see no commitment in the plan to decreasing bus fares to make bus transit more appealing), any plan needs to take into account the fact that Snelling is very heavily used by motorists. **By making Snelling less car-friendly, this plan will increase driving miles, by encouraging motorists to take longer alternate routes.**
 - How will snow removal be handled? Will a heavy snowfall result in bike lanes being unusable, as they typically are now in Saint Paul? If you expect cyclists to use Snelling, the city can't use bike-lanes as their snow-dumping site--there will need to be decent snow-removal. Unfortunately, the city appears not to have the resources to provide that commitment. Its terrible job at cleanup along University Avenue during and after this week's storm--a street that already has the 11' lanes that are recommended for Snelling--shows the problems that come with decreased lane-widths.

- In summary, the only part about the bike portion of this plan that I firmly support, is widening the sidewalks over the BN/SF tracks. The latter would be very welcome!
- To provide more parking for bicycles, why not use the center medians? Put the bicycle racks close to the crosswalks. The bicycles are visible, which would cut down on theft, and the crosswalks make them accessible. It is also cheaper than trying to install plant stock, which requires ongoing maintenance that we don't have the tax revenue to afford. Colorful paints could make the medians look better, and at a far lower cost. Here is where the local public art can be displayed in a practical way.
- My comment is that I believe the bike lanes would be most effective in the center of Snelling (or any other road for that matter, but specifically Snelling). There are many reasons why I believe this, but I'll just list a few:
 - I believe that having bike lanes in the center are much safer for the cars and bikes. A lot of accidents occur during miscommunication over merging/turning. Having bikes in the center put that emphasis on the biker (who is typically more attentive to the current task than a driver is).
 - Currently medians occupy some of the center lane at about 11 feet in some instances. If that were transferred to a bike lane, it would save space on the road from the prospective 16' that is being planned out for the current bike lanes. The 11 feet could be used as 5' for each way, and 1' for buffer.
 - If center bike lanes cannot be added to the entire project, I still believe the stretch of Snelling over Pierce Butler and Energy Park Drive should have a central bike lane. The merging on and off of Snelling at those intersections is absolutely terrifying, and it doesn't look like this project will account for many changes to that. I bike about 60% of my commute, and I wouldn't bike on Snelling at those intersections, because of how uncomfortable it is.
- I wanted to say that, as a cyclist, I am generally very pleased with the recommendations for Snelling Ave. I have ridden Snelling Ave personally, and find the portion between Taylor Ave and Midway Pkwy, in particular, very intimidating -- and genuinely confusing as to how to best ride safely.
 - I think the retrofits to that portion are very good, and should help to make it feel less like a freeway and more like the busy city street that it is. In particular, I think the elimination of the auxiliary lanes on the overpasses, plus the sharper turns to the exit ramps, would much improve cyclists safety and comfort.
 - I do dislike Option 2 for the Energy Park Dr ramp -- having cyclists follow the path of the crosswalk onto a cycle track would feel very unnatural. It also depends on cars yielding/stopping behind the crosswalk, which is far from a given.
 - I also think the transition for cyclists who do not wish to proceed to the intersections at Como Ave is very awkward. The plan suggests using a BIKE MAY USE FULL LANE sign for NB bikes, when the plan caption suggests that the engineers assume the bicyclist would be using the shoulder. If the shoulder is the intended facility, I think this sign is inappropriate. I'd prefer to see either all bike traffic exit and re-enter (with VERY clear signage that exiting will allow bikes to continue on Snelling), or to make it more like the previous ramp exits, with tighter turns and an easier ability for bikes to proceed forward.
 - One area that could also use a bit of work is transitioning from bicycles in their own dedicated lane to bicycles occupying the right-hand travel lane. In particular, at either end of the I-94 bridge, or at the northern edge of the study

area at Midway Pkwy, markings could be done differently to encourage bikes to merge into the travel lane prior to the intersection -- rather than realizing they have nowhere to go half-way through.

- My proposal is simple, “Ban bicycles from Snelling Ave.”! After all, it is a state truck highway. Like freeways, non-motorized vehicles should not be allowed. With recent new numbers being reported about an increase in auto/bicycle accidents, this would have an immediate effect on those totals.
- Snelling is much too busy to be a comfortable path for foot traffic and bicycles, especially where it intersects Pierce Butler and Energy Park drive. If there was a lower-level path for foot and bike traffic, and a marked bike route through the midway neighborhood. I enjoyed biking down Simpson and Adeine St. I believe that would solve many of the concerns. Consider also the impact of the State Fair, which fills Snelling with foot and street traffic.
- In my opinion, the new bike boulevard is a great concept and should be supported. But the demand has not yet been determined. I believe that it should be a two-phase project, beginning first at Snelling and going east. The last two-block segment, Snelling to Aldine, if the boulevard is successful, can be added on in a couple of years, including the recommended changes at the Snelling-Charles intersection. This opinion puts me at odds with some of my neighbor-friends who have been involved in creating the bicycle boulevard, but I think to some extent the project was "railroaded" (bike boulevard?) through its public process. Again, I advocate for completing the east-of-Snelling portion first.
- I just saw the plans for the Snelling corridor work and I have to hand it to your office for taking our community's needs into consideration throughout the planning process. I love the new bike lanes and “Share the Road” signage is much appreciated. The only suggestion I can make is about the bike lanes, especially in the green painted “bicycle/auto conflict” areas: please consider painting “Signal Your Turn” in the bike lanes as a reminder to bicyclists to practice road safety. Perhaps even posted signs near bike racks demonstrating what the hand signals are. I see too many casual bikers making dangerous turns without signaling. There's always tension between modes of transportation and I think a reminder like that shouldn't cost too much extra and will hopefully set the standard for good biking and driving behavior in our neighborhood. Making bike lanes more visible is a huge step in the right direction but bicyclists also need to step up and use hand signals every time they turn in a multi-modal environment like this one.
- I have been talking [with others] for many years about the lack of north-south bicycle connections from Como to Marshall. There is a lot of detail in the annotated map sections you provided, but I am having difficulty getting a complete picture of how bicycles would move from Como to Marshall. Do you have such a map? In some places there are bike lanes on the map, and in others I'm not sure what is envisioned. Please include shunts to parallel streets if that is what is envisioned.
- I absolutely love the on street bike corrals at Minnehaha, and at Selby, however I think the corral at Selby may do better as a long term goal until there is a more critical mass of people biking in the area, perhaps some sidewalk mounted racks would be a good short to mid-term solution.
- To encourage more bike traffic on an already over congested inner city highway sounds unsafe
- For safety of those wanting to bike in Saint Paul, encourage them to use already established bike routes, paths, blvds. etc. and don't encourage them to use a highway

that puts them at greater risk; there are plenty of bike bridges and alternative bridges across I-94 and there is the north/south Lexington bike pedestrian bridge on Lexington

- I was pleased to see the notice in the St. Paul Pioneer Press on 12/13/12 inviting public comment. I am a recreational bicyclist, but also an occasional bicycle commuter, and I appreciate the city and state's efforts to improve safe bicycle accommodations on our roads. Some good north-south options are badly needed in this part of St. Paul. I live in the Macalester-Groveland neighborhood of St. Paul, near Randolph and Snelling Ave. While I would like to bicycle northbound on Snelling Ave., I find the road quite dangerous in part due to:
 - Too many vehicles exceeding the posted speed limits (lack of traffic calming measures)
 - Lack of "shoulder" space in many segments of Snelling, particularly north of University Ave.
 - Dangerous "high-speed" segments, such as the bridges over the railroad tracks and Pierce Butler Route, just south of the State Fair Grounds. This same stretch also has dangerous higher-speed entrance & exit ramps. Why do we permit a 45 mph speed limit in this section??
 - Lack of "clean" and safe shoulders: these are frequently filled with sand and other debris, and in poorer condition (bad cracks and/or potholes) than the main driving lanes.
 - Visual clutter along the way; while I know this is to be expected for such a busy commercial street, it presents a challenge for bicyclists to be visible and stand-out

At no time is the challenge of Snelling Ave. more evident for bicyclists than during State Fair time. My partner and I bicycle Snelling Ave. to the fair 2-3 times each year, but find it's difficult to find an alternate route since Snelling is the only way over Pierce Butler and the railroad tracks, unless we're willing to spend considerable time going out of our way (such as via Lexington Ave.). I briefly reviewed the draft plan on your website. While I applaud much of what is noted in the plan, I would ask for consideration on a couple of items:

- "Bicycles May Use Full Lane" signs: these have no value. I cannot imagine that many (if any) drivers will have patience and respect for bicyclists who choose to ride in a full driving lane. It sets up for a dangerous situation. This policy may work fine on a quiet residential street, but not a major commercial thoroughfare.
- Dedicated lanes: this is the most helpful and effective option, particularly when adequately separated (either with striping, a buffer zone and/or curbing) from the traffic lanes. While there may be some space constraints in some segments of Snelling for this option, this is so highly valued by those who would like to bicycle.
- Finding parallel options to Snelling Ave.: might there be a way to develop good north-south options that are one block east or west of Snelling so bicyclists could be off of Snelling altogether? We've tried to do this (possible south of Marshall Ave.), but have found it nearly impossible in the vicinity of I-94, University Ave., and at Pierce Butler/railroad tracks.

General Comments

- The plan only became available very recently, or at least notification of the plan gave a very limited time to respond. This concerns me because it has limited community input.
- Anything that falls within the Americans With Disabilities Act obviously is needed and overdue. But much is "frills" that are expensive and unnecessary. We already are \$1,000,000 over budget with the Charles Avenue project. Now I assume the same people who lobbied so efficiently for Charles are lobbying for Snelling, including Mr. Stark who lives on Charles.
- What will any of this do if drivers are bad tempered or impetuous?. Reducing lanes is going to increase irritability and erratic driving. I was rear-ended on Snelling when I was stopped because the two cars in front of me were allowing a pedestrian to cross. The driver of the vehicle that rear-ended me was trying to move into the right hand lane and did not stop until he crashed into me. Fewer lanes, more people anxious and rushed.
- Considering how fragile the pavers are in the area of the Xcel Center I really think that brick type pavers are a waste of money.
- The current plan is dangerous, ill thought-out and caters to certain interests...mainly a city council member who wants everyone on bicycles. How will all of this affect our property taxes? How will it affect the elderly on fixed incomes?
- Please consider pedestrian crossing signage on medians, to better alert traffic in the left lanes. I have also seen pedestrian flags used in Washington state.
- Please reconsider closing so many streets off, as it just shifts the problem onto open streets. Also, please add left turn signals at lights with adequate timing. It is currently impossible to make a left turn on lights.
- Aside from Charles Ave, to limit bike and pedestrian crossing to lighted intersections, keeping existing ones, however. I fear breaking up the Avenue too much will cause traffic backups, and also endanger cyclists and peds.
- To reconsider using pavers at crossings. Perhaps something similar to what is being put in place along Univ. Ave. might be more appropriate, and will not require as much maintenance.
- In general, I am all for traffic-calming measures, and most of the improvements, with the caveat that car traffic moving through, as well as within the area be accommodated.
- I have reviewed the PDF Draft Recommendations for the Snelling Avenue Multi-Modal Study. I am impressed by the extensive effort and work to find ways within current right-of-way limits to better accommodate safe presence and passage for walk, bike and handicapped mobility. I am fully supportive of all of the elements, ADA applications, buffered bike lanes on the bridge, recommended widening of sidewalks where feasible, all of the redesign of the ramp/approach entrances to the Snelling bridge, as well as all of the intersection design considerations; *everything*.
- I look at this Multi-Modal Study not just as a "complete the streets" project, but as a complete the highway project vision. Snelling Avenue is designated as Highway 51. As such a "highway" should always have full function accommodation for walk, bike and handicapped mobility the entire length of structure. By definition a highway is a public way freely open to everyone.

- The [following] is my comments on the Draft Recommendations of the Accessibility check list only. As a member of the Snelling Ave Multi-Modal Transportation Study Task Force representing the Metropolitan Council's Transportation Accessibility Advisory Committee (TAAC) I am submitting the following comments. These comments are derived from discussions the TAAC has had and also discussion during my time serving on MnDOT's ADA Accessibility Advisory Committee. My comments are focused on the DRAFT Accessibility Checklist.
 - Sidewalk joints in pedestrian way best if sawed joints, except for needed expansion joints.
 - Avoid any decorative scoring. If any scoring is absolutely needed, radius as close to a sawed joint is preferred.
 - Push button height best if between 30" and 36". There are disabled people who are unable to reach the 42" to 48" height. Minnesota building code requirement for door push buttons is 30" to 36" which is generally acceptable by the disabled community.
 - Preference is that no part of pole or base below the crosswalk activation push button should extend further out from the center of the pole than the push button does.
 - A 5lb. max push on activating crosswalk signals is too much for a lot of disabled pedestrians. Preference would be about 1 to 2lb. maximum.
 - Crosswalks of poured concrete with sawed joints are most preferred. Pavers, stamped concrete and bituminous frequently seem to be rough and/or broken up.
 - Consider crosswalk activating buttons in pedestrian refuge area of median. Needed for pedestrians who are unable to walk the pace of 3'/sec.
 - On page one of DRAFT Accessibility Checklist Pedestrian Zone, I question if it would be better not to mention 3' (ADAAG), as these guidelines also address building interiors. This might be confusing to contractors.
 - I view that accessibility guidelines are guidelines that allow some flexibility in making accessibility more user friendly for persons with disabilities.
 - I encourage that this project's development stay in contact with Kristie Billiar and Todd Grugel at MnDOT's Office of Policy Analysis, Research and Innovation. They would be the experts when it comes to ADA Accessibility issues and MnDOT's New Standards for curb ramp design.
- I think the draft recommendations that were presented at the November 27th, 2012 open house at Hamline University were WONDERFUL and I fully support them.
- I would also do a quick, night-time, drive-thru audit of crosswalk/intersection overhead lighting on the entire study area and identify specific intersections (if any) that have deficient cross-walk overhead lighting. It wouldn't take two people more than 30 minutes and data shows that a majority of pedestrian crashes are happening at night. There are certainly many intersections in the city that are insufficiently lit though I am uncertain whether any of them are in the study area. I'm happy to help one of you do this (by driving with you up and back the length of Snelling with a clipboard to note and deficiencies).
- Pedestrian needs along the Snelling corridor:
 - Adequate pedestrian facilities (benches, water fountains, space)
 - Bike lockers at the transit stops

- There has been a marked improvement in the last several years in traffic management on Snelling during the State Fair. When we first moved to this neighborhood, it was not unusual for traffic to back up all the way down Snelling to I-94, and on busy days the backup would extend onto the interstate in both directions. I have not seen this in the past few years, so someone is doing something right (though I don't know what). I hope that efforts made to calm and slow traffic on this stretch of Snelling will not interfere with whatever has been done to address that problem.
- I live one block west of Snelling at Blair Avenue. My husband works off Midway Avenue off Snelling. Our child care, library, and other destinations are on the east side of Snelling. The school we are considering for our pre-school aged son is north of the State Fairgrounds off Hamline. We bike as our main form of transportation and also use the bus frequently. We are heavy users of Snelling Avenue. We love this plan. I nearly cried when I saw it – I'm serious. My husband bikes over the Snelling Avenue bridge daily because he doesn't want to go miles out of his way despite my pleas to use the Hamline bridge for safety reasons. A cycle track would be AMAZING. It also addresses safety concerns I have when biking with children, crossing Snelling to the east, and walking to bus stops. All my critical concerns have been addressed. I hope the City and State can work together to make this a reality.
- I really have to thank you for the recommended changes to Snelling Avenue. As someone who commutes by bike along the corridor weekly from Minnehaha Avenue to Como Avenue the changes are welcomed. As I'm sure you know, crossing the Energy Park Drive/Pierce Butler Route corridors by bike is rather scary by bike. Last summer's widening of the sidewalks was an improvement, but the all-around complete streets plan will certainly help.
- The proposed changes most likely will not include storm water improvements in the near future, and I'm not sure where the storm water is currently directed, but I suggest using the large green basins in the cloverleaves for storm water catchment, assuming the soil type is porous enough. Large shade trees in the basins could also help intercept and storm some of the storm water.
- I love the idea of ramping down the number of places to turn and increasing the visibility of the crosswalks. Lighting for the crosswalks will be key. I often do not realize someone is waiting to cross the street b/c I cannot see them.
- I am excited that a study is being undertaken to improve Snelling Avenue. While I have not had a chance to read the proposal as thoroughly as I would like, I did notice that there was attention given to how the presence of Hamline University on Snelling necessitates certain improvements along the Snelling corridor, which is definitely a step in the right direction. I would like to add to the consideration a condensed version of my "two cents" that I published on RamseyKids (<http://ramseykids.com/2012/11/30/what-do-you-get-when-you-cross-a-road-with-a-bike-and-a-car/>), the official blog of the Ramsey County location of the National Children's Study, which looks at the impacts of the environment on the health of our children.
 - When you live in a big city there are lots of competing interests for a given patch of land. Where do cars belong? Where do bikes belong? What about people? How much space should be given to any one entity? **What do you get when you cross a road with a bike and a car? Sometimes, a complete mess.** It seems to all take a lot of work and coordination to get these seemingly different

modes of transportation to function together and it appears that our little stretch of Snelling Avenue may be finally getting a much needed overhaul. Right now, if you compare our little stretch of Snelling to that near the Macalester campus (south of I-94), ours feels somewhat akin to a sewer pipe heading to the wastewater station: a cocktail of disparate parts all flowing down the drain (or entirely jamming up the pipes) before they end up in a swirling mess in the no man's land that is the barren wasteland of concrete, asphalt and buildings near the critical cross-transit points of University Avenue and I-94.

- What does this all have to do with the health of our children? Good point. Over the past several years the Saint Paul Public School system has undertaken an overhaul of its own with a transition back to neighborhood/community schools. No more bussing students to **any school** of their choice. Though students still have the option to be bussed to other 'area community' schools, as well as 'regional and district magnet' schools, this means that a lot of families in Saint Paul will likely be utilizing their neighborhood schools as the stomping grounds of their children's youth.
- While our family has lived in the Hamline-Midway neighborhood for over 10 years, my older son (who is a high school senior) doesn't have a single friend that actually attended Hancock Elementary, the "neighborhood" school. Our sense was that Hancock was mainly a "bus in" type of school attended by kids who lived out of the area. But this is all likely to change. With a large influx of *actual* neighborhood kids attending the neighborhood school, **we are going to see more conflicts with pedestrians, bikes and vehicles**. Those students that live too close to the school will not be bussed and will have to walk or bike to school, unless they have the option to be dropped off in a car, **which will cause more traffic conflicts and increase neighborhood drive-by pollution**.
- We want our kids to be healthy in all aspects of their lives: socially, emotionally, and physically. **We should ensure that we have infrastructure in place – safe roads to traverse on foot and on bike – so that they can get daily exercise on their way to and from school, so they feel safe doing so, and so we can create a sense of community for them through daily engagement with their neighborhood**. The draft recommendations to meet project goals for the Snelling Avenue study, which are likely to have the biggest impact on children's safety in our neighborhood are: "Improved pedestrian and bicycle connections to and across Snelling" and "bike lanes on parallel streets."
- My teenager bike commutes to high school the majority of the year. He is much healthier, has a greater understanding of his community, and his love for biking has crossed over into other areas of his life, enabling him to be competitive in mountain biking within the new [Minnesota High School Cycling League](#). In addition, our family contributes less to the overall pollution in Ramsey County due to decreased automobile usage – something that affects all our health. How is the Snelling Study taking this into consideration?
- In addition, I want to add that I see loads of potential for Snelling Avenue - this is the chance to re-imagine it as the "main street" for our vibrant neighborhood. The addition of light rail on University Avenue is sure to bring lots of new pedestrian and bike traffic into our community. It is my hope that Snelling will become a vital center for our vibrant neighborhood - a destination - rather than remaining as a pipeline for vehicles just passing through.

- Bike and ped crossings—like different surface, but in MN we want them really lit up with lights!
- Narrow lanes and make it feel narrower with bushes to slow traffic helps—can trucks make it on 10' freeway lanes?
- I attended the presentation last Tuesday at Hamline University and will comment on specifics soon, but first I want to mention something important to me as a resident of Edmund Avenue just west of Snelling whose house is fully visible on your map: the alleys running parallel to Snelling, also visible on the map. With so much thought and so many resources going into the Avenue itself, why are the alleys getting no attention? These alleys are much-used and almost serve as frontage roads in some areas. I believe we can do better, and I'd love to see plans for alley improvements along Snelling that would address safety (better lighting), aesthetics (starting with colorful painted business signs and street numbers on the backs of buildings), and navigability (perhaps speed bumps and signage).
- Thank you for putting on the program to explain the study. I and my family have owned several properties on Snelling Avenue since the 1940s. The building where I office has been in my family since 1956 I was involved when MNDOT did the first widening of Snelling Avenue and the whole process of taking away the wide boulevards in order to move traffic through our area faster and safer in order to get access to I 94. It has always been about moving motor vehicles efficiently rather than safety and neighborhood business concerns. Some improvements such as the center Island has provided a shelter for some pedestrians crossing but other than that one benefit widening the street and allowing traffic to move faster has made it more difficult to cross Snelling Avenue and more difficult for businesses to survive. One of my clients was struck in the cross walk crossing Blair Avenue a few years back. Just one block down another person was killed. At Minnehaha Avenue a child was struck and killed. Thus, in my opinion the street is still dangerous because of the high speeds many cars travel at times when traffic is light. When the first improvement was constructed we were told the City had **no** say or control over the project and now we are being told the City does have an impact upon the project (.e.g bicycle path on Charles). However, for history sake let's review what was originally promised when you originally widened Snelling and removed the wide boulevards and eliminated left hand turns on 50% of the streets abutting Snelling.
 - Many business owners including myself expressed concern about where all of the Snow was going to be placed when it snows and as you know it does snow in Minnesota. The widening of the street and the use of the center of the road for a median essentially wiped out all of our boulevard except for only a foot in many places. Obviously this meant there was going to be more snow for owners to deal with because the road was wider and less area within which to place it. The state acknowledged that eliminating the boulevards except at the corners was going to leave us with **virtually no place to park the snow**. We were told that when widening Snelling Avenue the snow would be removed from the boulevards as soon as clean-up had been completed. This happened the first couple of years but has not happened for at least the last 10 years. In the last 10 years I probably have spent \$5,000 or more to remove snow from the boulevard in front of my office so people could get out of their cars and access the sidewalk.

- We also expressed concern that access to many businesses was going to be limited since every other left hand turn was to be eliminated. We were assured that every two blocks automobiles would be able to make a left hand turn. The purpose was to not isolate the businesses in those areas where there was no left hand turns and to minimize business traffic in the residential streets servicing the homes.
- Originally, the state wanted to have three lanes with the third lane for parking. It was obvious that if this occurred it would not be long and we would change Snelling from 2 lanes into 3 lanes each direction. Thus, at my request and suggestion with support from others, parking areas were provided versus the 3 lane wide road that had been initially planned.
- Businesses on Snelling Avenue are stressed enough. You do not need to add additional road blocks for their success. Businesses have adapted to the every other block although I have seen in the many years I have been on Snelling Avenue that those who are not located at an intersection with a left hand turn often have a much more difficult time and are more susceptible to fail. I would encourage you to reconsider the left hand turn issue at Snelling and Sherburne and leave the left hand turn at Charles. I would also ask you to honor your prior agreement to remove snow from the boulevards after heavy snowfalls. There have been times when I have had 4 to 5' of snow piled up high at the Northwest corner of Blair and Snelling such that cars turning onto Snelling Avenue could not see cars coming down Snelling Avenue. This is a problem. Plus we are obligated by the city to shovel our sidewalks or we are fined so think about the question as to where do we put our snow that we are required by law to remove or be fined.
- Another issue that I mentioned was the tree that was planted in front of my office in a planter. Although the tree was alive it did not meet the "standards" of the city so in their infinite wisdom they cut it down and they promised to replace it with a new better tree. This was well over 2 years ago. The city came out but learned that they could not grind the stump out because of the planter that encases the tree. I was told that they would have to get permission from the state to remove the planter. The representative from the city of St. Paul also said that it would be beneficial for the hard surface around the tree to be more permeable to allow water to get to the trees roots which make sense. This was the reason the tree had struggled was because it could not get enough water. I have called numerous times to find out the status and I was told that the state had not given permission for them to make any changes to the boulevard so the planter sits empty collecting leaves and people's trash. **So how do I get permission to have the tree replaced in the boulevard area in front of my building and permission from the state to allow pavers to be placed around the tree to allow more moisture to get to the roots?** If you have this much control over a frugging boulevard than you obviously can control where and when bike paths cross Snelling Avenue. I know it's your job to move cars safely and efficiently and every place you force cars to slow down in such close proximity to University Avenue will add to safety issues on Snelling Avenue.
- Where is the analysis from this report? What safety impact is forecast? Are we hiring engineers to design our roads? It is not clear that any engineering was involved in the proposal. The layout of the .pdf report is unreadable on my computer. By publishing an art project, instead of a normal text and numbers report with attachments, is the city

limiting discussion to the few who use 11"x14"color printers? This layout was also used for Central Corridor-- another project many feel was done to my neighborhood, rather than done for my neighborhood. While, I doubt most of the ideas recommended about bike and pedestrian traffic are controversial, the sensible approach would be to address the car and truck issues first. The road and intersections do not work for current or future automotive traffic and the problem will only be worsened with the likely additional development. Though the city engineer met with organized opposition (such as from Transit for Livable Communities) when the Snelling University Capacity Study was presented in 2007, this was not because the analysis of the city engineer was wrong. My neighborhood is not full of NIMBYs who want to push the problems elsewhere. We want a well-designed road which does not have the most accidents in the State of Minnesota. Again, the idea of bike-able and walkable neighborhoods is strongly supported. Many of us live here BECAUSE this is a walkable neighborhood with nearby shopping. But, is it even possible to create bike safety near roads that are not safe for cars? As a Union Park District Council grid representative for the last seven years, I hope that input from the residents of my neighborhood is considered. Union Park District Council 13 statistics: 85% drive cars. 15% live in poverty.

- Thanks for hiring these contractors to do an audit of the Snelling Ave Corridor. Snelling is in need of some major improvements. Someday, I hope the roadway improvements get extended further north of the fairgrounds. I live right next to Har Mar Mall and hope to be able to one day ride along the Snelling Corridor safely up to Rosedale Mall.
- I am taking the opportunity to comment on the Snelling multi-modal draft plan. As a resident of the Hamline Midway area, I whole-heartedly encourage MnDOT to include all of the recommendations in the draft. As residents who live near this thorough-fare, we need all these improvements to encourage use of Snelling, make more use of transit options and have safety when walking or biking along the corridor of study.
- Somewhere it should be noted the importance of snow-removal along the bridges, sidewalks, bike lanes, bumpouts, bike racks and etc. Without quick removal of plow spray, then the amenities noted here will break down. One time, I had to report that there were 2 children crawling along a snow bank covered sidewalk on the railroad bridge. The icy snow bank was as high or higher than the bridge railings, meaning these youngsters could have slide right off the bridge!
- Please include the addition of higher, but decorative, bridge railings along the Snelling avenue bridges.
- Please ensure that trees are added liberally to the streetscape and that they are installed with the most current engineered soils and technology known in urban forestry. Choose species that will tolerate the conditions.
- Please add bus shelters at the stops on top of the Snelling bridges. There are no buildings or trees or other structures to protect riders from the elements.
- I think pedestrian lighting along Snelling and other improvements are great. I'd love to see the Avenue north of University tie into the State Fair and be lively, with large visual ads and signs such as the Hamline Hardware paint can. That feels like the Midway I know. A little reminiscent of the State Fair Midway all year round.
- Textured pavement in crosswalks causes noise pollution. Friends living along Lexington south of the freeway report that traffic clatters like train cars as it crosses the brick crosswalks. Nice idea, but noisy. Paint would be better.

- Concrete blockages make traffic worst. Traffic does not go away. It just gets worse. You are making Snelling a horrible place to drive by reducing traffic options and making it harder to plow. I wholeheartedly dislike this plan. I ride a bike and I will never ride a bike on Snelling, it is not appropriate and it is not safe. The lanes do not make it so. Furthermore the concrete bump outs give less options for a bicycle rider to go if something happens. My vote is to just not do this plan.
- I would really like to see a recommendation of more street trees along the sidewalks this will do a better job of helping visually narrow the corridor and provide some long term storm water management, in addition to radiant cooling, and shade.
- Strong concerns about the study and light rail.
- We have no idea what the light rail will do for traffic and congestion . . . does the MNDOT?
- Where has a similar project like this been done and what were the results in congestion, accidents, etc.?
- How much is this going to cost . . . total cost when all is said and done?
- What alternative plans have been considered?
- There is much to like about the Snelling multi-modal plan -- medians, improved connections to transit, lighting, reduced speed limits, painted bike/motor vehicle conflict areas, ADA ramps, high visibility ped crossings, added bike lanes, etc -- all create a much safer and more friendly Snelling for all users. This plan will be transformational, creating much greater bike/walk/transit connectivity to important destinations. These improvements will be critical especially with the opening of the Green Line. My experience on Snelling as a pedestrian, bicyclist and transit rider is very mixed. Bicycling on Snelling on a Sunday morning is easy; bicycling to the State Fair is terrifying; crossing the street on foot is dangerous even at marked or controlled crosswalks. I appreciate all the good thinking and design work in the plan. Please proceed with implementation to make this state highway safe for all road users.
- Overall, I am in agreement with most of the recommendations brought forward in the Draft Concept Plan for the southern half of the study area, which is the part I am most familiar with.
 - My biggest complaint about the Draft Concept Plan is that it is not at all user friendly. The 11x17 format with comments in boxes for each block is extremely difficult to deal with, especially for ordinary people who do not have time or interest to go through every suggestion, page by page. It's also hard to get any sense of the continuity of the roadway and sidewalk treatments being proposed. I found myself flipping back and forth from page to page to try to figure it out. For the next iteration of the Concept Plan, I urge you to combine and synthesize the recommendations by Context Zones 1-5 as you did to show existing cross sections. And please get rid of the comment boxes all over the map. Instead, use different colored icons or symbols with a code key to identify them.
 - Aside from the presentation format, the one additional recommendation I would like to see added is that there be some design standards set for new development, similar to the University Avenue design standards. Certainly new buildings should be set back to allow for wider sidewalks, trees, and perhaps a boulevard, benches, trash cans and other amenities. With the Associated Bank planning new development for the two blocks from Selby to Marshall on the east side, and the Bus Barn site in the Midway Shopping Center anticipated to be available for development in 2014, we should be sure not to lose opportunities to enhance the pedestrian realm as new development is planned.

