

FOREST STREET BIKEWAY PROJECT SUMMARY OF ENGINEERING RECOMMENDATIONS

Forest Street Bikeway

Report prepared: 7/25/2018

Open House: 6/27/2018

Public Hearing: 8/15/2018

PROJECT

Implementation of bicycle facilities on Forest Street from Maryland Avenue to Margaret 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 north-south bicycle facility on Forest Street, and make purposeful connections to existing nearby bikeways, improving the bicycling environment as it relates to safety, comfort, and connectivity.

Figure 1: Project Map



I. INITIATING ACTION

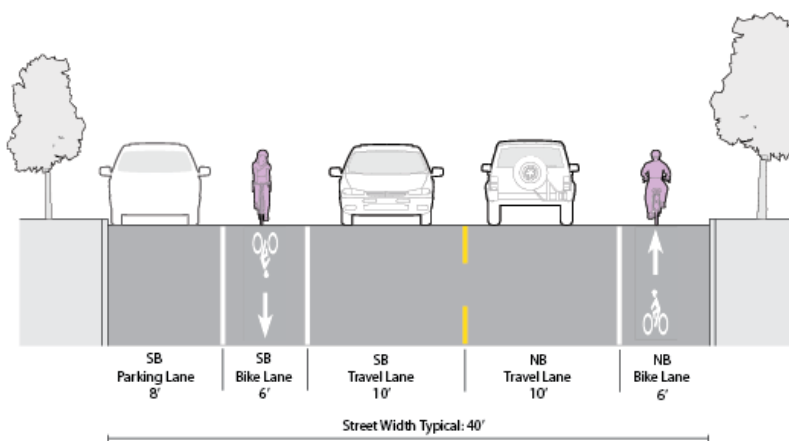
The City of Saint Paul Department of Public Works is planning a mill and overlay of Forest Street between Maryland Avenue and East 7th Street in 2018. To take advantage of the efficiencies associated with implementing bicycle facilities with existing maintenance projects, Public Works is proposing to implement bicycle lanes on Forest Street within the mill and overlay boundaries between Maryland Avenue and East 7th Street. Public Works is also proposing to extend bicycle facilities south of East 7th Street to Margaret Street to connect to the existing Margaret Street Bicycle Boulevard south of project limits. The facilities proposed are consistent with the intent of the Saint Paul Bicycle Plan.

II. EXISTING CONDITIONS

Forest Street between Maryland Avenue and Margaret Street is classified as a local road and a Metropolitan State Aid (MSA) Route. AADT within the project limits ranges from 2,127 to 4,100 vehicles per day. 85th percentile speeds of 26-33 MPH northbound, and 28-33 MPH southbound were recorded within the project limits. The posted speed limit is 30 mph. There are no existing bike facilities installed within the projects limits. The Saint Paul Bicycle Plan identifies “in-street separated (bicycle) lanes between within project limits as the recommended facility type.

III. PROPOSED IMPROVEMENTS

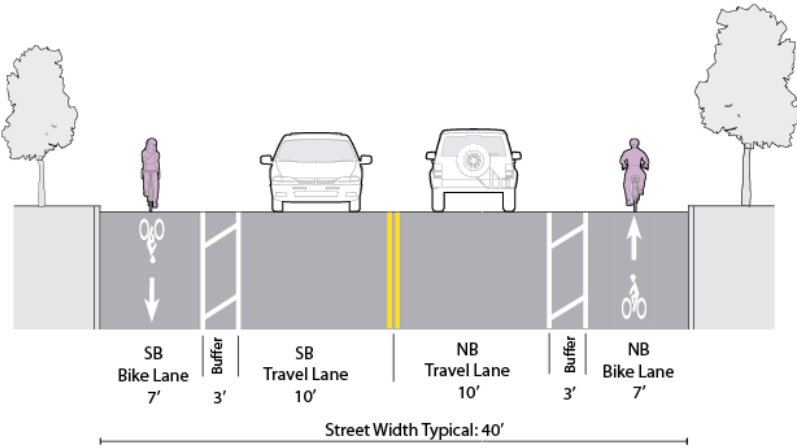
Forest Street: Maryland Avenue to Forest Street Bridge over Phalen Boulevard



Elements proposed for implementation are:

- Restriping the roadway to add 6' (NB and SB) bicycle lanes
- Narrowing of existing vehicular travel lanes to 10'
- Installation of bike lane pavement markings and signage
- Removal of on-street parking on the east side of Forest Street

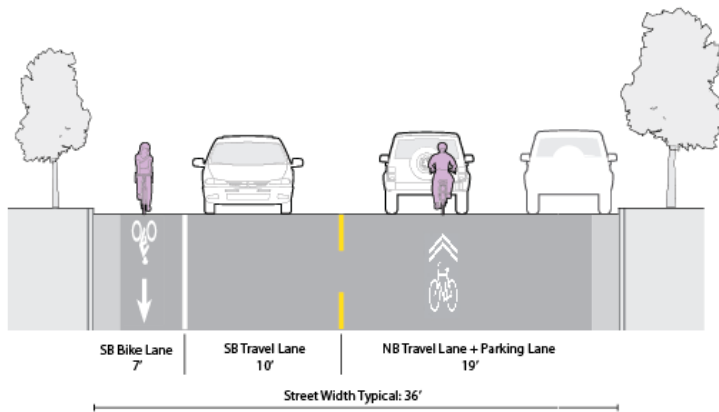
Forest Street: Forest Street Bridge over Phalen Boulevard to East 7th Street



Elements proposed for implementation are:

- Restriping the roadway to add 6' (NB and SB) bicycle lanes
- Narrowing of existing vehicular travel lanes to 10'
- Installation of bike lane pavement markings and signage
- Removal of on-street parking on the east side and west side of Forest Street between the Bridge and East 7th Street

Forest Street: East 7th Street to Margaret Street



Elements proposed for implementation are:

- Restriping the roadway to add a 7' (SB) bicycle lane, enhanced shared lane markings (NB) and a centerline
- Installation of bike lane pavement markings and signage

Changes to On-street Parking

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

- The east side of Forest Street between Maryland Avenue and East 7th Street
- The west side of Forest Street for 100' north of East 7th Street

To create additional parking capacity near the intersection of Forest Street and Case Avenue, creating new parking capacity (8-9 spaces) on the south side of Case Avenue between Duchess and Russell Streets is also proposed.

To capture demonstrative parking demand, Public works conducted 16 parking occupancy counts at representative time periods along Forest Street, and parking occupancy counts along intersecting side streets. Based on the data collected by Public Works, it is anticipated that remaining parking supply on the west side of Forest Street and on intersecting side streets 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 2018 mill and overlay would not improve safety or comfort for people bicycling on Forest Street, and would fail to connect to existing bicycle facilities on Margaret Street and Phalen Boulevard.

