

WESTERN AVENUE PROJECT SUMMARY OF ENGINEERING RECOMMENDATIONS

Western Avenue Bicycle Lanes

Report prepared: 8/26/2015

Open House: 8/11/2015

Public Hearing: 9/2/2015

PROJECT

Implementation of bicycle lanes on Western Avenue from Como Avenue to University Avenue.

Improvements to include the installation of dedicated bicycle lanes, pavement markings, signage, and other elements as described below.

PURPOSE

The purpose of this project is to provide an improved north-south bicycle facility on Western Avenue, improving the bicycling environment as it relates to safety, accessibility, and connectivity.

I. INITIATING ACTION

The City of Saint Paul Department of Public Works (Public Works) is planning a mill and overlay of Western Avenue between Como and Thomas Avenues in the fall of 2015. Chapter 9 of the Saint Paul Bicycle Plan identifies incorporating bicycle facilities into larger construction or maintenance projects as the most fiscally efficient way to implement bicycle facilities, and makes the recommendation to "incorporate implementation of bikeways with routine maintenance projects whenever possible." To take advantage of the efficiencies associated with implementing bicycle facilities with existing maintenance projects, Public Works is proposing to implement bicycle lanes on Western Avenue as a component of the scheduled mill and overlay project.

The Saint Paul Bicycle Plan recommends "in-street separated lanes" on Western Avenue within the project limits. Public Works is proposing to implement the recommendations identified in the Bicycle Plan on Western Avenue from Como Avenue to Thomas Avenue. To facilitate safe connections and eliminate a gap in bicycle facilities, extending bicycle lanes south to University Avenue beyond the boundaries of the mill and overlay is also proposed. To finance this expansion, funds will be allocated from the city's 8 to 80 Vitality Fund, a funding source established in 2014 that aims to "create city infrastructure, streets, and public spaces that function for residents ages 8 to 80."

II. PROPOSED IMPROVEMENTS

Western Avenue between Como Avenue and University Avenue is classified as a collector roadway and a Municipal State Aid Route (MSA). AADT within the project limits ranges from 3,050 to 5,100 vehicles per day. 85th percentile speeds of 31 MPH northbound, and 33 MPH

southbound were recorded within the project limits. The posted speed limit is 30 mph. The Saint Paul Bicycle Plan identifies this segment of Western as a component of the planned bicycle network, and identifies “in-street separated lanes” as the recommended facility type.

Western Avenue - Como to Charles

Elements proposed for implementation are:

- Restriping the roadway to add 6’ (NB) and 7’ (SB) bicycle lanes
- Narrowing of existing vehicular travel lanes to 11’
- Installation of directional and destination signage
- Removal of on-street parking on the west side of Western between Como and Charles Avenues
- Reduce the existing overnight sanitation parking ban to Monday-only on the east side of Western

Western Avenue - Charles to University

Elements proposed for implementation are:

- Restriping the roadway to add 5’ bicycle lanes
- Narrowing of existing vehicular travel lanes to 10’
- Installation of directional and destination signage
- Narrow existing parking lanes to 7’
- No changes proposed to the existing parking capacity
- Reduce the existing overnight sanitation parking ban to Monday-only on the east side of Western
- Reduce the existing overnight sanitation parking ban to Tuesday-only on the west side of Western

III. ALTERNATIVES

Public Works’ planned mill and overlay extends from Como Avenue to Thomas Avenue. Limiting bicycle improvements to the mill and overlay project boundaries was considered, but was ultimately rejected due to the lack of connectivity to existing or planned bikeways at the project’s southern terminus. To facilitate safer and more direct connectivity, extending bicycle facilities south to University Avenue is proposed. This extension allows for direct connectivity to the bicycle facilities installed on Western south of University Avenue in 2015.

