



Real People. Real Solutions.

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MEMORANDUM

Date: January 6, 2023
To: Jim Windingstad, Public Works Director
Elizabeth Mursko, City Administrator
From: Kevin Bittner, P.E., City Engineer
Subject: Evaluation of Dynamic Speed Sign Data
Broadway & Kettle River Roundabout
Project No.: 0R1.126432

Concerns from neighboring residents have been expressed regarding the vehicle noise associated with the roundabout at Broadway and Kettle River. Both roadways are under county jurisdiction. To gather information, a dynamic speed sign was employed, and speed data was collected on east-bound Broadway into the roundabout from October 26 through October 31 and on west-bound Broadway out of the roundabout from November 2 through November 7. The speed signs were placed by the Anoka County Sheriff's Department in coordination with your instructions. A map of the locations of the speed sign along with the Charts Report of the raw data are attached. Following is my synopsis and interpretation of the data:

East-Bound (inbound) Broadway Traffic to the Roundabout – October 26-31

- The total number of vehicles during the period was 10,920, for an average number of vehicles per day of 1,820.
- The average inbound speed was 15 mph. Speed was being read in the median area.
- No inbound vehicle exceeded the 55-mph speed limit.

West-Bound (outbound) Broadway Traffic from the Roundabout – November 2-7

- The total number of vehicles during the period was 9,687, for an average number of vehicles per day of 1,614.
- The average outbound speed was 35 mph. Speed was being read within the 400' west of the roundabout.
- Out of the total 9,687 out-bound vehicles, 4 vehicles had an average speed above the 55-mph speed limit (0.04%), and 25 vehicles achieved a peak speed over the 55-mph speed limit (0.3%).
- Approximately 75% of the out-bound vehicles achieved an average speed above the 35 mph average and 4% above a speed of 46 mph.

Data Interpretation

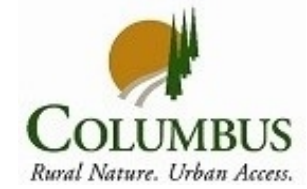
- While there is some speeding while exiting the roundabout, it does not appear to be a significant issue.

Jim Windingstad

January 6, 2023

Page 2 of 2

- The data indicates that there is considerable acceleration occurring in the outbound traffic, particularly based on the large percentage of vehicles exceeding the overall average speed.
- Inbound traffic does not appear to be the primary factor in the noise concerns.



Legend

- City Limits
- County Boundaries
- Parcels (6/6/2022)
- Wildlife Management Areas

Dynamic Speed Sign Locations



Disclaimer:

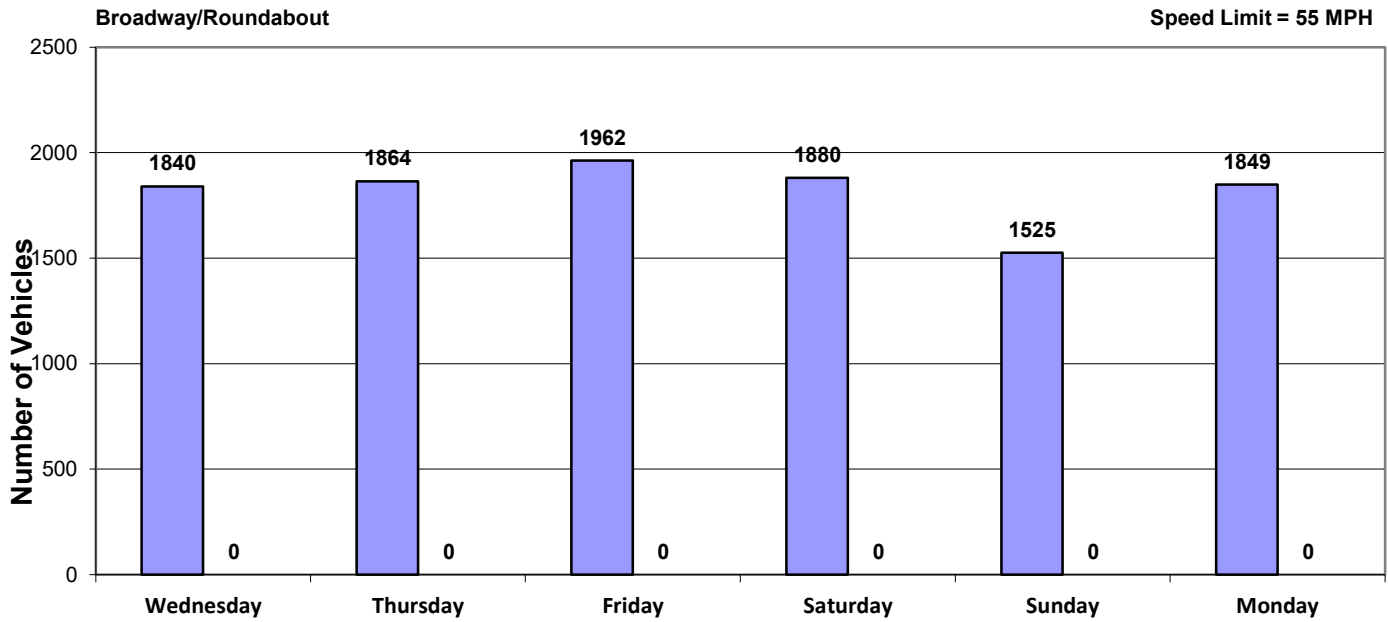
This drawing is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information, and data located in various city, county, and state offices, and other sources affecting the area shown, and is to be used for reference purposes only. The City of Columbus is not responsible for any inaccuracies herein contained.