On-Street Parking

Parking removal is proposed for the east side of Forest between Maryland Avenue and East 7th Street. Removing parking from the west side of Forest Street instead of the east side was examined, but was ultimately rejected as a result of the following criteria:

- a) Relocating the Phalen Lake Elementary bus loading zone between Cook and Jessamine avenues was determined to be infeasible. As a result, removing parking on the west side of the street would result in nearly two blocks where parking would be prohibited for most of the day.
- b) The ADA zone present on the west side of Forest Street north of Case Avenue would impact the planned alignment of the southbound bicycle lane.

Another alternative considered was maintaining parking on the east side of Forest between Wells Street and Lawson Avenue, then modifying the project design to maintain parking on the west side of Forest north of Lawson. This option was ultimately rejected as a result of the following criteria:

- a) Transitioning from maintaining parking on the east side to the west side of Forest Street would require a lane shift that prohibits parking on both sides of the street for most of the block between Lawson and Cook avenues, reducing overall available parking capacity.
- b) Maintaining consistent lane alignment throughout the corridor is best practice and the preferred design.

Project Limits

Terminating bike facilities at East 7th Street, the southern limits of the mill and overlay, was considered, though was rejected in favor of extending bike facilities further south to provide direct connectivity the Margaret Street Bicycle Boulevard.

Bicycle Facility Type and Design

The Saint Paul Bicycle Plan recommends in-street bicycle lanes in one direction on Forest and Earl streets as complimentary one-way pairs. Implementing a bike lane on Forest Street in one direction was considered by project staff, but was rejected in favor of bike lanes in both directions (NB & SB) within the limits of the mill and overlay. Bike lanes in both directions within the mill and overlay limits maximize the utility of the roadway for people traveling by bike. South of project limits between East 7th Street and Margaret Street, traffic volumes drop substantially. A southbound-only bike lane is proposed between East 7th Street and Margaret Street, consistent with the recommendations of the Saint Paul Bicycle Plan. Reflecting the lower traffic volumes south of East 7th Street, a northbound enhanced shared lane is proposed. The proposed bikeway design for Forest Street between Maryland and Margaret Street is not intended to prescribe the design or function of Forest Street south of project limits, or of Earl Street.

V. POSITIVE BENEFITS

This project will improve the safety of all users of the roadway. Providing dedicated bike lanes on Forest Street will improve the safety and comfort for people bicycling on the street, encourage predictable riding behavior, and will provide connectivity to exiting bike facilities on Phalen Boulevard and Margaret Street. Narrowing the travel lanes to accommodate bicycle facilities will minimize roadway exposure to motorized traffic for pedestrians. ADA-compliant pedestrian ramps will improve safety for pedestrians at intersections, and all users will benefit from improved pavement quality following the street resurfacing.

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 east side of Forest Street between Maryland Avenue and East 7th Street.

VII. TIME SCHEDULE

It is anticipated that the bicycle improvements as proposed will be installed concurrent with the planned mill and overlay on Forest Street, scheduled for Fall 2018.

VIII. COST ESTIMATE

Construction: \$40,000*

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

I. ESTIMATED FINANCING

Signing and striping for bike lanes on Forest Street will be funded through the Street Maintenance Service Program and the Bicycle and Pedestrian 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. Forest Street Parking Occupancy Study

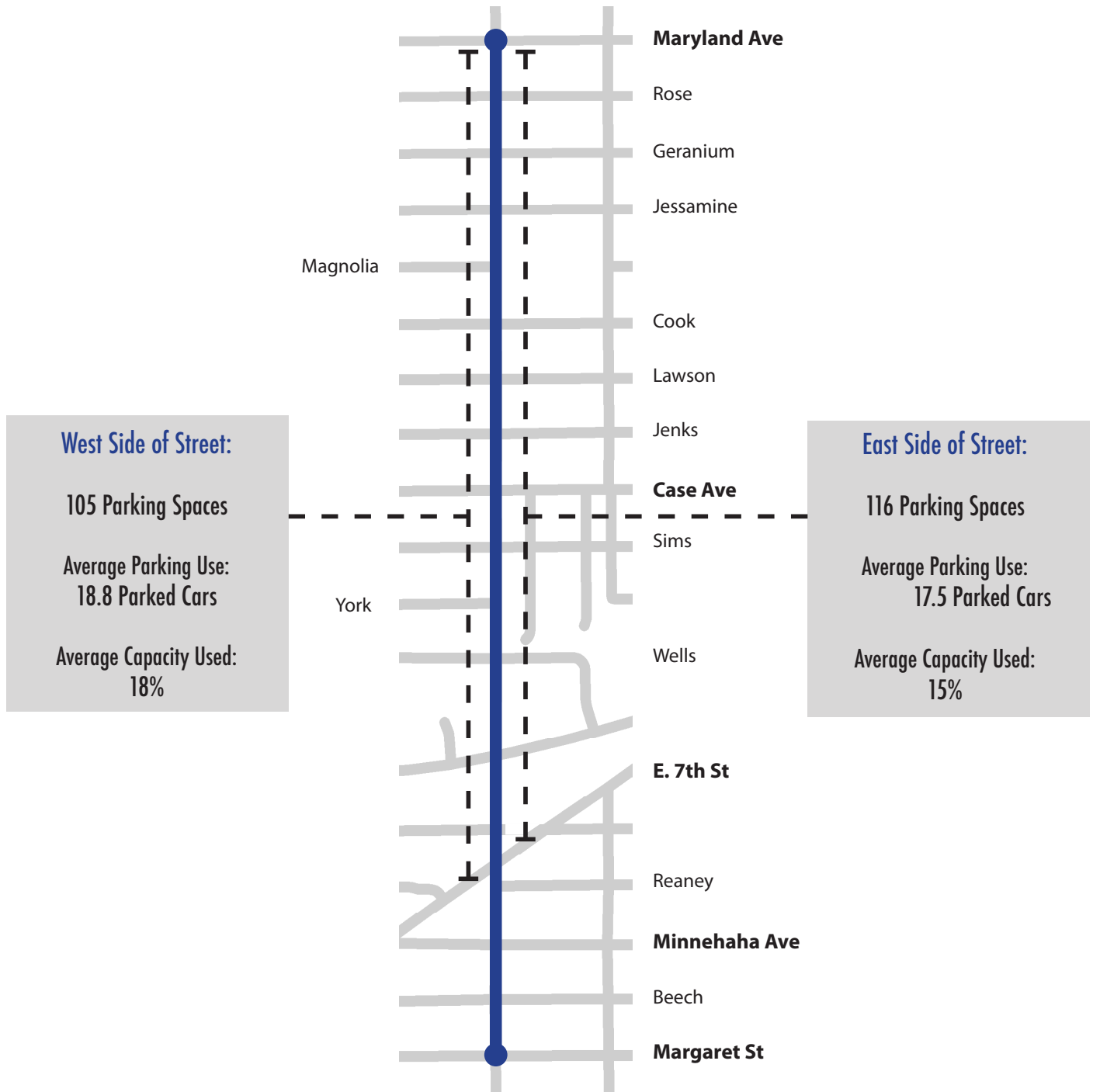
FOREST STREET PARKING SUMMARY

Forest Street Parking Count Summary

Boundaries: Marland (north) to E. 7th (south)