Parking removal is proposed for the west side of Western Avenue between Como and Charles Avenues. Removing parking from the east side of Western instead of the west side was examined, but was rejected due to the presence of small businesses on the east side of the street within the project limits. Extending the west-side parking removal south to University Avenue was evaluated as an alternative, but was eliminated in favor of a modified street configuration that maintained existing parking capacity near the businesses on University Avenue. The modified configuration maintains parking on both sides of the street between Charles and University, and employs a 10’ travel lane, 5’ bicycle lane, and 7’ parking lane in each direction.

IV. POSITIVE BENEFITS

The City's Comprehensive Plan and Bicycle Plan strongly support the development of a multi-modal transportation system. Both plans recommend employing a complete streets approach to planning the transportation system, and promote the development of a complete and connected network of bicycle facilities through the city.

The project as proposed promotes multi-modal utilization of the roadway, providing a dedicated space for people using bicycles along Western Avenue while allowing for important connections to existing bicycle facilities on Como Avenue, Minnehaha Avenue, Charles Avenue, and Western Avenue (south of University). As a contiguous corridor from Maryland Avenue to Summit Avenue, Western Avenue is a critical north-south connection for non-motorized transportation, providing barrier access across both I-94 and the railroad corridor north of Pierce Butler. The proposed bicycle facilities on Western also provide direct access to the businesses on University Avenue, and the Western Avenue Green Line light rail station. When paired with existing and planned bicycle infrastructure, the improvements proposed establish the foundation for a complete and connected bikeway system, and allow for bicycling to exist as a practical and feasible means of transportation in Saint Paul.

The existing sanitation parking ban on Western restricts overnight parking to one side of the street, six nights a week. Currently, parking is restricted from 2 AM – 7AM on Monday, Wednesday, and Friday on the east side of Western, and on Tuesday, Thursday, and Saturday on the west side of Western. Reducing the overnight parking ban to only Monday on the east side of Western, and Tuesday on the west side of Western should simplify overnight parking for area residents.

The posted speed limit on Western Avenue is 30 MPH. Speed studies performed on Western recorded 85th percentile speeds of 31 MPH northbound, and 33 MPH southbound within the project limits. Narrowing vehicular travel lane widths as proposed will encourage slower speeds, fostering a safer and more accessible roadway for all users. With AADT ranging from 3,050 to 5,100, implementing in-street separated lanes to separate bicycle and vehicular traffic will substantially increase the safety of people bicycling on Western Avenue.

V. ADVERSE EFFECTS

Normal issues relative to implementing infrastructure improvement projects will be present. Those issues include, but may not be necessarily limited to, noise, dust, and general disruptions to vehicular traffic.

To accommodate the installation of bicycle facilities, on-street parking removal is proposed for the west side of Western Avenue between Como and Charles Avenues. No parking removal is proposed between Charles and University Avenues. When the overnight sanitation ban is in effect on Mondays from 2 AM – 7 AM, parking will be prohibited on the east side Western within the project limits.

To capture demonstrative parking demand, Public works conducted thirteen parking occupancy counts at representative time periods along Western Avenue (weekday early morning, midday, evening, and Saturday midday and evening). When the total observed parking capacity of a block exceeded the estimated remaining parking capacity following the implementation of bicycle lanes, parking counts of the side streets were performed to measure their potential to absorb overflow parking from Western. Two parking counts of adjacent side streets between Minnehaha and Thomas Avenues were conducted during the Saturday evening period.

Existing legal parking capacity on Western Avenue between Como and Charles Avenues is estimated at 149 spaces, and capacity following the implementation of bicycle lanes is estimated at 73 spaces. The highest observed parking utilization measured 45-parked vehicles between Como and Charles (Saturday evening, 6 pm - 8 pm), with a mean parking utilization of 27.1 vehicles across the thirteen counting periods. Based on the data collected by Public Works, it is anticipated that parking supply following the implementation of bicycle lanes will be sufficient to meet demand. The parking occupancy data is attached in the **Appendix** of this document.

VI. TIME SCHEDULE

It is anticipated that the bicycle improvements as proposed will be installed concurrent with the planned mill and overlay on Western Avenue, scheduled for Fall 2015. This process is anticipated to last approximately ten days.