- As the coordinator of the District Councils Collaborative's recent Walkability Study of walking routes to Central Corridor light rail stations from adjacent neighborhoods, I am clear that there is an urgent need to elevate public awareness of the importance of the pedestrian realm, both to retain and enhance the livability of our neighborhoods and to ensure the success of the Green Line when it opens in 2014. MnDOT and the Cities of Saint Paul and Minneapolis are far more likely to invest additional resources in building and maintaining a safe, accessible and pleasant network of walking routes if the community demands a safer and more accessible pedestrian infrastructure.
- For the Snelling Avenue station, the Draft Environmental Impact Statement projected daily boardings and alightings by 7070 transit riders per day. Of these, 44% are expected to walk to the station, with 47% connecting by bus. This means that ease of walking and bus transfers will have a huge impact on light rail ridership as well as retail, restaurants and other business enterprises in the vicinity of the Snelling/University intersection.
- The Walkability Survey showed the most frequently cited barriers to walking for the Snelling station area were:
 - the condition of the sidewalks (cracked and uneven, too narrow, curb ramps missing or inadequate);
 - crosswalks missing, not clearly marked, no signs to alert drivers;
 - traffic going too fast; drivers not being attentive to, and not yielding to pedestrians in crosswalks;
 - traffic signals not allowing enough time to cross, especially for seniors, people in wheelchairs or using other mobility devices, and families with children;
 - more shade trees are needed on Snelling;
 - "Trash everywhere at Snelling and University" – probably not something this study will be able to address.
- The most challenging places to cross were reported to be at Concordia and Saint Anthony, where cars enter and exit the I-94 freeway. Surveyors noted that drivers are often impatient and frequently run red lights to get through the intersection, posing a danger to pedestrians in crosswalks, especially when turning the corner. The other location where crossing is viewed as extremely dangerous is the intersection at Snelling and University. If not corrected, this will make it difficult for people to connect from bus to light rail, or to another bus, as this important transit hub. Finally, crossing I-94 is viewed as daunting. One surveyor commented: "There's no safe-feeling way to get over I-94 from the south. The Aldine pedestrian bridge is deserted and Snelling has terrible traffic and no trees."
- The Snelling Multimodal Concept Plan makes many recommendations that help address the issues identified by the DCC Walkability Survey. Thanks to everyone who participated on the Task Force and Technical Committee.

December 14, 2012

Mr. Bill Goff
Project Manager
MnDOT Metro District
1500 West County Road B-2
Roseville, MN 55113

Dear Mr. Goff:

As members of the Snelling Avenue Multimodal Study Technical Advisory Committee we have enjoyed being a part of the team reviewing mobility and accessibility issues and developing potential solutions for the Snelling Avenue corridor. As requested, we have reviewed the draft concept plan sheets and Draft Technical Memorandum #3 and have the following comments from Met Council and Metro Transit staff.

Comments on Tech Memo #3

Draft recommendation #1: Improve accessibility. In general, we support this recommendation to improve sidewalks, crosswalks, medians, signals, curb ramps, and lighting with the intent to improve accessibility, as well as safety, for pedestrians. Where there may be specific recommendations to shorten turn radii at intersections to better accommodate pedestrians, we would add a caveat to ensure that mobility for large trucks and buses is not impeded at those intersections where turning movements by these vehicles are common.

Draft recommendation #2: Establish parallel bike routes. We fully support this recommendation for several reasons. One, it is good practice to provide alternate routes along less-travelled neighborhood streets to accommodate the many less-experienced cyclists who are not comfortable riding along busy arterials. Second, developing parallel routes improves bike-friendly connections between established neighborhoods. And third, bike routes should deviate from A-minor arterial corridors if there are relatively high traffic volumes, high crash rates, and/or frequent use by large trucks and buses that would create safety concerns for cyclists, pedestrians, and motorists. In fact, the Transportation Policy Plan states that bicycle and pedestrian improvements should be made on A-minor arterials (e.g., Snelling Avenue) only if they “do not diminish the capability for multimodal function and capacity.”

Draft Recommendation #3: Implement comprehensive multi-modal improvements. We support intersection improvements (recommendation 3c) throughout the corridor that will improve access and safety for cyclists and pedestrians. On-street bike lanes between Hewitt Avenue and Midway Parkway (recommendation 3b) are acceptable as they provide a missing gap and critical connections across the BNSF Railway mainline and siding tracks that create a major barrier to north-south travel by bicyclists and pedestrians.

With regard to on-street bike lanes south of I-94 between Marshall and St. Anthony Avenues (recommendation 3a), it appears that part of the rationale for installing bike lanes through this segment is to access the Route 94 express bus route stops at the I-94 interchange. While this is a laudable goal, the recently adopted Central Corridor Transit Service Plan will discontinue express routes 94 and 144 stopping at Snelling Ave with the start of light rail service in 2014. **(The final report should reflect this planned service change.)** Local routes will still run and make stops on Snelling, but cyclists will be able to access stops on these routes (84 & 21) at several locations without traveling on Snelling between Marshall and I-94. In addition, it should be noted that the segment of Snelling Avenue between University and Marshall Avenues has historically had very high crash rates. Between 2008 and 2010, this study effort identified records of 390 crashes, including 185 crashes at the I-94 interchange intersections and 80 crashes at University Avenue. Of these crashes, 29 involved pedestrians or cyclists during this period.

While it seems reasonable to invest in safety improvements at intersections to create a safer crossing environment for pedestrians and cyclists, it does appear that there are better alternatives for on-street bike lanes via the identified parallel corridors on Pascal and Aldine Avenues. Investing in bike lane improvements for this high-volume and crash-prone segment of Snelling would likely attract more cyclists and, in turn, may increase safety concerns for all users. Planning for future development and redevelopment opportunities for the land north of St. Anthony Avenue and between Pascal and Snelling Avenues should include bike routes connecting to University Avenue.

Comments on Draft Concept Plan

Overall, we commend MnDOT for maintaining 11-foot lanes throughout the Snelling Avenue corridor while some were calling for narrowing existing lanes. Anything less than 11 feet would be problematic for the numerous large trucks and buses that travel this corridor. As highlighted by MnDOT during the study, this corridor is on the City of St. Paul's Designated Truck Route Network. It is the route of choice for trucks accessing I-35E to and from the south because it allows them to bypass the I-35E parkway in St. Paul between downtown and West 7th Street where large trucks are prohibited. Many of these trucks access the BNSF Railway's Midway Intermodal Hub entrances on Pierce Butler Route which is a critical facility for the region's economy.

The following comments are provided by corresponding plan sheet number:

SN-04: The bus stop on westbound St. Anthony Avenue west of Snelling Avenue will be discontinued when Route 94 and Route 144 no longer stop at Snelling/I-94 in 2014, as included in the Central Corridor Transit Service Plan. The southbound stop on Snelling (at the porkchop) will remain for Routes 21 and 84 but will be lightly used. As a result, the recommendation to improve bus stop facilities at this location should not be included. Facility improvements would be better directed at higher-use bus stop locations, particularly those with high transfer activity.

SN-05/SN-06: The recommendation to include a curb extension on NB Snelling north of University is consistent with current planning, but the actual location of the rapid bus station at Snelling/University may change as a result of current analysis; documenting other potential locations in this plan would be prudent. Please include a note at the north side of Spruce Tree Avenue on NB Snelling: "Potential rapid bus station - alternate location for Snelling/University."

SN-12: We question why the left NB travel lane is 14' at this location. However, although this lane width is inconsistent with the rest of the corridor, we view the extra lane width as a positive feature in this location since it presents extra space for vehicles to pass transit vehicles stopped at the station.

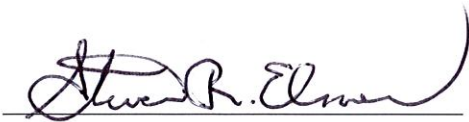
SN-13 & 15: Elimination of northbound and southbound auxiliary lanes that are currently used as acceleration lanes by trucks accessing Snelling Ave from Pierce Butler Route and Energy Park Drive could create safety problems. Careful consideration must be given to ongoing truck access needs and appropriate stop control of ramps to maintain safe operation of the facility. The shortening of turn radii at these entrance ramps poses similar concerns for semi-trailer trucks that may need to turn into both lanes of traffic to negotiate the tight turns.

SN-18: The long-term recommendation to review the potential for eliminating the grade separation at Como Avenue is challenging. Replacing the current ramps with an at-grade signal or, in particular, a roundabout would be problematic for multimodal users of Snelling Avenue, including truck freight and transit operations. This reconfiguration would also require a high level of investment relative to the small potential benefit at this location.

Thanks for the opportunity to provide written comments on this important corridor study. Please feel free to contact us with any questions that may arise.

Sincerely,

Steven Elmer
Met Council, MTS Division

A handwritten signature in black ink, appearing to read "Steven R. Elmer", written over a horizontal line.

Katie Roth
Metro Transit, Service Development

A handwritten signature in black ink, appearing to read "Katie Roth", written over a horizontal line.



Department of Public Works

James E. Tolaas, P.E., Director and County Engineer

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Arden Hills, MN 55112-3933 • (651) 266-7100 • Fax (651) 266-7110

E-mail: Public.Works@co.ramsey.mn.us

December 14, 2012

William Goff
Senior Planner
MnDOT, Waters Edge
1500 W. County Road B2
Roseville, MN 55113

**RAMSEY COUNTY PUBLIC WORKS COMMENTS ON SNELLING AVENUE MULTI-MODAL STUDY
DRAFT FINAL REPORT**

Dear Bill:

We appreciated the opportunity to be involved in the Snelling Avenue Multi-Modal study and are confident that the findings of the study will bring long-term improvements to Snelling Avenue that will benefit all users. We have reviewed the draft report of the Snelling Avenue and have the following comments:

- While we support the implementation of traffic control and pavement markings that will enhance the biking experience along the Snelling Avenue corridor, prior to the implementation of any particular feature, a detailed traffic analysis should be performed.
- The study has recommended significant changes to the Pierce Butler Route (Ramsey County State Aid Highway [CSAH]33), Energy Park Drive (CSAH 32), and Como Avenue (CSAH 31) accesses to Snelling Avenue. Before any of these are implemented, greater analysis on the impact to freight traffic must be done. While the work done for this study quantified the traffic operations quite well, determining how the proposed changes would work with heavy trucks was outside the scope of the study, but is a necessary consideration when developing plans.
- Regardless of what bicycle improvements are implemented on Snelling Avenue, the traffic volumes there will limit its appeal to less-serious bicyclists and families. For that reason, development of parallel bike routes should continue. The proactive policies of the City of Saint Paul have resulted in significant improvements in recent years throughout the City and we are confident this work will continue adjacent to Snelling Avenue to provide safer and more pleasant routes in the area.

Once again, we would like to thank you for the opportunity to participate in this study and look forward to working with MnDOT as improvements are implemented.

Sincerely,

Joseph Lux
Planning Specialist

C: Mark Benson, SEH, Inc.
Heather Kienitz, SEH, Inc.

B-2 – Comments Received on Final Report



SUMMARY OF FINAL REPORT DRAFT PUBLIC COMMENTS

SNELLING AVENUE MULTI-MODAL STUDY

Comments received as of January 15, 2013

Context Zone-Related Comments

Context Zone 1 ("Selby Mixed-Use")

None

Context Zone 2 ("I-94 Interchange")

- The study approach (page 4) lists as the second item "*documentation of existing and forecast conditions*". However, the report does not say that the intersections of Snelling Avenue near I-94 frontage roads are high accident areas or provide analysis of why this the case. Without clear analysis of why the area is unsafe now-- unsafe for all transportation modes-- the recommendations lack credibility.

Context Zone 3 ("University Neighborhood Center")

None

Context Zone 4 ("Hamline Mixed-Use")

- On the Snelling section between Hewitt and Como, both the bike and walk sections could be built on the same grade level and protected with a concrete barrier from the motor vehicle traffic lanes. Thus snow and ice clearing would be done for both walk and bike separate from the motor vehicle traffic. With the amount of clearance and space available, there are different ways to design the space.

Context Zone 5 ("Expressway")

None

Parallel Bikeway-Related Comments

- The first purpose of the Snelling Avenue Multi-Modal Transportation Plan (page 3) is as follows: to "*improve the safety and mobility of bicycling and pedestrian travel while maintaining the safety and mobility for all users and modes of transportation*". This purpose statement ignores the elephant in the room. Maintaining the level of safety for other transportation modes is not sufficient given that current vehicular accident rates are the highest in the state. The idea of bike-able and walkable neighborhoods is strongly supported. Many of us live here because this is a walkable neighborhood with nearby shopping. As per the report, bike routes should not be concurrent with the areas where vehicular traffic is not safe. But, why is there no focus toward making Snelling Avenue safe?
- In the last public meeting, I talked with a woman who related concern about winter maintenance of some of the bicycle design elements. If there are areas where it is recognized that this might be an issue, different approaches to design may be helpful.
- It looks to me that the simple change of reducing travel lanes to 10 feet wide and parking lanes to 7' would have allowed for continuous bike lanes. Perhaps not an ideal

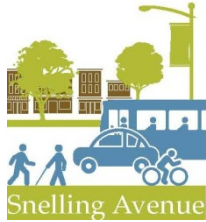
configuration but I think most would agree (motorists and bicyclists alike) that having dedicated space for bicyclists is a better situation than having a few brave cyclists take the entire lane which is what they will have to do (in order to be safe) under the current proposed plans (and under existing conditions). And as we discussed at the last few meetings, pedestrians also benefit with bike lanes as they help get the cyclists off the sidewalks. I believe our count data shows that Snelling Ave has the highest rate of sidewalk riding of any street in where counts have ever been taken! This situation will probably not change too much even with Bikes May Use Full Lane signs (thanks by the way for agreeing that these would be better than simply Share the Road signs).

General Comments

- I am pleased that the format of the majority of the report is black and white, 8 1/2" x 11", which is easily readable, allowing for community input.
- Additional development is planned at the bus barn site. A connection to Ayd Mill road is also proposed. If the safety and mobility issues on Snelling Avenue are not dealt with and if development proceeds as is planned, it is likely that increased vehicular traffic with the associated safety and mobility issues will spread to nearby streets, negating the "micro-solutions" recommended in the report.
- The report could be greatly improved by providing detailed analysis of current safety-- accident rates, causes of accidents, problem spots. This report could be much more clear at documenting existing and forecast conditions, particularly with respect to vehicular traffic and how vehicular traffic interacts with other transportation modes. Based on the way the report is written, it is not clear that technical analysis was done. Without technical quantitative engineering analysis, it is not evident that the recommendations rationally address the safety and mobility issues that exist.
- It is not clear how the success or failure of recommendations intended to improve mobility and safety are to be measured. The report has four major deficiencies:
 - 1) the elephant in the room of high accident rates on Snelling Avenue-- no plan to deal with it
 - 2) the elephant in the room is only getting bigger-- Snelling Avenue traffic issues will spread, negating the effectiveness of recommendations
 - 3) lack of analysis
 - 4) lack of success measurementsBased on these deficiencies, people in my neighborhood will not feel confident that the recommendations per this report address the important and real issues of multi-modal safety and mobility on Snelling Avenue in a constructive and forward looking manner. Much more work should be done before this report is finalized or its recommendations adopted.
- One of the issues identified in the Walkability Survey of walking routes to the Green Line LRT stations that was undertaken by the District Councils Collaborative in 2012 was the sidewalks being too narrow. The Central Corridor Development Strategy calls for sidewalks along University Avenue to be at least 9-10 feet wide, with a 4-foot area by the curb for trees, lights, benches, trash cans and plantings of various sorts, leaving six feet clear for walking. New development projects are encouraged to set their buildings back a bit from the sidewalk with green space or patio with seating.
 - Given that Snelling will be a major walking route to the Green Line light rail station, and much of the southern end of the study area, from Selby to Minnehaha, is lined with shops and restaurants, every opportunity should be

taken to widen the sidewalks in this area. The sidewalk standards, building setbacks and windows and doors facing on the street, as recommended for University Avenue, should also apply to this area of Snelling. Where possible, sidewalks should be widened to 10 feet when the roadway is reconstructed, and new development projects should be encouraged to site their building spaces further back to allow for wider sidewalks and additional green space.

- It is important not to miss the opportunity to widen sidewalks as new development projects are being planned. One example is the Associated Bank/Ryan Companies redevelopment currently being planned for the east side of Snelling from Selby to Marshall. It would be unfortunate to miss this opportunity to provide a more walkable environment on Snelling Avenue.
- I am very supportive of all of the recommendations and concept plans for Snelling. I recognize the complexity and difficulty to accomplish full accommodation for all modes, particularly bike-walk. However, I think it is essential to restore and implement human mobility and access everywhere possible, including all ADA compliance and accommodation.
- Overall, I thought the plans that you and Alta have come up with look very promising. I would like to go on the record however of being disappointed that a decision was made not to consider anything less than 11' travel lanes.



PARTNER AGENCY COMMENTS

SNELLING AVENUE MULTI-MODAL STUDY FINAL REPORT DRAFT

Received as of January 15, 2013

City of St. Paul Staff Comments:

The following comments are a compilation of staff comments made by individual St. Paul Public Works staff members and have not been approved or adopted as an official response by the City of Saint Paul. Please consider them as you would all other public comments.

- The plans should indicate a frame of reference for the project, meaning, how the determination was made to include facilities for bikes, pedestrians, vehicles, buses and trucks within the existing footprint of the street curb to curb. This should include support in the form of adopted plans which indicate enhancements to a modal choice within a corridor via street classification map, truck route map, bike plan, comprehensive plan, etc.
- Since the City is currently exploring the possible use of bike racks in parking bays and we haven't yet come to a resolution, it would seem premature to include in the document.
- I think the City's experience with brick pavers in crosswalks has been proven at Lexington. (They quickly deteriorated and had to be replaced with stamped, colored concrete).
- The 25 mph speed limit shown between Selby and University goes against Mn/DOT policy for setting speed limits.
- NACTO is okay for ideas and possible best practices but St. Paul has not adopted, nor has Mn/DOT, as a Standard.
- For a roadway with the ADT of Snelling, the facility required by Mn/DOT Bike Design Guidelines is for 6 foot bike lanes. Bike lanes on Snelling are shown at 5 feet.
- It would seem bicycle detection would be preferable to dedicated bicycle signals.

- Consider eliminating protected left turns at Dayton for an extended left turn southbound at Selby.
 - At University, the bike racks should be on the far side of the bus stop (too much pedestrian activity to take up with bike parking).
 - Between University and Thomas, no left turns allowed. Won't that be an unnecessary burden on commercial along Snelling?
 - Pierce Butler and Energy Park Drive Interchanges: the reconfigured ramps appear less safe than current. Instead, make them right angle intersections with signals. This would slow traffic on Snelling and reduce crossing distances for bikes and peds making the intersections safer.
 - Overall: if we are doing a major redesign of Snelling, perhaps we should include paver bands/structural soil/storm water management a la University Avenue.
-

St. Paul Transportation Committee Comments:

Informal comments from the Transportation Committee of the City of Saint Paul regarding the Snelling Avenue Multimodal Study made during the regular meeting of the Committee on January 14th, 2013.

Because this was the first meeting of the Committee since Mn/DOT's presentation on December 17, 2012, there is not enough time to formally adopt comments or positions regarding the Snelling Avenue Multimodal Study. However, the Committee does want to convey some informal comments to the Mn/DOT planners for consideration:

First and foremost it must be said that the Transportation Committee supports the study and the draft report. We offer the following comments for your consideration:

More and more heavy commercial vehicles are using Snelling Ave. every year. Make sure that there will always be capacity available as well as safe lane widths for trucks. It is too important as a freight corridor to lose truck capacity in favor of other modes.

In many cities the left lanes are restricted such that trucks are not allowed to use them freeing space for other users (cars). Has this been considered? Is it possible?

Consider separate bike/ped bridges parallel to Snelling over Pierce Butler, Energy Park Drive, and the railroads, similar to Lexington Parkway over Pierce Butler and the BNSF.

Consider removing parking on Snelling between Minnehaha and Hewitt in order to provide bike lanes on Snelling to connect the existing bike lanes on Minnehaha to the buffered bike lanes north of Hewitt.

These comments were made by individual members of the committee and were not adopted by the Committee nor the Planning Commission of the City of Saint Paul. Please consider them as you have all other comments by members of the public, et. al.



CITY OF SAINT PAUL
OFFICE OF THE CITY COUNCIL

RUSS STARK
Councilmember

SAMANTHA HENNINGSON
Legislative Aide

January 11, 2013

Bill Goff
Minnesota Department of Transportation
Metro District - Waters Edge
1500 West County Road B-2
Roseville, MN 55113

Mr. Goff,

I am submitting comments on MNDOT's study of and recommendations for Snelling Avenue. The plan does a very nice job of re-balancing Snelling Avenue to better accommodate the multiple transportation modes and uses that this important street serves in St. Paul. I am very pleased with the approach taken by MNDOT to the process, and applaud the department's openness to the idea of making Snelling a more "complete street."

In particular, I want to highlight the proposed improvements to the bridges over Pierce Butler Route, Energy Park Drive, and the BNSF rail, as being a very important and much needed change for making it safer to use Snelling on foot, bicycle, and transit. Before I was elected to the City Council, I chaired the City's former Bicycle Advisory Board, and led a Citywide bicycle summit. At that time, over 100 participants at the summit collectively ranked improved bicycle access across the Snelling Avenue bridges and parallel or on Snelling Avenue as the number one priority for improved bicycle connectivity and access in St. Paul.

For the record, I would like to raise again an issue that I raised during the process regarding the area around Snelling and I-94. Southbound Snelling in that area has 5 lanes --from east to west, a lane that becomes a left turn lane at Concordia, a left/thru lane, a true thru lane, a thru lane/bus lane that ends just south of Concordia, and a right turn lane. Despite what the traffic models predict, very few drivers will "stack" their vehicles in the thru/bus lane that ends just south of Concordia, seemingly because they know it ends south of Concordia and do not want to have to merge into the other lane when they begin moving south. This fact does create back-ups on Snelling, particularly during the p.m. to University Avenue and even farther north. Nonetheless, I don't think keeping the stacking lane there is going to change human behavior. As such, I think that stacking lane should be eliminated, and the "found" space used to continue the bicycle connection north of St. Anthony to Spruce Tree Drive.

As this idea was already reviewed and rejected by MNDOT, I have an alternative suggestion to be considered -- make two full left-turn lanes at Concordia, then two thru lanes, then the right turn lane, to reduce confusion about the use of the lanes in this area. Another cause of back-ups in this area is thru-moving vehicles who get stuck behind left-turners in what is today the left/thru lane. The alignment that I just suggested would reduce those conflicts considerably and, I would guess, would help smooth the flow of vehicle traffic. The same should probably also be considered for northbound traffic and the lefts on to St. Anthony.

Finally, whatever is done with the lanes in this area, the pedestrian environment on Snelling in this area needs improvement, as today it feels like one is walking adjacent to a freeway due to the number of lanes (8) in this area, and the lack of a buffer between the street and the sidewalk. MNDOT owns additional ROW/property on at least two of the four corners of Snelling/Concordia and Snelling/St. Anthony, and consideration should be given to using a portion of that ROW to widen the sidewalk area enough to do some planters or other buffer between the walk-zone of the sidewalk and moving vehicles on the street.

Thank you for the opportunity to comment, and please let me know if you have any questions regarding my suggestions.

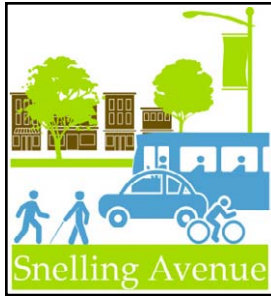
Sincerely,

A handwritten signature in black ink, appearing to read "Russ Stark". The signature is fluid and cursive, with a long horizontal stroke extending from the end.

Russ Stark



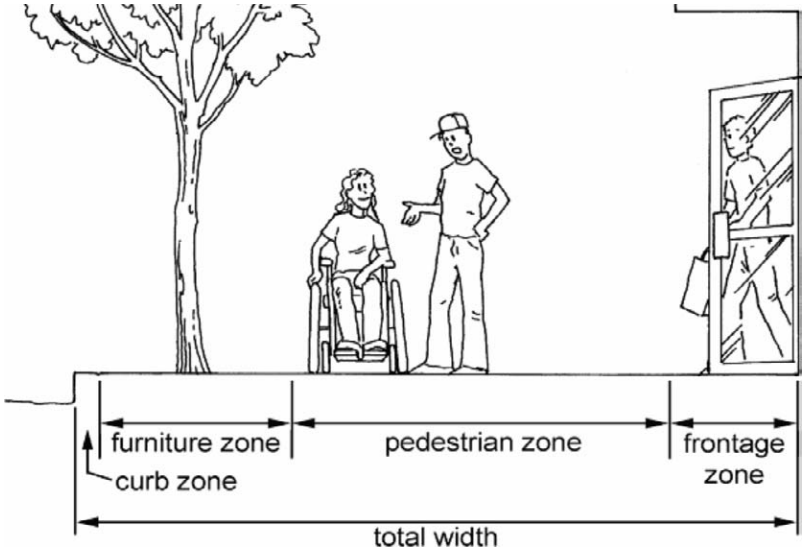
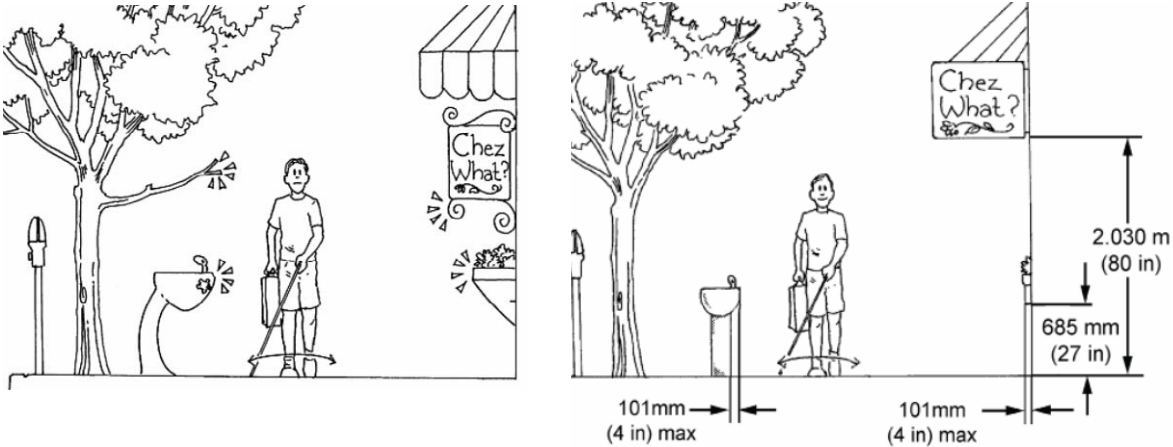
Appendix C

Accessibility Checklist


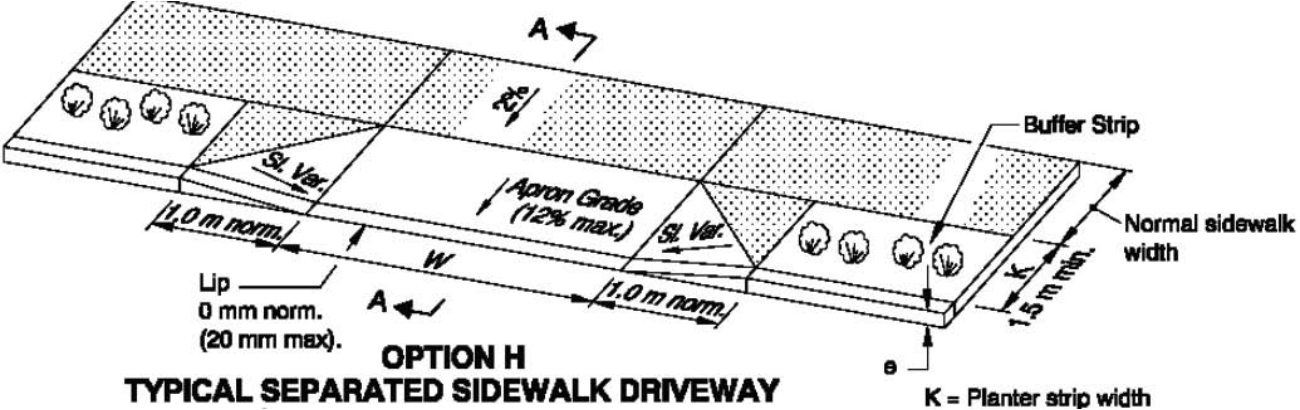
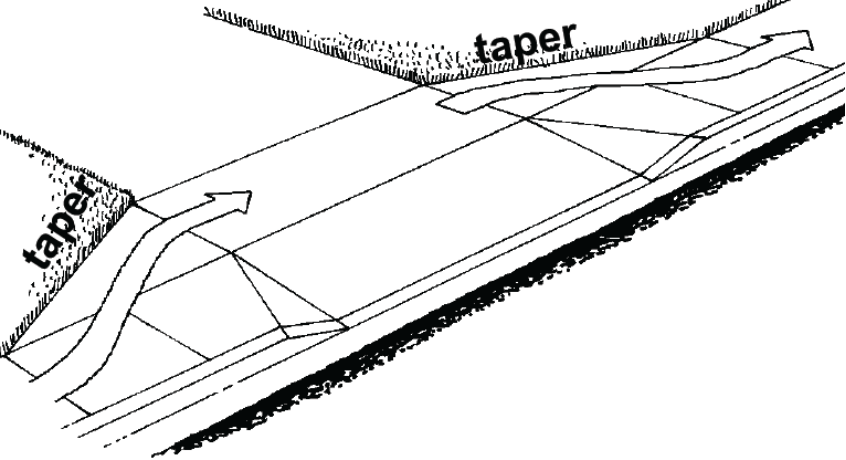
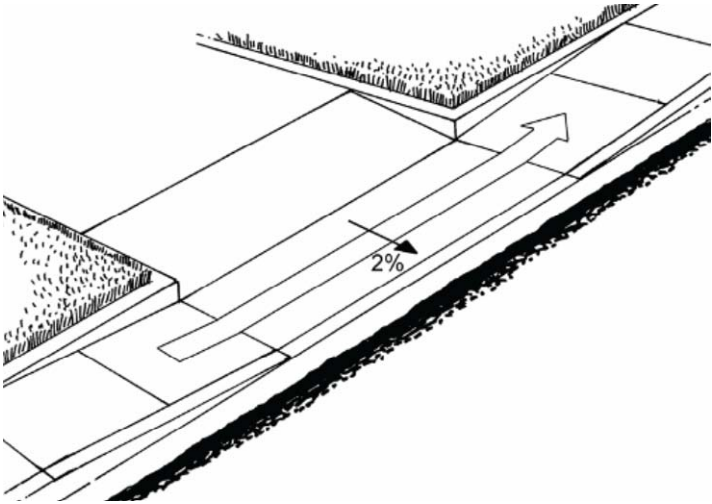




