

STILLWATER AVENUE BIKEWAY PROJECT SUMMARY OF ENGINEERING RECOMMENDATIONS

Stillwater Avenue Bikeway and Connecting Facilities

Report prepared: 8/1/2017

Open House: 6/27/2017

Public Hearing: 8/16/2017

PROJECT

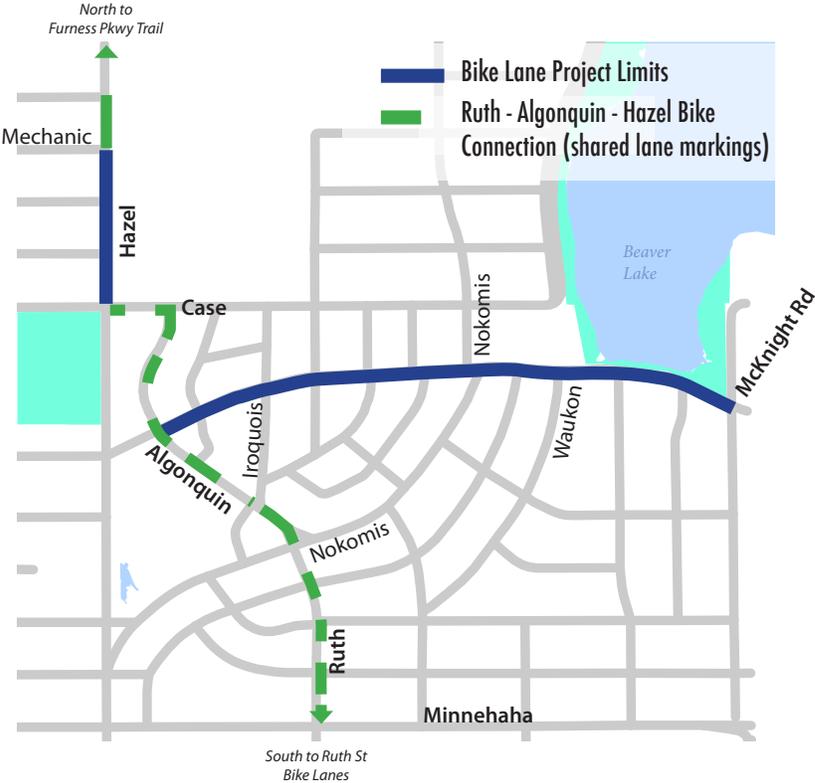
Implementation of bicycle lanes on Stillwater Avenue from McKnight Road to Algonquin Avenue, and implementation of connecting bicycle facilities on Ruth Street/Algonquin Avenue, Case Avenue, and Hazel Street.

Improvements 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 east-west bicycle facility on Stillwater Avenue, and make connections to existing nearby bikeways, improving the bicycling environment as it relates to safety, comfort, and connectivity.

Figure 1: Project Map



I. INITIATING ACTION

Saint Paul Public Works is planning a mill and overlay of Stillwater Avenue between McKnight Road and Hazel Street in 2017. The Saint Paul Bicycle Plan recommends “in-street separated lanes” on Stillwater Avenue within the project limits. To take advantage of the efficiencies associated with implementing bicycle facilities with existing maintenance projects, Public Works is proposing to implement bicycle lanes on Stillwater Avenue from McKnight Road to Algonquin Avenue as a component of the scheduled mill and overlay project.

To better connect bicycle lanes on Stillwater to existing nearby bicycle facilities on Furness Parkway and Ruth Street, Public Works is also proposing to install enhanced shared lanes on Ruth Street/Algonquin Avenue, Case Avenue, and bike lanes on Hazel Street from Case Avenue to Mechanic Avenue. These proposed facilities are consistent with the recommendations of the Saint Paul Bicycle Plan.

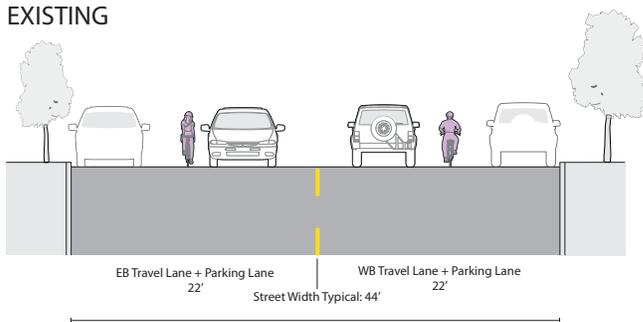
II. EXISTING CONDITIONS

Stillwater Avenue between McKnight Road and Algonquin Avenue is classified as a collector roadway and a Municipal State Aid (MSA) route. AADT within the project limits ranges from 3,800 to 4,350 vehicles per day. 85th percentile speeds of 33-36 MPH eastbound, and 36 MPH westbound were recorded within the project limits. The posted speed limit is 30 mph. The Saint Paul Bicycle Plan identifies this segment of Stillwater as a component of the planned bicycle network, and identifies “in-street separated lanes” as the recommended facility type.

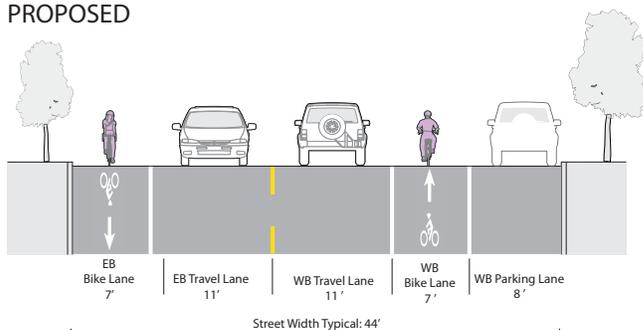
III. PROPOSED IMPROVEMENTS

Stillwater Avenue - McKnight Road to Algonquin Avenue

EXISTING



PROPOSED



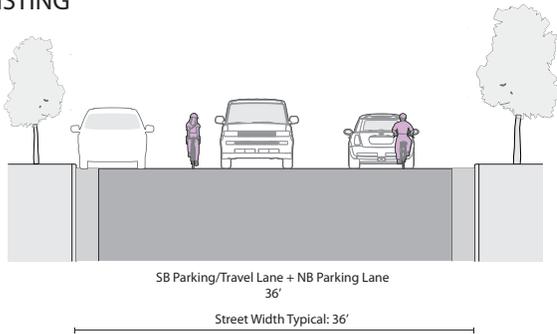
Elements proposed for implementation:

- Restripe the roadway to add 7' (EB and WB) bicycle lanes
- Narrow existing vehicular travel lanes to 11'
- Install bike lane pavement markings and signage
- Remove on-street parking on the south side of Stillwater Avenue between McKnight Road and Algonquin Avenue

Ruth Street/Algonquin Avenue - Minnehaha Avenue to Case Avenue

NOTE: STREET WIDTH AND PARKING CONDITIONS VARY THROUGHOUT THE CORRIDOR

EXISTING



Elements proposed for implementation:

- Install shared lane pavement markings and signage

PROPOSED



Case Avenue - Algonquin Avenue to Hazel Street

NOTE: STREET WIDTH AND PARKING CONDITIONS VARY THROUGHOUT THE CORRIDOR

EXISTING



Elements proposed for implementation:

- Install shared lane pavement markings and signage

PROPOSED

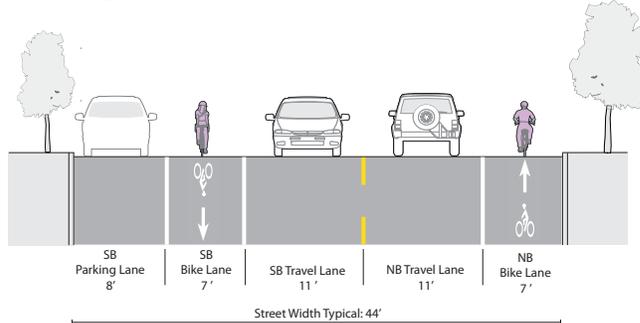


Hazel Street – Case Avenue to Mechanic Avenue

EXISTING



PROPOSED



Elements proposed for implementation:

- Restripe the roadway to install a centerline and 7' bicycle lanes (NB and SB)
- Define new 11' vehicular travel lanes
- Install bike lane pavement markings and signage
- Remove on-street parking on the east side of Hazel Street between Case Avenue and Mechanic Avenue

Changes to On-street Parking

To accommodate the installation of bicycle facilities, on-street parking removal is proposed for the following locations:

- The south side of Stillwater Avenue between McKnight Road and Algonquin Avenue
- The east side of Hazel Street from Case Avenue to Mechanic Avenue

To capture demonstrative parking demand, Public works conducted fifteen parking occupancy counts at representative time periods along both Stillwater Avenue and Hazel Street. Based on the data collected by Public Works, it is anticipated that remaining parking supply following the implementation of bicycle lanes will be sufficient to meet observed demand. The parking occupancy data is attached in the **Appendix** of this document.

IV. ALTERNATIVES

Not pursuing bicycle facilities with the 2017 mill and overlay would not improve safety or comfort for people bicycling on Stillwater Avenue, and would fail to connect existing bicycle facilities north and south of Stillwater Avenue.

Parking removal is proposed for the south side of Stillwater Avenue between McKnight Road and Algonquin Avenue. Removing parking from the north side of Stillwater instead of the south side was examined, but was ultimately rejected for the following reasons:

- a) There is more estimated parking capacity on the north side of Stillwater between McKnight Road and Algonquin Avenue
 - o (North side of street: 91 spaces, South side of street: 78 spaces)
- b) The north side of Stillwater recorded higher parking utilization during the parking surveys
 - o (North side of street: 9.3 vehicles, South side of street: 6.3 vehicles)
- c) Blessed Sacrament Church and Achieve Language Academy generate large on-street parking demand during events, and are located on the north side of the street.

V. POSITIVE BENEFITS

Providing dedicated bike lanes on Stillwater Avenue will improve the safety and comfort for people bicycling on the street and will encourage predictable riding behavior. Narrowing the travel lanes to accommodate bicycle facilities will minimize roadway exposure to motorized traffic for pedestrians. Enhanced shared lane bikeway connections on Ruth/Algonquin Avenue, Case Avenue, and Hazel Street will enhance wayfinding while providing direct connectivity to the bicycle and pedestrian trail on Furness Parkway, and the existing bicycle lanes on Ruth Street.

VI. 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. Removal of some on-street parking will reduce overall parking capacity and make parking less convenient for stakeholders who regularly park on the south side of Stillwater Avenue between McKnight Road and Algonquin Avenue.

VII. TIME SCHEDULE

It is anticipated that the bicycle improvements as proposed will be installed concurrent with the planned mill and overlay on Stillwater Avenue, scheduled for summer or fall 2017.

VIII. COST ESTIMATE

Construction: \$35,000 – \$45,000*

* This is an estimate developed in advance of a final signing and striping plan.

I. ESTIMATED FINANCING

Signing and striping for bike lanes on Stillwater Avenue and connecting bike facilities on Ruth Street/Algonquin Avenue, Case Avenue, and Hazel Street will be funded with the Bicycle, Pedestrian, and Traffic Safety Fund.

II. SOURCE OF ADDITIONAL INFORMATION

For additional information, please contact:

Luke Hanson, Transportation Planning and Safety Division

Email: Luke.Hanson@ci.stpaul.mn.us

Phone: 651-266-6146

III. 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:

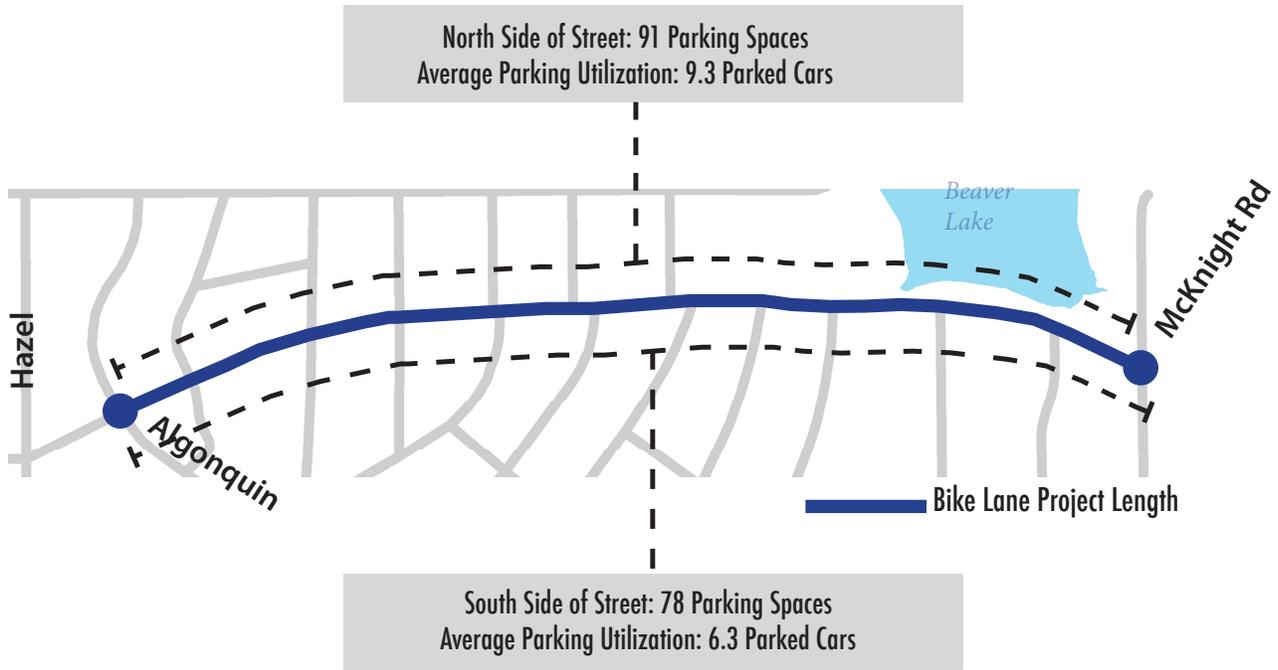
1. Stillwater Avenue and Hazel Street Parking Occupancy Count Results

Stillwater Ave Parking Count Summary

Boundaries: Algonquin (west) to McKnight (east)

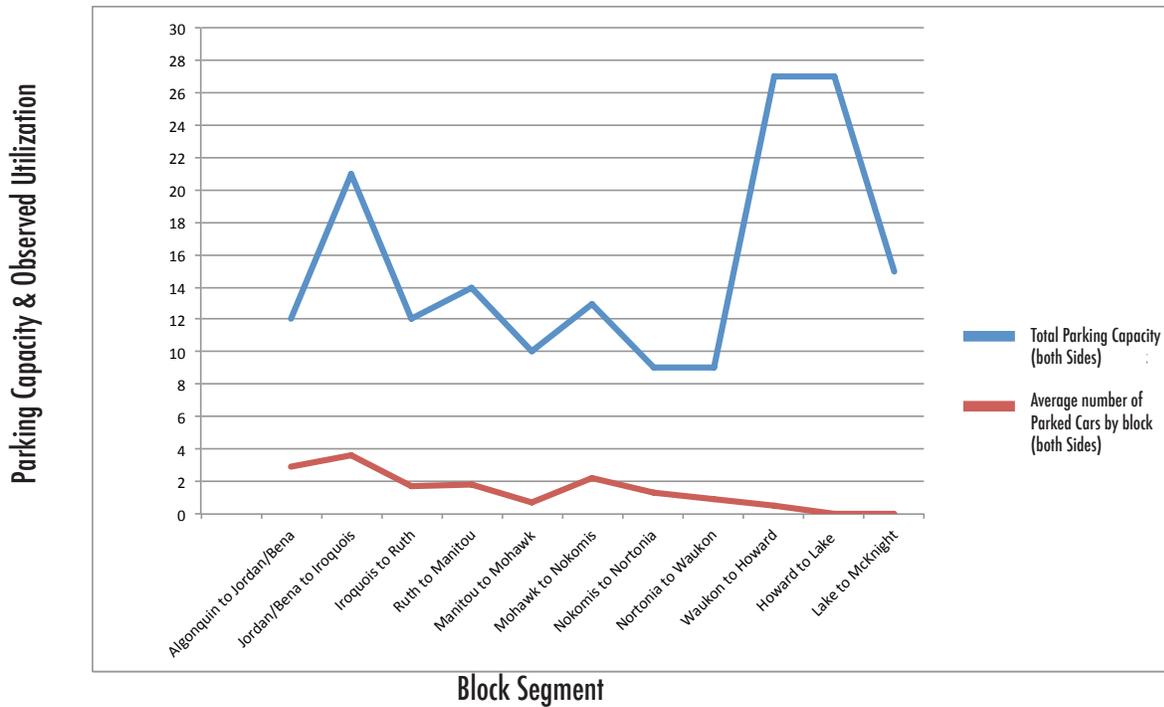
Legal Parking Capacity: 169

Average Parking Utilization (15 Counts): 15.6 Parked Cars (9% Utilization)