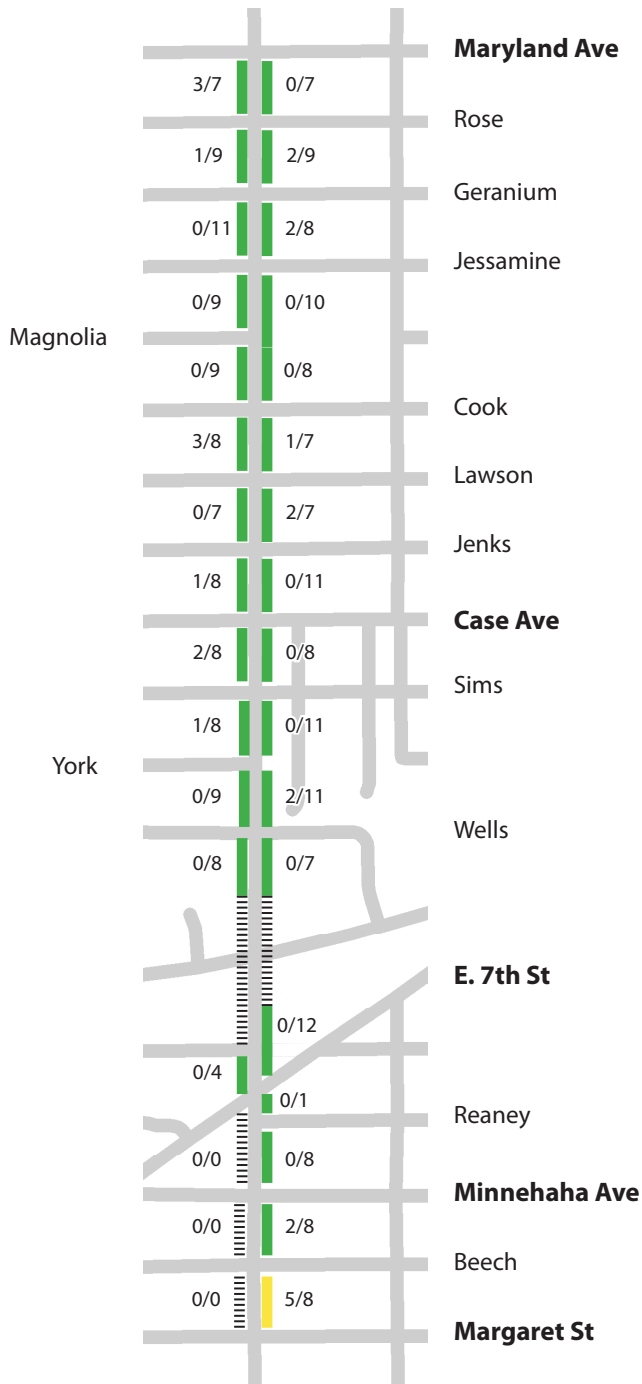
Legal Parking Capacity: 221

Average Parking Utilization (16 Counts): 36.3 Parked Cars (16.4% of total parking capacity used)



Forest Street Parking Counts Weekday Early Morning (4 AM - 6 AM)