Charts Report

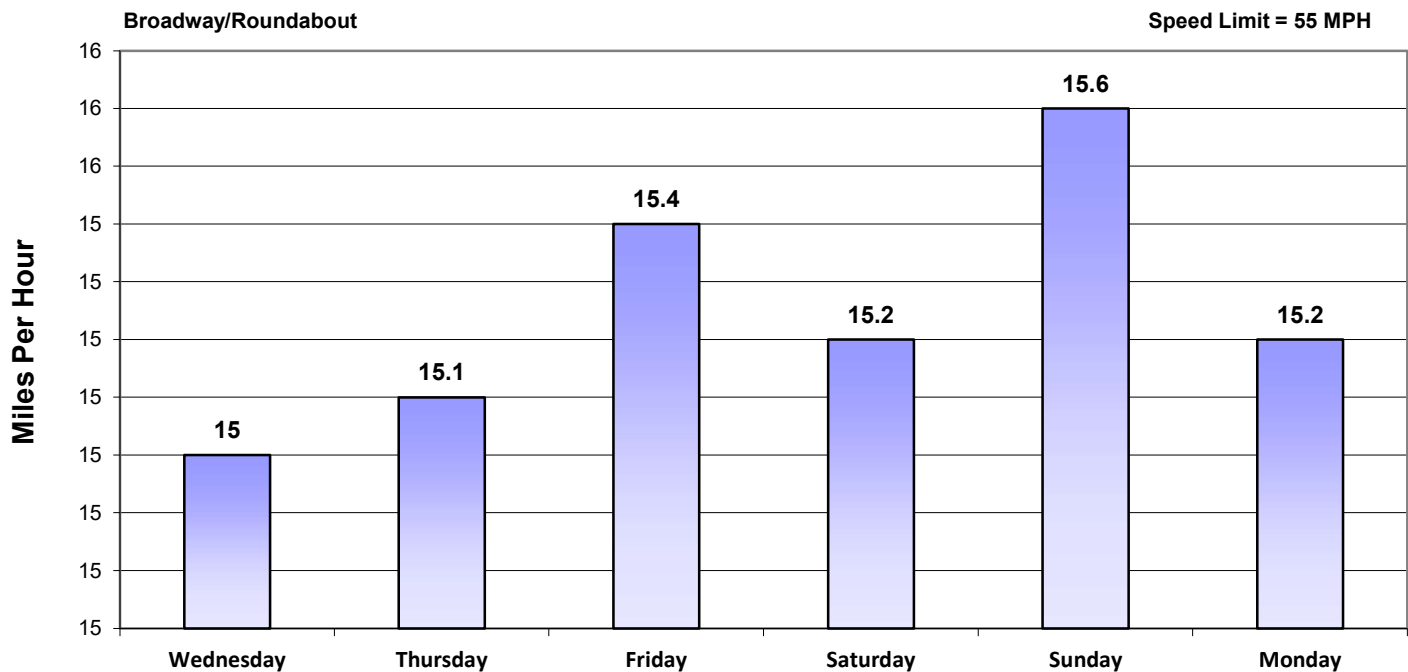
Vehicle and Speed Violator Counts

Tot. Vehicles # Violators



Week (6 days): 10/26/2022 - 10/31/2022

Daily Average Speeds