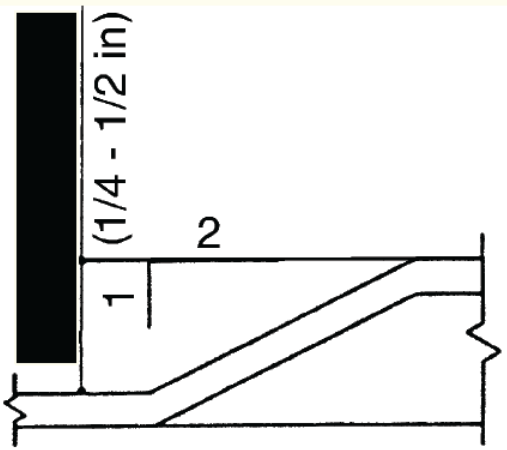
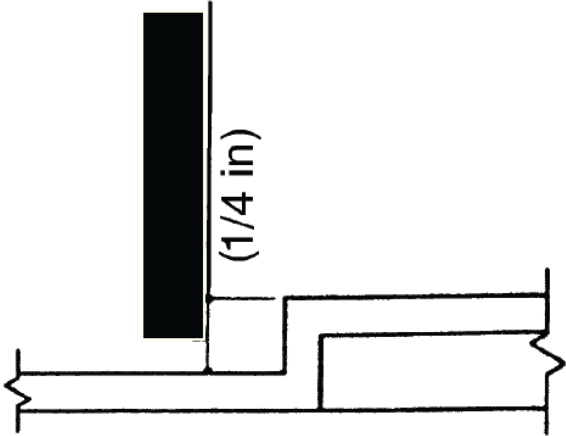
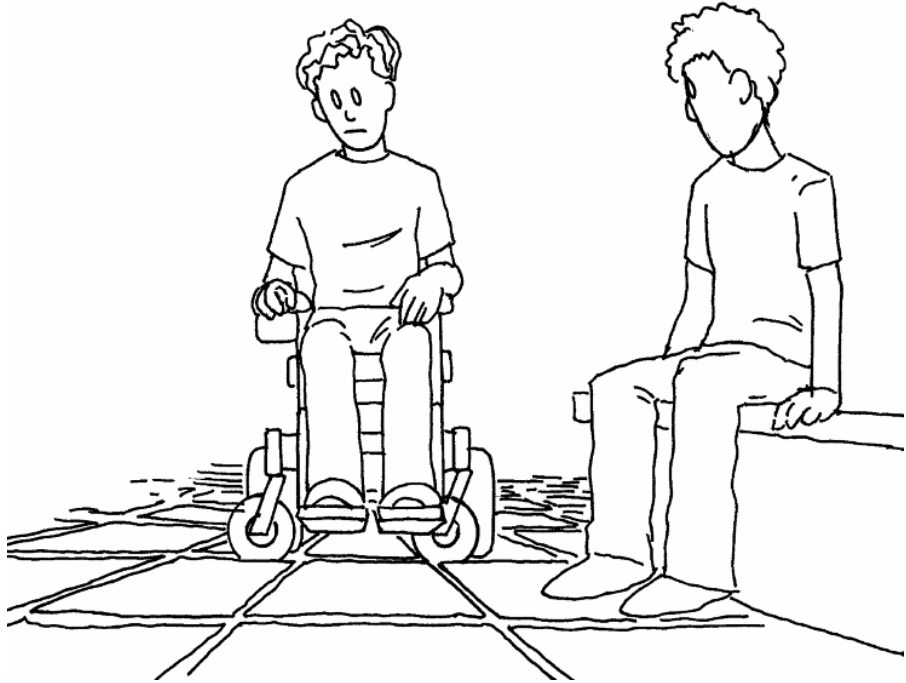

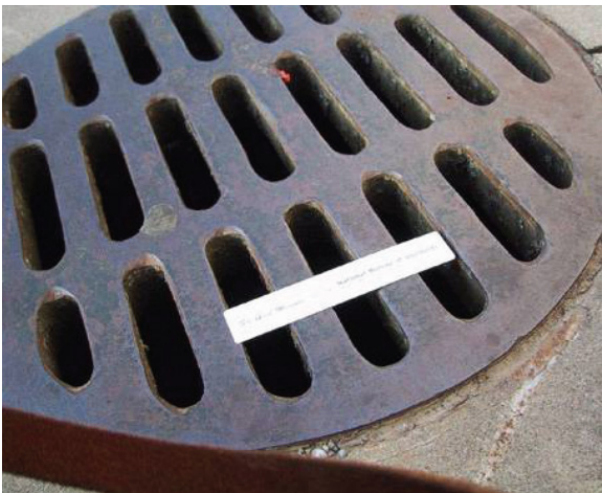
Snelling Ave Multi-Modal Transportation Plan

Accessibility Checklist - January 2013


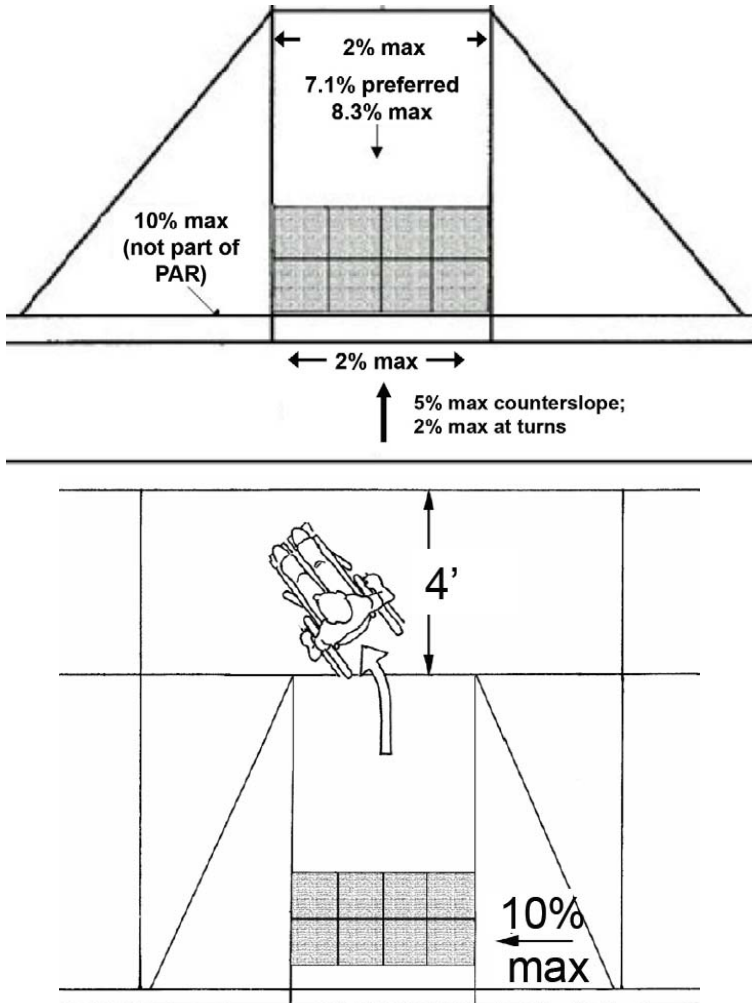

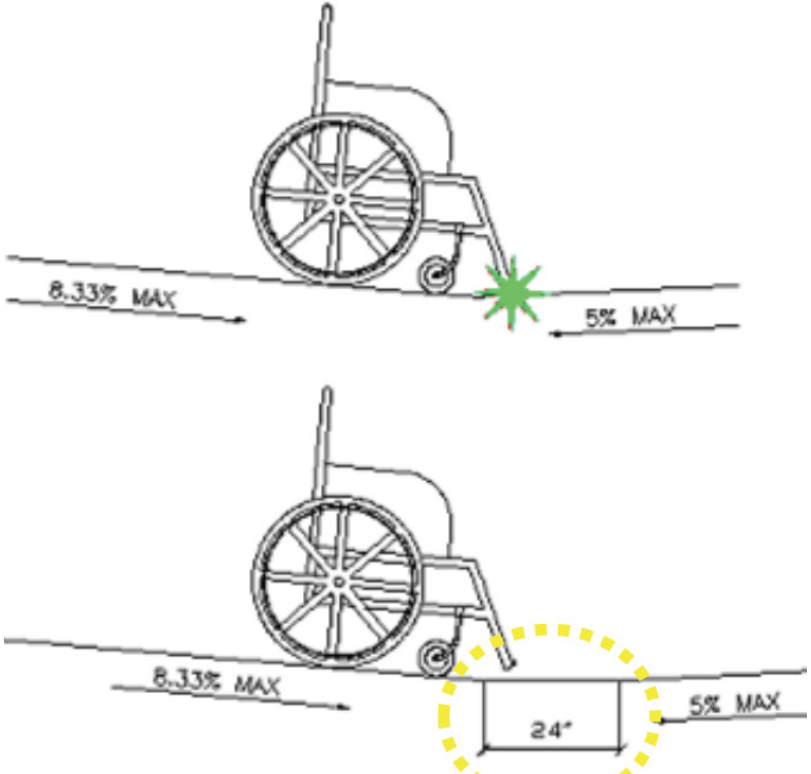
Issue	Existing Example	Design Guidance	Example Images
Sidewalks			
Sidewalk Zones	 <p>Bus shelter intrudes into the pedestrian zone. Snelling Ave at Dayton Ave</p>  <p>Protruding gas valve on Snelling Ave near Hamline University</p>	<p>Sidewalk should be comprised of 4 zones: the curb zone, the furniture zone, the pedestrian zone and the frontage zone</p> <p>Furniture Zone:</p> <ul style="list-style-type: none"> All objects should be located in the furniture zone. This includes trees, bus stops, fire hydrants, signs, newspaper boxes, mail boxes, etc. Objects between 27" and 80" above ground are not detectable by cane and should not protrude more than 4" The width of the furniture zone depends on the objects located there: <ul style="list-style-type: none"> minimum 2' needed for signs and poles minimum 4' needed for trees minimum 6' needed for snow storage minimum 8' needed for perpendicular curb ramp <p>Pedestrian Zone:</p> <ul style="list-style-type: none"> For pedestrian travel only, should be free of obstructions or protruding objects Widths: <ul style="list-style-type: none"> bare minimum 4' (PROWAG), 5'x5' passing zone required every 200' 5' for side by side pedestrian travel 6' for side by side wheelchair use or passing <p>Frontage Zone:</p> <ul style="list-style-type: none"> Area for building entrance/exit, building ramps, signs, etc. Width varies, but should be wide enough for pedestrians entering or exiting buildings without obstructing the pedestrian zone Objects between 27" and 80" above ground are not detectable by cane and should not protrude more than 4" 	 <p>Sidewalk should be comprised of 4 zones: the curb zone, the furniture zone, the pedestrian zone and the frontage zone</p>  <p>Objects should not protrude more than 4"</p>


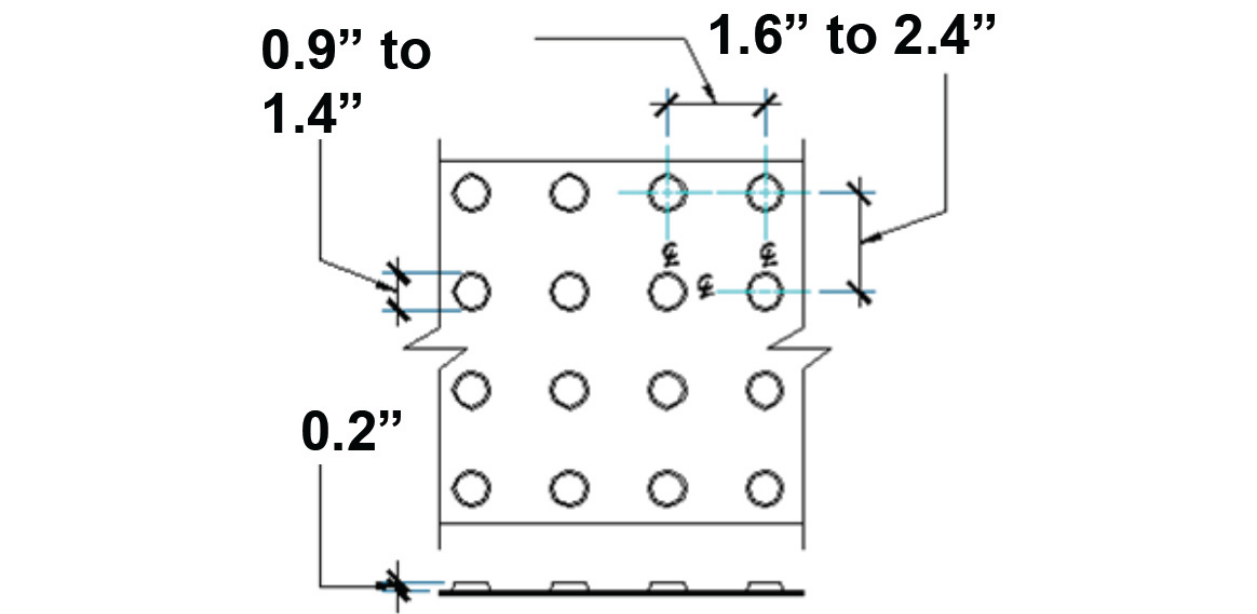
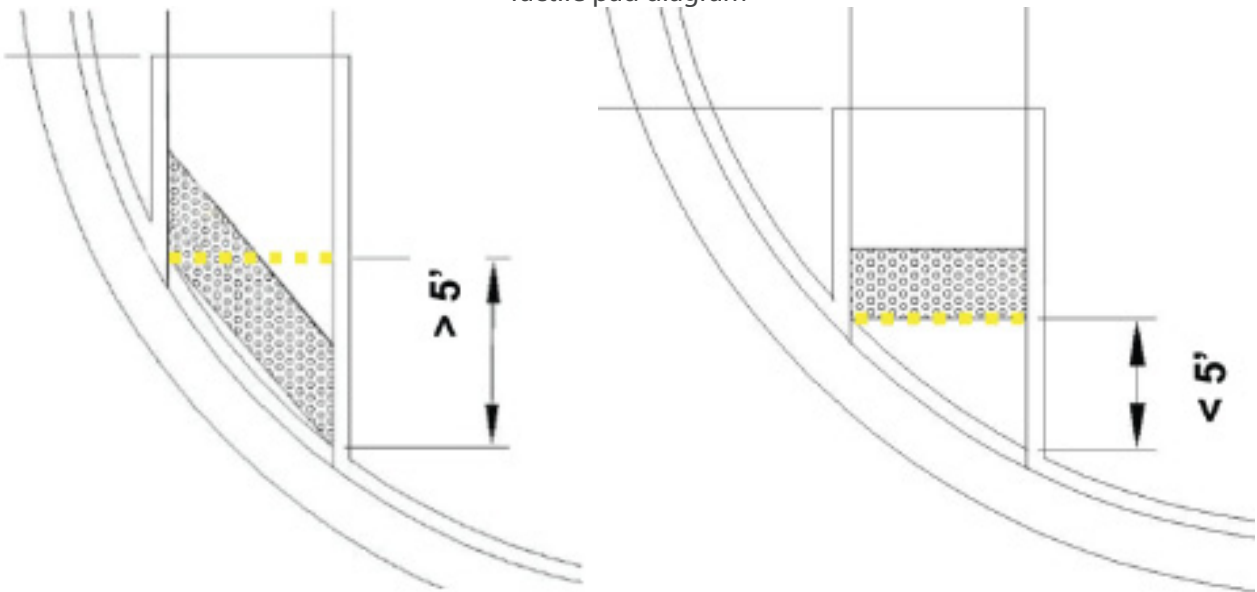
Snelling Ave Multi-Modal Transportation Plan

Issue	Existing Example	Design Guidance	Example Images
Cross Slope	<div><p>Non ADA-compliant driveways on Snelling Ave. Cross slope exceeds 2%</p></div>	<ul style="list-style-type: none">0% best for wheelchairs, max cross slope 2%Offense typically occurs at driveways. Reconstruct driveways so that steep cross slope occurs outside of the pedestrian zone. See figures to the right for examples	<div><p>OPTION H TYPICAL SEPARATED SIDEWALK DRIVEWAY</p></div> <div><p>taper</p></div> <div><p>2%</p></div>


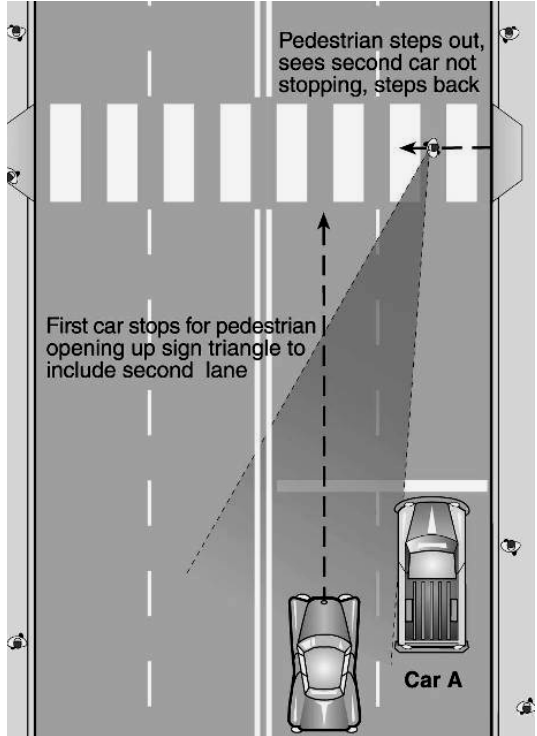

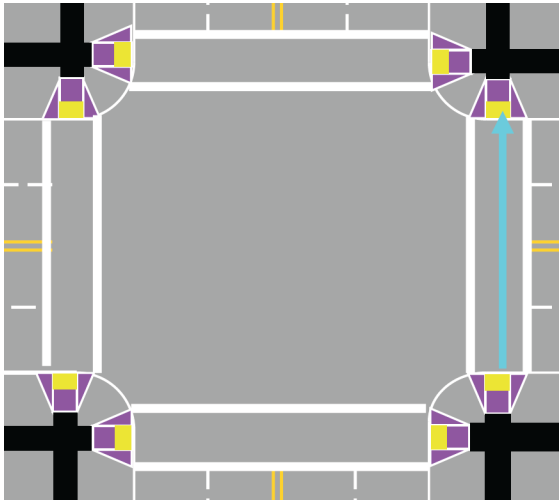
Issue	Existing Example	Design Guidance	Example Images
Surface	<div><p>Uneven sidewalk on Snelling Ave near Taylor Ave</p><p>Patterned crosswalk at the intersection of Snelling Ave and Grand Ave. This is an example of an ADA-compliant patterned, textured surface</p></div>	<ul style="list-style-type: none">• Sidewalk surfaces should be firm, stable, slip-resistant, free of rough textures, large openings and gaps• Pedestrian zone surface appearance should be consistent and well defined for users with visual impairments. Maintained concrete works well, especially with a broom finish for increased traction. Where certain aesthetics are desired, other materials such as pavers or flagstone can work well as long as surface is even and well maintained. Surfaces such as beveled pavers should be avoided because of their uneven surface.• With concrete, sidewalk joints should be sawed joints, except for needed expansion joints. Avoid any decorative scoring. If scoring is absolutely needed, radius as close to a sawed joint is preferred• Sudden changes in sidewalk level should not exceed 1/2"<ul style="list-style-type: none">◦ 1/4" change permitted without treatment (see figure to the right)◦ 1/4" to 1/2" change should be beveled at 1/2" slope (see figure to the right)	<div></div> <div></div> <p>Uneven surfaces are difficult for blind pedestrians and pedestrians with wheelchairs to maneuver</p>
Openings and Grates	<div><p>Good example of tree grate next to Spruce Tree Center</p></div>	<ul style="list-style-type: none">• Openings should be no greater than 1/2" wide• Grates should be perpendicular to the direction of travel	<div><p>Openings greater than 1/2" unacceptable</p></div>



Snelling Ave Multi-Modal Transportation Plan

Issue	Existing Example	Design Guidance	Example Images
Curb Ramps and Transitions			
Curb Ramp	<div></div> <p>Non ADA-compliant curb ramp at Taylor Ave: excessive cross slope and no detectable warning strip. Also, sidewalk on Snelling Ave too narrow for wheelchairs to pass; 5'x5' passing zone required every 200' for sidewalks under 5' wide</p>	<ul style="list-style-type: none">Least possible slope preferred, 1:14 (7.1%) max recommended grade to account for construction variance (8.3% actual max)Ramp Length = curb height/(ramp slope)-(sidewalk cross slope)Ramp width minimum 4'4'x4' minimum level landing required at top of ramp (unless parallel ramp)stable, firm and slip resistant surfaceAs much as possible, curb ramp alignment should be centered on crosswalk and perpendicular to curbRamp flares should not exceed 10% slope	<div></div> <p>Note: PAR stands for Pedestrian Access Route</p>
Ramp/Gutter intersection	<div></div> <p>Non ADA-compliant curb ramp transition on Snelling Ave: uneven and obstructed gutter with poor drainage. Also, no detectable warning strips and no level landing at top of ramp</p>	<ul style="list-style-type: none">5% max permitted street grade (PROWAG) in combination with an 8.3% max ramp slope. Less is better; good practice is to provide 24" level area between street slope and ramp (see figure to the right)Bottom of ramp must have a 4'x4' clear space outside of vehicle path (mainly applicable to standalone ramps at 4-way intersection corners)Standing water can be an issue at transitions, especially in winter months when freezing occurs. Provide gutter and inlet drain design that allows for proper drainage.	<div></div> <p>Good</p> <p>Best</p>


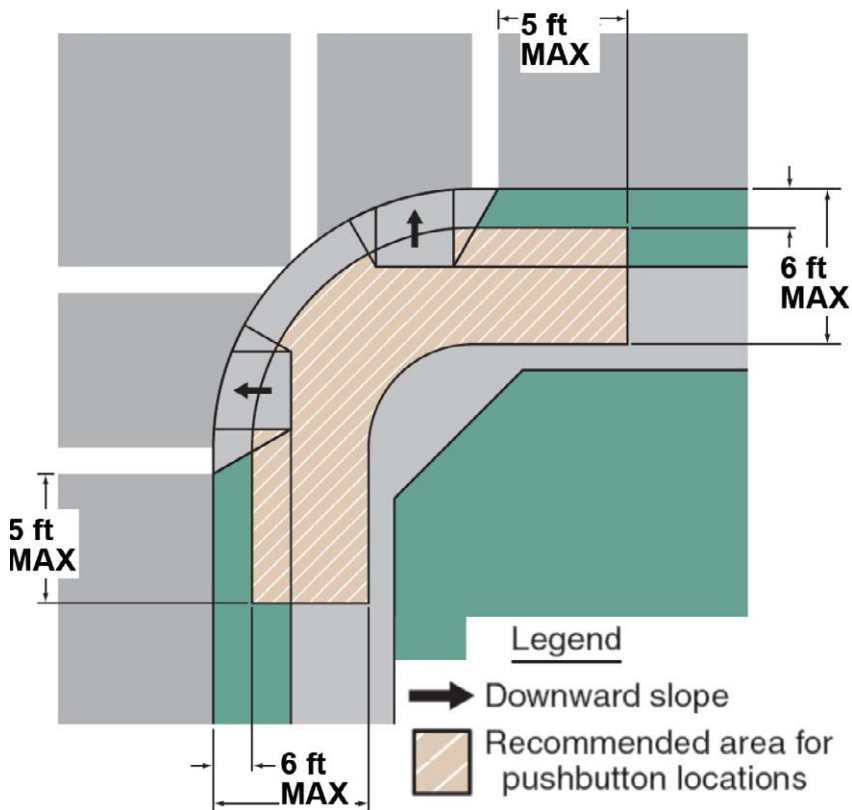
Issue	Existing Example	Design Guidance	Example Images
Detectable warnings	<div><p>Ramp missing detectable warning strip on Snelling Ave, Also uneven, rough surface is non-ADA compliant</p></div>	<ul style="list-style-type: none">• Must be present wherever a walkway and vehicular way intersect at the same level (known as a blended transition in PROW-AG) such as curb ramps, medians and islands, raised crosswalks, depressed corners and bikeway crossings• Detectable warnings should be of the pattern shown to the right, and should have visual contrast• Detectable warnings should be 24" long in the direction of travel and should extend the width of the curb ramp• Detectable warnings should not be installed on ramp flares• Place detectable warning perpendicular to travel direction when landing is less than 5' deep. When greater than 5', position parallel to curb line. See figure to the right for examples.	<div><p>Tactile pad diagram</p></div> <div><p>Orientation of tactile pad if landing >5'</p><p>Orientation of tactile pad if landing <5'</p></div>

Snelling Ave Multi-Modal Transportation Plan


Issue	Existing Example	Design Guidance	Example Images
Crossings			
Crosswalk	<div></div> <div>Parallel crosswalk with missing stop bar on Snelling Ave at Concordia Ave</div>	<ul style="list-style-type: none">• Crosswalks with longitudinal markings, such as ladder or continental style crosswalks are most visible to vehicles and pedestrians with visual impairments. These are recommended for the corridor• Road crown should be a 5% max slope for pedestrian crossing and crossing cross slope should not exceed 2%• Running surface should be as smooth as possible• Crosswalk width should be 10'• Advanced stop bars recommended at all intersection crossings for improved vehicular/pedestrian visibility	<div></div> <div>Advanced stop bars and longitudinal crosswalk markings are recommended for greater pedestrian/visibility</div>
Intersections	<div></div> <div>Crossing at Marshall Ave should have two separate pedestrian ramps</div>	<ul style="list-style-type: none">• With curb radii, smaller is better. A smaller curb radii slows turning vehicles, reduces crossing distance, and allows for curb ramps to be smaller and aligned for a more direct pedestrian travel path• Curb extensions should be installed where crossing distances are great, visibility is poor, and room for curb ramps is minimal• Where a right turn pork chop refuge is present, a signalized slip lane is preferable to slow turning traffic and provide additional guidance to blind pedestrians• 2 ramps are highly recommended where two roadway crossings are present at one corner; the use of one diagonal ramp or depressed corner/blended transition is discouraged	<div></div> <div>Preferred Configuration</div>


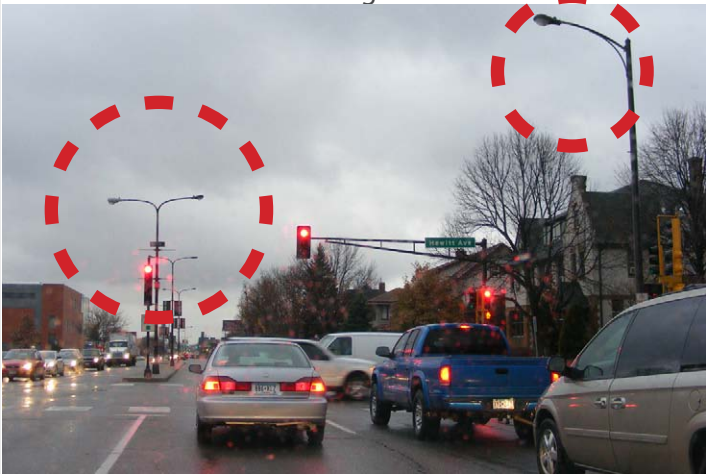

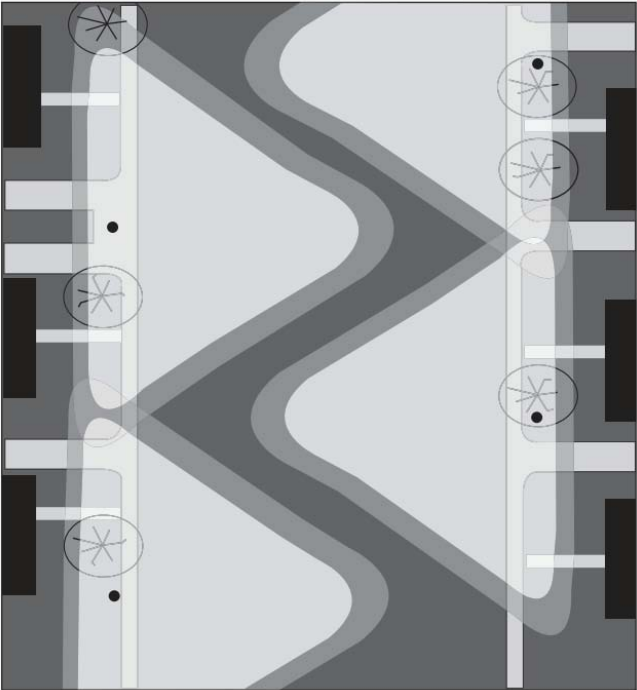
Issue	Existing Example	Design Guidance	Example Images
Median refuge	<div><p>Non-standard median refuge at Lafond Ave: excessive lip, improper ramp, and no detectable warning strip</p><p>Example of ADA compliant median refuge, curb ramps and crosswalk on Snelling Ave South of Selby Ave</p></div>	<ul style="list-style-type: none">• 6' min recommended width for median refuges, stagger ends to align with crossings, last 2' of crossing should be perpendicular to roadway to align blind pedestrians with crossing.• Median landing should be at roadway level when possible• Consider placing pedestrian pushbuttons in median refuges at signalized intersections or locations where a HAWK beacon or Rapid Red Flashing Beacon (RRFB) are installed. This will assist pedestrians who cannot cross at a pace of 3'/sec	<div><p>Stagger: provide 2' straight at each end</p></div>

Pedestrian Signals

Pushbutton siting	<div><p>Improper pedestrian refuge and pushbutton siting near Hamline University: prevents wheelchair access</p></div>	<ul style="list-style-type: none">• Signal pushbuttons should be placed as close to the crossing as possible without obstructing movement, but at a minimum within 5' of the crosswalk edge• Signal pushbuttons should be between 1.5' and 6' from the edge of the curb, shoulder, or pavement• Signal pushbuttons should be between 36" and 42" tall. 48" max height.• Signal button face should be parallel to crosswalk direction• Pushbuttons should be spaced at a minimum 10' apart so that blind pedestrians can distinguish crossing tones. If closer than 10' apart, a specialized signal can be used that announces the intended crossing with a recorded message• No object should protrude beyond the pushbutton face below the pushbutton mount. This allows for improved wheelchair access .	<div><p>5 ft MAX</p><p>6 ft MAX</p><p>5 ft MAX</p><p>6 ft MAX</p><p>Legend</p><p>➔ Downward slope</p><p>➔ Recommended area for pushbutton locations</p><p>Requirements for pushbutton placement</p></div>
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Snelling Ave Multi-Modal Transportation Plan

Issue	Existing Example	Design Guidance	Example Images
Pushbutton Size and Operation	 <p>Non ADA-compliant pedestrian signal button at Hewitt Ave</p>	<ul style="list-style-type: none">• Signal button should be:<ul style="list-style-type: none">◦ 2" diameter minimum◦ contrasting in color with housing or mounting◦ operable with one hand without grasping, pinching or twisting wrist. A 2lb actuation force is desirable, 5lb max actuation force according to PROWAG• Pushbutton integrated Accessible Pedestrian Signal (APS) includes the following:<ul style="list-style-type: none">◦ Speakers at the pushbutton◦ Pushbutton locator tone (see PROWAG guidance for additional specifics on APS locator tones)◦ Tactile arrow◦ Audible and vibrotactile walk indications (see PROWAG guidance for additional specifics on APS walk indicator tones)◦ Automatic volume adjustment◦ Braille label on faceplate or sign• Tactile arrow should be aligned with the direction of the crossing, and should be located on pushbutton or near pushbutton on sign	 <p>ADA compliant pushbutton examples</p>
Signal Heads	 <p>Good signal head placement at Hewitt Ave Countdown signal heads, ADA-compliant pushbuttons and detectable warning strips missing</p>	<ul style="list-style-type: none">• Pedestrian countdown heads required for all new pedestrian signal installations. All signals required to be upgraded to countdown signals by 2019.• Signal head placement should be in the pedestrian's line of sight as they face the crossing and unobstructed by objects.• The effective crossing distance is from top of the ramp on one side of the road to the curb on the other side of the road. 3"/sec is the required time allocation; this includes steady walk signal and flashing don't walk signal.	 <p>Example of good ramp, pushbutton, and signal placement</p>

Issue	Existing Example	Design Guidance	Example Images
Lighting			
Lighting Placement and Arrangement	<div></div> <p>Good pedestrian scale lighting on Selby Ave near Snelling Ave</p> <div></div> <p>Tall “cobra head” lighting, found along Snelling Ave, is not preferred for pedestrians</p>	<ul style="list-style-type: none">• ADA requirements state: <i>lighting along circulation routes shall be of a type and configuration to provide uniform illumination.</i><ul style="list-style-type: none">◦ Pedestrian scale lighting is typically 12'-15' tall and should be spaced so that illumination is even and continuous along the corridor◦ Pedestrian lighting should be located at all crossings, poles should not interrupt pedestrian travel◦ Continuous pedestrian lighting where street trees are present should be coordinated with street tree layout so that lighting is unobstructed• Good additional guidance on pedestrian lighting can be found in the <i>San Francisco Better Streets Plan: Section 6.3</i> (http://www.sf-planning.org/ftp/BetterStreets/docs/FINAL_6_Streetscape_Elements.pdf)	<div></div> <div></div> <p>Pedestrian scale lighting should be continuous and coordinated with street trees</p>