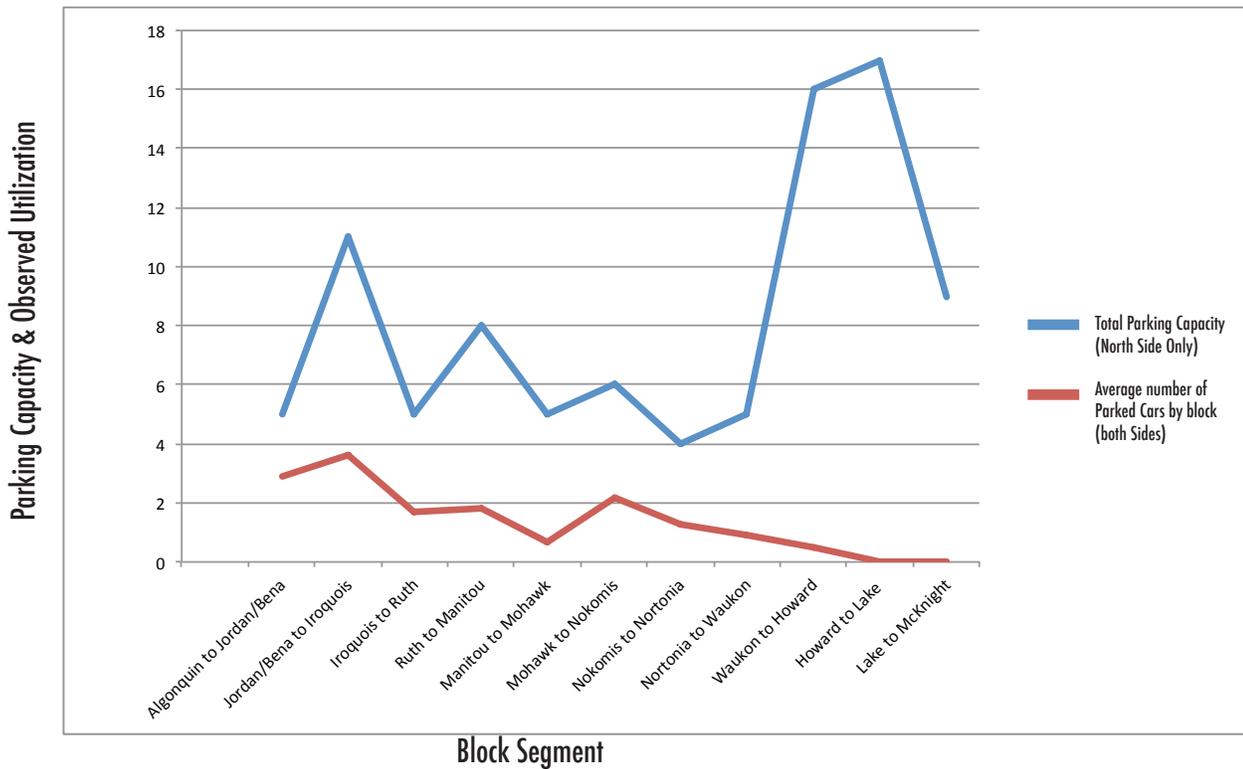
Stillwater Ave (Algonquin to McKnight)

Average Parking Utilization and existing Parking Capacity (both sides of street)



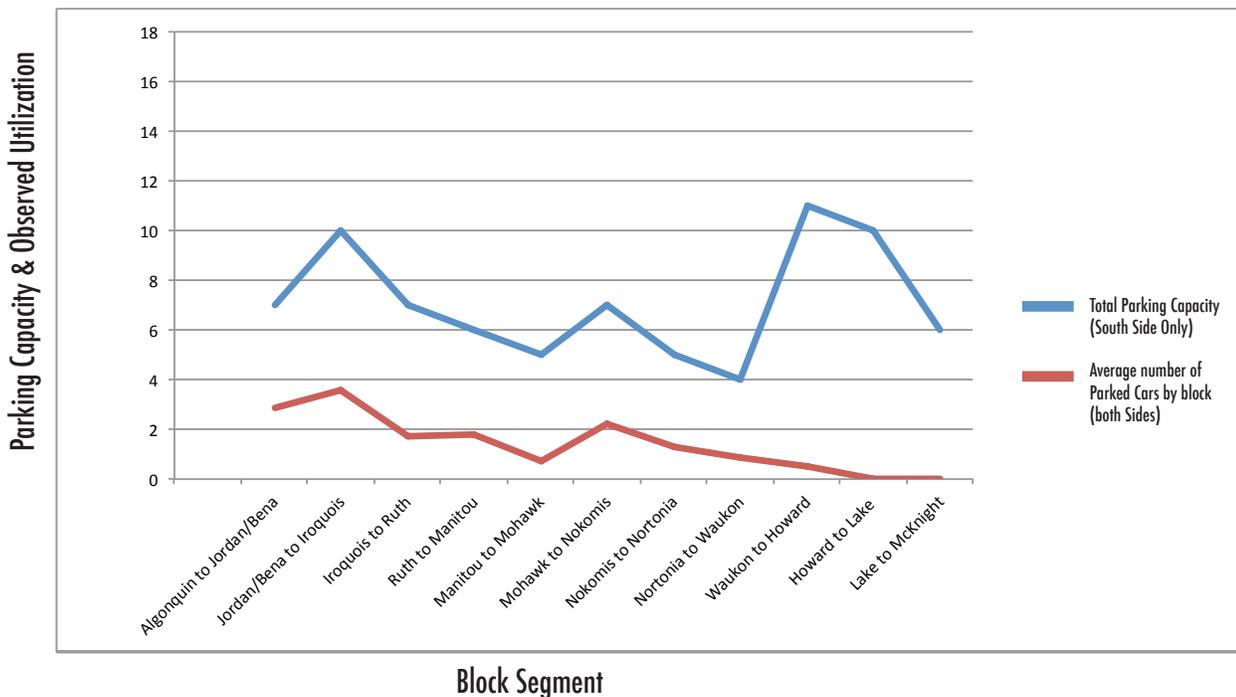
Stillwater Ave (Algonquin to McKnight)

Average Parking Utilization and Existing Capacity with Parking on the South Side Removed, and the North Side Preserved