Date: Wednesday, January 31st
Time Period: 4 AM - 6 AM



Legend

Observed Parking Utilization

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

Example: 8/11 =

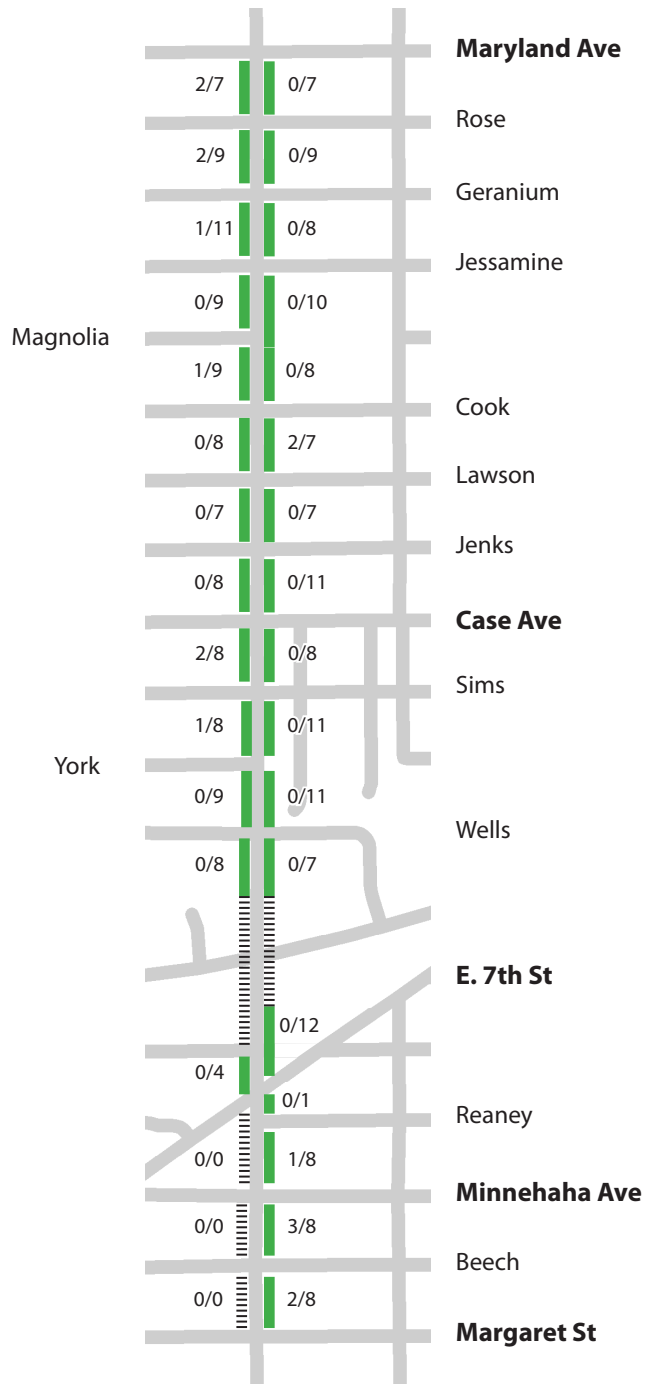
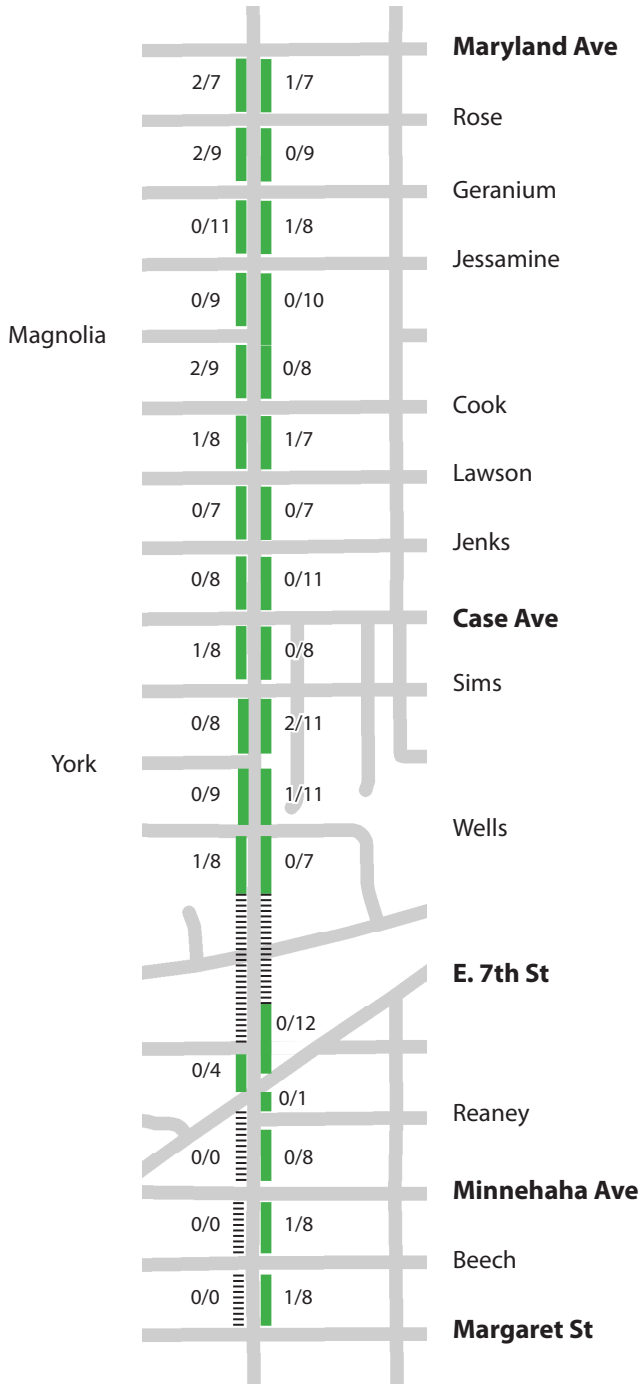
Observed Parked Cars /
Estimated Legal Parking Capacity
(Observed parking utilization may
exceed estimated legal capacity)

Forest Street Parking Counts

Weekday Midday (11 AM - 1 PM)

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

Date: Thursday, February 1st
Time Period: 11 AM - 1 PM



Legend

Observed Parking Utilization

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

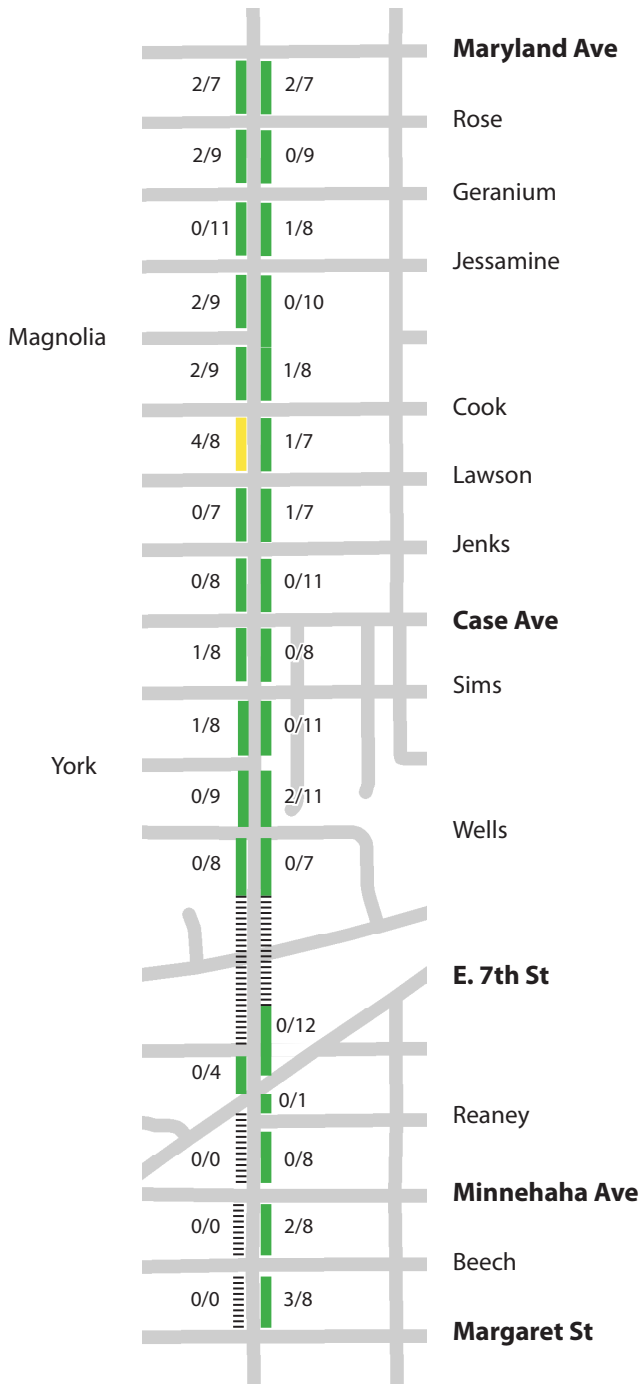
Example: 8/11 =

Observed Parked Cars /
Estimated Legal Parking Capacity

(Observed parking utilization may
exceed estimated legal capacity)

Forest Street Parking Counts Weekday Midday (11 AM - 1 PM)