VII. COST ESTIMATE

Implementation of bicycle lanes and lane reconfiguration within the limits of the mill and overlay will incur little additional cost beyond the amount already budgeted for resurfacing. Implementation outside of the mill and overlay limits will be funded using the City of Saint Paul's 8 to 80 Vitality fund.

VIII. SOURCE OF ADDITIONAL INFORMATION

For additional information, please contact:

Paul St. Martin, Assistant City Engineer
Email: paul.st.martin@ci.stpaul.mn.us

IX. SUMMARY AND RECOMMENDATIONS

The Department of Public Works believes the project submitted herein to be necessary and feasible. The Department's Engineering Recommendation is for approval of the project as proposed.

Appendix

Attached:

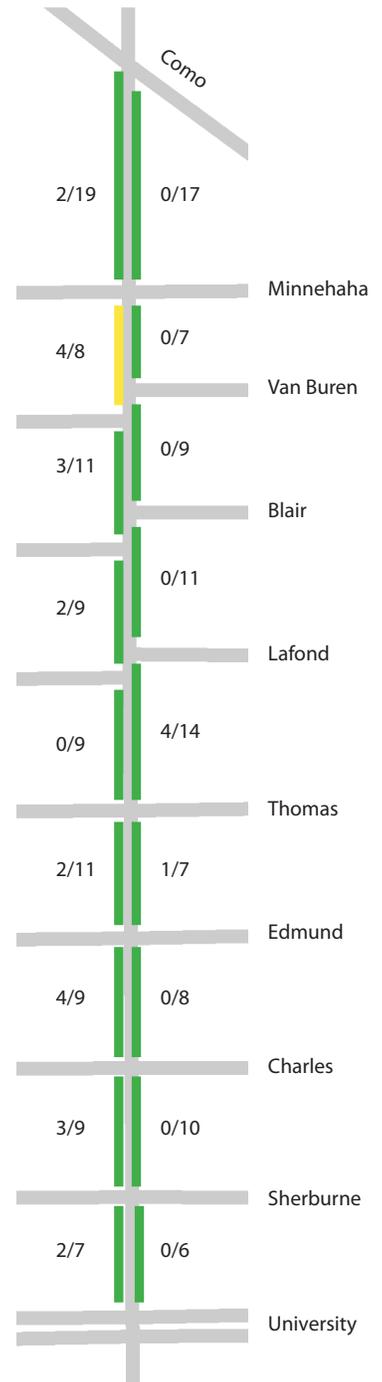
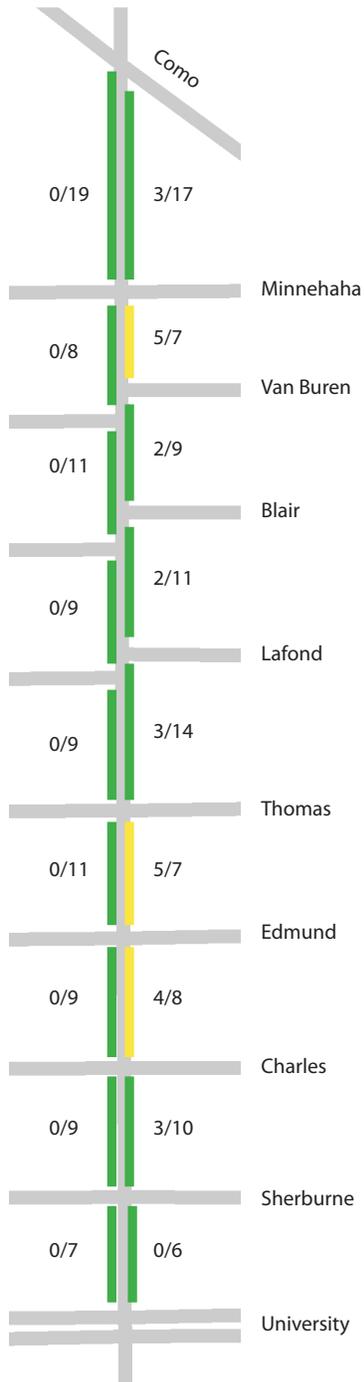
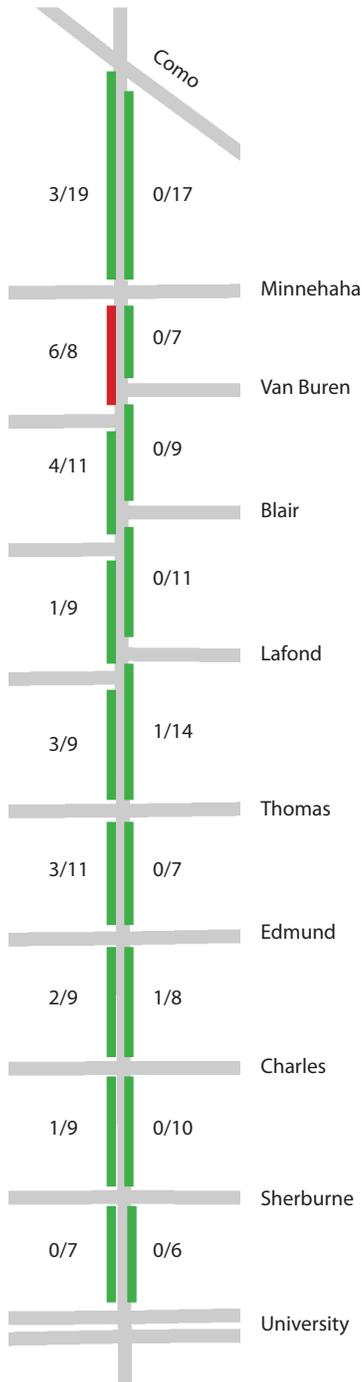
1. Western Avenue Parking Occupancy Count Results
2. Western Avenue Proposed Changes to the Overnight Parking Ban
3. Western Avenue Project Map
4. Western Avenue Project Cross-Sections