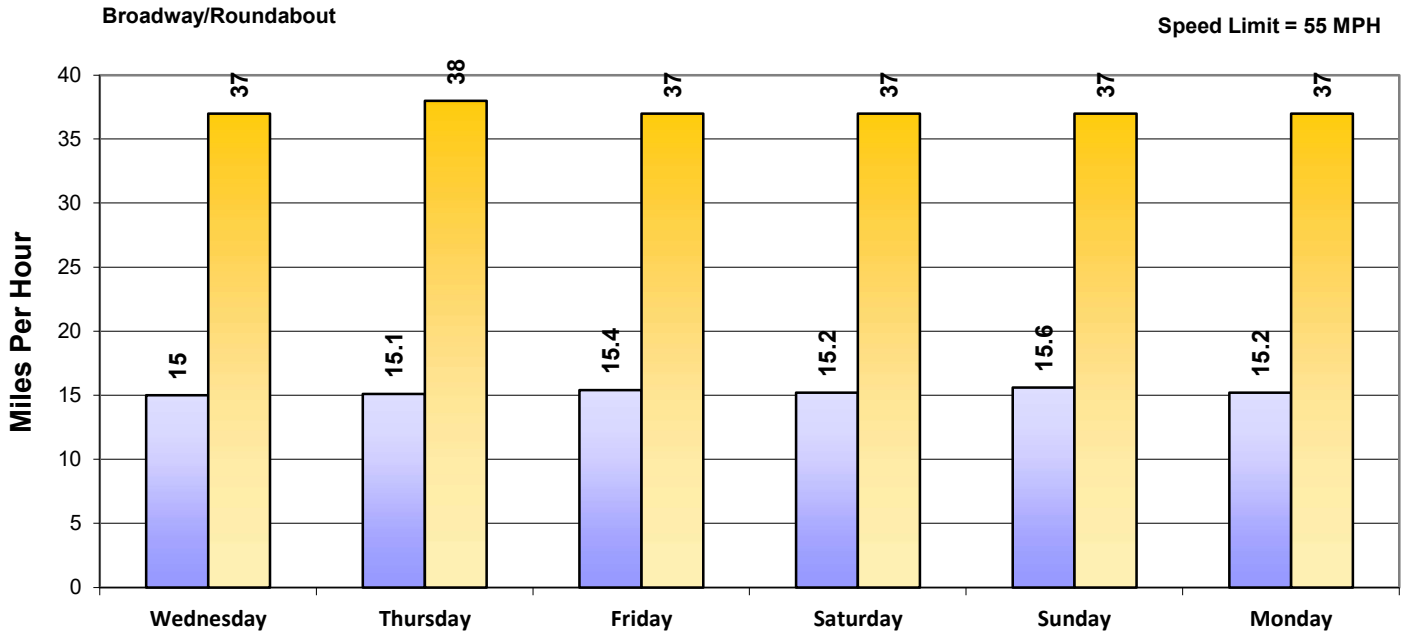


Week (6 days): 10/26/2022 - 10/31/2022

Charts Report

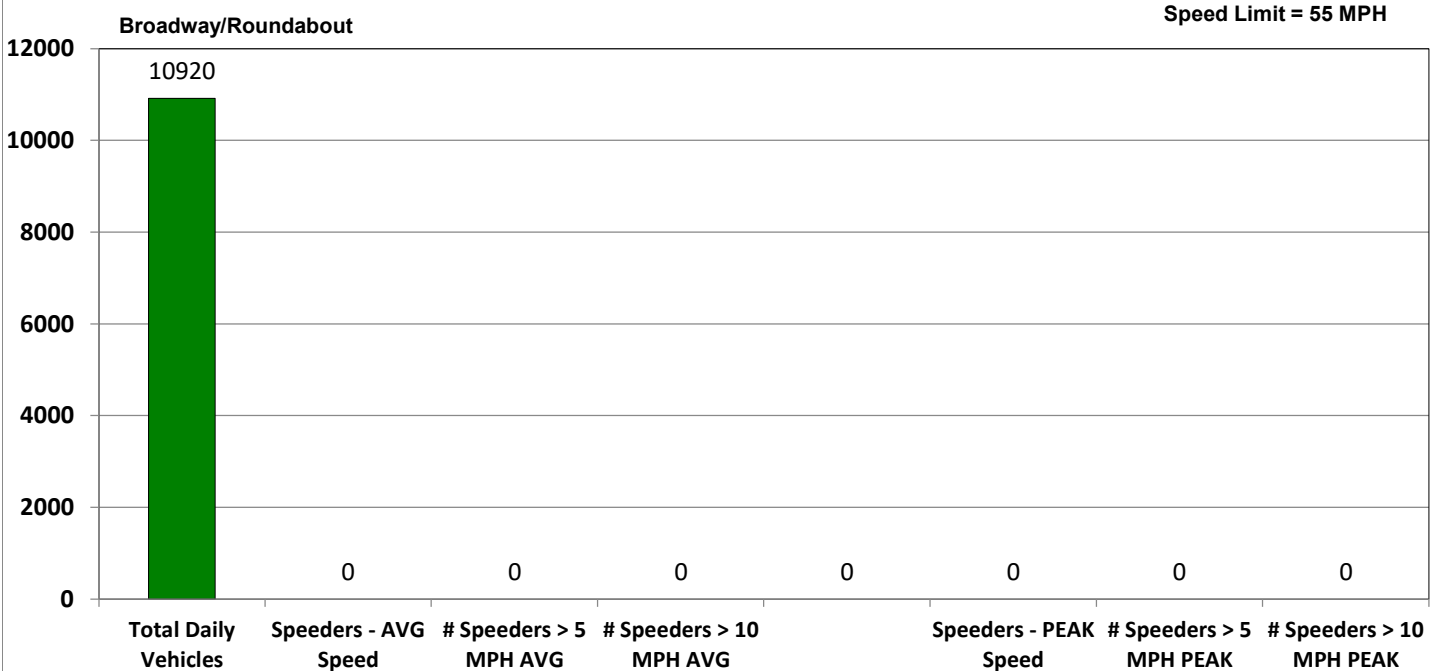
Daily Average Speeds vs. 85th Percentile Speeds