Date: Tuesday, February 6th
Time Period: 11 AM - 1 PM



Legend

Observed Parking Utilization

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

Example: 8/11 =

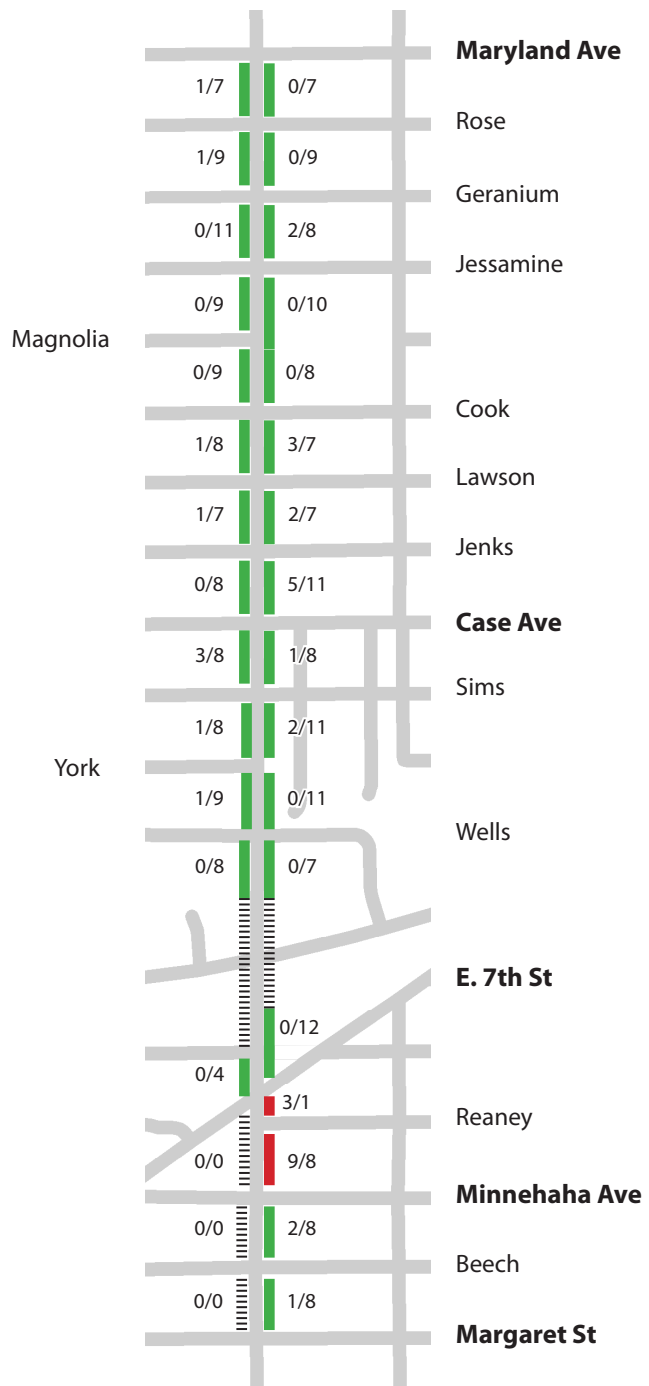
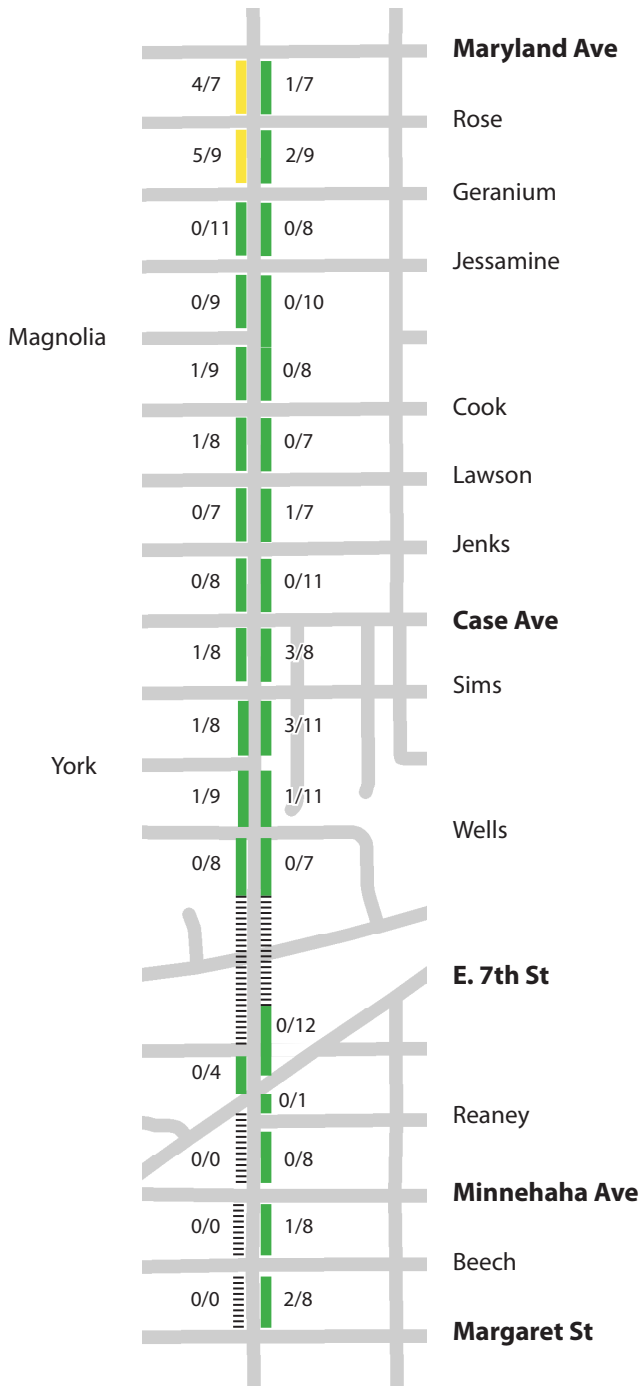
Observed Parked Cars /
Estimated Legal Parking Capacity

(Observed parking utilization may
exceed estimated legal capacity)

Forest Street Parking Counts Weekday Evening (6 PM - 8 PM)