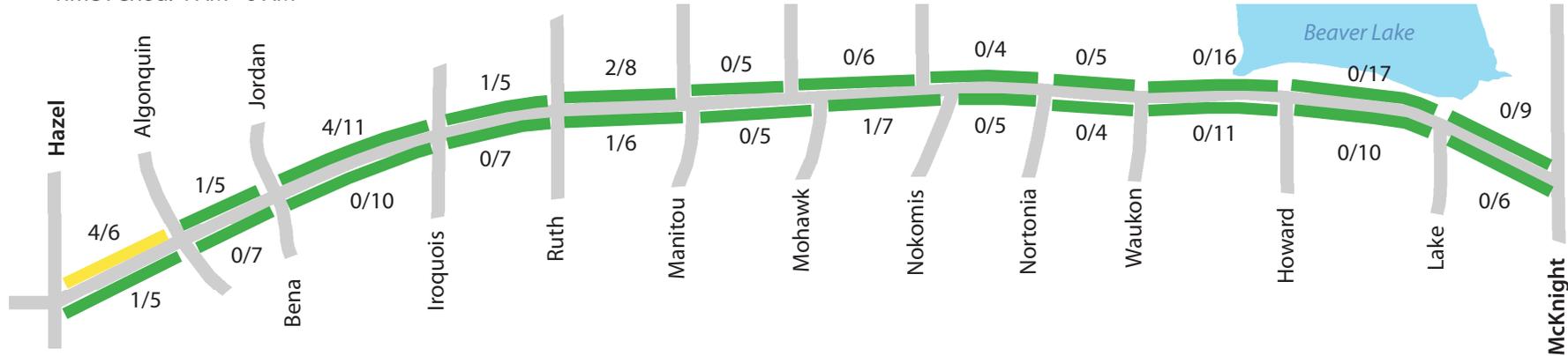
Stillwater Ave (Algonquin to McKnight)

Average Parking Utilization and existing Capacity with Parking on the North Side Removed, and the South Side Preserved

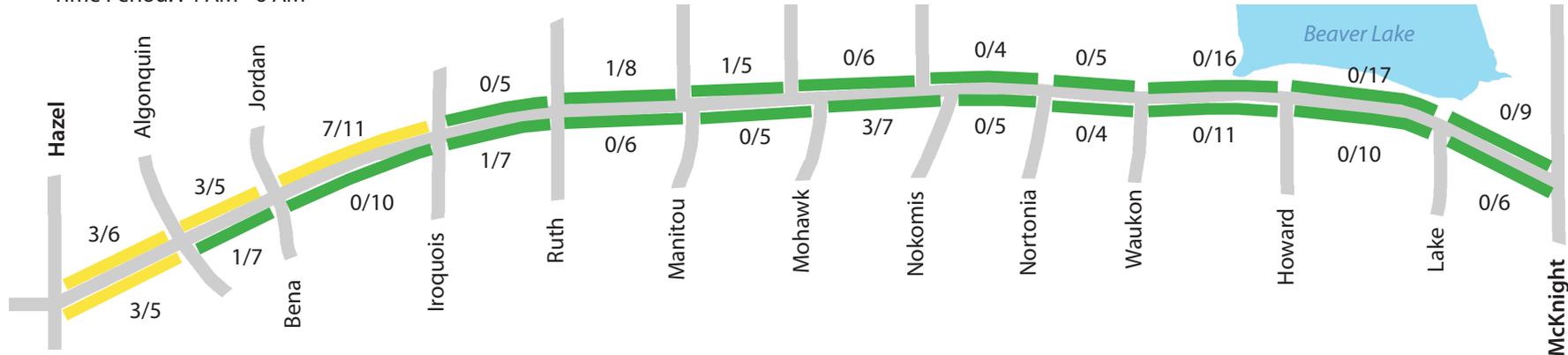


Stillwater Ave Parking Counts Weekday Early Morning (4 AM - 6 AM)

Date: Tuesday, September 25th
Time Period: 4 AM - 6 AM



Date: Thursday, January 5th
Time Period: : 4 AM - 6 AM



Legend

Observed Parking Utilization

- Parking Prohibited
- 0 - 49%
- 50 - 74%
- 75 - 100+%

Example: 8/11 =

Observed Parked Cars /
Estimated Legal Parking Capacity

(Observed parking utilization may
exceed estimated legal capacity)

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

Date: Wednesday, March 1st
Time Period: 4 AM - 6 AM



Legend

Observed Parking Utilization



Parking Prohibited



0 - 49%



50 - 74%



75 - 100+%

Example: 8/11 =

Observed Parked Cars /
Estimated Legal Parking Capacity

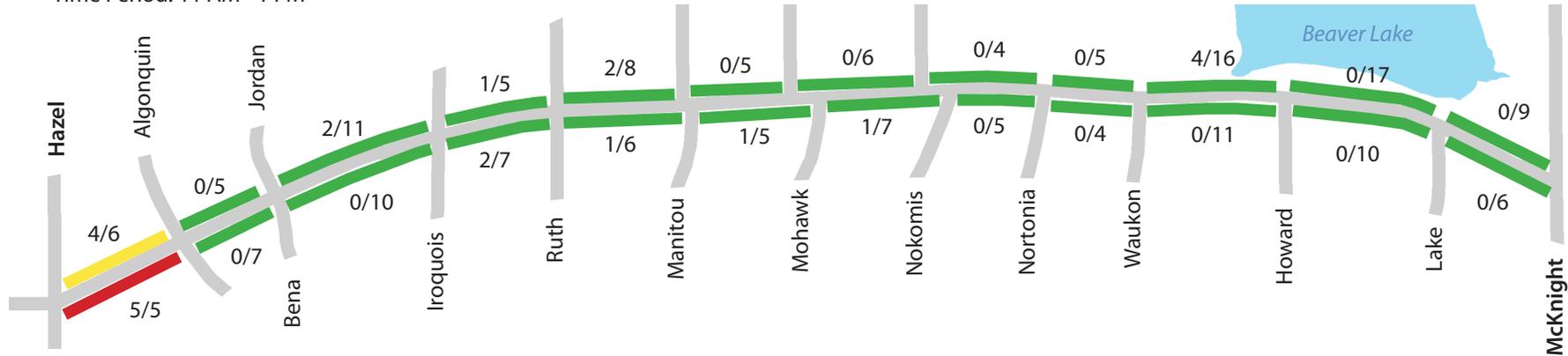
(Observed parking utilization may
exceed estimated legal capacity)