■ Avg. Speed ■ 85th pct Speed



Week (6 days): 10/26/2022 - 10/31/2022

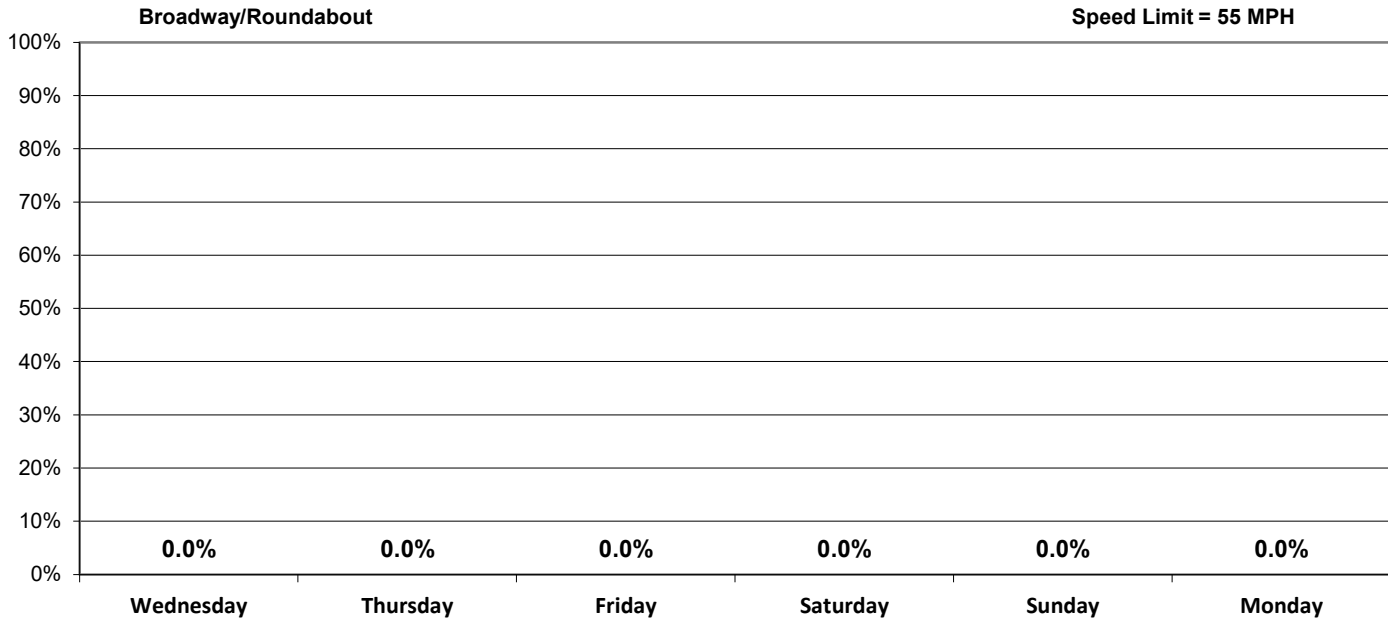
Weekly Speed Summary - Vehicle Counts



Week (6 days): 10/26/2022 - 10/31/2022