Appendix D

Recommended Concept Plan Exhibits for Snelling Avenue

Concept Plan
Selby Ave and Dayton Ave
Sheet SN-01

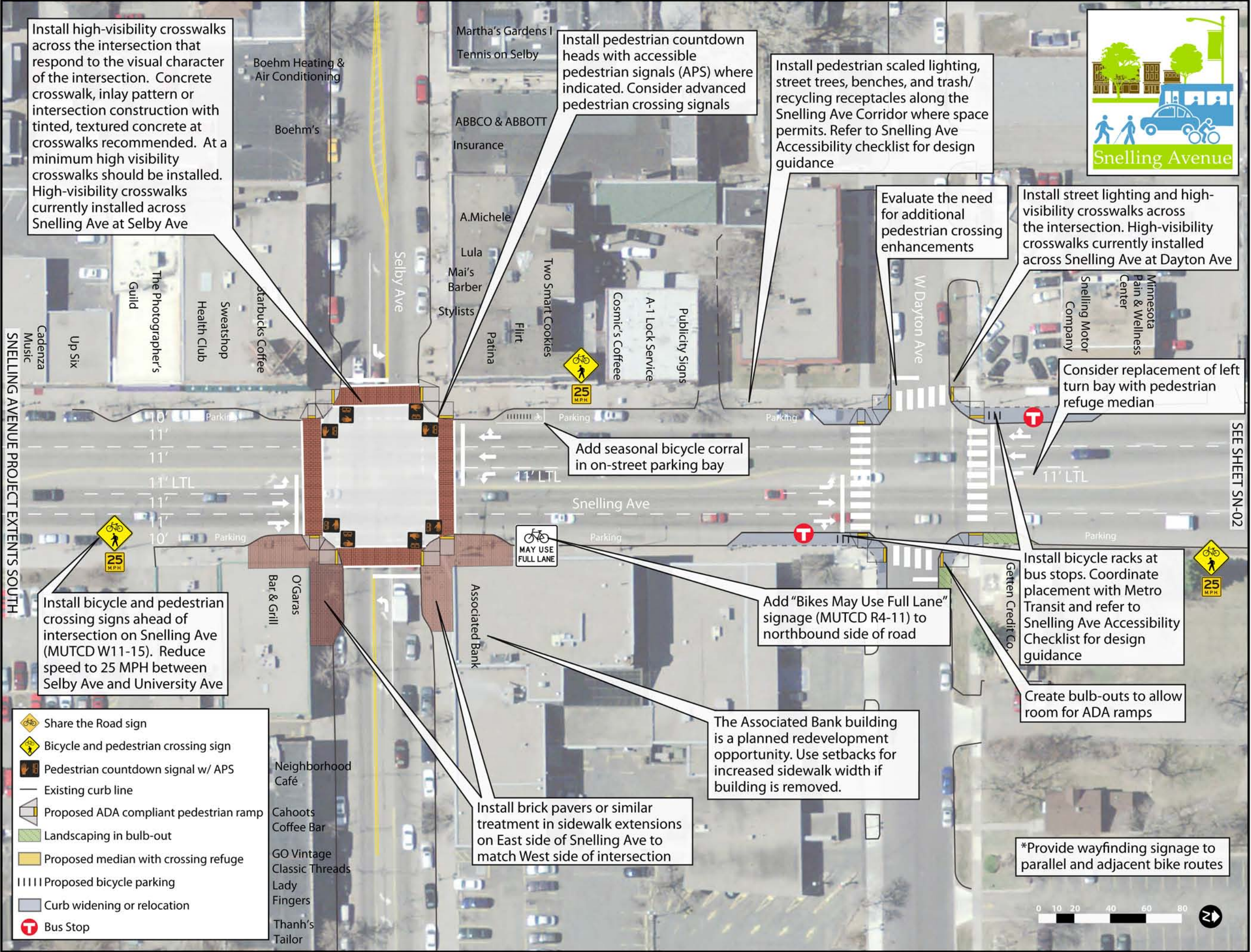
- Current Deficiencies**

 - wide crossing distances
 - inadequate crossing visibility
 - crossings not in compliance with ADA requirements
 - motorists speeds consistently over posted speed limit due to roadway design
 - inadequate bicycle parking

- Recommendations**

 - install ADA compliant pedestrian ramps at all crossings
 - install street lighting and high-visibility crosswalks across the intersection. High-visibility crosswalks are currently installed across Snelling Ave at Dayton Ave
 - install pedestrian countdown heads with accessible pedestrian signals (APS) where indicated. Consider advanced pedestrian crossing signals
 - add bicycle corral in on-street parking bay and bicycle parking at bus stop bulb-outs by Dayton Ave. Coordinate bike parking at bus stops with Metro Transit
 - install bicycle and pedestrian crossing signs ahead of intersections where indicated on Snelling Ave
 - reduce speed limit to 25 MPH between Selby Ave and University Ave
 - install brick pavers in sidewalk extensions on East side of Snelling Ave to match West side of intersection
 - Provide wayfinding signage to parallel and adjacent bike routes

Snelling Avenue Multi-Modal Transportation Plan
 MnDOT, City of St. Paul
 Authors: JC/CW
 1"=50'
 January 2013

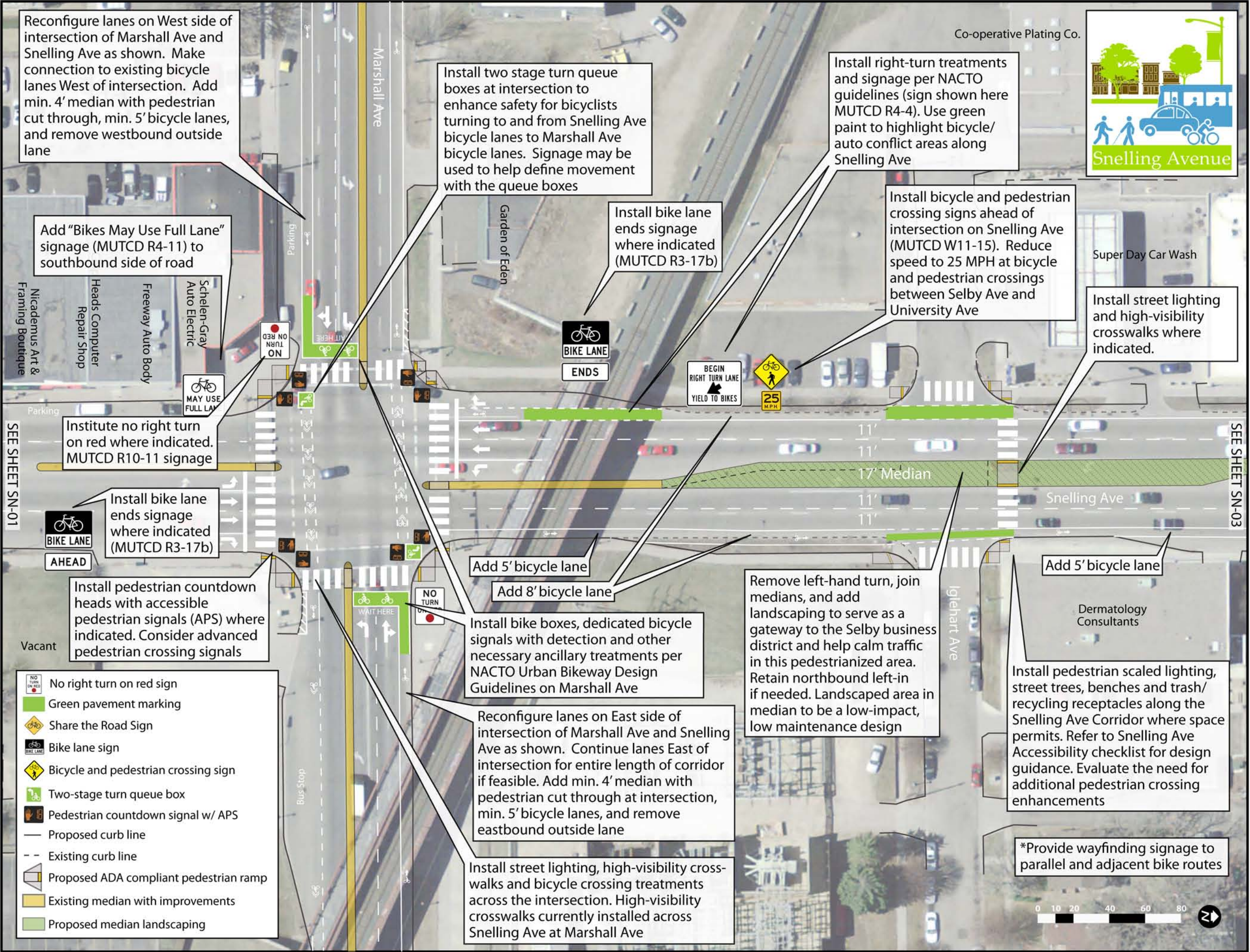


Concept Plan
Marshall Ave and Iglehart Ave
Option 1 Sheet SN-02

- Current Deficiencies**
- wide crossing distances
 - inadequate crossing visibility
 - crossings not in compliance with ADA requirements
 - motorist speeds consistently over posted speed limit due to roadway design

- Recommendations**
- install ADA compliant pedestrian ramps at all crossings
 - install pedestrian countdown heads with accessible pedestrian signals (APS) where indicated. Consider advanced pedestrian crossing signals
 - install bicycle and pedestrian crossing sign ahead of intersection North of Marshall Ave
 - reduce speed limit to 25 MPH between Selby Ave and University Ave
 - remove left-hand turn at Iglehart Ave, join medians, and add landscaping to serve as a gateway to the Selby businessdistrict and help calm traffic in this pedestrianized area. Landscaped area in median to be designed and constructed as a vegetative bioswale
 - use green pavement marking to highlight bicycle /auto conflict areas along Snelling Ave
 - reconfigure lanes on Marshall Ave as indicated in callouts for improved bicycle access
 - install bike boxes and ancillary treatments where indicated
 - provide wayfinding signage to parallel and adjacent bike routes

Snelling Avenue Multi-Modal Transportation Plan
 MnDOT, City of St. Paul
 Authors: JC/CW
 1"=50'
 January 2013

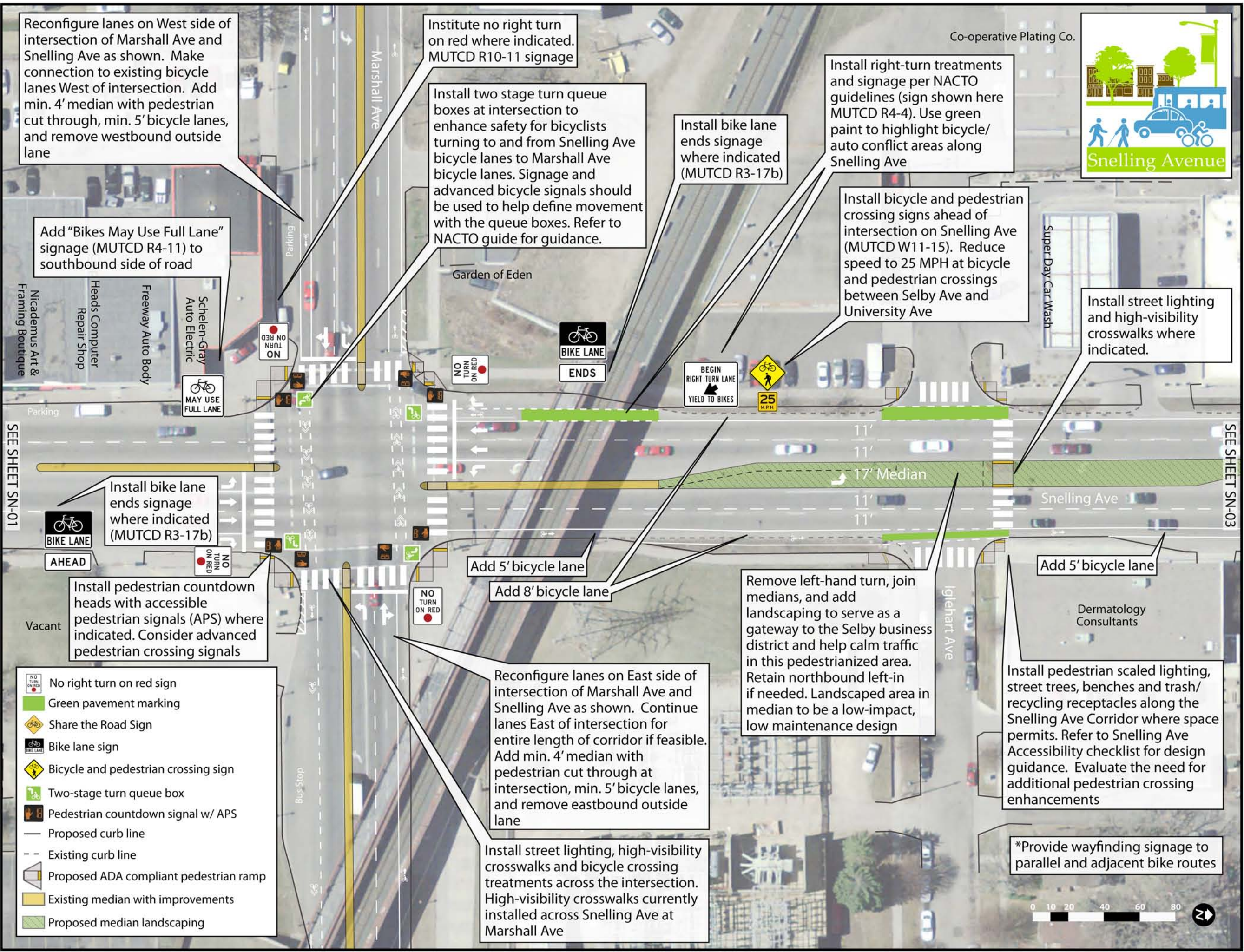


Concept Plan
Marshall Ave and Iglehart Ave
Option 2 Sheet SN-02a

- Current Deficiencies**
- wide crossing distances
 - inadequate crossing visibility
 - crossings not in compliance with ADA requirements
 - motorist speeds consistently over posted speed limit due to roadway design

- Recommendations**
- install ADA compliant pedestrian ramps at all crossings
 - install pedestrian countdown heads with accessible pedestrian signals (APS) where indicated. Consider advanced pedestrian crossing signals
 - install bicycle and pedestrian crossing signs ahead of intersection North of Marshall Ave
 - reduce speed limit to 25 MPH between Selby Ave and University Ave
 - remove left-hand turn at Iglehart Ave, join medians, and add landscaping to serve as a gateway to the Selby businessdistrict and help calm traffic in this pedestrianized area. Landscaped area in median to be a low-impact, low maintenance design. Retain northbound left-in if needed
 - use green pavement marking to highlight bicycle /auto conflict areas along Snelling Ave
 - reconfigure lanes on Marshall Ave as indicated in callouts for improved bicycle access
 - provide wayfinding signage to parallel and adjacent bike routes

Snelling Avenue Multi-Modal Transportation Plan
 MnDOT, City of St. Paul
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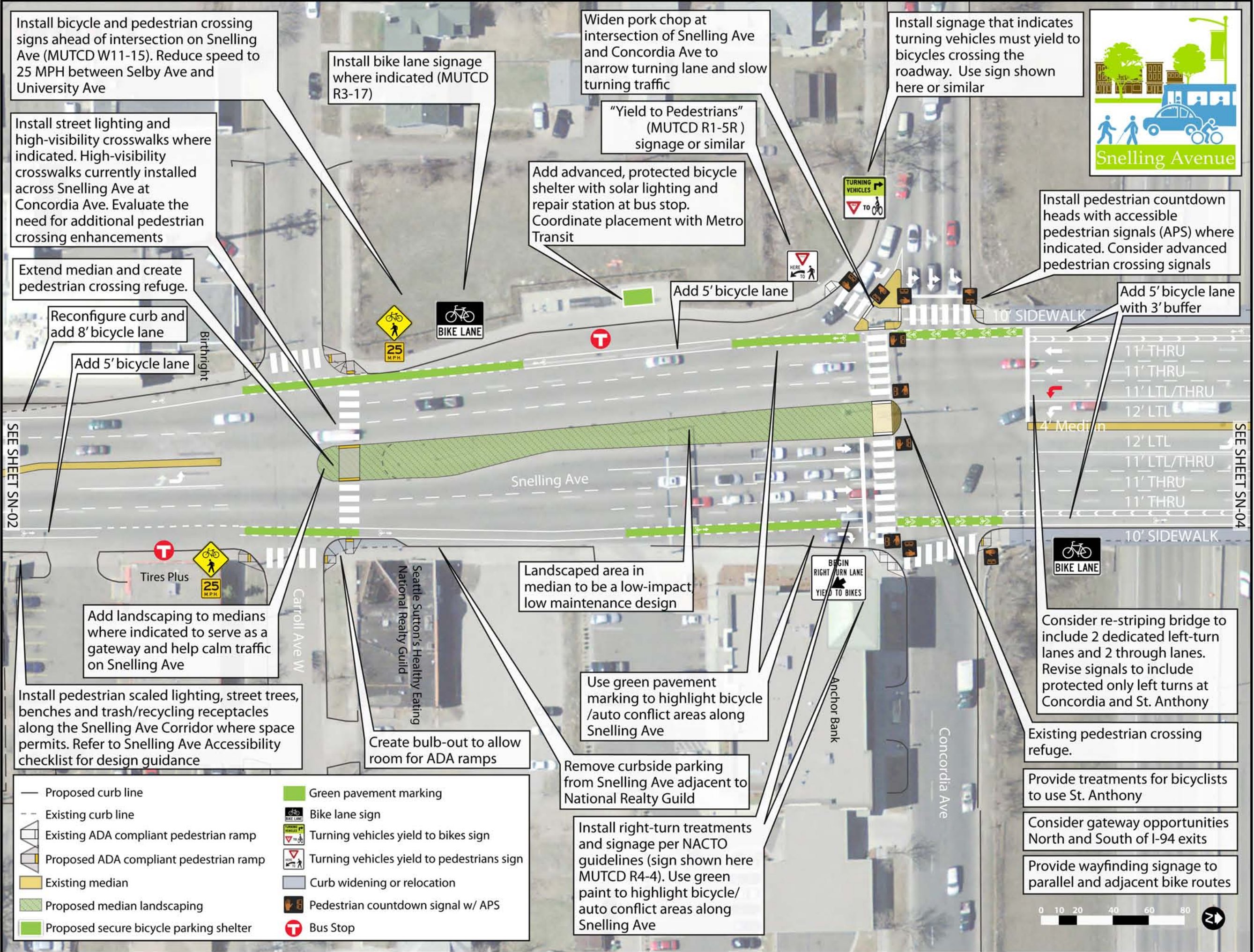


Concept Plan
Carroll Ave and Concordia Ave Sheet SN-03

- Current Deficiencies**
 - wide crossing distances and long distances between crossings
 - inadequate crossing visibility
 - crossings not in compliance with ADA requirements
 - motorists speeds consistently over posted speed limit due to roadway design
 - limited bicycle parking at bus stops.

- Recommendations**
 - install ADA compliant pedestrian ramp at indicated crossings
 - install street lighting and high-visibility crosswalks and bicycle crossing treatments where indicated
 - install pedestrian countdown heads with accessible pedestrian signals (APS) where indicated. Consider advanced pedestrian crossing signals
 - add bicycle lanes where indicated
 - add landscaping to median to serve as a gateway to the corridor and help slow traffic. Landscaped area in median to be a low-impact, low maintenance design
 - extend median, add bulb-outs and create pedestrian crossing at Carroll Ave W to better serve pedestrians traveling to and from West bus stop
 - use green pavement marking to highlight bicycle/auto conflict areas along Snelling Ave
 - add advanced, protected bicycle shelter with solar lighting and repair station at bus stop. Coordinate placement with Metro Transit

Snelling Avenue Multi-Modal Transportation Plan
 MnDOT, City of St. Paul
 Authors: JC/CW
 1"=50'
 January 2013



Concept Plan
St Anthony Ave
Sheet SN-04

- Current Deficiencies**

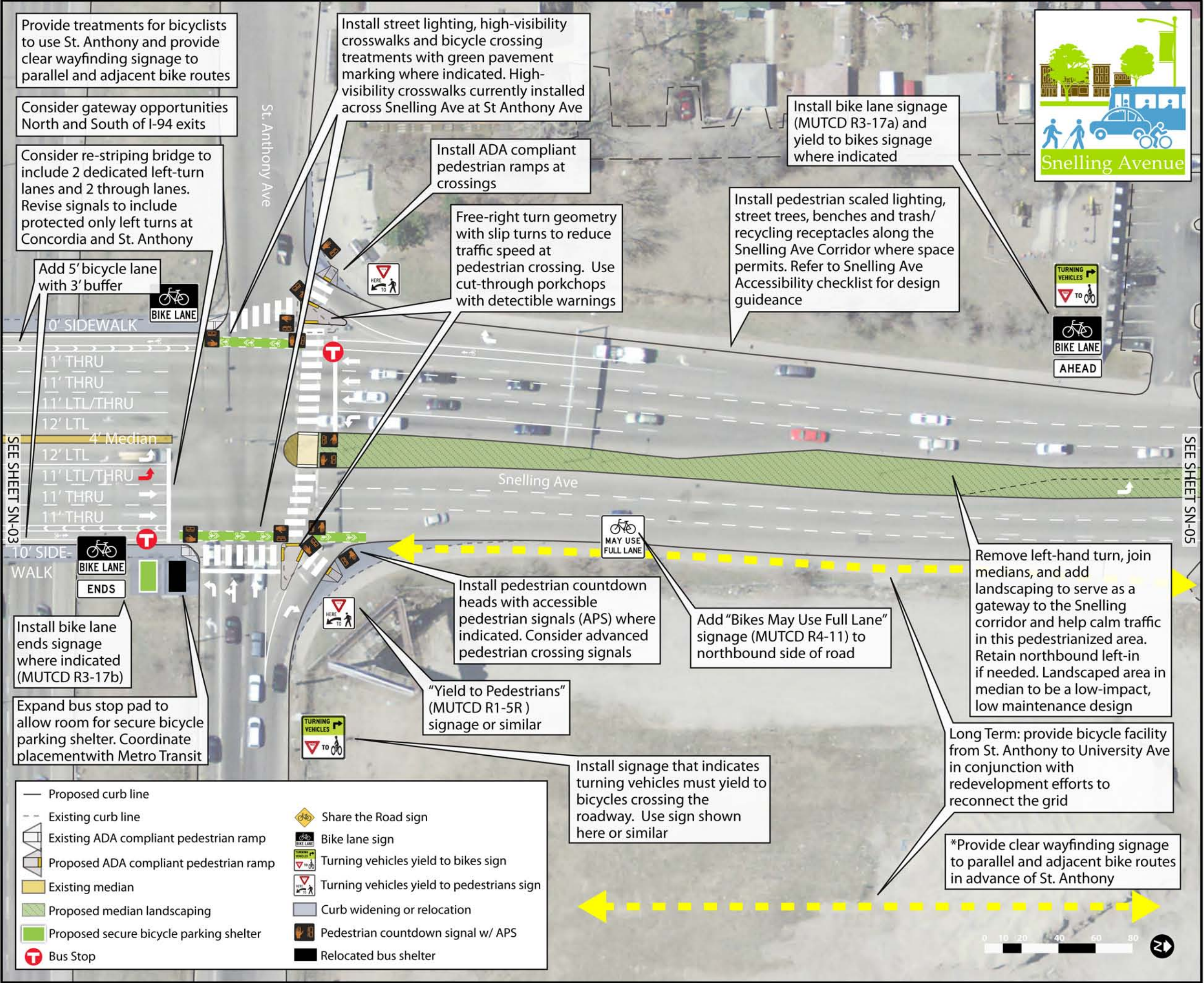
 - wide crossing distances with no pedestrian refuges
 - inadequate crossing visibility
 - crossings not in compliance with ADA requirements
 - motorist speeds consistently over posted speed limit due to roadway design
 - little space and limited bicycle parking at bus stops

- Recommendations**

 - install ADA compliant pedestrian ramp at indicated crossings
 - install street lighting, high-visibility crosswalks and bicycle crossing treatments where indicated
 - install pedestrian countdown heads with accessible pedestrian signals (APS) where indicated. Consider advanced pedestrian crossing signals
 - add bicycle lanes where indicated
 - long term: provide bike facility from St. Anthony Ave to University Ave through properties immediately East of Snelling Ave. Coordinate with redevelopment of properties if possible
 - expand bus stop pad to allow room for secure bicycle parking shelter
 - add landscaping to median to serve as a gateway to the corridor and help slow traffic. Landscaped area in median to be a low-impact, low maintenance design
 - eliminate free-right turn geometry with slip turns to reduce traffic speed at pedestrian crossing. Use cut-through porkchops with detectible warnings
 - add "Share the Road" signage (MUTCD W11-1 + W16-1) to southbound side of road to accommodate bicyclists who choose to continue on Snelling Ave
 - provide wayfinding signage to parallel and adjacent bike routes

Snelling Avenue Multi-Modal Transportation Plan

MnDOT, City of St. Paul
Authors: JC/CW
1"=50'
January 2013



Concept Plan
Shields Ave and Spruce
Tree Ave Sheet SN-05

- Current Deficiencies**

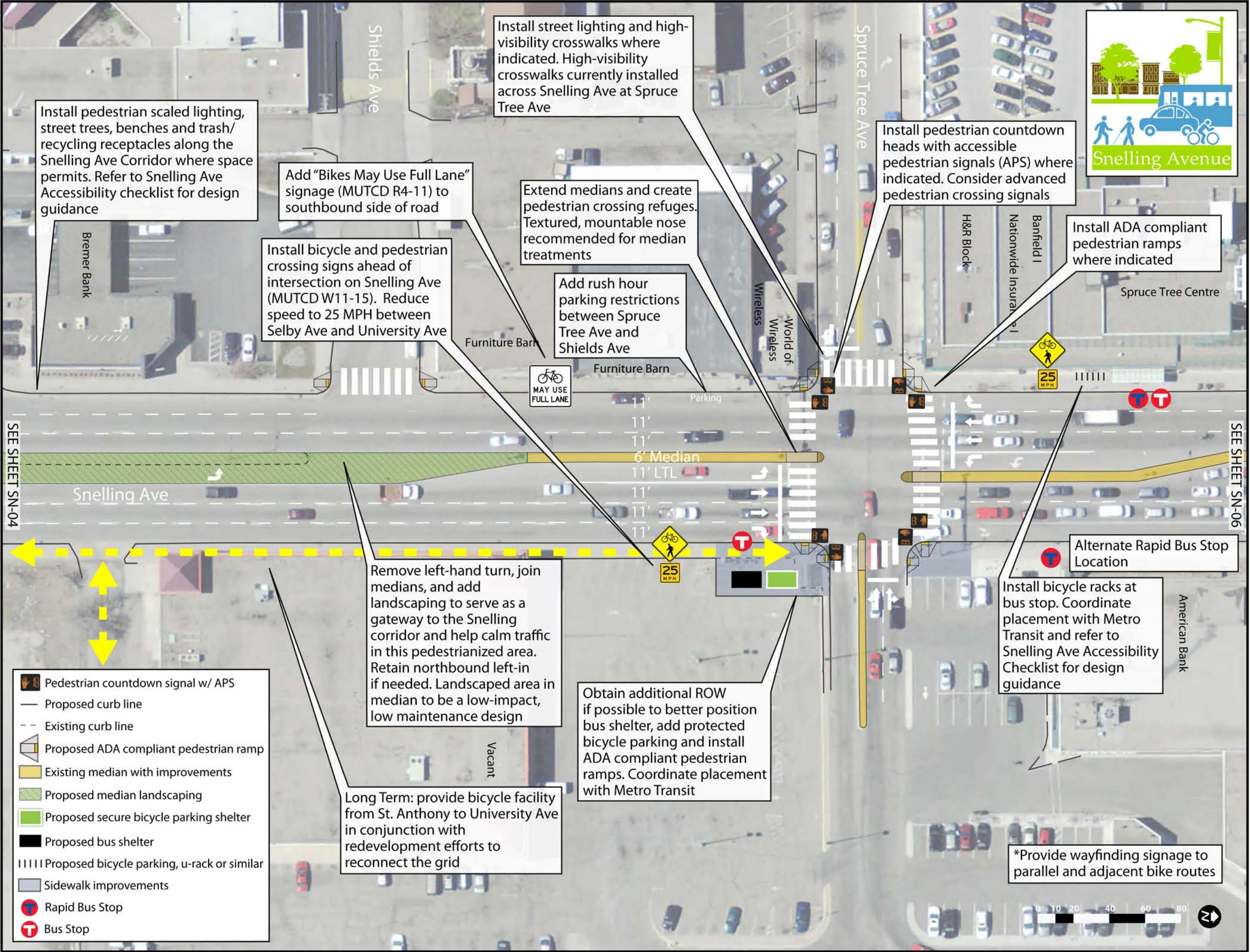
 - wide crossing distances with no pedestrian refuges.
 - inadequate crossing visibility
 - crossings not in compliance with ADA requirements
 - little space and no bicycle parking at bus stops

- Recommendations**

 - install ADA compliant pedestrian ramps at indicated crossings
 - install street lighting and high-visibility crosswalks across all intersection crossings
 - install pedestrian countdown heads with accessible pedestrian signals (APS) where indicated. Consider advanced pedestrian crossing signals
 - extend medians and create pedestrian crossing refuges. Textured, mountable noserecommended for median treatments
 - expand the western bus stop and add bicycle parking to both bus stops
 - add ADA ramps where indicated
 - add landscaping to median to serve as a gateway and help calm traffic on Snelling Ave. Landscaped area in median to be a low-impact, low maintenance design
 - install bicycle and pedestrian crossing signs ahead of intersection on Snelling Ave (MUTCD W11-15). Reduce speed to 25 MPH between Selby Ave and University Ave
 - provide wayfinding signage to parallel and adjacent bike routes