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

Date: Tuesday, September 27th
Time Period: 11 AM - 1 PM



Date: Wednesday, September 28th
Time Period: 11 AM - 1 PM



Legend

Observed Parking Utilization



Parking Prohibited



0 - 49%



50 - 74%



75 - 100+%

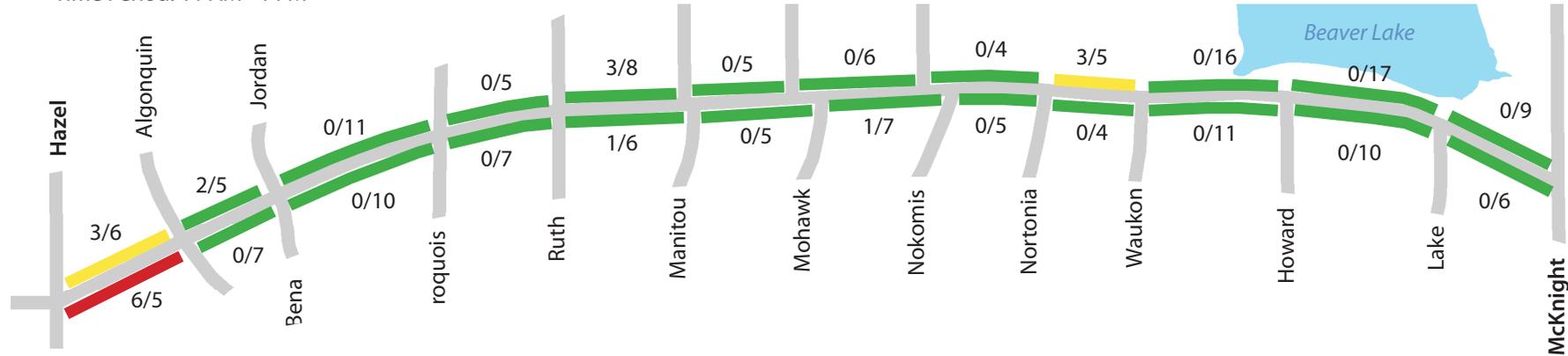
Example: 8/11 =

Observed Parked Cars /
Estimated Legal Parking Capacity

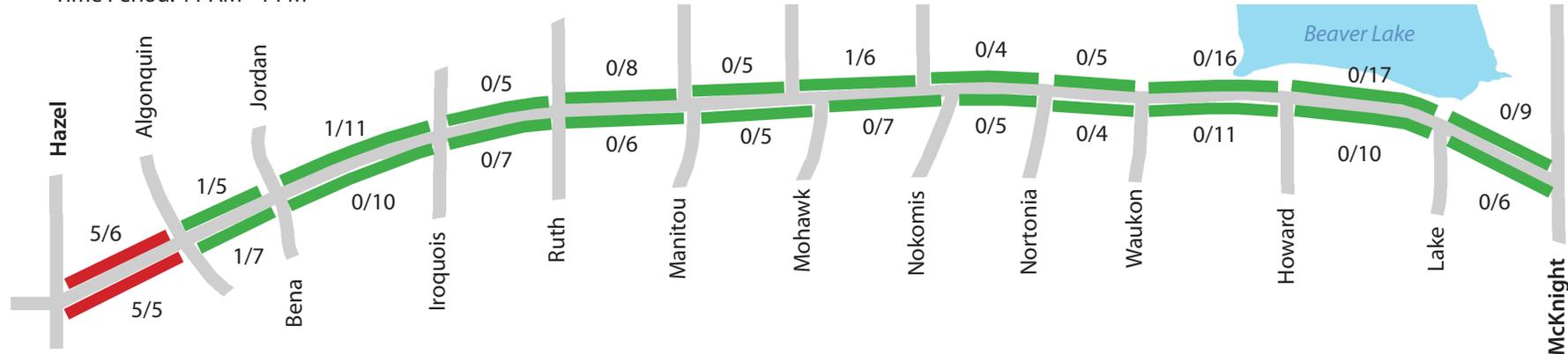
(Observed parking utilization may
exceed estimated legal capacity)

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

Date: Tuesday, October 4th
Time Period: 11 AM - 1 PM



Date: Tuesday, November 11th
Time Period: 11 AM - 1 PM



Legend

Observed Parking Utilization

- Parking Prohibited
 - 0 - 49%
 - 50 - 74%
 - 75 - 100+%
- Example: 8/11 =
Observed Parked Cars /
Estimated Legal Parking Capacity
- (Observed parking utilization may exceed estimated legal capacity)

Stillwater Ave Parking Counts Weekday Evening (6 PM - 8 PM)

Date: Thursday, September 22nd
Time Period: 6 PM - 8 PM



Date: Thursday, October 6th
Time Period: 6 PM - 8 PM



Legend

Observed Parking Utilization

- Parking Prohibited
 - 0 - 49%
 - 50 - 74%
 - 75 - 100+%
- Example: 8/11 =
Observed Parked Cars /
Estimated Legal Parking Capacity
- (Observed parking utilization may exceed estimated legal capacity)

Stillwater Ave Parking Counts Weekday Evening (6 PM - 8 PM)