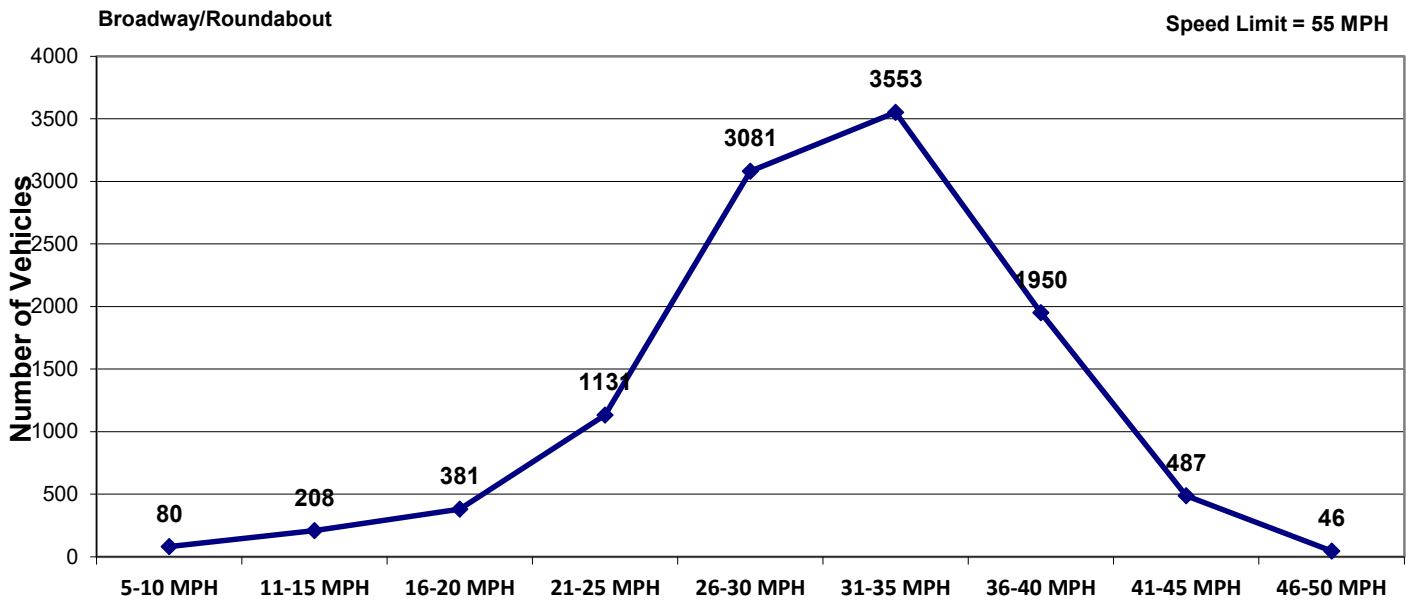
Charts Report

Percentage of Vehicles Speeding



Week (6 days): 10/26/2022 - 10/31/2022

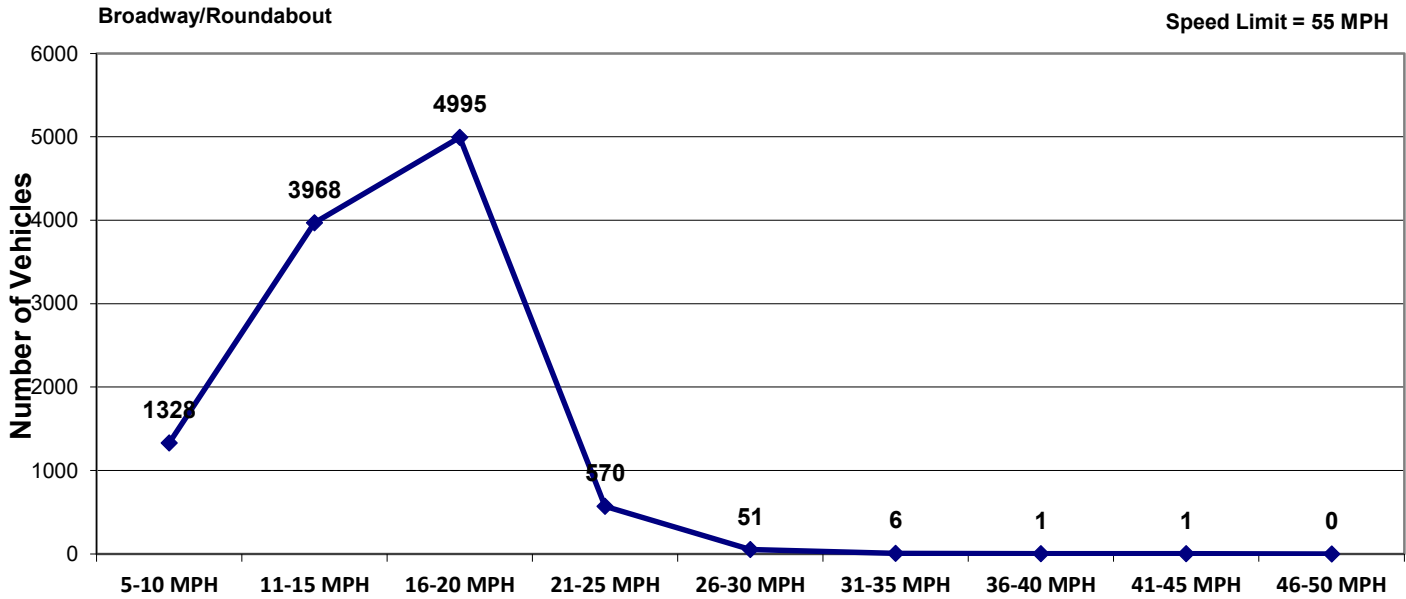