Snelling Avenue Multi-Modal Transportation Plan

MnDOT, City of St. Paul
Authors: JC/CW
1"=50'
January 2013



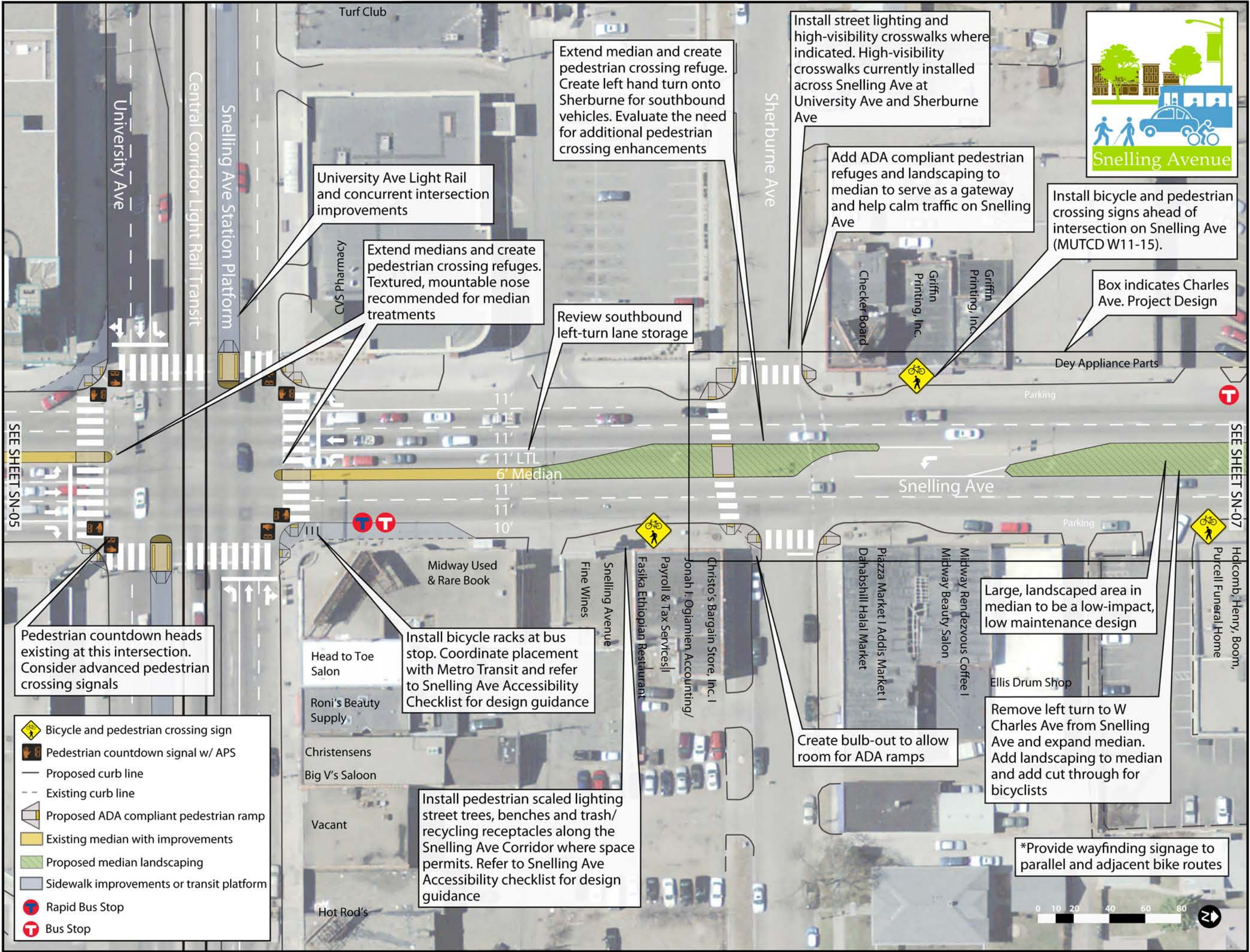
Concept Plan
University Ave and
Sherburne Ave Sheet SN-06

- Current Deficiencies**
- wide crossing distances with no pedestrian refuges.
 - inadequate crossing visibility
 - crossings not in compliance with ADA requirements
 - motorists speeds consistently over posted speed limit

- Recommendations**
- install ADA compliant pedestrian ramp at indicated crossings
 - create bulb-outs where indicated to allow room for ADA ramps
 - install high-visibility crosswalks across all intersection crossings.
 - install pedestrian countdown heads with accessible pedestrian signals (APS) where indicated. Consider advanced pedestrian crossing signals
 - add landscaping to median to serve as a gateway and help calm traffic on Snelling Ave
 - install bicycle and pedestrian crossing signs ahead of intersection on Snelling Ave (MUTCD W11-15).
 - add cut through to median for bicyclists. Include "Right Turn Only" signage facing both directions of Sherburne Ave (MUTCD R3-5R)
 - provide wayfinding signage to parallel and adjacent bike routes
 - install pedestrian scaled lighting-street trees, benches and trash/recycling receptacles along the Snelling Ave Corridor where space permits. Refer to Snelling Ave Accessibility checklist for design guidance

Snelling Avenue Multi-Modal Transportation Plan

MnDOT, City of St. Paul
Authors: JC/CW
1"=50'
January 2013



Concept Plan
 Charles Ave and Edmund Ave
 Sheet SN-07

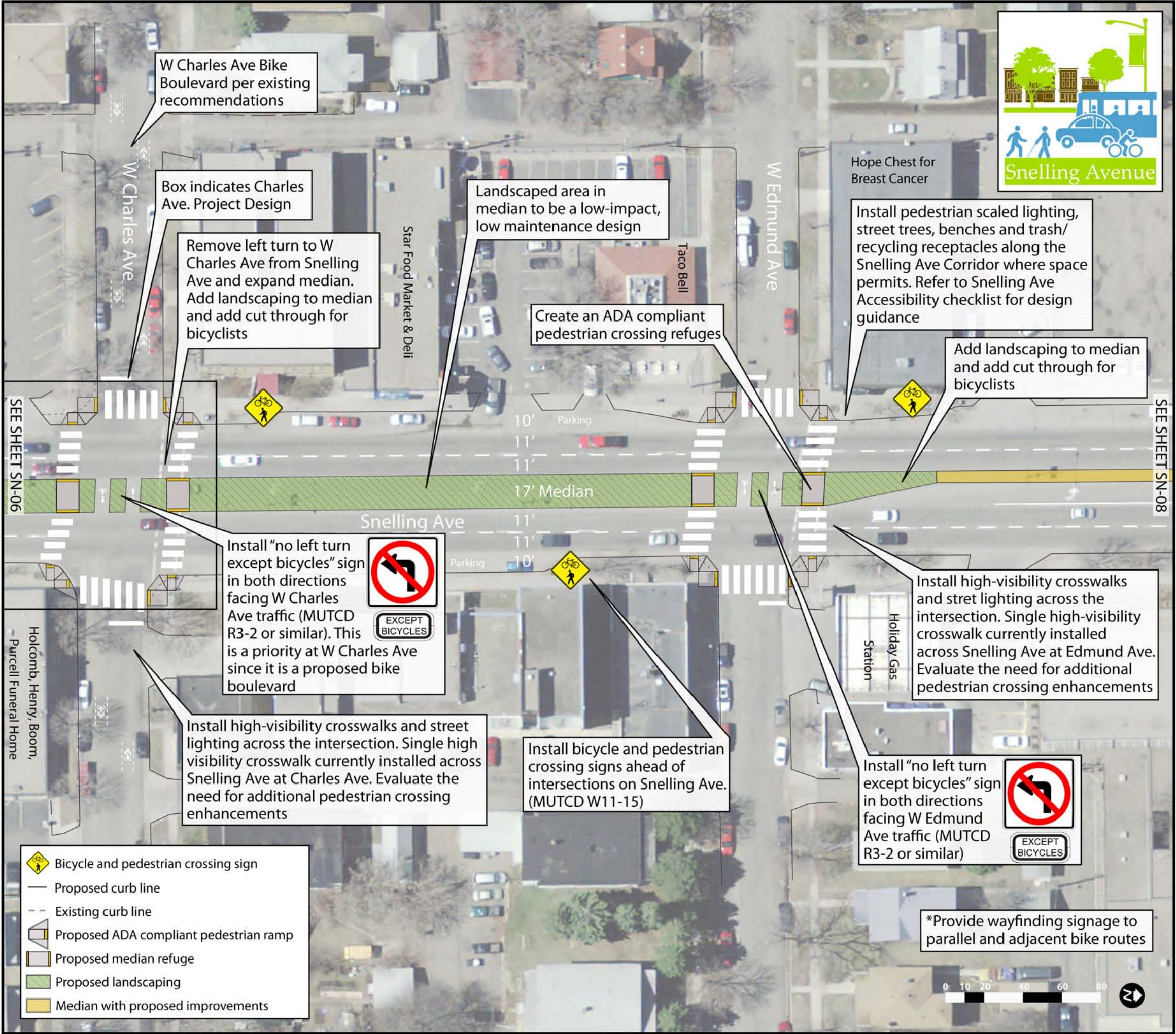
- Current Deficiencies

 - wide intersection with no or inadequate pedestrian crossing refuge
 - crossings have inadequate visibility
 - crossings do not currently meet ADA accessibility requirements
- Recommendations

 - install high-visibility crosswalks and street lighting where indicated
 - install ADA compliant pedestrian ramps at all crossings
 - install bicycle and pedestrian crossing signage ahead of intersections
 - install ADA compliant pedestrian refuges
 - add landscaping to median on Snelling Ave where indicated and add cut through for bicyclists continuing on W Edmund Ave
 - remove left turn to W Charles Ave from Snelling Ave and expand median. Add landscaping to median and add cut through for bicyclists
 - landscaped area in median to be a low-impact, low maintenance design
 - provide wayfinding signage to parallel and adjacent bike routes
 - Install pedestrian scaled lighting, street trees, benches and trash/recycling receptacles along the Snelling Ave Corridor where space permits. Refer to Snelling Ave Accessibility checklist for design guidance

Snelling Avenue Multi-Modal
 Transportation Plan

MnDOT, City of St. Paul
 Authors: JC/CW
 1"=50'
 January 2013

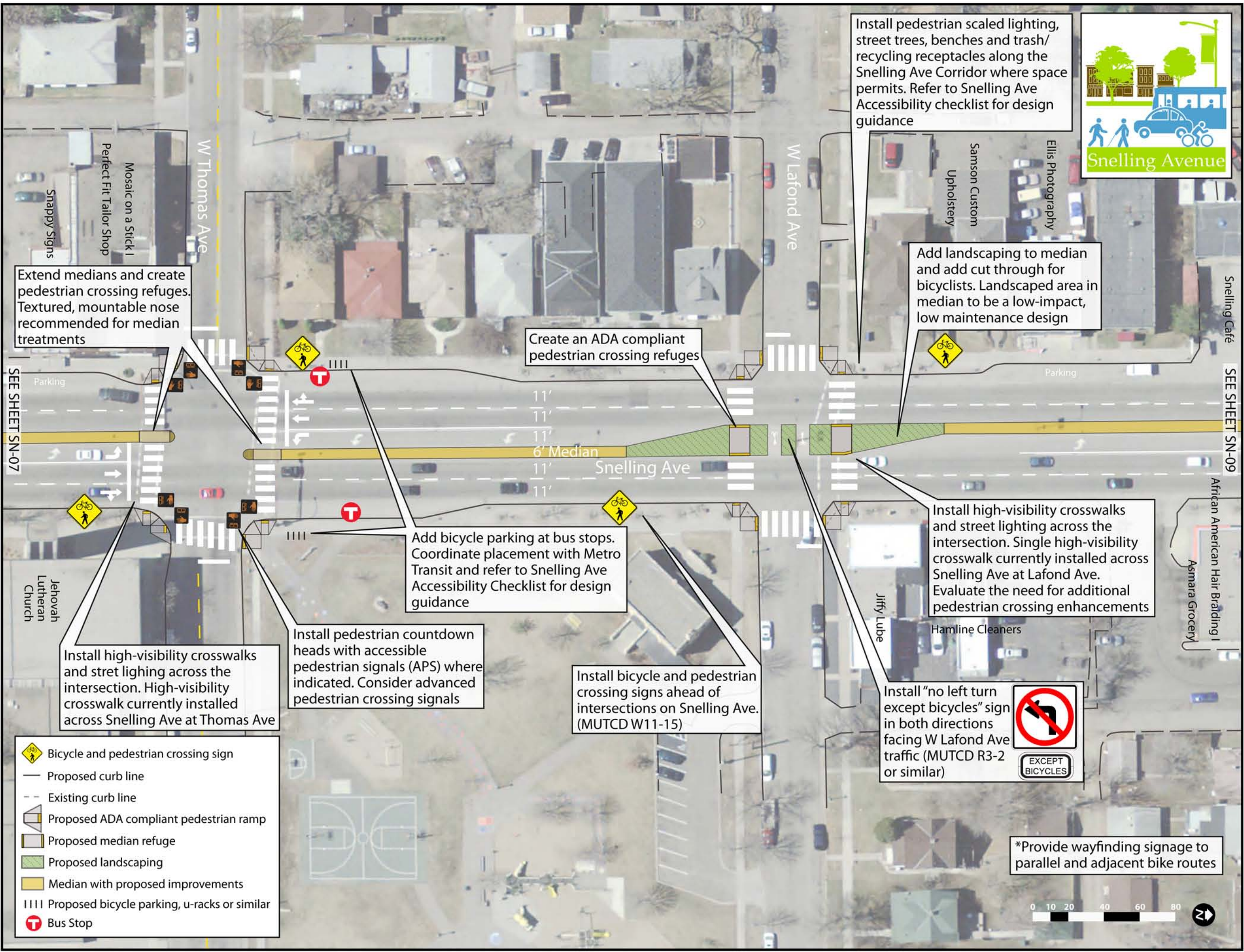


Concept Plan
 Thomas Ave and
 Lafond Ave Sheet SN-08

Current Deficiencies
 -wide intersection with no or inadequate pedestrian crossing refuge
 -crossings have inadequate visibility
 -crossings do not currently meet ADA accessibility requirements

Recommendations
 -install high-visibility crosswalks where indicated
 -install ADA compliant pedestrian ramps at all crossings
 -install bicycle and pedestrian crossing signage ahead of intersection
 -install ADA compliant pedestrian refuges and bicycle refuges in median
 -add landscaping to median on Snelling Ave where indicated and add cut through for bicyclists continuing on W Lafond Ave. Landscaped area in median to be a low-impact, low maintenance design
 -provide wayfinding signage to parallel and adjacent bike routes

Snelling Avenue Multi-Modal Transportation Plan
 MnDOT, City of St. Paul
 Authors: JC/CW
 1"=50'
 January 2013



Concept Plan
Blair Ave and Van Buren Ave
Sheet SN-09

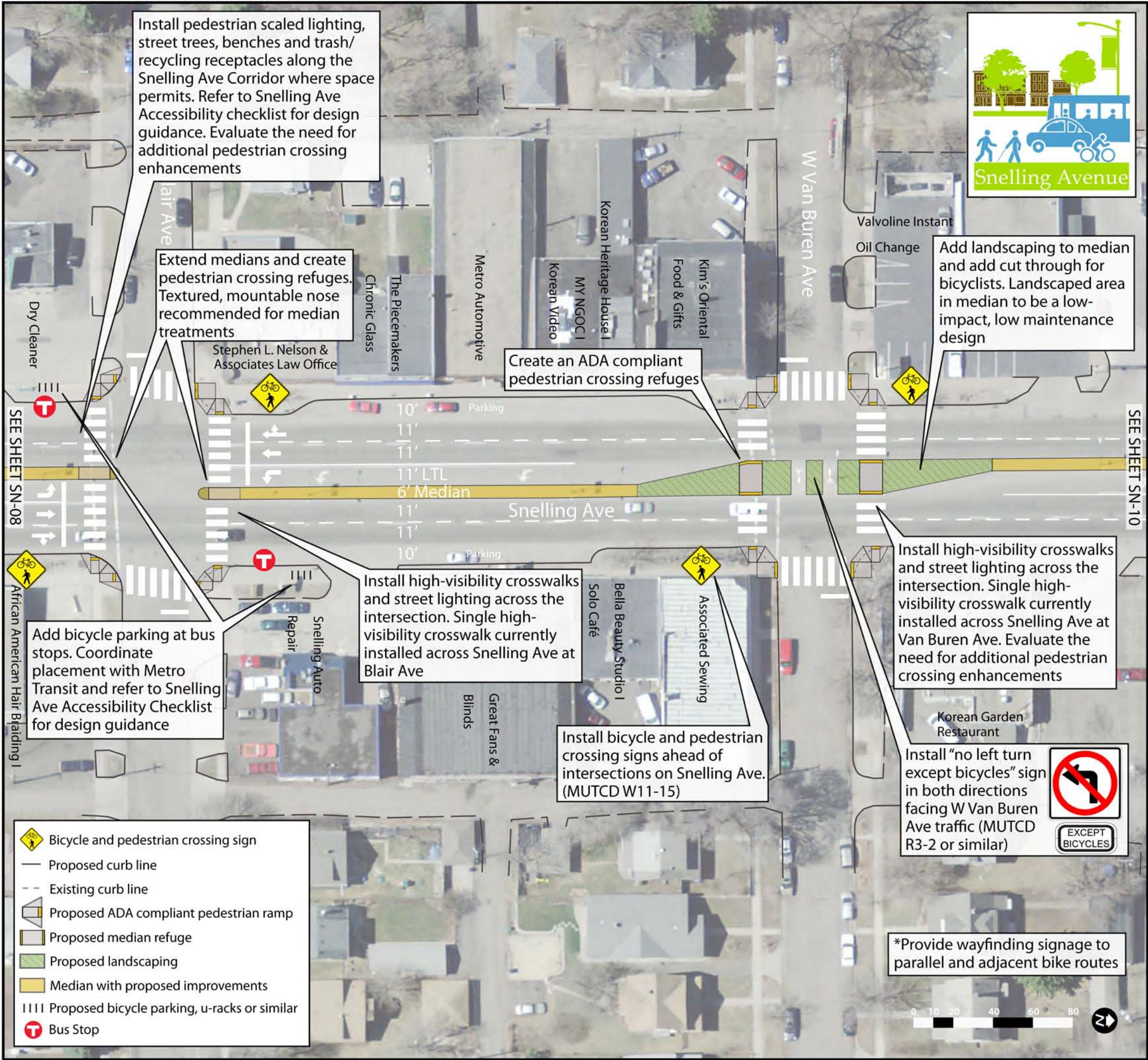
- Current Deficiencies

 - wide intersection with no or inadequate pedestrian crossing refuge
 - crossings have inadequate visibility
 - crossings do not currently meet ADA accessibility requirements
- Recommendations

 - install high-visibility crosswalks where indicated
 - install ADA compliant pedestrian ramps at all crossings
 - install bicycle and pedestrian crossing signage ahead of intersection
 - install ADA compliant pedestrian refuges and bicycle refuges in median
 - add landscaping to median on Snelling Ave where indicated and add cut through for bicyclists continuing on W Van Buren Ave. Landscaped area in median to be a low-impact, low maintenance design
 - provide wayfinding signage to parallel and adjacent bike routes

Snelling Avenue Multi-Modal Transportation Plan

MnDOT, City of St. Paul
Authors: JC/CW
1"=50'
January 2013



Concept Plan
Minnehaha Ave and
Englewood Ave Sheet SN-10

- Current Deficiencies**

 - wide intersection with no pedestrian crossing refuge
 - insufficient space for ADA ramps
 - crossings have inadequate visibility
 - no bicycle treatment at intersection of Minnehaha Ave and Snelling Ave

- Recommendations**

 - install high-visibility crosswalks
 - create bulb-outs where shown to allow room for ADA ramps
 - extend medians and create pedestrian crossing refuges
 - install ADA pedestrian ramps at all corners of the intersection
 - install pedestrian countdown heads with accessible pedestrian signals (APS) where indicated and consider advanced pedestrian crossing signals
 - install video detection or bicyclist-accessible intersection call buttons
 - extend sidewalks where indicated for proposed rapid bus stops.
 - add bus shelters and bicycle parking adjacent to bus stop
 - install bicycle crossing demarcators through the intersection to improve safety for bicyclists on Minnehaha Ave. Use green pavement marking for added visibility per NACTO Urban Bikeway Design Guidelines
 - install bicycle and pedestrian crossing signs ahead of intersections on Snelling Ave
 - add bicycle corral to on-street parking bay
 - provide wayfinding signage to parallel and adjacent bike routes

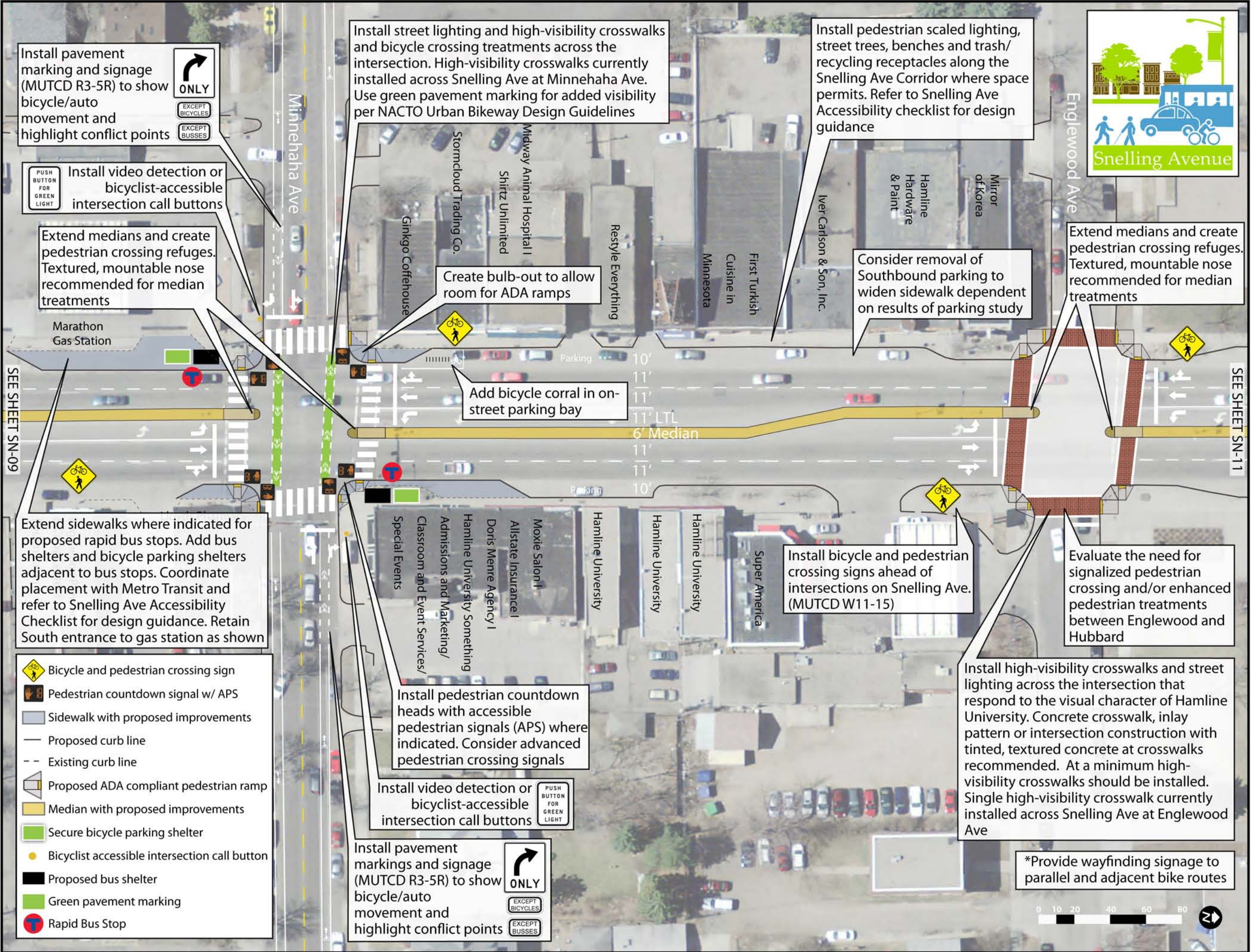
Snelling Avenue Multi-Modal Transportation Plan

MnDOT, City of St. Paul

Authors: JC/CW

1"=50'

January 2013



*Provide wayfinding signage to parallel and adjacent bike routes

Concept Plan
 Hubbard Ave
 Sheet SN-11

Current Deficiencies

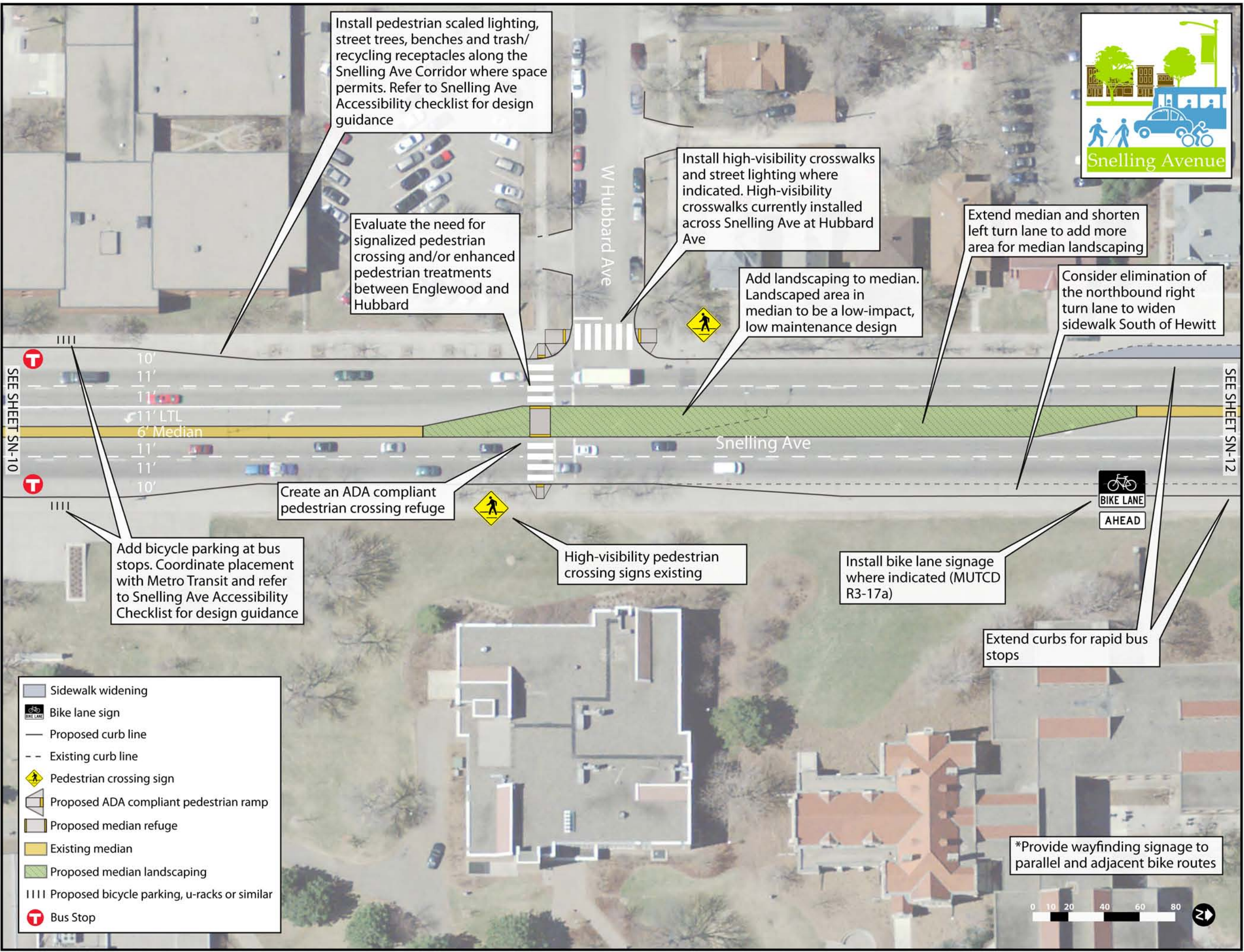
- median refuge doesn't meet ADA accessibility requirements
- crossings don't meet ADA accessibility requirements
- worn crosswalks, inadequate visibility
- motorist speeds consistently over posted speed limit due to roadway design

Recommendations

- install high-visibility crosswalks across Snelling Ave and W Hubbard Ave
- install ADA compliant pedestrian ramps at all crossings
- install ADA compliant pedestrian refuge in median
- add landscaping to median on Snelling Ave. Landscaped area in median to be a low-impact, low maintenance design
- Provide wayfinding signage to parallel and adjacent bike routes

Snelling Avenue Multi-Modal Transportation Plan

MnDOT, City of St. Paul
 Authors: JC/CW
 1"=50'
 January 2013



Concept Plan
Hewitt Ave and Taylor Ave
Sheet SN-12

- Current Deficiencies**

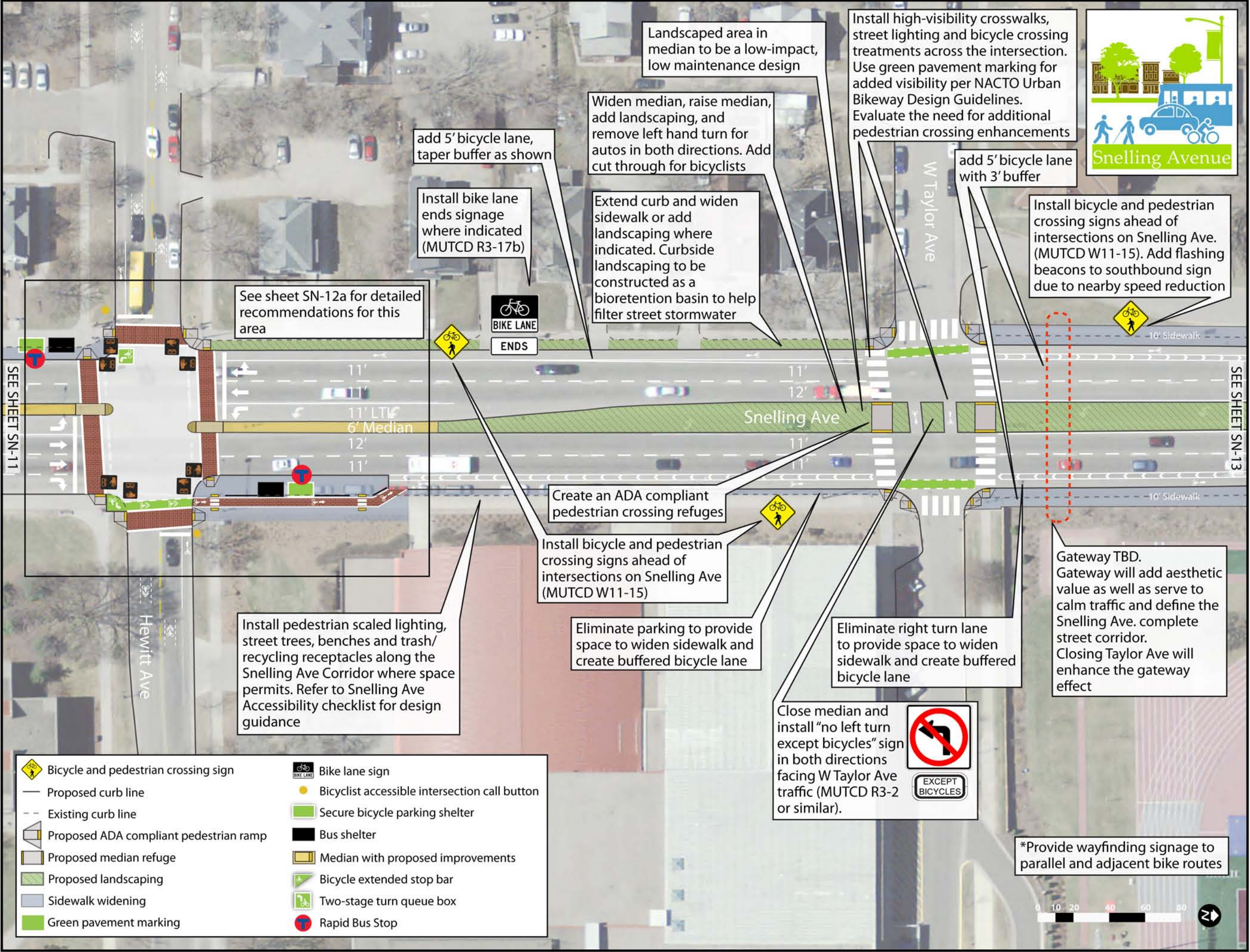
 - inadequate bicycle facilities
 - crossings not in compliance with ADA requirements
 - insufficient crossing visibility at intersections
 - narrow sidewalks uncomfortable for pedestrians and inadequate for disabled pedestrians
 - motorist speeds consistently over posted speed limit due to roadway design