Date: Thursday, October 11th
Time Period: 6 PM - 8 PM



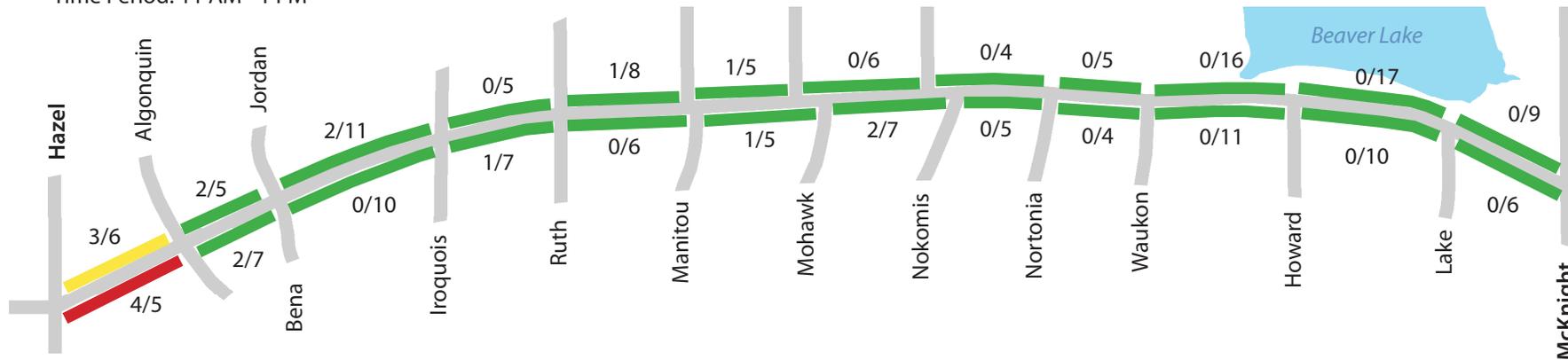
Legend

Observed Parking Utilization

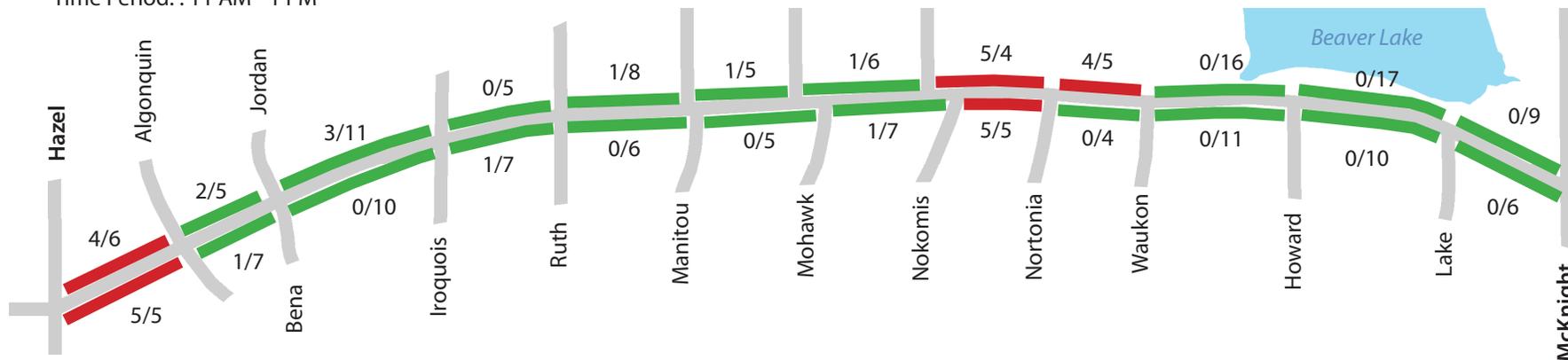
- Parking Prohibited
 - 0 - 49%
 - 50 - 74%
 - 75 - 100+%
- Example: 8/11 =
Observed Parked Cars /
Estimated Legal Parking Capacity
- (Observed parking utilization may exceed estimated legal capacity)

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

Date: Saturday, November 5th
Time Period: 11 AM - 1 PM



Date: Saturday, December 3rd
Time Period: 11 AM - 1 PM



Legend

Observed Parking Utilization

- Parking Prohibited
- 0 - 49%
- 50 - 74%
- 75 - 100+%

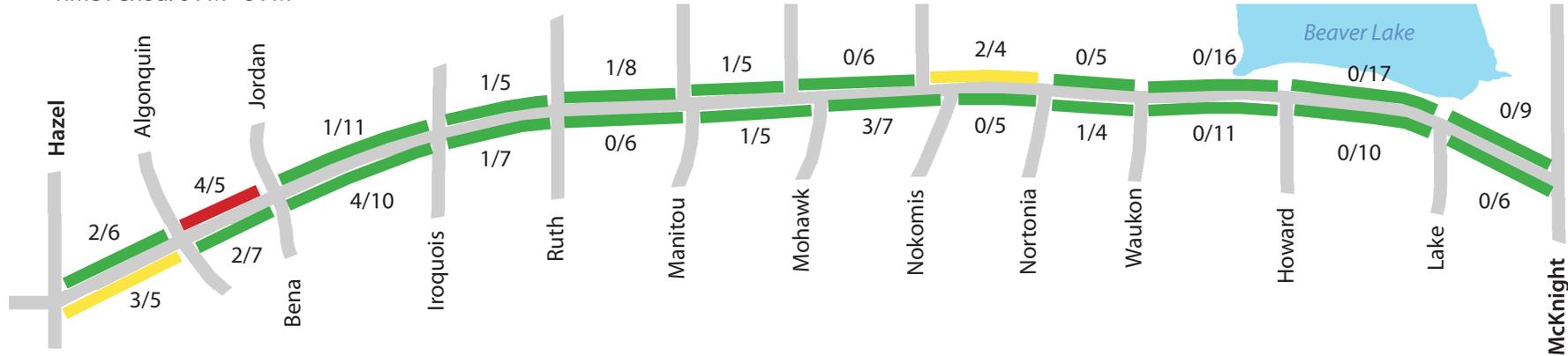
Example: 8/11 =

Observed Parked Cars /
Estimated Legal Parking Capacity

(Observed parking utilization may
exceed estimated legal capacity)

Stillwater Ave Parking Counts Saturday Evening (6 PM - 8 PM)

Date: Saturday, November 5th
Time Period: 6 PM - 8 PM



Date: Saturday, November 19th
Time Period: 6 PM - 8 PM



Legend

Observed Parking Utilization

- Parking Prohibited
- 0 - 49%
- 50 - 74%
- 75 - 100+%

Example: 8/11 =

Observed Parked Cars /
Estimated Legal Parking Capacity

(Observed parking utilization may
exceed estimated legal capacity)

Stillwater Ave Parking Counts Sunday Morning (9 AM - 11 AM)