Western Ave Parking Counts Weekday Early Morning (4 AM - 6 AM)

Date: Thursday, May 28th
Time Period: 4AM - 6 AM

Date: Tuesday, June 2nd
Time Period: 4AM - 6 AM

Date: Wednesday, June 10th
Time Period: 4AM - 6 AM



Legend

Observed Parking Utilization



Signed "No Parking"



0 - 49%



50 - 74%



75 - 100+%

Example: 8/11 =

Observed Parked Cars /

Estimated Legal Parking Capacity

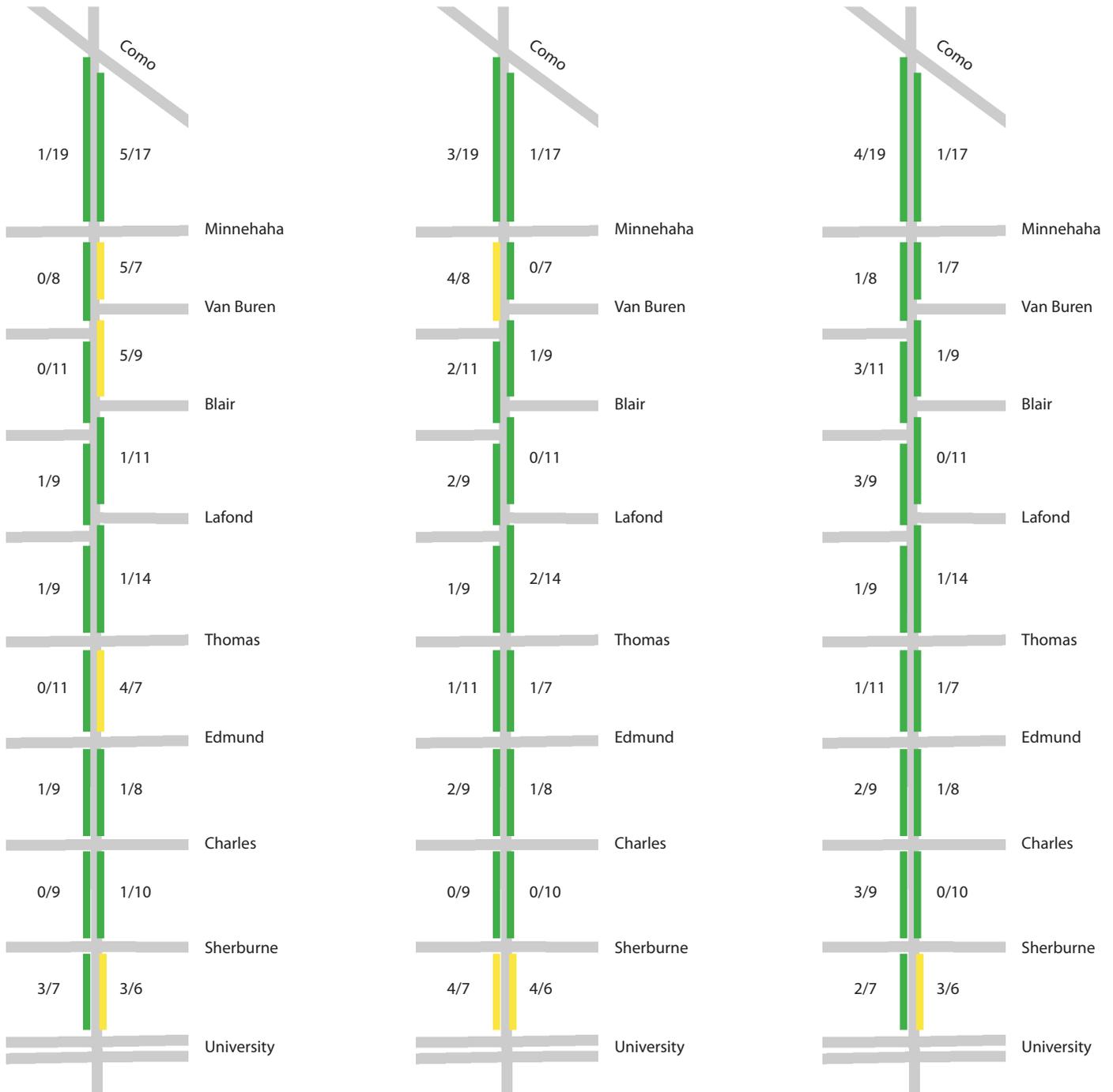
(Observed parking utilization may exceed estimated legal capacity)

Western Ave Parking Counts Weekday Midday (11 AM - 1 PM)

Date: Thursday, May 28th
Time Period: 11 AM - 1 PM

Date: Wednesday, June 3rd
Time Period: 11 AM - 1 PM

Date: Wednesday, June 10th
Time Period: 11 AM - 1 PM



Legend

Observed Parking Utilization



Signed "No Parking"
0 - 49%
50 - 74%
75 - 100+%

Example: 8/11 =
Observed Parked Cars /
Estimated Legal Parking Capacity

(Observed parking utilization may
exceed estimated legal capacity)

Western Ave Parking Counts Saturday Midday (11 AM - 1 PM)