- Recommendations**

 - install median improvements and landscaping as indicated in callout
 - install pedestrian improvements as indicated in callouts at Hewitt Ave and W Taylor Ave
 - extend curb to widen sidewalk or add roadside landscaping where indicated
 - install bicycle improvements as indicated in callouts at W Taylor Ave and Hewitt Ave intersections
 - extend sidewalks where indicated for proposed rapid bus stops. Add bus shelters and protected bicycle parking at bus stop
 - install bicycle and pedestrian crossing signs ahead of intersections on Snelling Ave. Add flashing beacons to southbound sign. Add other crossing treatments as specified
 - design and add gateway approximately where shown. Gateway will add aesthetic value as well as serve to calm traffic and define the Snelling Ave complete street corridor

Snelling Avenue Multi-Modal Transportation Plan

MnDOT, City of St. Paul
Authors: JC/CW
1"=50'
January 2013



Concept Plan
Hewitt Ave Intersection
Sheet SN-12a

- Current Deficiencies

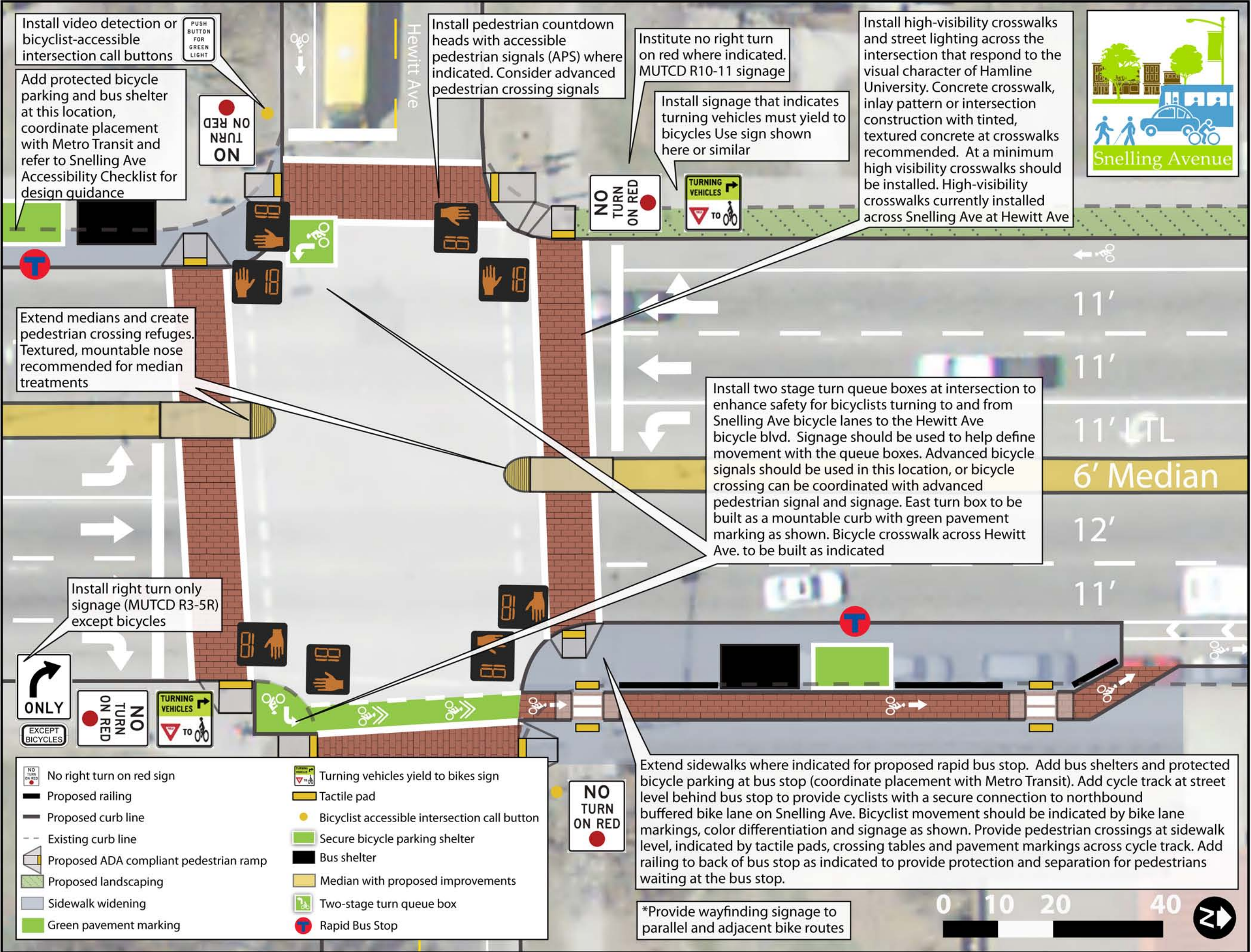
 - inadequate bicycle facilities
 - crossings not in compliance with ADA requirements
 - insufficient crossing visibility at intersections
 - narrow sidewalks uncomfortable for pedestrians and inadequate for disabled pedestrians
 - motorist speeds consistently over posted speed limit due to roadway design

- Recommendations

 - install bicycle and pedestrian improvements as indicated in callouts at Hewitt Ave
 - extend curb to widen sidewalk for rapid bus stops
 - extend sidewalks where indicated for proposed rapid bus stops. Add bus shelters and protected bicycle parking at bus stop
 - institute no turn on red where indicated. MUTCD R10-11 signage
 - make northbound right turn lane on Snelling right turn only, while permitting bicyclists to continue straight on Snelling cycletrack. MUTCD R3-5R signage
 - install cycle track behind rapid bus stop as indicated to provide safe connection from Hewitt Ave. bicycle route to northbound Snelling Ave bicycle lane
 - provide wayfinding signage to parallel and adjacent bike routes

Snelling Avenue Multi-Modal Transportation Plan

MnDOT, City of St. Paul
 Authors: JC/CW
 January 2013



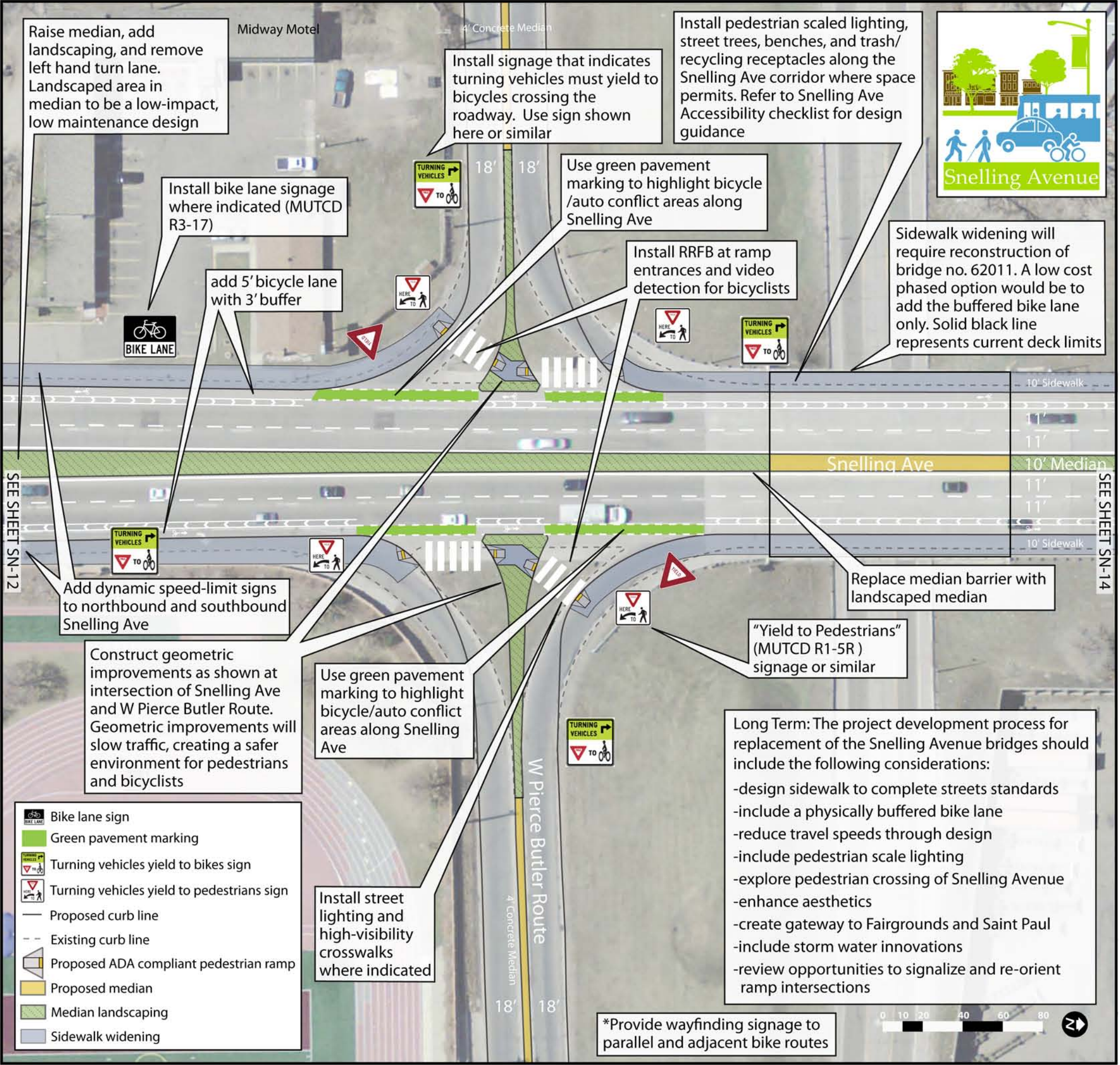
Concept Plan
Pierce Butler Route
Sheet SN-13

- Current Deficiencies**
- inadequate bicycle facilities
 - crossings not in compliance with ADA requirements
 - insufficient crossing visibility at intersections
 - narrow sidewalks uncomfortable for pedestrians and inadequate for disabled pedestrians
 - motorist speeds consistently over posted speed limit due to roadway design

- Recommendations**
- raise median, add landscaping, and remove left hand turn lane. Landscaped area in median to be a low-impact, low maintenance design
 - use green pavement marking to highlight bicycle/auto conflict areas along Snelling Ave
 - install high-visibility crosswalks where indicated
 - install signage that indicates turning vehicles must yield to bicycles crossing the roadway.
 - install "Yield to Pedestrians" (MUTCD R1-5R) signage or similar where indicated
 - construct geometric improvements as shown at intersection of Snelling Ave and W Pierce Butler Route. Geometric improvements will slow traffic, creating a safer environment for pedestrians and bicyclists
 - widen sidewalk where indicated to 10'
 - replace median barrier with landscaped median
 - provide wayfinding signage to parallel and adjacent bike routes

Snelling Avenue Multi-Modal Transportation Plan

MnDOT, City of St. Paul
Authors: JC/CW
1"=50'
January 2013



Concept Plan
Energy Park Dr Bridge
Sheet SN-14

Current Deficiencies

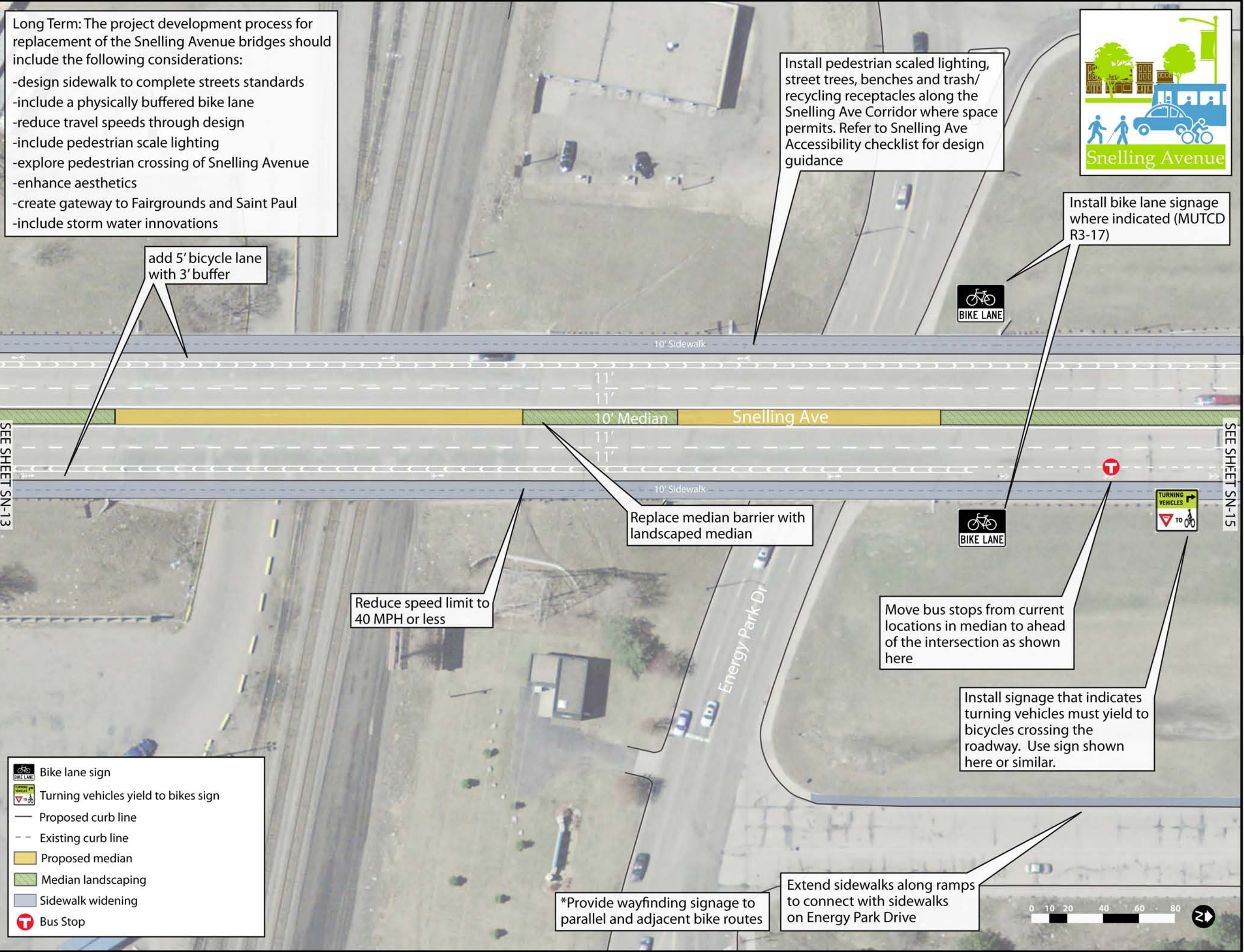
- inadequate accomodation for bicyclists
- narrow sidewalks uncomfortable for pedestrians and inadequate for disabled pedestrians
- motorist speeds consistently over posted speed limit due to roadway design

Recommendations

- widen sidewalk where indicated to 10'
- install signage that indicates turning vehicles must yield to bicycles crossing the roadway where indicated
- extend sidewalks along ramps to connect with sidewalks on Energy Park Drive
- replace median barrier with landscaped median
- reduce speed limit to 40 MPH or less
- provide wayfinding signage to parallel and adjacent bike routes

Snelling Avenue Multi-Modal Transportation Plan

MnDOT, City of St. Paul
Authors: JC/CW
1"=50'
January 2013



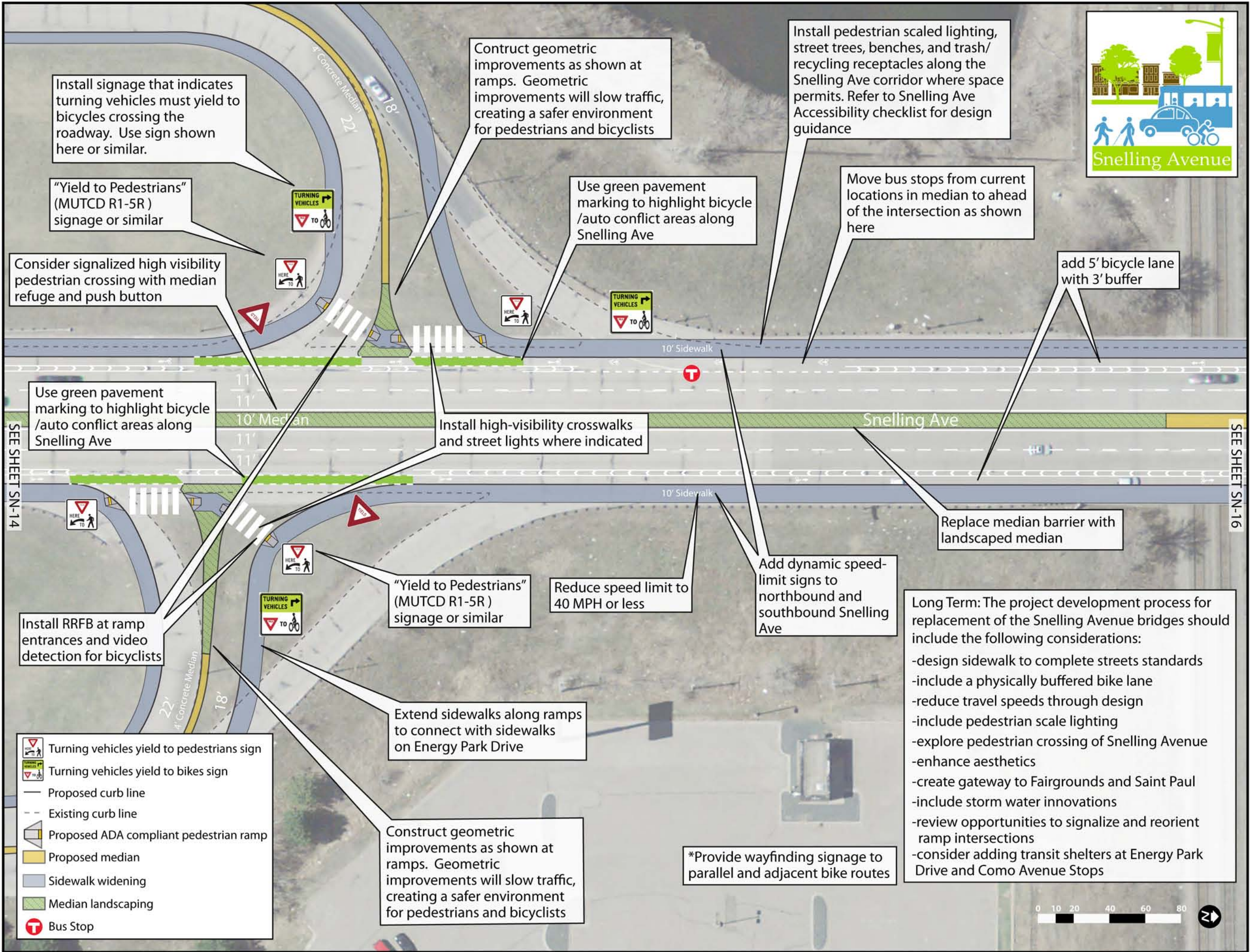
Concept Plan
Energy Park Dr Ramp
Option 1 Sheet SN-15

- Current Deficiencies**
- inadequate bicycle facilities
 - crossings not in compliance with ADA requirements
 - insufficient crossing visibility at intersections
 - narrow sidewalks uncomfortable for pedestrians and inadequate for disabled pedestrians
 - motorist speeds consistently over posted speed limit due to roadway design

- Recommendations**
- install signage that indicates vehicles turning right must yield to bicycles crossing the roadway. Use sign shown or similar.
 - add "Yield to Pedestrians" (MUTCD R1-5R) signage or similar where indicated
 - use green pavement marking to highlight bicycle/auto conflict areas along Snelling Ave
 - install high-visibility crosswalks where indicated
 - construct geometric improvements as shown at ramps. Geometric improvements will slow traffic, creating a safer environment for pedestrians and bicyclists
 - widen sidewalk where indicated to 10'
 - replace median barrier with landscaped median
 - reduce speed limit to 40 MPH or less
 - provide wayfinding signage to parallel and adjacent bike routes

Snelling Avenue Multi-Modal Transportation Plan

MnDOT, City of St. Paul
Authors: JC/CW
1"=50'
January 2013



Concept Plan
Energy Park Dr Ramp
Option 2 Sheet SN-15a

- Current Deficiencies

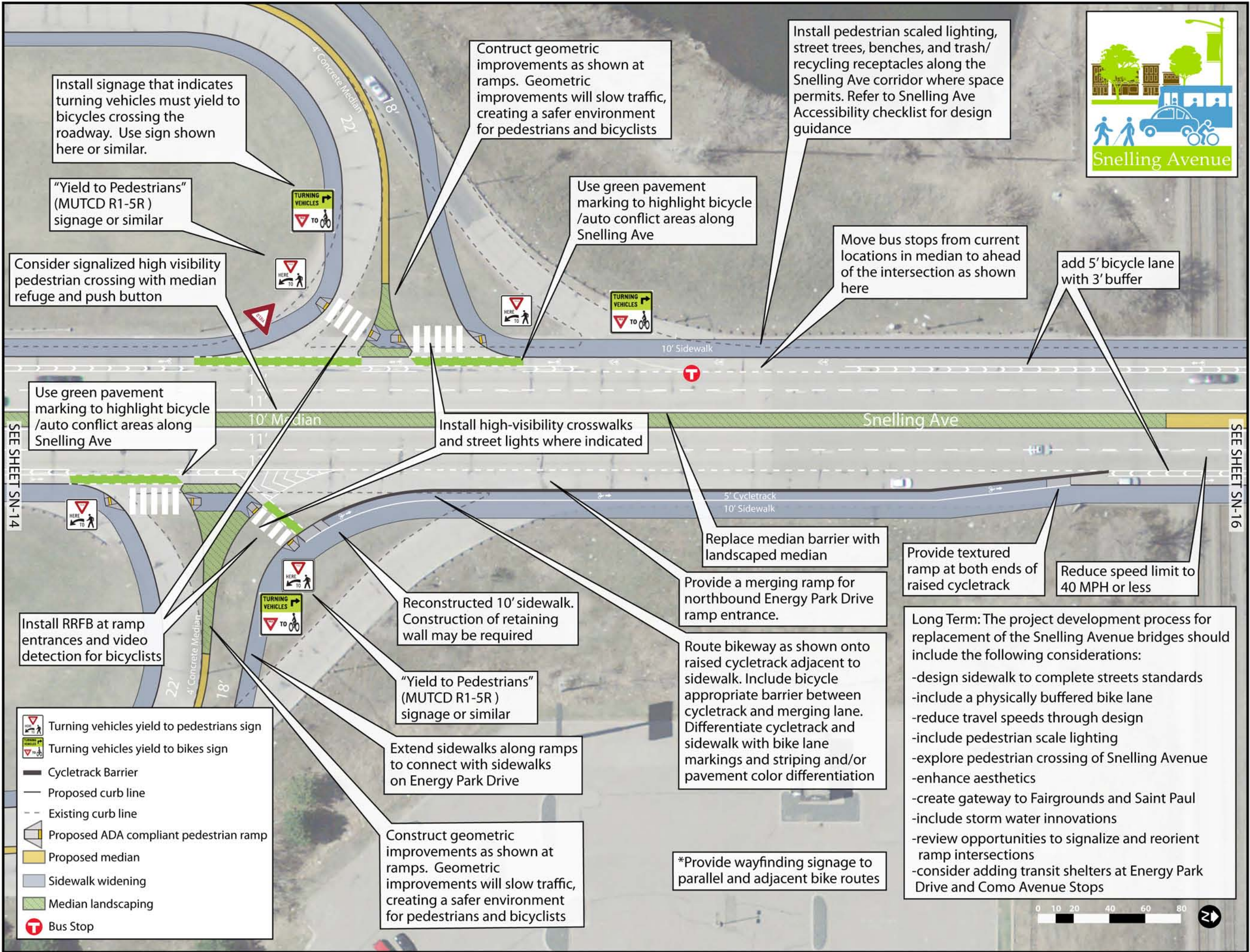
 - inadequate bicycle facilities
 - crossings not in compliance with ADA requirements
 - insufficient crossing visibility at intersections
 - narrow sidewalks uncomfortable for pedestrians and inadequate for disabled pedestrians
 - motorist speeds consistently over posted speed limit due to roadway design

- Recommendations

 - install signage that indicates vehicles turning right must yield to bicycles crossing the roadway. Use sign shown or similar.
 - add "Yield to Pedestrians" (MUTCD R1-5R) signage or similar where indicated
 - use green pavement marking to highlight bicycle/auto conflict areas along Snelling Ave
 - install high-visibility crosswalks where indicated
 - construct geometric improvements as shown at ramps. Geometric improvements will slow traffic, creating a safer environment for pedestrians and bicyclists
 - widen sidewalk where indicated to 10'
 - replace median barrier with landscaped median
 - reduce speed limit to 40 MPH or less
 - provide wayfinding signage to parallel and adjacent bike routes

Snelling Avenue Multi-Modal Transportation Plan

MnDOT, City of St. Paul
Authors: JC/CW
1"=50'
January 2013



Current Deficiencies

- inadequate accommodation for bicyclists
- narrow sidewalks uncomfortable for pedestrians and inadequate for disabled pedestrians
- motorist speeds consistently over posted speed limit due to roadway design

- widen sidewalk where indicated to 10'
- install bike lane signage
- add "Share the Road" signage (MUTCD W11-1 + W16-1) to north-bound side of road to accomodate bicyclists who choose to continue on Snelling Ave along the shoulder
- replace median barrier with landscaped median
- reduce speed limit to 40 MPH or less
- provide wayfinding signage to parallel and adjacent bike routes

MnDOT, City of St. Paul
Authors: JC/CW
1"=50'
January 2013



Building a Better World
for All of Us™

- design sidewalk to complete streets standards
- include a physically buffered bike lane
- reduce travel speeds through design
- include pedestrian scale lighting
- explore pedestrian crossing of Snelling Avenue
- enhance aesthetics
- create gateway to Fairgrounds and Saint Paul
- include storm water innovations

Install bike lane signage where indicated (MUTCD R3-17)

A stylized graphic of a street scene on Snelling Avenue. It features a blue bus, a blue car, and a blue bicycle. Two blue figures are walking on the sidewalk. In the background, there are green trees and a brown building. A street lamp is also visible. The text "Snelling Avenue" is written in a blue serif font at the bottom.



BIKE LANE

SEE SHEET SN-15

Replace median barrier with landscaped median

Snelling Ave


MAY USE
FULL LANE

Add "Bikes May Use Full Lane" signage (MUTCD R4-11) to northbound side of road to accommodate bicyclists who choose to continue on Snelling Ave along the shoulder

*Provide wayfinding signage to parallel and adjacent bike routes



Concept Plan
 South Como Ramps
 Sheet SN-17

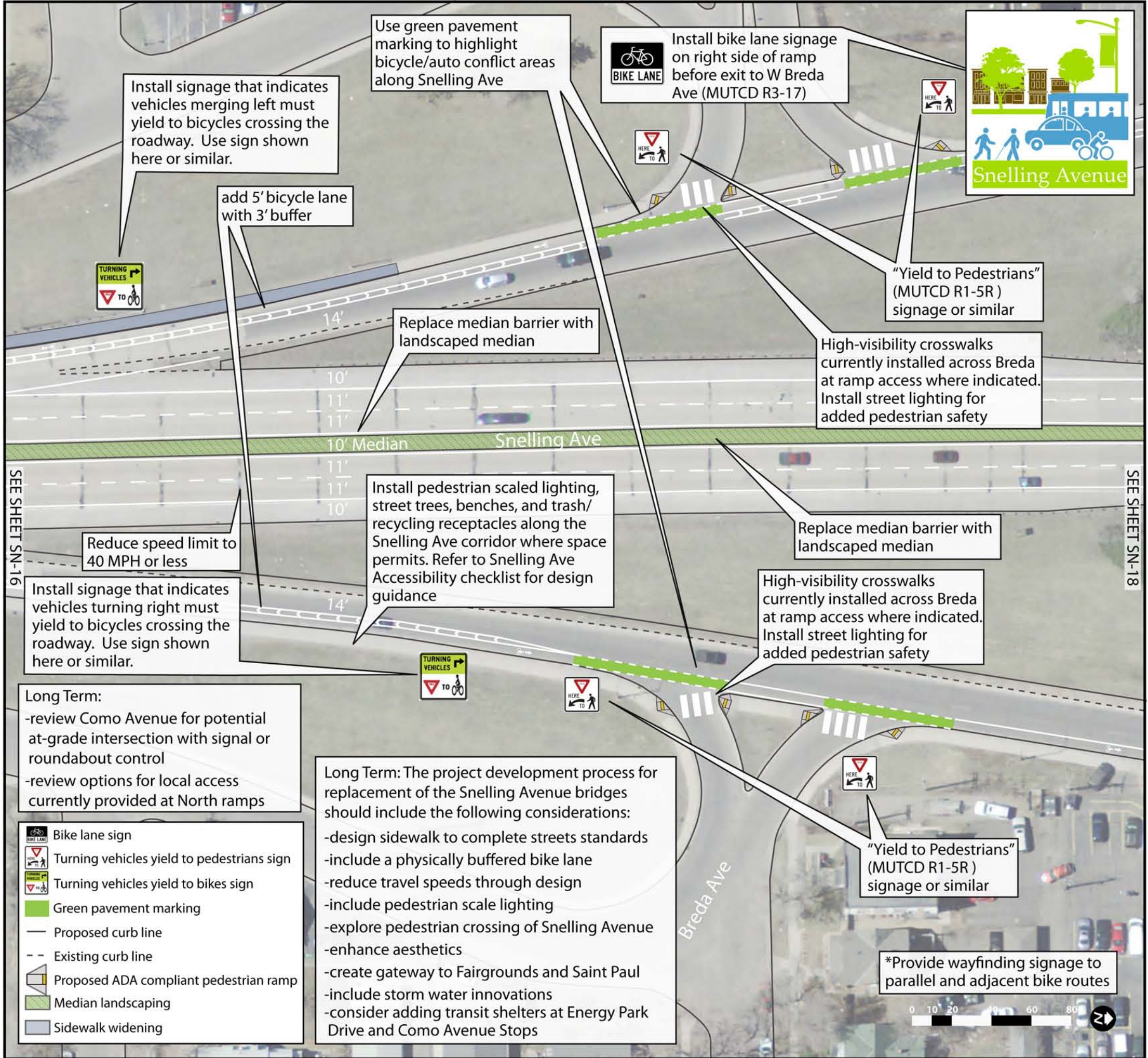
- Current Deficiencies

 - little accommodation for bicyclists
 - insufficient crossing visibility
 - crossings not in compliance with ADA requirements
 - motorist speeds consistently over posted speed limit due to roadway design
- Recommendations

 - install ADA compliant pedestrian ramps at indicated crossings
 - install high-visibility crosswalks across indicated intersection crossings
 - use green pavement marking to highlight bicycle/auto conflict areas along Snelling Ave
 - add "Yield to Pedestrians" (MUTCD R1-5R) signage or similar where indicated
 - install signage that indicates vehicles merging must yield to bicycles crossing the roadway
 - replace median barrier with landscaped median
 - reduce speed limit to 40 MPH or less
 - provide wayfinding signage to parallel and adjacent bike routes