Date: Wednesday, January 3rd
Time Period: 6 PM - 8 PM

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



Legend

Observed Parking Utilization

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

Example: 8/11 =

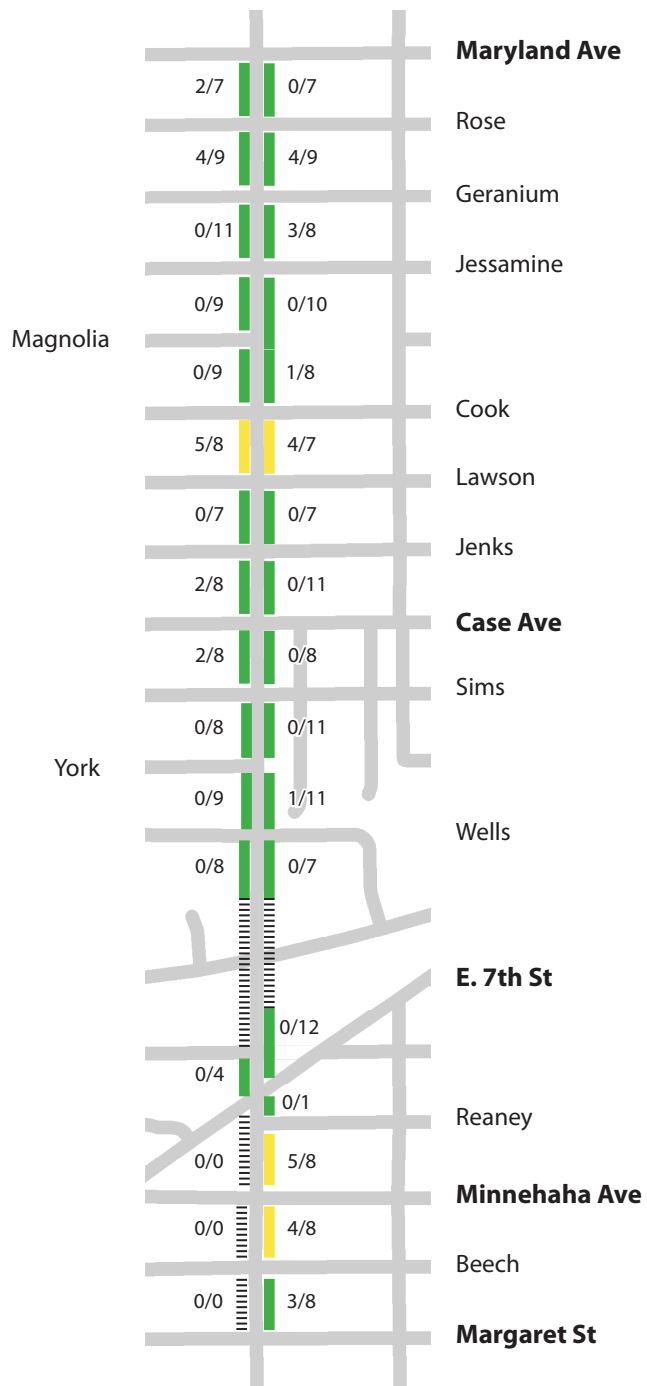
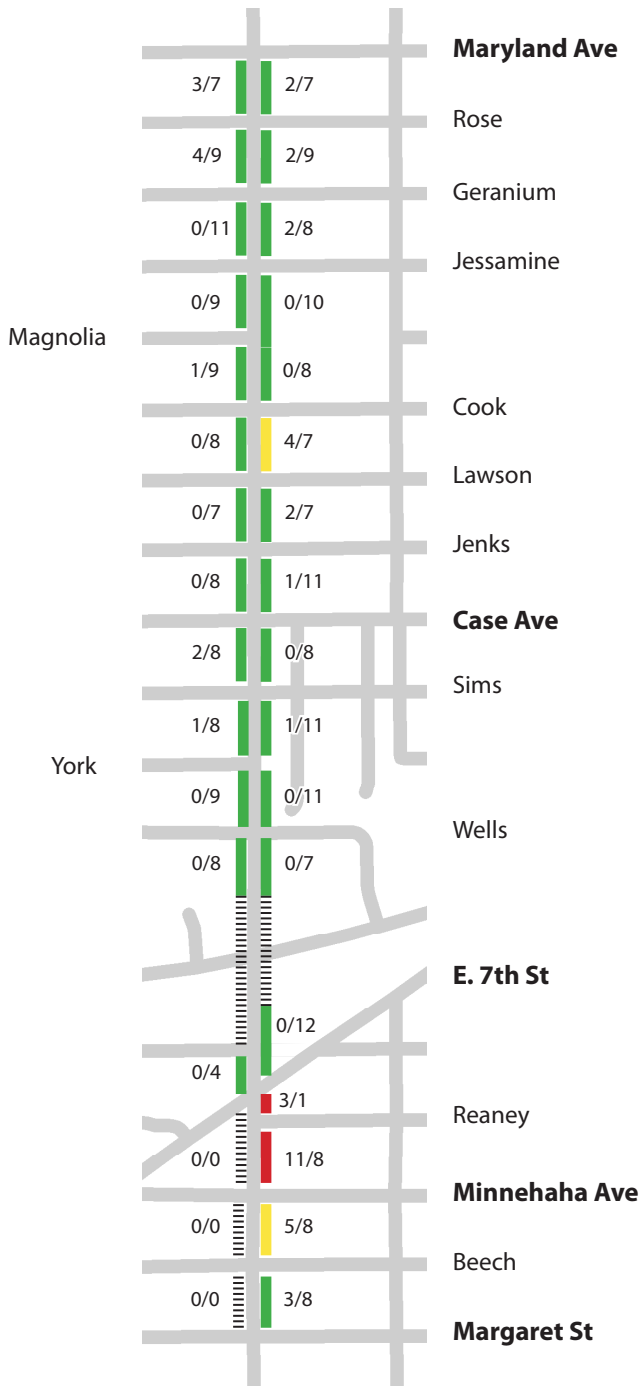
Observed Parked Cars /
Estimated Legal Parking Capacity
(Observed parking utilization may
exceed estimated legal capacity)

Forest Street Parking Counts

Saturday Midday (11 AM - 1 PM)