Vehicle Count by Peak Speed Bins



Week (6 days): 10/26/2022 - 10/31/2022

Charts Report

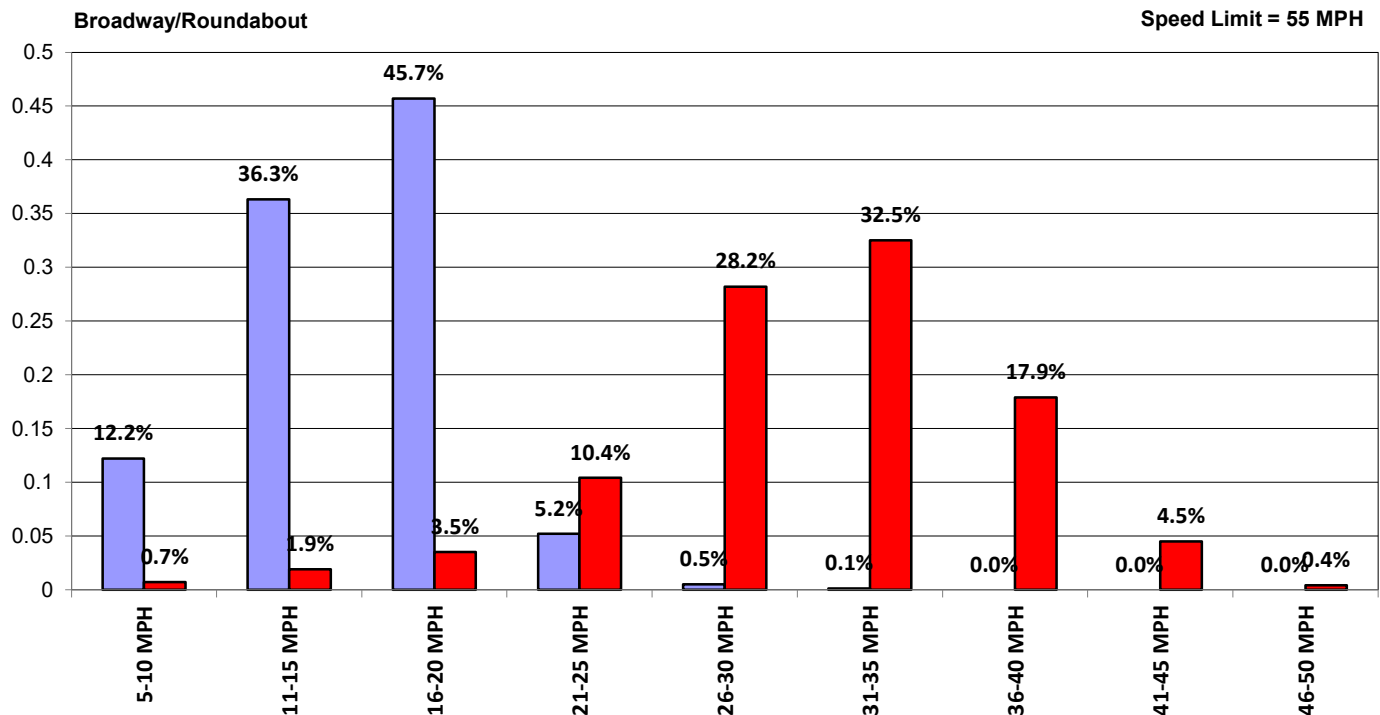
Vehicle Count by Avg. Speed Bins



Week (6 days): 10/26/2022 - 10/31/2022