Snelling Avenue Multi-Modal
 Transportation Plan

MnDOT, City of St. Paul
 Authors: JC/CW
 1"=50'
 January 2013



Concept Plan
 Como Ave
 Sheet SN-18

- Current Deficiencies

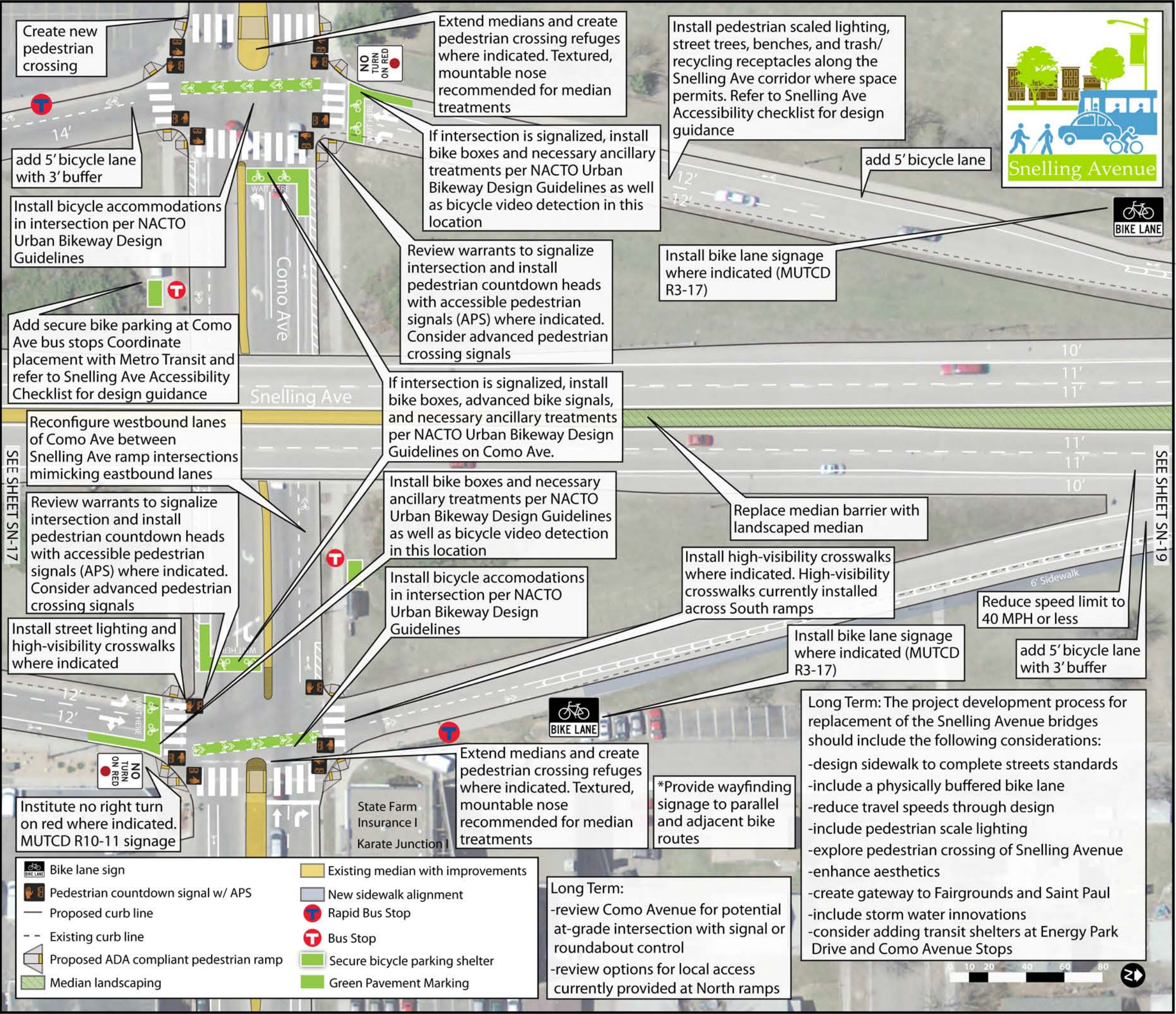
 - wide intersections with no refuges difficult for pedestrians to cross
 - worn crosswalks and insufficient crossing visibility
 - no signalization
 - little accommodation for bicyclists
 - motorist speeds consistently over posted speed limit due to roadway design
 - crossings not in compliance with ADA requirements

- Recommendations

 - install ADA compliant pedestrian ramps at indicated crossings
 - install high-visibility crosswalks across indicated intersection crossings
 - extend medians and create pedestrian crossing refuges where indicated. Textured, mountable nose recommended for mediantreatments
 - signalize intersection and install pedestrian countdown heads with accessible pedestrian signals (APS) where indicated. Consider advanced pedestrian crossing signals
 - install bike boxes, advanced bike signals, and necessary ancillary treatments per NACTO Urban Bikeway Design Guidelines where specified
 - install bike boxes and necessary ancillary treatments per NACTO Urban Bikeway Design Guidelinesas well as bicycle video detection in this location
 - create new pedestrian crossing West of the Snelling Ave, Como Ave intersection where indicated
 - use green pavement marking to highlight bicycle/auto conflict areas along Snelling Ave
 - install bicycle accomodations in intersection per NACTO Urban Bikeway Design Guidelines
 - reconfigure westbound lanes of Como Ave between Snelling Ave ramp intersections mimicking eastbound lanes
 - add secure bicycle parking at Como Ave bus stops. Coordinate placement of shelters with Metro Transit
 - institute no right turn on red where indicated. MUTCD R10-11 signage
 - reduce speed limit to 40 MPH or less on Snelling Ave

Snelling Avenue Multi-Modal
 Transportation Plan

MnDOT, City of St. Paul
 Authors: JC/CW
 1"=50'
 January 2013



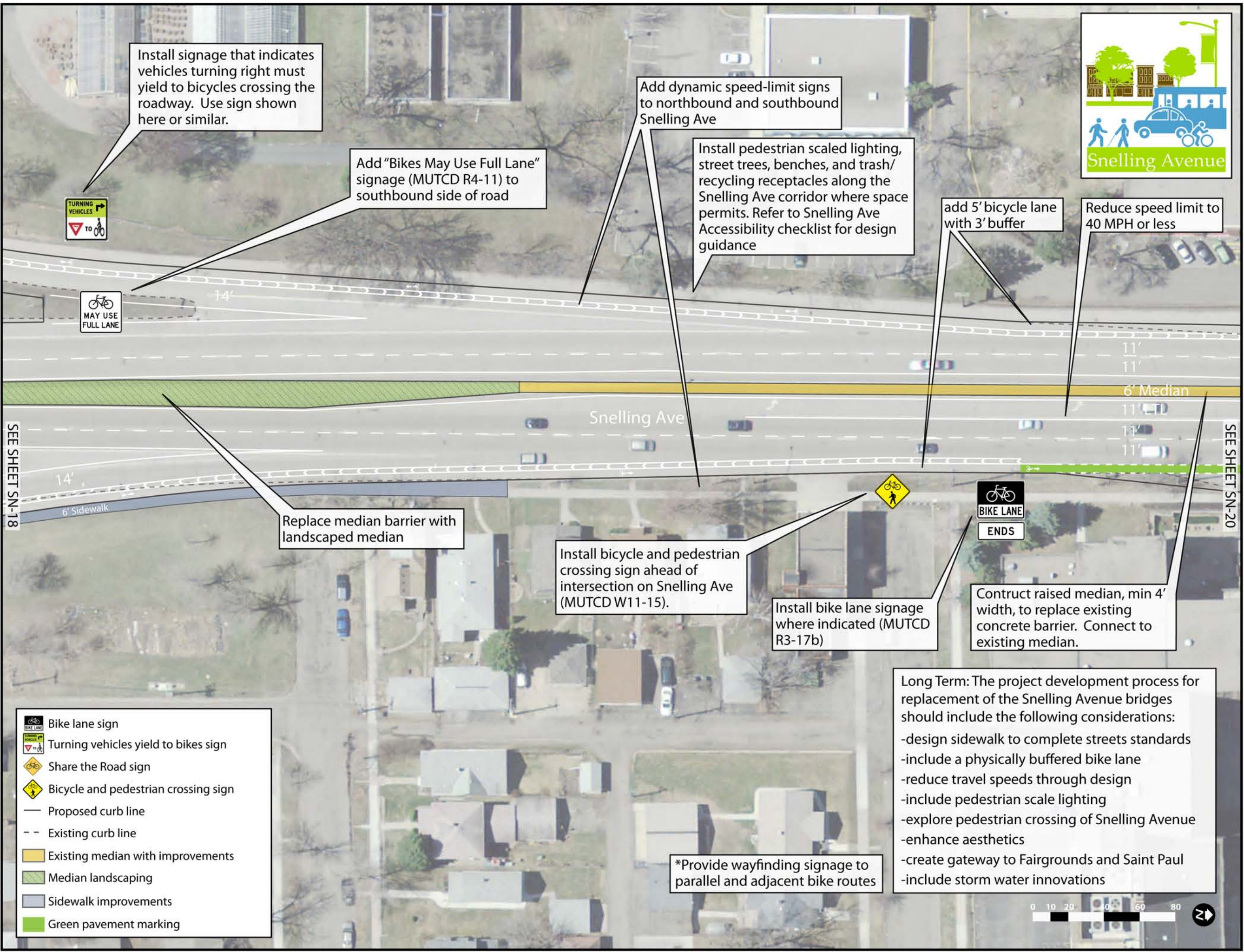
Concept Plan
 North of Como Ramps
 Sheet SN-19

- Current Deficiencies**

 - little accommodation for bicyclists
 - motorist speeds consistently over posted speed limit due to roadway design
- Recommendations**

 - add "Share the Road" signage (MUTCD W11-1 + W16-1) to southbound side of road to accomodate bicyclists who choosAe to continue on Snelling Ave along the shoulder
 - install bicycle and pedestrian crossing sign ahead of intersection on Snelling Ave (MUTCD W11-15)
 - construct raised median to replace existing concrete barrier. Connect to existing median.
 - install bike lane signage where indicated (MUTCD R3-17b)
 - replace median barrier with landscaped median
 - reduce speed limit to 40 MPH or less
 - Add dynamic speed-limit signs to northbound and southbound Snelling Ave
 - Provide wayfinding signage to parallel and adjacent bike routes

Snelling Avenue Multi-Modal Transportation Plan
 MnDOT, City of St. Paul
 Authors: JC/CW
 1"=50'
 January 2013



Concept Plan
Dan Patch Ave
and Midway Pkwy SN-20

- Current Deficiencies**

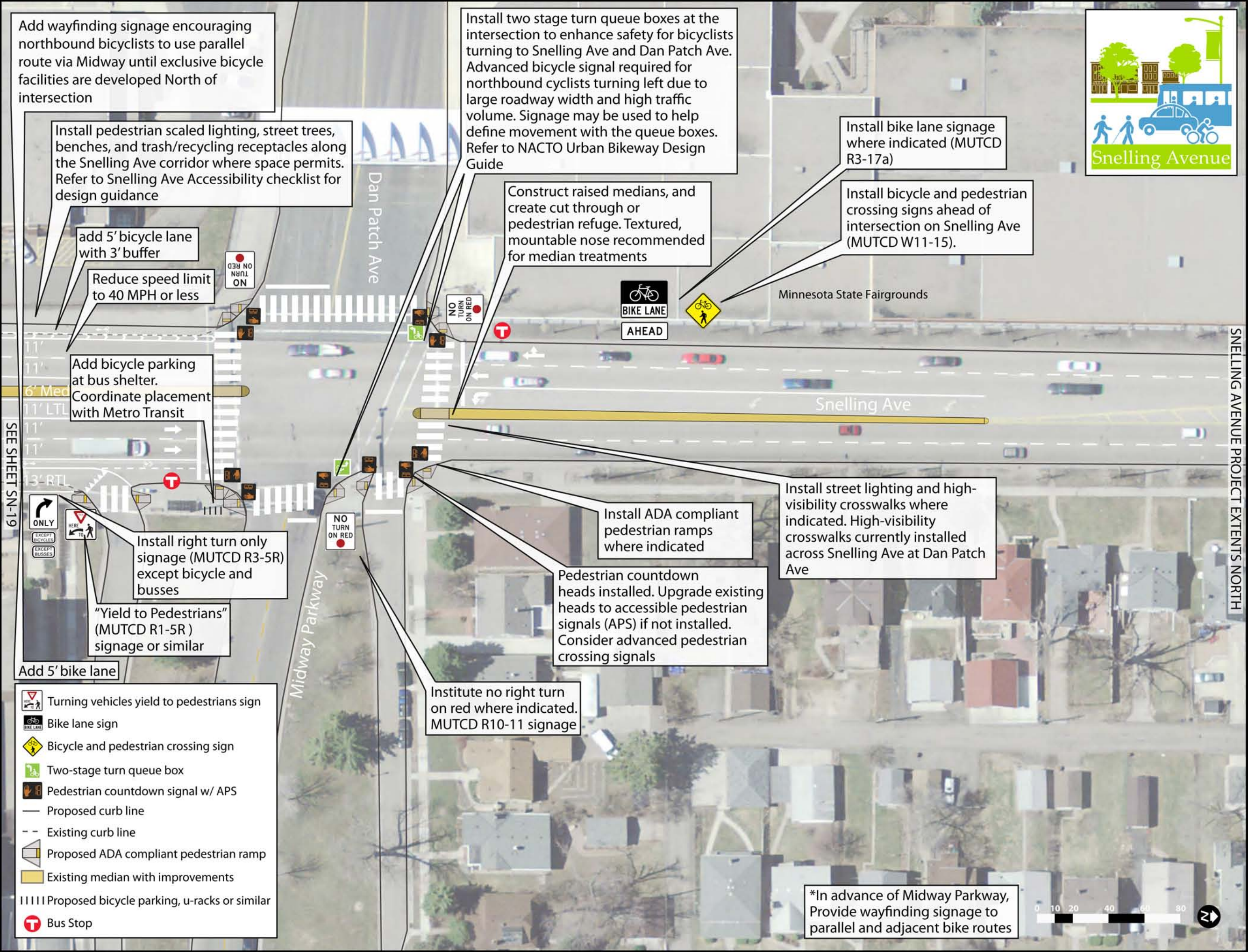
 - wide intersections with no refuges difficult for pedestrians to cross
 - worn crosswalks and insufficient crossing visibility
 - no signalization
 - little accommodation for bicyclists
 - crossings not in compliance with ADA requirements

- Recommendations**

 - install ADA compliant pedestrian ramps at indicated crossings
 - construct raised medians and create pedestrian crossing refuges. Textured, mountable nose recommended for median treatments
 - add bicycle parking at bus shelter. Coordinate placement with Metro Transit
 - install high-visibility crosswalks across all intersection crossings
 - pedestrian countdown heads installed. Upgrade existing heads to accessible pedestrian signals (APS) if not installed. Consider advanced pedestrian crossing signals
 - install two stage turn queue boxes at the intersection to enhance safety for bicyclists turning to Snelling Ave and Dan Patch Ave. Advanced bicycle signal required for north-bound cyclists turning left due to large roadway width and high traffic volume. Refer to NACTO Urban Bikeway Design Guide
 - institute no right turn on red where indicated. MUTCD R10-11 signage
 - reduce speed limit to 40 MPH or less

Snelling Avenue Multi-Modal Transportation Plan

MnDOT, City of St. Paul
Authors: JC/CW
1"=50'
January 2013



Appendix E

Project Cost Estimates

Snelling Avenue Draft Cost Estimate (2012 Dollars)

Improvements	Unit	Unit Cost	Total Quantity	Total Cost	SN-01				SN-02				SN-03			
					Intersection				Intersection				Intersection			
					Selby Ave.		Dayton Ave.		Marshall Ave		Iglehart Ave.		Carroll Ave.		Concordia Ave.	
					quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost
Concrete Walk (Includes Prep & Base)	SQ FT	\$8.50	70,739	\$601,281.50	777	\$6,604.50	1186	\$10,081.00	800	\$6,800.00	190	\$1,615.00	404	\$3,434.00	2692	\$22,882.00
Concrete Walk (Bridge over Railroad)	SQ FT	\$240.00	4,580	\$1,099,200.00												
Concrete Walk (Bridge over Energy Park and Como)	SQ FT	\$180.00	7,036	\$1,266,480.00												
Concrete Median (Includes Prep & Base)	SQ FT	\$9.00	16,253	\$146,277.00					1825	\$16,425.00			670	\$6,030.00	283	\$2,547.00
Truncated Domes (Includes Prep & Base)	SQ FT	\$60.00	1,866	\$111,960.00	85	\$5,100.00	85	\$5,100.00	92	\$5,520.00	39	\$2,340.00	70	\$4,200.00		\$0.00
B424 Curb & Gutter (Includes Prep & Base)	LIN FT	\$20.00	20,212	\$404,240.00	54	\$1,080.00	230	\$4,600.00			1141	\$22,820.00	111	\$2,220.00	23	\$460.00
Curb Extension (Includes Prep & Base)	EACH	\$5,000.00	21	\$105,000.00			4	\$20,000.00					1	\$5,000.00		
Curb Extension w/ Storm Sewer Adj (Includes Prep & Base)	EACH	\$20,000.00	3	\$60,000.00												
Bituminous Pavement (Includes Prep & Base)	TON	\$120.00	3,548	\$425,760.00							2955	\$354,600.00	272	\$32,640.00		
Bridge	SQ FT	\$140.00	11,125	\$1,557,500.00												
Transit Shelters - Regular Stops	EACH	\$5,000.00	8	\$40,000.00												
Zebra Hi Vis Crosswalks	SQ FT	\$14.00	11,196	\$156,744.00			522	\$7,308.00	720	\$10,080.00	198	\$2,772.00	324	\$4,536.00	630	\$8,820.00
Lined Hi Vis Crosswalks	LIN FT	\$11.00	1,430	\$15,730.00	450	\$4,950.00										
Pedestrian Countdown Signal	EACH	\$1,000.00	70	\$70,000.00	8	\$8,000.00			8	\$8,000.00					10	\$10,000.00
APS	EACH	\$2,500.00	78	\$195,000.00	8	\$20,000.00			8	\$20,000.00					9	\$22,500.00
Signal Controller/Cabinet Upgrade	EACH	\$40,000.00	11	\$440,000.00	1	\$40,000.00			1	\$40,000.00					1	\$40,000.00
New Signal System (includes Bike Video Detection, APS, Countdown Heads)	EACH	\$200,000.00	2	\$400,000.00		\$0.00				\$0.00						\$0.00
Signage	SQ FT	\$35.00	1,010	\$35,350.00	20	\$700.00	20	\$700.00	60	\$2,100.00			20	\$700.00	45	\$1,575.00
Median Extension (Includes Prep & Base)	SQ FT	\$7.00	1,890	\$13,230.00					121	\$847.00						
Conflict/Intersection striping	LIN FT	\$4.00	2,850	\$11,400.00					250	\$1,000.00	100	\$400.00	125	\$500.00	275	\$1,100.00
Green Pavement	SQ FT	\$6.00	11,800	\$70,800.00					550	\$3,300.00	1450	\$8,700.00	1350	\$8,100.00	1200	\$7,200.00
Bike Arrow/Sharrow Marking	EACH	\$300.00	171	\$51,300.00					21	\$6,300.00	4	\$1,200.00	4	\$1,200.00	13	\$3,900.00
Bike Lane Marking	LIN FT	\$3.50	35,030	\$122,605.00					1925	\$6,737.50	530	\$1,855.00	625	\$2,187.50	1425	\$4,987.50
Bike Box	SQ FT	\$10.00	2,209	\$22,090.00					670	\$6,700.00						
Left Turn Box	SQ FT	\$10.00	423	\$4,230.00					110	\$1,100.00						
Bike Signal	EACH	\$15,000.00	8	\$120,000.00					4	\$60,000.00						
Bike Video Detection	EACH	\$30,000.00	4	\$120,000.00												
Bike Corral	EACH	\$5,500.00	2	\$11,000.00	1	\$5,500.00										
Bike Shelter	EACH	\$5,000.00	9	\$45,000.00												
U-rack	EACH	\$500.00	10	\$5,000.00			2	\$1,000.00								
Curbside Biocell Retention	LIN FT	\$50.00	322	\$16,100.00												
Sodding Type Salt Resistant (Includes Prep & Topsoil)	SQ YD	\$10.00	8,699	\$86,990.00			3.7	\$36.67			486.2	\$4,862.22				
Brick Pavers (Includes Prep & Base)	SQ FT	\$30.00	2,622	\$78,660.00	2622	\$78,660.00		\$0.00								
Pedestrian Level Lighting (L-10 Lantern)	EACH	\$7,000.00	91	\$637,000.00	2	\$14,000.00	2	\$14,000.00	2	\$14,000.00	2	\$14,000.00	3	\$21,000.00	2	\$14,000.00
High Pole Lighting	EACH	\$7,000.00	91	\$637,000.00	2	\$14,000.00	2	\$14,000.00	2	\$14,000.00	2	\$14,000.00	2	\$14,000.00	2	\$14,000.00
Subtotal Improvements				\$9,182,927.50		\$198,594.50		\$76,825.67		\$222,909.50		\$429,164.22		\$105,747.50		\$153,971.50
Removals (20%)				\$1,836,585.50		\$39,718.90		\$15,365.13		\$44,581.90		\$85,832.84		\$21,149.50		\$30,794.30
Traffic Control (10%)				\$918,292.75		\$19,859.45		\$7,682.57		\$22,290.95		\$42,916.42		\$10,574.75		\$15,397.15
Subtotal Removals & Traffic Control				\$2,754,878.25		\$59,578.35		\$23,047.70		\$66,872.85		\$128,749.27		\$31,724.25		\$46,191.45
Landscaping (5%)				\$459,146.38		\$9,929.73		\$3,841.28		\$11,145.48		\$21,458.21		\$5,287.38		\$7,698.58
Risk and Contingency (20%)				\$1,836,585.50		\$39,718.90		\$15,365.13		\$44,581.90		\$85,832.84		\$21,149.50		\$30,794.30
Mobilization (5%)				\$459,146.38		\$9,929.73		\$3,841.28		\$11,145.48		\$21,458.21		\$5,287.38		\$7,698.58
Subtotal Risk, Contingency, and Mobilization				\$2,754,878.25		\$59,578.35		\$23,047.70		\$66,872.85		\$128,749.27		\$31,724.25		\$46,191.45
TOTAL CONSTRUCTION				\$14,692,684.00		\$317,751.20		\$122,921.07		\$356,655.20		\$686,662.76		\$169,196.00		\$246,354.40
Administrative and Engineering (20%)				\$2,938,536.80		\$63,550.24		\$24,584.21		\$71,331.04		\$137,332.55		\$33,839.20		\$49,270.88
TOTAL ESTIMATED COST				\$17,631,220.80		\$381,301.44		\$147,505.28		\$427,986.24		\$823,995.31		\$203,035.20		\$295,625.28

- NOTES:
- INFRASTRUCTURE IMPROVEMENTS BEYOND WHAT IS NEEDED FOR THE MULTIMODAL IMPROVMENTS OUTLINED IN THE PLAN RECOMMENDATIONS ARE NOT INLCUDED IN THIS ESTIMATE (IE: PAVEMENT, SIDEWALK, CURB AND GUTTER, STORM SEWER BRIDGES) PRESERVATION ACTIVITIES ARE NOT INCLUDED IN THIS COST ESTIMATE
 - TRANSIT SHELTERS AND TECHNOLOGY COSTS FOR RAPID BUS STOPS ARE NOT INCLUDED IN THIS COST ESTIMATE
 - ESTIMATES ARE IN 2012 DOLLARS

Snelling Avenue Draft Cost Estimate (2012 Dollars)

Improvements	Unit	Unit Cost	SN-04		SN-05		SN-06				SN-07				SN-08			
			Intersection		Intersection		Intersection				Intersection				Intersection			
			St. Anthony Ave.		Spruce Tree Ave.		University Ave.		Sherburne Ave.		Charles Ave		Edmund Ave		Thomas Ave		LaFond Ave	
			quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost
Concrete Walk (Includes Prep & Base)	SQ FT	\$8.50	4586	\$38,981.00	2577	\$21,904.50	1333	\$11,330.50	357	\$3,034.50	845	\$7,182.50	330	\$2,805.00	666	\$5,661.00	330	\$2,805.00
Concrete Walk (Bridge over Railroad)	SQ FT	\$240.00																
Concrete Walk (Bridge over Energy Park and Como)	SQ FT	\$180.00																
Concrete Median (Includes Prep & Base)	SQ FT	\$9.00					304	\$2,736.00	218	\$1,962.00								
Truncated Domes (Includes Prep & Base)	SQ FT	\$60.00	54	\$3,240.00	50	\$3,000.00	71	\$4,260.00	41	\$2,460.00	129	\$7,740.00	132	\$7,920.00	64	\$3,840.00	132	\$7,920.00
B424 Curb & Gutter (Includes Prep & Base)	LIN FT	\$20.00	264	\$5,280.00	643	\$12,860.00	136	\$2,720.00	715	\$14,300.00	550	\$11,000.00	527	\$10,540.00		\$0.00	418	\$8,360.00
Curb Extension (Includes Prep & Base)	EACH	\$5,000.00					2	\$10,000.00			1	\$5,000.00	4	\$20,000.00	1	\$5,000.00	3	\$15,000.00
Curb Extension w/ Storm Sewer Adj (Includes Prep & Base)	EACH	\$20,000.00							1	\$20,000.00							1	\$20,000.00
Bituminous Pavement (Includes Prep & Base)	TON	\$120.00	321	\$38,520.00														
Bridge	SQ FT	\$140.00																
Transit Shelters - Regular Stops	EACH	\$5,000.00	1	\$5,000.00	1	\$5,000.00	1	\$5,000.00	1	\$5,000.00					2	\$10,000.00		
Zebra Hi Vis Crosswalks	SQ FT	\$14.00	576	\$8,064.00	630	\$8,820.00			486	\$6,804.00	504	\$7,056.00	486	\$6,804.00	594	\$8,316.00	432	\$6,048.00
Lined Hi Vis Crosswalks	LIN FT	\$11.00														\$0.00		
Pedestrian Countdown Signal	EACH	\$1,000.00	12	\$12,000.00	8	\$8,000.00									8	\$8,000.00		
APS	EACH	\$2,500.00	11	\$27,500.00	8	\$20,000.00									8	\$20,000.00		
Signal Controller/Cabinet Upgrade	EACH	\$40,000.00	1	\$40,000.00	1	\$40,000.00									1	\$40,000.00		
New Signal System (includes Bike Video Detection, APS, Countdown Heads)	EACH	\$200,000.00		\$0.00		\$0.00										\$0.00		
Signage	SQ FT	\$35.00	80	\$2,800.00	20	\$700.00			35	\$1,225.00	20	\$700.00	25	\$875.00	15	\$525.00	25	\$875.00
Median Extension (Includes Prep & Base)	SQ FT	\$7.00			338	\$2,366.00									243	\$1,701.00		
Conflict/Intersection striping	LIN FT	\$4.00	100	\$400.00							250	\$1,000.00						
Green Pavement	SQ FT	\$6.00																
Bike Arrow/Sharrow Marking	EACH	\$300.00	12	\$3,600.00					2	\$600.00	10	\$3,000.00					2	\$600.00
Bike Lane Marking	LIN FT	\$3.50	1250	\$4,375.00														
Bike Box	SQ FT	\$10.00																
Left Turn Box	SQ FT	\$10.00																
Bike Signal	EACH	\$15,000.00																
Bike Video Detection	EACH	\$30,000.00																
Bike Corral	EACH	\$5,500.00																
Bike Shelter	EACH	\$5,000.00	2	\$10,000.00	1	\$5,000.00												
U-rack	EACH	\$500.00			1	\$500.00	1	\$500.00							2	\$1,000.00		
Curbside Biocell Retention	LIN FT	\$50.00														\$0.00		
Sodding Type Salt Resistant (Includes Prep & Topsoil)	SQ YD	\$10.00	859.7	\$8,596.67	511.1	\$5,111.11	0.0		711.1	\$7,111.11	381.1	\$3,811.11	352.7	\$3,526.67	0	\$0.00	197.9	\$1,978.89
Brick Pavers (Includes Prep & Base)	SQ FT	\$30.00																
Pedestrian Level Lighting (L-10 Lantern)	EACH	\$7,000.00	4	\$28,000.00	3	\$21,000.00	3	\$21,000.00	2	\$14,000.00	2	\$14,000.00	2	\$14,000.00	2	\$14,000.00	2	\$14,000.00
High Pole Lighting	EACH	\$7,000.00	4	\$28,000.00	3	\$21,000.00	2	\$14,000.00	2	\$14,000.00	3	\$21,000.00	3	\$21,000.00	2	\$14,000.00	3	\$21,000.00
Subtotal Improvements				\$264,356.67		\$175,261.61		\$71,546.50		\$90,496.61		\$81,489.61		\$87,470.67		\$132,043.00		\$98,586.89
Removals (20%)				\$52,871.33		\$35,052.32		\$14,309.30		\$18,099.32		\$16,297.92		\$17,494.13		\$26,408.60		\$19,717.38
Traffic Control (10%)				\$26,435.67		\$17,526.16		\$7,154.65		\$9,049.66		\$8,148.96		\$8,747.07		\$13,204.30		\$9,858.69
Subtotal Removals & Traffic Control				\$79,307.00		\$52,578.48		\$21,463.95		\$27,148.98		\$24,446.88		\$26,241.20		\$39,612.90		\$29,576.07
Landscaping (5%)				\$13,217.83		\$8,763.08		\$3,577.33		\$4,524.83		\$4,074.48		\$4,373.53		\$6,602.15		\$4,929.34
Risk and Contingency (20%)				\$52,871.33		\$35,052.32		\$14,309.30		\$18,099.32		\$16,297.92		\$17,494.13		\$26,408.60		\$19,717.38
Mobilization (5%)				\$13,217.83		\$8,763.08		\$3,577.33		\$4,524.83		\$4,074.48		\$4,373.53		\$6,602.15		\$4,929.34
Subtotal Risk, Contingency, and Mobilization				\$79,307.00		\$52,578.48		\$21,463.95		\$27,148.98		\$24,446.88		\$26,241.20		\$39,612.90		\$29,576.07
TOTAL CONSTRUCTION				\$422,970.67		\$280,418.58		\$114,474.40		\$144,794.58		\$130,383.38		\$139,953.07		\$211,268.80		\$157,739.02
Administrative and Engineering (20%)				\$84,594.13		\$56,083.72		\$22,894.88		\$28,958.92		\$26,076.68		\$27,990.61		\$42,253.76		\$31,547.80
TOTAL ESTIMATED COST				\$507,564.80		\$336,502.29		\$137,369.28		\$173,753.49		\$156,460.05		\$167,943.68		\$253,522.56		\$189,286.83

- NOTES:
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 - TRANSIT SHELTERS AND TECHNOLOGY COSTS FOR RAPID BUS STOPS ARE NOT INCLUDED IN THIS COST ESTIMATE
 - ESTIMATES ARE IN 2012 DOLLARS

Snelling Avenue Draft Cost Estimate (2012 Dollars)