Date: Saturday, March 17th
Time Period: 11 AM - 1 PM

Date: Saturday, June 23rd
Time Period: 6 PM - 8 PM



Legend

Observed Parking Utilization

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

Example: 8/11 =

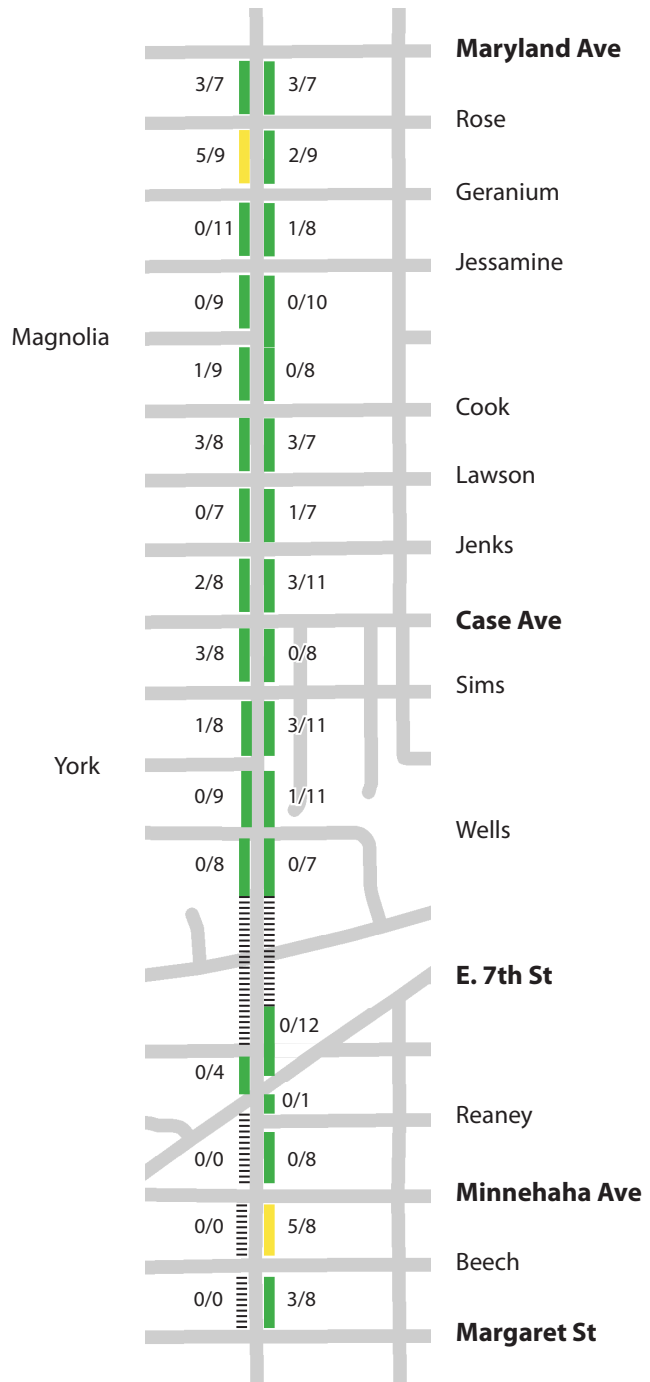
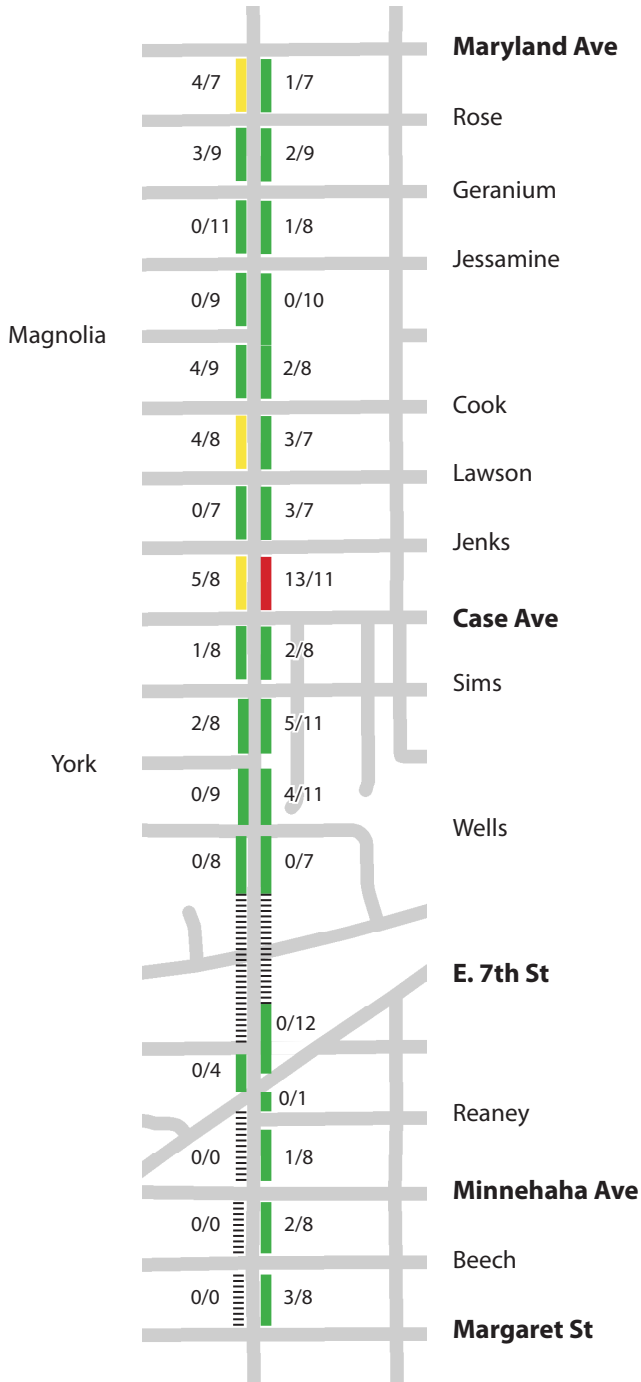
Observed Parked Cars /
Estimated Legal Parking Capacity

(Observed parking utilization may
exceed estimated legal capacity)

Forest Street Parking Counts Saturday Evening (6 PM - 8 PM)

Date: Saturday, March 24th
Time Period: 6 PM - 8 PM

Date: Saturday, May 19th
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 /
Estimated Legal Parking Capacity