Date: Saturday, June 13th
Time Period: 11 AM - 1 PM

Date: Saturday, June 20th
Time Period: 11 AM - 1 PM



Legend

Observed Parking Utilization

- ▬ Signed "No Parking"
- ▬ 0 - 49%
- ▬ 50 - 74%
- ▬ 75 - 100+%

Example: 8/11 =

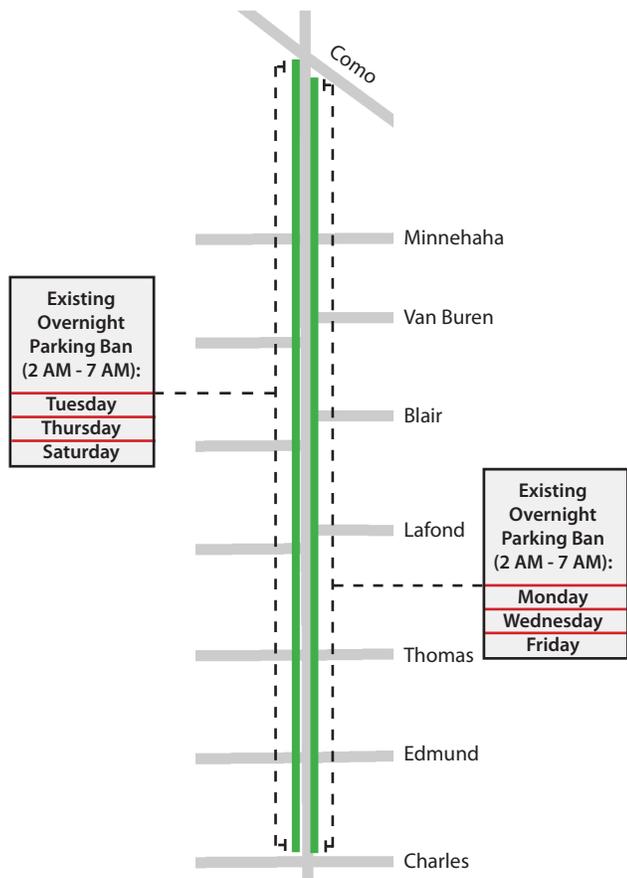
Observed Parked Cars /
Estimated Legal Parking Capacity

(Observed parking utilization may
exceed estimated legal capacity)

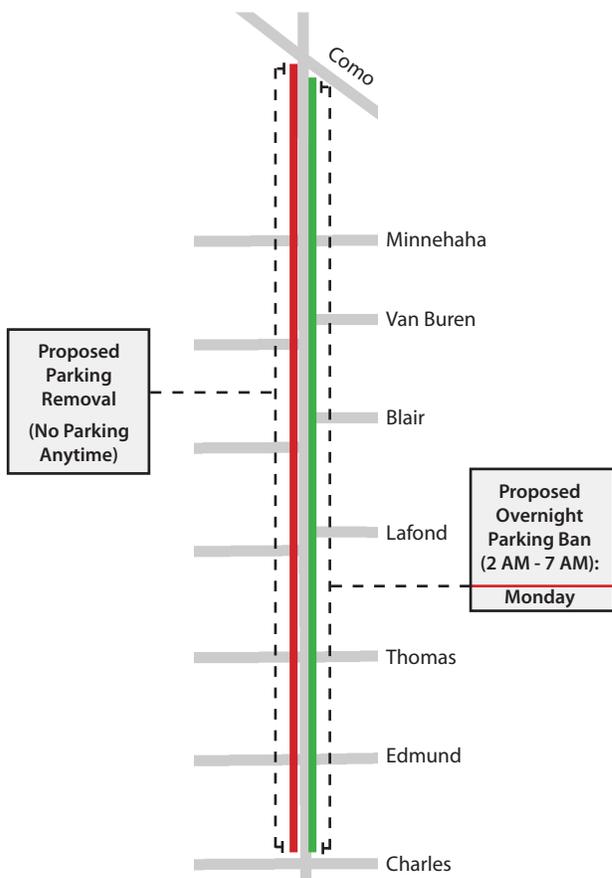
Proposed Changes to Parking and the Overnight Parking Ban