Improvements	Unit	Unit Cost	SN-09				SN-10				SN-11		SN-12				SN-13		
			Intersection				Intersection				Intersection		Intersection				Intersection		
			Blair Ave		Van Buren Ave		Minnehaha Ave		Englewood Ave		Hubbard Ave		Hewitt Ave		Taylor Ave		Pierce Butler Rte		
			quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity
Concrete Walk (Includes Prep & Base)	SQ FT	\$8.50		\$0.00	954	\$8,109.00	2350	\$19,975.00	676	\$5,746.00	1071	\$9,103.50	5070	\$43,095.00	4468	\$37,978.00	8663	\$73,635.50	5177
Concrete Walk (Bridge over Railroad)	SQ FT	\$240.00																	4580
Concrete Walk (Bridge over Energy Park and Como)	SQ FT	\$180.00																	3000
Concrete Median (Includes Prep & Base)	SQ FT	\$9.00															961	\$8,649.00	3784
Truncated Domes (Includes Prep & Base)	SQ FT	\$60.00	53	\$3,180.00	132	\$7,920.00	58	\$3,480.00	63	\$3,780.00	60	\$3,600.00	66	\$3,960.00	112	\$6,720.00			
B424 Curb & Gutter (Includes Prep & Base)	LIN FT	\$20.00			458	\$9,160.00	278	\$5,560.00	16	\$320.00	505	\$10,100.00	632	\$12,640.00	941	\$18,820.00	2708	\$54,160.00	516
Curb Extension (Includes Prep & Base)	EACH	\$5,000.00					3	\$15,000.00					2	\$10,000.00					
Curb Extension w/ Storm Sewer Adj (Includes Prep & Base)	EACH	\$20,000.00					1	\$20,000.00											
Bituminous Pavement (Includes Prep & Base)	TON	\$120.00																	
Bridge	SQ FT	\$140.00															11125	\$1,557,500.00	
Transit Shelters - Regular Stops	EACH	\$5,000.00	2	\$10,000.00															
Zebra Hi Vis Crosswalks	SQ FT	\$14.00	594	\$8,316.00	450	\$6,300.00	612	\$8,568.00			252	\$3,528.00	72	\$1,008.00	540	\$7,560.00	324	\$4,536.00	
Lined Hi Vis Crosswalks	LIN FT	\$11.00							500	\$5,500.00			480	\$5,280.00					
Pedestrian Countdown Signal	EACH	\$1,000.00					8	\$8,000.00					8	\$8,000.00					
APS	EACH	\$2,500.00					8	\$20,000.00					8	\$20,000.00					
Signal Controller/Cabinet Upgrade	EACH	\$40,000.00					1	\$40,000.00					1	\$40,000.00					
New Signal System (includes Bike Video Detection, APS, Countdown Heads)	EACH	\$200,000.00						\$0.00						\$0.00					
Signage	SQ FT	\$35.00	15	\$525.00	25	\$875.00	35	\$1,225.00	15	\$525.00	20	\$700.00	55	\$1,925.00	25	\$875.00	105	\$3,675.00	25
Median Extension (Includes Prep & Base)	SQ FT	\$7.00	240	\$1,680.00			242	\$1,694.00	267	\$1,869.00			313	\$2,191.00					
Conflict/Intersection striping	LIN FT	\$4.00					150	\$600.00					50	\$200.00	50	\$200.00	175	\$700.00	25
Green Pavement	SQ FT	\$6.00					900	\$5,400.00							750	\$4,500.00	1675	\$10,050.00	
Bike Arrow/Sharrow Marking	EACH	\$300.00			2	\$600.00	8	\$2,400.00					15	\$4,500.00	6	\$1,800.00	6	\$1,800.00	7
Bike Lane Marking	LIN FT	\$3.50					1750	\$6,125.00					700	\$2,450.00	1650	\$5,775.00	2475	\$8,662.50	3950
Bike Box	SQ FT	\$10.00																	
Left Turn Box	SQ FT	\$10.00											159	\$1,590.00					
Bike Signal	EACH	\$15,000.00											2	\$30,000.00					
Bike Video Detection	EACH	\$30,000.00					2	\$60,000.00											
Bike Corral	EACH	\$5,500.00					1	\$5,500.00											
Bike Shelter	EACH	\$5,000.00					2	\$10,000.00					2	\$10,000.00					
U-rack	EACH	\$500.00	2	\$1,000.00							2	\$1,000.00							
Curbside Biocell Retention	LIN FT	\$50.00											190	\$9,500.00	132	\$6,600.00			
Sodding Type Salt Resistant (Includes Prep & Topsoil)	SQ YD	\$10.00	0		182.2	\$1,822.22					278.8	\$2,787.78	94.1	\$941.11	588.9	\$5,888.89	762.0	\$7,620.00	287.0
Brick Pavers (Includes Prep & Base)	SQ FT	\$30.00																	
Pedestrian Level Lighting (L-10 Lantern)	EACH	\$7,000.00	2	\$14,000.00	2	\$14,000.00	2	\$14,000.00	2	\$14,000.00	5	\$35,000.00	2	\$14,000.00	2	\$14,000.00	7	\$49,000.00	4
High Pole Lighting	EACH	\$7,000.00	2	\$14,000.00	3	\$21,000.00	3	\$21,000.00	4	\$28,000.00	5	\$35,000.00	2	\$14,000.00	2	\$14,000.00	5	\$35,000.00	4
Subtotal Improvements				\$52,701.00		\$69,786.22		\$268,527.00		\$59,740.00		\$100,819.28		\$235,280.11		\$124,716.89		\$1,814,988.00	
Removals (20%)				\$10,540.20		\$13,957.24		\$53,705.40		\$11,948.00		\$20,163.86		\$47,056.02		\$24,943.38		\$362,997.60	
Traffic Control (10%)				\$5,270.10		\$6,978.62		\$26,852.70		\$5,974.00		\$10,081.93		\$23,528.01		\$12,471.69		\$181,498.80	
Subtotal Removals & Traffic Control				\$15,810.30		\$20,935.87		\$80,558.10		\$17,922.00		\$30,245.78		\$70,584.03		\$37,415.07		\$544,496.40	
Landscaping (5%)				\$2,635.05		\$3,489.31		\$13,426.35		\$2,987.00		\$5,040.96		\$11,764.01		\$6,235.84		\$90,749.40	
Risk and Contingency (20%)				\$10,540.20		\$13,957.24		\$53,705.40		\$11,948.00		\$20,163.86		\$47,056.02		\$24,943.38		\$362,997.60	
Mobilization (5%)				\$2,635.05		\$3,489.31		\$13,426.35		\$2,987.00		\$5,040.96		\$11,764.01		\$6,235.84		\$90,749.40	
Subtotal Risk, Contingency, and Mobilization				\$15,810.30		\$20,935.87		\$80,558.10		\$17,922.00		\$30,245.78		\$70,584.03		\$37,415.07		\$544,496.40	
TOTAL CONSTRUCTION				\$84,321.60		\$111,657.96		\$429,643.20		\$95,584.00		\$161,310.84		\$376,448.18		\$199,547.02		\$2,903,980.80	
Administrative and Engineering (20%)				\$16,864.32		\$22,331.59		\$85,928.64		\$19,116.80		\$32,262.17		\$75,289.64		\$39,909.40		\$580,796.16	
TOTAL ESTIMATED COST				\$101,185.92		\$133,989.55		\$515,571.84		\$114,700.80		\$193,573.01		\$451,737.81		\$239,456.43		\$3,484,776.96	

NOTES:

1. INFRASTRUCTURE IMPROVEMENTS BEYOND WHAT IS NEEDED FOR THE MULTIMODAL IMPROVMENTS OUTLINED IN THE PLAN RECOMMENDATIONS ARE NOT INLCUED IN THIS ESTIMATE (IE: PAVEMENT, SIDEWALK, CURB AND GUTTER, STORM SEWER BRIDGES) PRESERVATION ACTIVITIES ARE NOT INCLUDED IN THIS COST ESTIMATE

2. TRANSIT SHELTERS AND TECHNOLOGY COSTS FOR RAPID BUS STOPS ARE NOT INCLUDED IN THIS COST ESTIMATE

3. ESTIMATES ARE IN 2012 DOLLARS

Snelling Avenue Draft Cost Estimate (2012 Dollars)

Improvements	Unit	Unit Cost	SN-14	SN-15		SN-16		SN-17		SN-18		SN-19		SN-20	
			Bridge	Intersection		Roadway		Roadway		Intersection		Roadway		Intersection	
			Bicycle Lanes	Energy Park Ramps		Bicycle Lanes		Bicycle Lanes		Como Ave		Bicycle Lanes		Dan Patch Ave	
			sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost	quantity	sum cost
Concrete Walk (Includes Prep & Base)	SQ FT	\$8.50	\$44,004.50	12179	\$103,521.50	8642	\$73,457.00	1200	\$10,200.00	2534	\$21,539.00		\$0.00	682	\$5,797.00
Concrete Walk (Bridge over Railroad)	SQ FT	\$240.00	\$1,099,200.00												
Concrete Walk (Bridge over Energy Park and Como)	SQ FT	\$180.00	\$540,000.00	1880	\$338,400.00	2156	\$388,080.00								
Concrete Median (Includes Prep & Base)	SQ FT	\$9.00	\$34,056.00	934	\$8,406.00	1081	\$9,729.00		\$0.00	1661	\$14,949.00	2408	\$21,672.00	2124	\$19,116.00
Truncated Domes (Includes Prep & Base)	SQ FT	\$60.00		48	\$2,880.00		\$0.00		\$0.00	152	\$9,120.00			78	\$4,680.00
B424 Curb & Gutter (Includes Prep & Base)	LIN FT	\$20.00	\$10,320.00	3858	\$77,160.00	1176	\$23,520.00	1142	\$22,840.00	920	\$18,400.00	1400	\$28,000.00	850	\$17,000.00
Curb Extension (Includes Prep & Base)	EACH	\$5,000.00													
Curb Extension w/ Storm Sewer Adj (Includes Prep & Base)	EACH	\$20,000.00													
Bituminous Pavement (Includes Prep & Base)	TON	\$120.00													
Bridge	SQ FT	\$140.00													
Transit Shelters - Regular Stops	EACH	\$5,000.00													
Zebra Hi Vis Crosswalks	SQ FT	\$14.00		324	\$4,536.00			252	\$3,528.00	774	\$10,836.00			900	\$12,600.00
Lined Hi Vis Crosswalks	LIN FT	\$11.00													
Pedestrian Countdown Signal	EACH	\$1,000.00													
APS	EACH	\$2,500.00												10	\$25,000.00
Signal Controller/Cabinet Upgrade	EACH	\$40,000.00								2	\$80,000.00			1	\$40,000.00
New Signal System (includes Bike Video Detection, APS, Countdown Heads)	EACH	\$200,000.00								2	\$400,000.00				\$0.00
Signage	SQ FT	\$35.00	\$875.00	95	\$3,325.00	20	\$700.00	80	\$2,800.00	20	\$700.00	40	\$1,400.00	50	\$1,750.00
Median Extension (Includes Prep & Base)	SQ FT	\$7.00								126	\$882.00				
Conflict/Intersection striping	LIN FT	\$4.00	\$100.00	250	\$1,000.00			175	\$700.00	775	\$3,100.00	75	\$300.00	25	\$100.00
Green Pavement	SQ FT	\$6.00		1900	\$11,400.00			1575	\$9,450.00			450	\$2,700.00		
Bike Arrow/Sharrow Marking	EACH	\$300.00	\$2,100.00	10	\$3,000.00	6	\$1,800.00	6	\$1,800.00	28	\$8,400.00	6	\$1,800.00	3	\$900.00
Bike Lane Marking	LIN FT	\$3.50	\$13,825.00	2650	\$9,275.00	5000	\$17,500.00	2650	\$9,275.00	2775	\$9,712.50	5100	\$17,850.00	575	\$2,012.50
Bike Box	SQ FT	\$10.00								1539	\$15,390.00				
Left Turn Box	SQ FT	\$10.00												154	\$1,540.00
Bike Signal	EACH	\$15,000.00												2	\$30,000.00
Bike Video Detection	EACH	\$30,000.00								2	\$60,000.00				
Bike Corral	EACH	\$5,500.00													
Bike Shelter	EACH	\$5,000.00								2	\$10,000.00				
U-rack	EACH	\$500.00													
Curbside Biocell Retention	LIN FT	\$50.00													
Sodding Type Salt Resistant (Includes Prep & Topsoil)	SQ YD	\$10.00	\$2,870.00	871.7	\$8,716.67	657.8	\$6,577.78	637.6	\$6,375.56	491.1	\$4,911.11	344.4	\$3,444.44		
Brick Pavers (Includes Prep & Base)	SQ FT	\$30.00													
Pedestrian Level Lighting (L-10 Lantern)	EACH	\$7,000.00	\$28,000.00	8	\$56,000.00	5	\$35,000.00	4	\$28,000.00	4	\$28,000.00	5	\$35,000.00	4	\$28,000.00
High Pole Lighting	EACH	\$7,000.00	\$28,000.00	5	\$35,000.00	5	\$35,000.00	4	\$28,000.00	4	\$28,000.00	5	\$35,000.00	4	\$28,000.00
Subtotal Improvements			\$1,803,350.50		\$662,620.17		\$591,363.78		\$122,968.56		\$723,939.61		\$147,166.44		\$216,495.50
Removals (20%)			\$360,670.10		\$132,524.03		\$118,272.76		\$24,593.71		\$144,787.92		\$29,433.29		\$43,299.10
Traffic Control (10%)			\$180,335.05		\$66,262.02		\$59,136.38		\$12,296.86		\$72,393.96		\$14,716.64		\$21,649.55
Subtotal Removals & Traffic Control			\$541,005.15		\$198,786.05		\$177,409.13		\$36,890.57		\$217,181.88		\$44,149.93		\$64,948.65
Landscaping (5%)			\$90,167.53		\$33,131.01		\$29,568.19		\$6,148.43		\$36,196.98		\$7,358.32		\$10,824.78
Risk and Contingency (20%)			\$360,670.10		\$132,524.03		\$118,272.76		\$24,593.71		\$144,787.92		\$29,433.29		\$43,299.10
Mobilization (5%)			\$90,167.53		\$33,131.01		\$29,568.19		\$6,148.43		\$36,196.98		\$7,358.32		\$10,824.78
Subtotal Risk, Contingency, and Mobilization			\$541,005.15		\$198,786.05		\$177,409.13		\$36,890.57		\$217,181.88		\$44,149.93		\$64,948.65
TOTAL CONSTRUCTION			\$2,885,360.80		\$1,060,192.27		\$946,182.04		\$196,749.69		\$1,158,303.38		\$235,466.31		\$346,392.80
Administrative and Engineering (20%)			\$577,072.16		\$212,038.45		\$189,236.41		\$39,349.94		\$231,660.68		\$47,093.26		\$69,278.56
TOTAL ESTIMATED COST			\$3,462,432.96		\$1,272,230.72		\$1,135,418.45		\$236,099.63		\$1,389,964.05		\$282,559.57		\$415,671.36

- NOTES:
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 - TRANSIT SHELTERS AND TECHNOLOGY COSTS FOR RAPID BUS STOPS ARE NOT INCLUDED IN THIS COST ESTIMATE
 - ESTIMATES ARE IN 2012 DOLLARS

Snelling Avenue Draft Cost Estimate (2012 Dollars)

Improvements	Unit	Unit Cost											
			Subtotal Improvements	Removals (20%)	Traffic Control (10%)	Subtotal Removals & Traffic Control	Landscaping (5%)	Risk and Contingency (20%)	Mobilization (5%)	Subtotal Risk, Contingency, and Mobilization	TOTAL CONSTRUCTION	Administrative and Engineering (20%)	TOTAL ESTIMATED COST
Concrete Walk (Includes Prep & Base)	SQ FT	\$8.50	\$601,281.50	\$120,256.30	\$60,128.15	\$180,384.45	\$30,064.08	\$120,256.30	\$30,064.08	\$180,384.45	\$962,050.40	\$192,410.08	\$1,154,460.48
Concrete Walk (Bridge over Railroad)	SQ FT	\$240.00	\$1,099,200.00	\$219,840.00	\$109,920.00	\$329,760.00	\$54,960.00	\$219,840.00	\$54,960.00	\$329,760.00	\$1,758,720.00	\$351,744.00	\$2,110,464.00
Concrete Walk (Bridge over Energy Park and Como)	SQ FT	\$180.00	\$1,266,480.00	\$253,296.00	\$126,648.00	\$379,944.00	\$63,324.00	\$253,296.00	\$63,324.00	\$379,944.00	\$2,026,368.00	\$405,273.60	\$2,431,641.60
Concrete Median (Includes Prep & Base)	SQ FT	\$9.00	\$146,277.00	\$29,255.40	\$14,627.70	\$43,883.10	\$7,313.85	\$29,255.40	\$7,313.85	\$43,883.10	\$234,043.20	\$46,808.64	\$280,851.84
Truncated Domes (Includes Prep & Base)	SQ FT	\$60.00	\$111,960.00	\$22,392.00	\$11,196.00	\$33,588.00	\$5,598.00	\$22,392.00	\$5,598.00	\$33,588.00	\$179,136.00	\$35,827.20	\$214,963.20
B424 Curb & Gutter (Includes Prep & Base)	LIN FT	\$20.00	\$404,240.00	\$80,848.00	\$40,424.00	\$121,272.00	\$20,212.00	\$80,848.00	\$20,212.00	\$121,272.00	\$646,784.00	\$129,356.80	\$776,140.80
Curb Extension (Includes Prep & Base)	EACH	\$5,000.00	\$105,000.00	\$21,000.00	\$10,500.00	\$31,500.00	\$5,250.00	\$21,000.00	\$5,250.00	\$31,500.00	\$168,000.00	\$33,600.00	\$201,600.00
Curb Extension w/ Storm Sewer Adj (Includes Prep & Base)	EACH	\$20,000.00	\$60,000.00	\$12,000.00	\$6,000.00	\$18,000.00	\$3,000.00	\$12,000.00	\$3,000.00	\$18,000.00	\$96,000.00	\$19,200.00	\$115,200.00
Bituminous Pavement (Includes Prep & Base)	TON	\$120.00	\$425,760.00	\$85,152.00	\$42,576.00	\$127,728.00	\$21,288.00	\$85,152.00	\$21,288.00	\$127,728.00	\$681,216.00	\$136,243.20	\$817,459.20
Bridge	SQ FT	\$140.00	\$1,557,500.00	\$311,500.00	\$155,750.00	\$467,250.00	\$77,875.00	\$311,500.00	\$77,875.00	\$467,250.00	\$2,492,000.00	\$498,400.00	\$2,990,400.00
Transit Shelters - Regular Stops	EACH	\$5,000.00	\$40,000.00	\$8,000.00	\$4,000.00	\$12,000.00	\$2,000.00	\$8,000.00	\$2,000.00	\$12,000.00	\$64,000.00	\$12,800.00	\$76,800.00
Zebra Hi Vis Crosswalks	SQ FT	\$14.00	\$156,744.00	\$31,348.80	\$15,674.40	\$47,023.20	\$7,837.20	\$31,348.80	\$7,837.20	\$47,023.20	\$250,790.40	\$50,158.08	\$300,948.48
Lined Hi Vis Crosswalks	LIN FT	\$11.00	\$15,730.00	\$3,146.00	\$1,573.00	\$4,719.00	\$786.50	\$3,146.00	\$786.50	\$4,719.00	\$25,168.00	\$5,033.60	\$30,201.60
Pedestrian Countdown Signal	EACH	\$1,000.00	\$70,000.00	\$14,000.00	\$7,000.00	\$21,000.00	\$3,500.00	\$14,000.00	\$3,500.00	\$21,000.00	\$112,000.00	\$22,400.00	\$134,400.00
APS	EACH	\$2,500.00	\$195,000.00	\$39,000.00	\$19,500.00	\$58,500.00	\$9,750.00	\$39,000.00	\$9,750.00	\$58,500.00	\$312,000.00	\$62,400.00	\$374,400.00
Signal Controller/Cabinet Upgrade	EACH	\$40,000.00	\$440,000.00	\$88,000.00	\$44,000.00	\$132,000.00	\$22,000.00	\$88,000.00	\$22,000.00	\$132,000.00	\$704,000.00	\$140,800.00	\$844,800.00
New Signal System (includes Bike Video Detection, APS, Countdown Heads)	EACH	\$200,000.00	\$400,000.00	\$80,000.00	\$40,000.00	\$120,000.00	\$20,000.00	\$80,000.00	\$20,000.00	\$120,000.00	\$640,000.00	\$128,000.00	\$768,000.00
Signage	SQ FT	\$35.00	\$35,350.00	\$7,070.00	\$3,535.00	\$10,605.00	\$1,767.50	\$7,070.00	\$1,767.50	\$10,605.00	\$56,560.00	\$11,312.00	\$67,872.00
Median Extension (Includes Prep & Base)	SQ FT	\$7.00	\$13,230.00	\$2,646.00	\$1,323.00	\$3,969.00	\$661.50	\$2,646.00	\$661.50	\$3,969.00	\$21,168.00	\$4,233.60	\$25,401.60
Conflict/Intersection striping	LIN FT	\$4.00	\$11,400.00	\$2,280.00	\$1,140.00	\$3,420.00	\$570.00	\$2,280.00	\$570.00	\$3,420.00	\$18,240.00	\$3,648.00	\$21,888.00
Green Pavement	SQ FT	\$6.00	\$70,800.00	\$14,160.00	\$7,080.00	\$21,240.00	\$3,540.00	\$14,160.00	\$3,540.00	\$21,240.00	\$113,280.00	\$22,656.00	\$135,936.00
Bike Arrow/Sharrow Marking	EACH	\$300.00	\$51,300.00	\$10,260.00	\$5,130.00	\$15,390.00	\$2,565.00	\$10,260.00	\$2,565.00	\$15,390.00	\$82,080.00	\$16,416.00	\$98,496.00
Bike Lane Marking	LIN FT	\$3.50	\$122,605.00	\$24,521.00	\$12,260.50	\$36,781.50	\$6,130.25	\$24,521.00	\$6,130.25	\$36,781.50	\$196,168.00	\$39,233.60	\$235,401.60
Bike Box	SQ FT	\$10.00	\$22,090.00	\$4,418.00	\$2,209.00	\$6,627.00	\$1,104.50	\$4,418.00	\$1,104.50	\$6,627.00	\$35,344.00	\$7,068.80	\$42,412.80
Left Turn Box	SQ FT	\$10.00	\$4,230.00	\$846.00	\$423.00	\$1,269.00	\$211.50	\$846.00	\$211.50	\$1,269.00	\$6,768.00	\$1,353.60	\$8,121.60
Bike Signal	EACH	\$15,000.00	\$120,000.00	\$24,000.00	\$12,000.00	\$36,000.00	\$6,000.00	\$24,000.00	\$6,000.00	\$36,000.00	\$192,000.00	\$38,400.00	\$230,400.00
Bike Video Detection	EACH	\$30,000.00	\$120,000.00	\$24,000.00	\$12,000.00	\$36,000.00	\$6,000.00	\$24,000.00	\$6,000.00	\$36,000.00	\$192,000.00	\$38,400.00	\$230,400.00
Bike Corral	EACH	\$5,500.00	\$11,000.00	\$2,200.00	\$1,100.00	\$3,300.00	\$550.00	\$2,200.00	\$550.00	\$3,300.00	\$17,600.00	\$3,520.00	\$21,120.00
Bike Shelter	EACH	\$5,000.00	\$45,000.00	\$9,000.00	\$4,500.00	\$13,500.00	\$2,250.00	\$9,000.00	\$2,250.00	\$13,500.00	\$72,000.00	\$14,400.00	\$86,400.00
U-rack	EACH	\$500.00	\$5,000.00	\$1,000.00	\$500.00	\$1,500.00	\$250.00	\$1,000.00	\$250.00	\$1,500.00	\$8,000.00	\$1,600.00	\$9,600.00
Curbside Biocell Retention	LIN FT	\$50.00	\$16,100.00	\$3,220.00	\$1,610.00	\$4,830.00	\$805.00	\$3,220.00	\$805.00	\$4,830.00	\$25,760.00	\$5,152.00	\$30,912.00
Sodding Type Salt Resistant (Includes Prep & Topsoil)	SQ YD	\$10.00	\$86,990.00	\$17,398.00	\$8,699.00	\$26,097.00	\$4,349.50	\$17,398.00	\$4,349.50	\$26,097.00	\$139,184.00	\$27,836.80	\$167,020.80
Brick Pavers (Includes Prep & Base)	SQ FT	\$30.00	\$78,660.00	\$15,732.00	\$7,866.00	\$23,598.00	\$3,933.00	\$15,732.00	\$3,933.00	\$23,598.00	\$125,856.00	\$25,171.20	\$151,027.20
Pedestrian Level Lighting (L-10 Lantern)	EACH	\$7,000.00	\$637,000.00	\$127,400.00	\$63,700.00	\$191,100.00	\$31,850.00	\$127,400.00	\$31,850.00	\$191,100.00	\$1,019,200.00	\$203,840.00	\$1,223,040.00
High Pole Lighting	EACH	\$7,000.00	\$637,000.00	\$127,400.00	\$63,700.00	\$191,100.00	\$31,850.00	\$127,400.00	\$31,850.00	\$191,100.00	\$1,019,200.00	\$203,840.00	\$1,223,040.00
Subtotal Improvements			\$9,182,927.50										
Removals (20%)			\$1,836,585.50										
Traffic Control (10%)			\$918,292.75										
Subtotal Removals & Traffic Control			\$2,754,878.25										
Landscaping (5%)			\$459,146.38										
Risk and Contingency (20%)			\$1,836,585.50										
Mobilization (5%)			\$459,146.38										
Subtotal Risk, Contingency, and Mobilization			\$2,754,878.25										
TOTAL CONSTRUCTION			\$14,692,684.00										
Administrative and Engineering (20%)			\$2,938,536.80										
TOTAL ESTIMATED COST													

- NOTES:
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 - TRANSIT SHELTERS AND TECHNOLOGY COSTS FOR RAPID BUS STOPS ARE NOT INCLUDED IN THIS COST ESTIMATE
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Snelling Avenue Draft Cost Estimate (2012 Dollars)

SN-02A and SN-15A

Improvements	Unit	Unit Cost	SN-02A				SN-15A	
			Intersection				Intersection	
			Marshall Ave		Iglehart Ave.		Energy Park Ramps	
			quantity	sum cost	quantity	sum cost	quantity	sum cost
Concrete Walk (Includes Prep & Base)	SQ FT	\$8.50	800	\$6,800.00	190	\$1,615.00	14204	\$120,734.00
Concrete Walk (Bridge over Railroad)	SQ FT	\$240.00						\$0.00
Concrete Walk (Bridge over Energy Park and Como)	SQ FT	\$180.00					1880	\$338,400.00
Concrete Median (Includes Prep & Base)	SQ FT	\$9.00	1825	\$16,425.00			934	\$8,406.00
Truncated Domes (Includes Prep & Base)	SQ FT	\$60.00	92	\$5,520.00	39	\$2,340.00	48	\$2,880.00
B424 Curb & Gutter (Includes Prep & Base)	LIN FT	\$20.00			1141	\$22,820.00	3858	\$77,160.00
Curb Extension (Includes Prep & Base)	EACH	\$5,000.00						
Curb Extension w/ Storm Sewer Adj (Includes Prep & Base)	EACH	\$20,000.00						
Bituminous Pavement (Includes Prep & Base)	TON	\$120.00			2955	\$354,600.00		
Bridge	SQ FT	\$140.00						
Transit Shelters - Regular Stops	EACH	\$5,000.00						
Zebra Hi Vis Crosswalks	SQ FT	\$14.00	720	\$10,080.00	198	\$2,772.00	324	\$4,536.00
Lined Hi Vis Crosswalks	LIN FT	\$11.00						
Pedestrian Countdown Signal	EACH	\$1,000.00	8	\$8,000.00				
APS	EACH	\$2,500.00	8	\$20,000.00				
Signal Controller/Cabinet Upgrade	EACH	\$40,000.00	1	\$40,000.00				
New Signal System (includes Bike Video Detection, APS, Countdown Heads)	EACH	\$200,000.00		\$0.00				
Signage	SQ FT	\$35.00	60	\$2,100.00			90	\$3,150.00
Median Extension (Includes Prep & Base)	SQ FT	\$7.00	121	\$847.00				
Conflict/Intersection striping	LIN FT	\$4.00	250	\$1,000.00	100	\$400.00	300	\$1,200.00
Green Pavement	SQ FT	\$6.00	550	\$3,300.00	1450	\$8,700.00	1700	\$10,200.00
Bike Arrow/Sharrow Marking	EACH	\$300.00	21	\$6,300.00	4	\$1,200.00	10	\$3,000.00
Bike Lane Marking	LIN FT	\$3.50	1875	\$6,562.50	530	\$1,855.00	2250	\$7,875.00
Bike Box	SQ FT	\$10.00						
Left Turn Box	SQ FT	\$10.00						
Bike Signal	EACH	\$15,000.00	4	\$60,000.00				
Bike Video Detection	EACH	\$30,000.00						
Bike Corral	EACH	\$5,500.00						
Bike Shelter	EACH	\$5,000.00						
U-rack	EACH	\$500.00						
Curbside Biocell Retention	LIN FT	\$50.00						
Sodding Type Salt Resistant (Includes Prep & Topsoil)	SQ YD	\$10.00			486.2	\$4,862.22	871.7	\$8,716.67
Brick Pavers (Includes Prep & Base)	SQ FT	\$30.00						
Pedestrian Level Lighting (L-10 Lantern)	EACH	\$7,000.00	2	\$14,000.00	2	\$14,000.00	8	\$56,000.00
High Pole Lighting	EACH	\$7,000.00	2	\$14,000.00	2	\$14,000.00	5	\$35,000.00
Subtotal Improvements			\$214,934.50		\$429,164.22		\$677,257.67	
Landscaping (5%)			\$10,746.73		\$21,458.21		\$33,862.88	
Removals (20%)			\$42,986.90		\$85,832.84		\$135,451.53	
Traffic Control (10%)			\$21,493.45		\$42,916.42		\$67,725.77	
Subtotal Removals & Traffic Control			\$75,227.08		\$150,207.48		\$237,040.18	
Risk and Contingency (20%)			\$42,986.90		\$85,832.84		\$135,451.53	
Mobilization (5%)			\$10,746.73		\$21,458.21		\$33,862.88	
Subtotal Risk, Contingency, and Mobilization			\$53,733.63		\$107,291.06		\$169,314.42	
TOTAL CONSTRUCTION			\$343,895.20		\$686,662.76		\$1,083,612.27	
Administrative and Engineering (20%)			\$68,779.04		\$137,332.55		\$216,722.45	
TOTAL ESTIMATED COST			\$412,674.24		\$823,995.31		\$1,300,334.72	

NOTES:

1. INFRASTRUCTURE IMPROVEMENTS BEYOND WHAT IS NEEDED FOR THE MULTIMODAL IMPROVMENTS OUTLINED IN THE PLAN RECOMMENDATIONS ARE NOT INLCUED IN THIS ESTIMATE (IE: PAVEMENT, SIDEWALK, CURB AND GUTTER, STORM SEWER BRIDGES) PRESERVATION ACTIVITIES ARE NOT INCLUDED IN THIS COST ESTIMATE

2. TRANSIT SHELTERS AND TECHNOLOGY COSTS FOR RAPID BUS STOPS ARE NOT INCLUDED IN THIS COST ESTIMATE

3. ESTIMATES ARE IN 2012 DOLLARS