Date: Sunday, February 19th
Time Period: 9 AM - 11 AM



Legend

Observed Parking Utilization

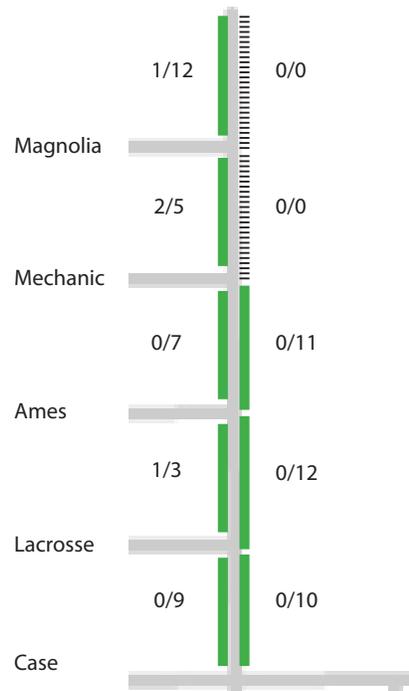
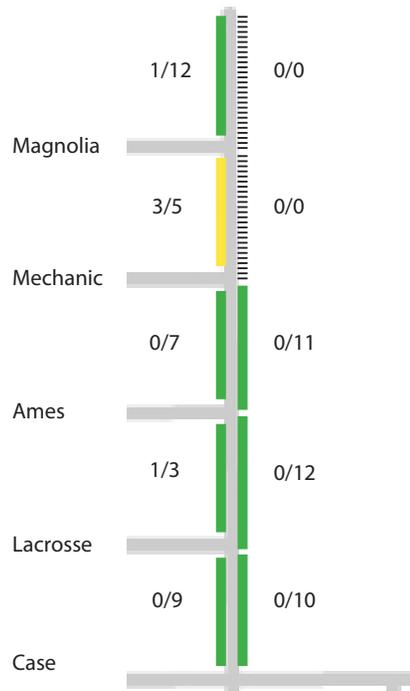
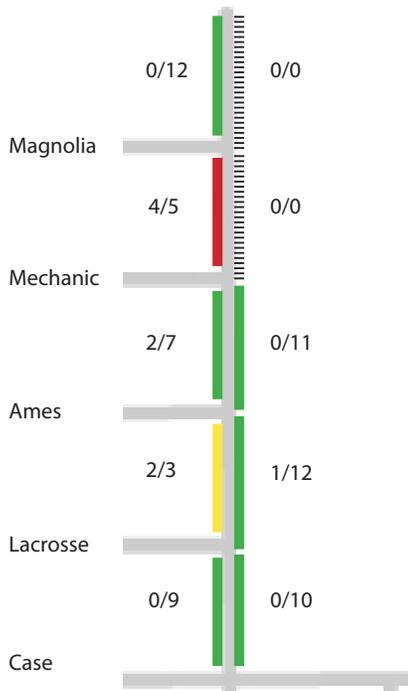
- Parking Prohibited
 - 0 - 49%
 - 50 - 74%
 - 75 - 100+%
- Example: 8/11 =
Observed Parked Cars /
Estimated Legal Parking Capacity
- (Observed parking utilization may
exceed estimated legal capacity)

Hazel St Parking Counts Weekday Early Morning (4 AM - 6 AM)

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

Date: Thursday, June 18th
Time Period: 4AM - 6 AM

Date: Wednesday, March 1st
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)

Hazel St Parking Counts Weekday Midday (11 AM - 1 PM)

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

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

Date: Tuesday, November 11th
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

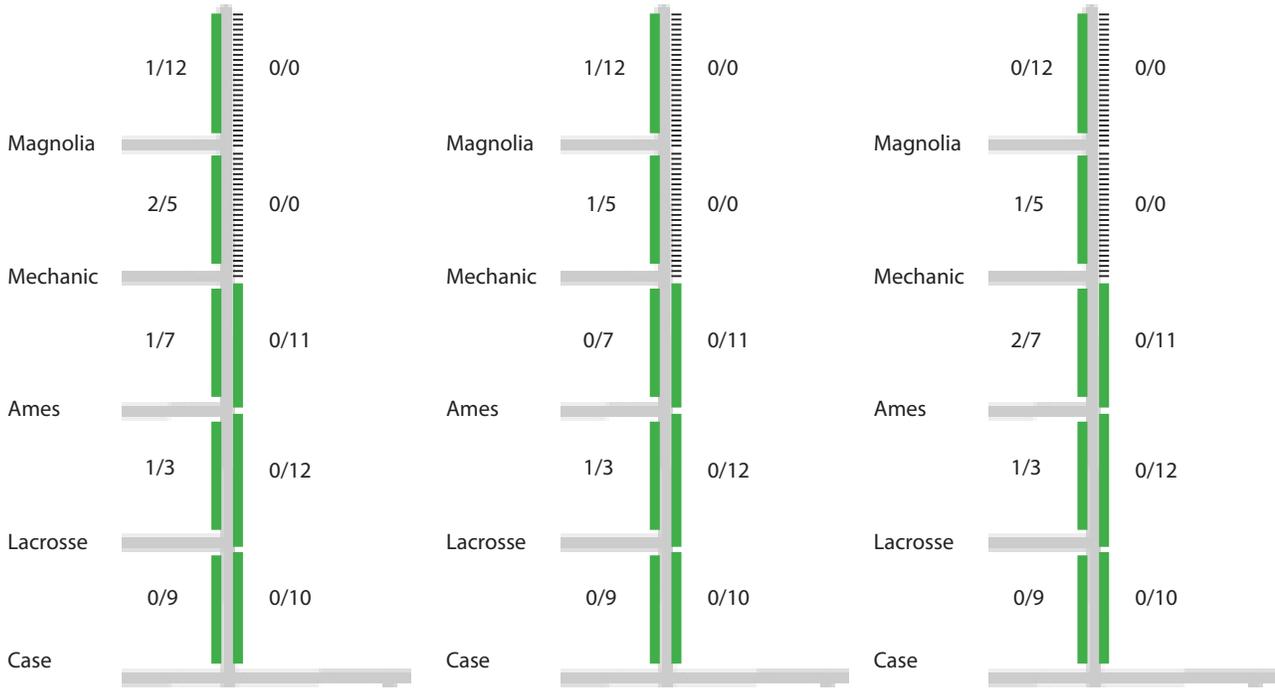
(Observed parking utilization may
exceed estimated legal capacity)

Hazel St Parking Counts Weekday Evening (6 PM - 8 PM)

Date: Tuesday, June 16th
Time Period: 6 PM - 8 PM

Date: Thursday, June 18th
Time Period: 6 PM - 8 PM

Date: Tuesday, November 11th
Time Period: 6 PM - 8 PM



Legend

Observed Parking Utilization

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

Example: 8/11 =

Observed Parked Cars /
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