Western Avenue - Como to Charles, Charles to University

Existing: Western Ave - Como to Charles



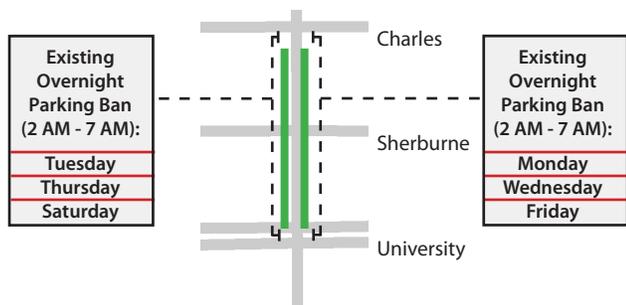
Proposed: Western Ave - Como to Charles



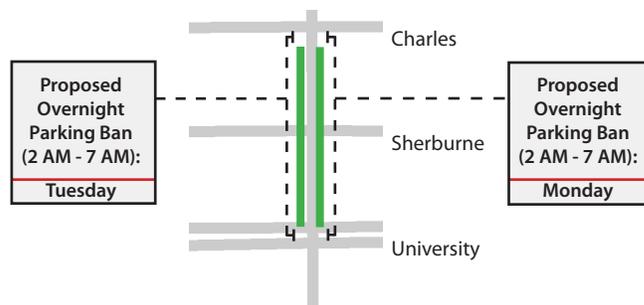
Legend

- Available On-Street Parking
- Proposed On-Street Parking Removal

Existing: Western Ave - Charles to University



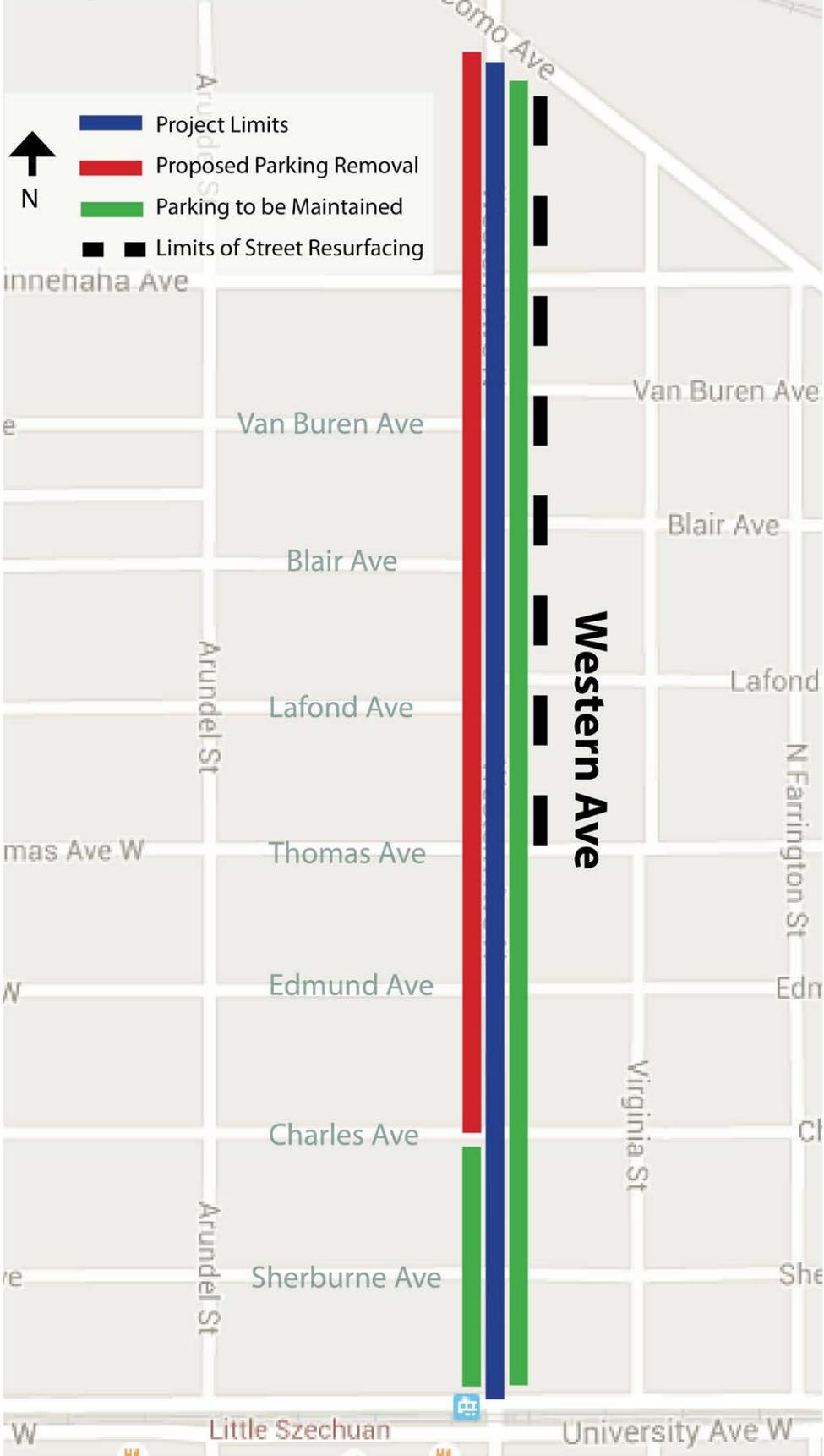
Proposed: Western Ave - Charles to University