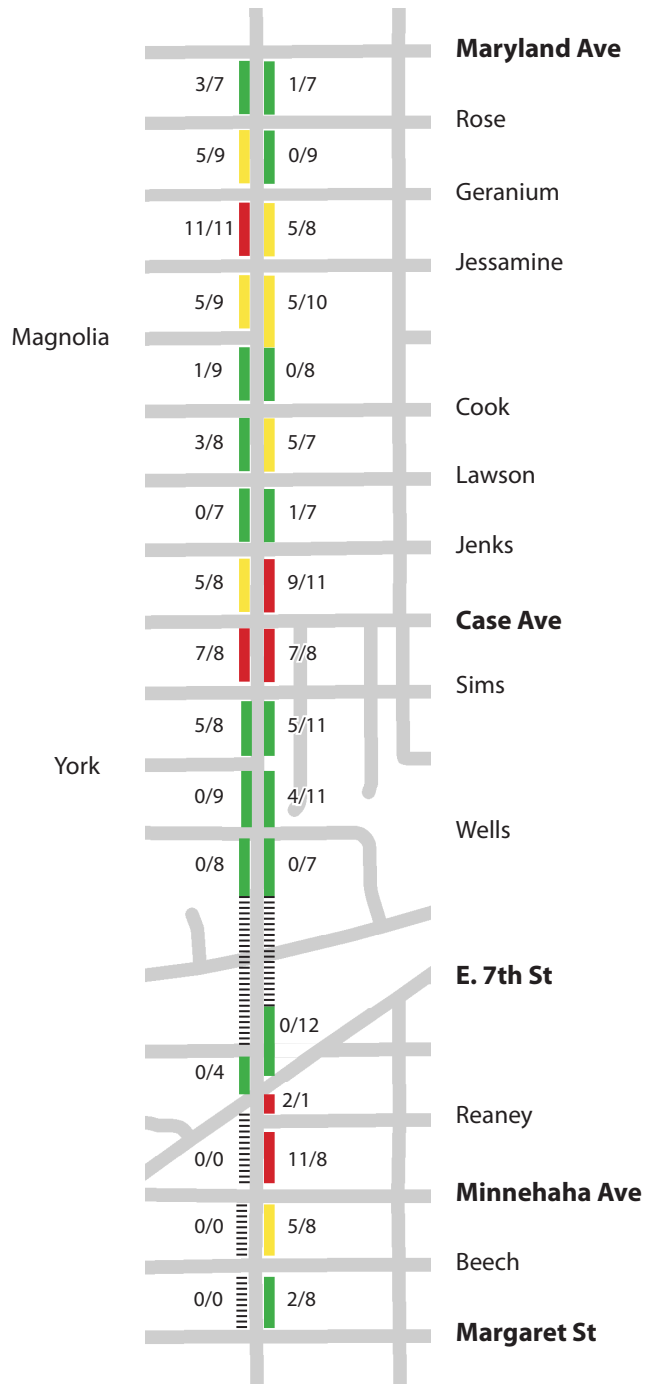
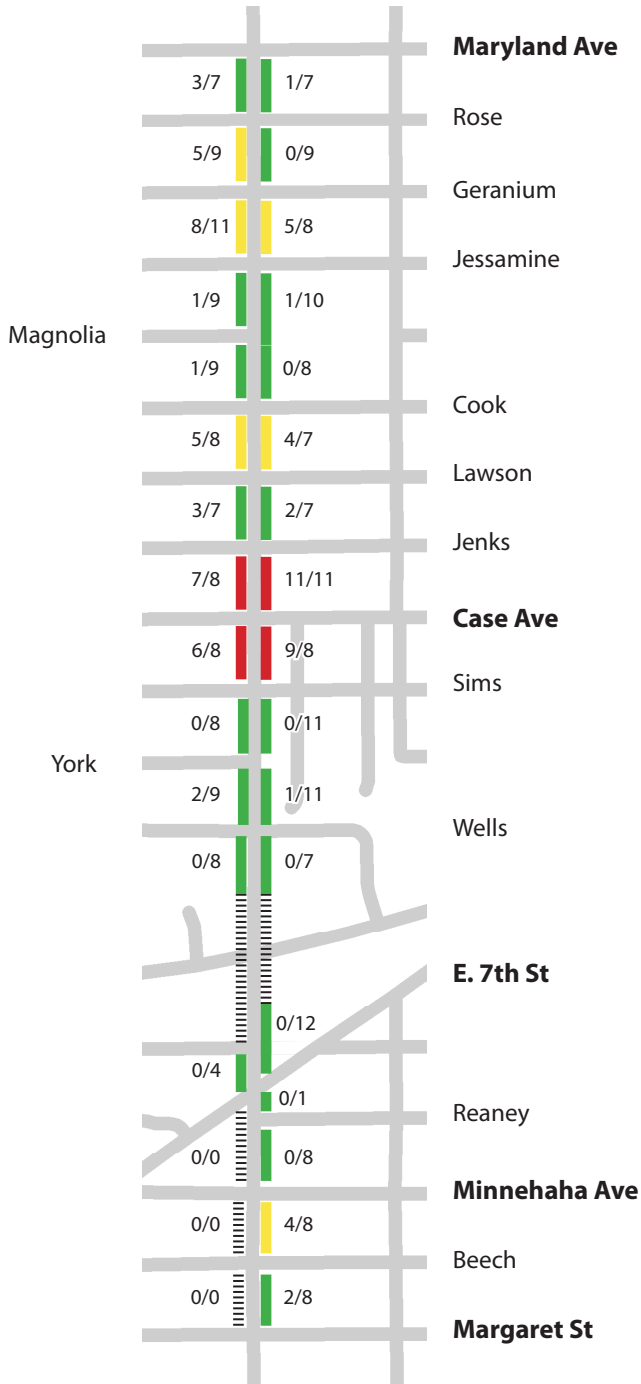
(Observed parking utilization may
exceed estimated legal capacity)

Forest Street Parking Counts

Sunday Morning (9:30 AM - 10:30 AM)

Date: Sunday, April 28th
Time Period: 9:30 AM - 10:30 AM

Date: Sunday, May 20th
Time Period: 9:30 AM - 10:30 AM



Legend

Observed Parking Utilization

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

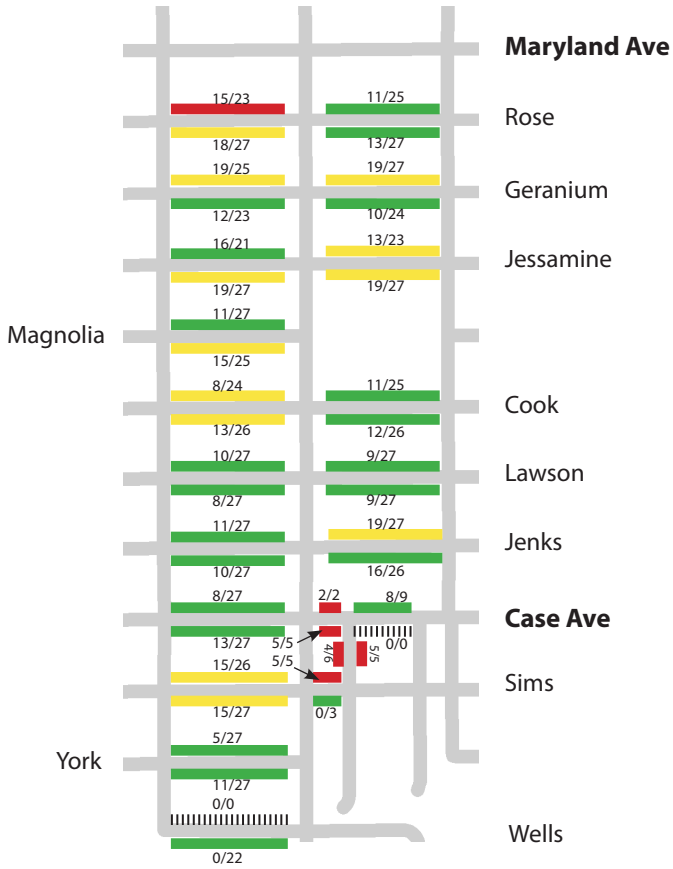
Example: 8/11 =

Observed Parked Cars /
Estimated Legal Parking Capacity

(Observed parking utilization may
exceed estimated legal capacity)

Forest Side Streets Parking Counts Sunday Morning (9:30 AM - 10:30 AM)

Date: Sunday, June 24th
Time Period: 9:30 AM - 10:45 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)