Legend

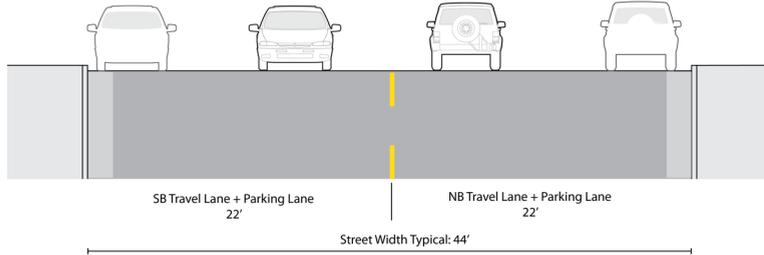
- Available On-Street Parking
- Proposed On-Street Parking Removal

Project Map



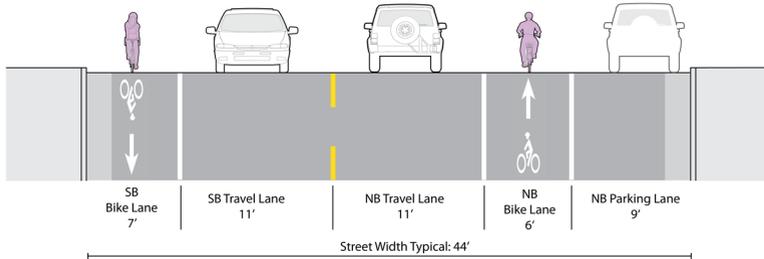
Western Avenue Bicycle Lanes

Existing



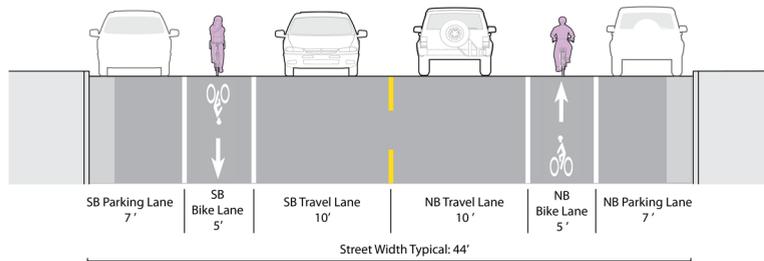
- 1 travel lane in each direction
- No existing bicycle facilities
- Parking on both sides

Proposed: Como to Charles



- 1 travel lane in each direction (narrower to reduce speeding)
- 1 bicycle lane in each direction
- Parking on one side (east)

Proposed: Charles to University



- 1 travel lane in each direction (narrower to reduce speeding)
- 1 bicycle lane in each direction
- Parking on both sides