Avg. vs. Peak Speeds by Percentage

■ AVG ■ PEAK

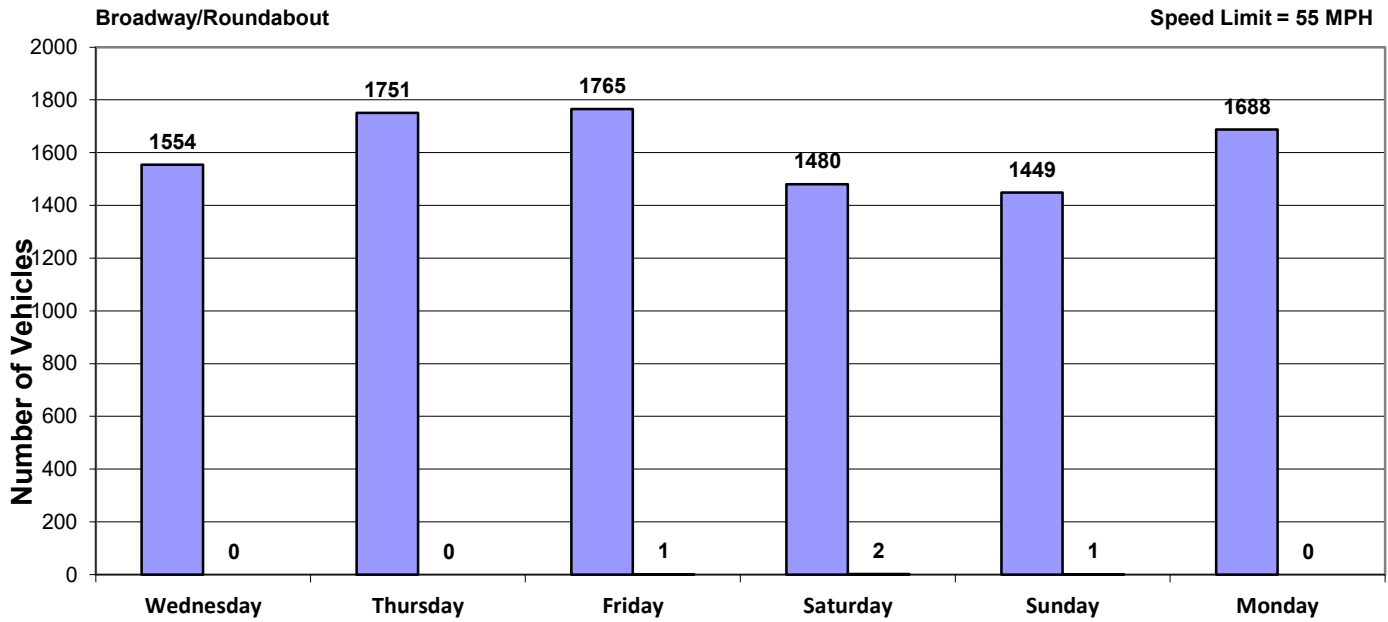


Week (6 days): 10/26/2022 - 10/31/2022

Charts Report

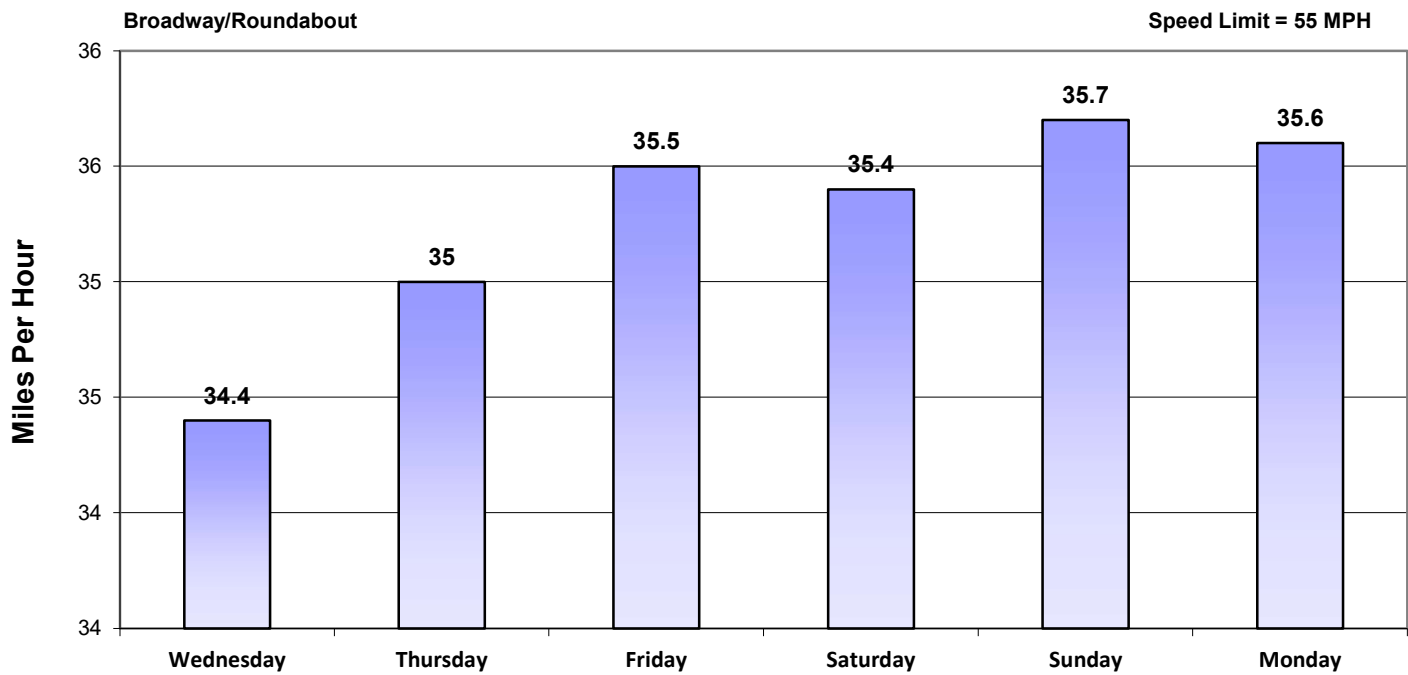
Vehicle and Speed Violator Counts

Tot. Vehicles # Violators



Week (6 days): 11/02/2022 - 11/07/2022

Daily Average Speeds



Week (6 days): 11/02/2022 - 11/07/2022

Charts Report

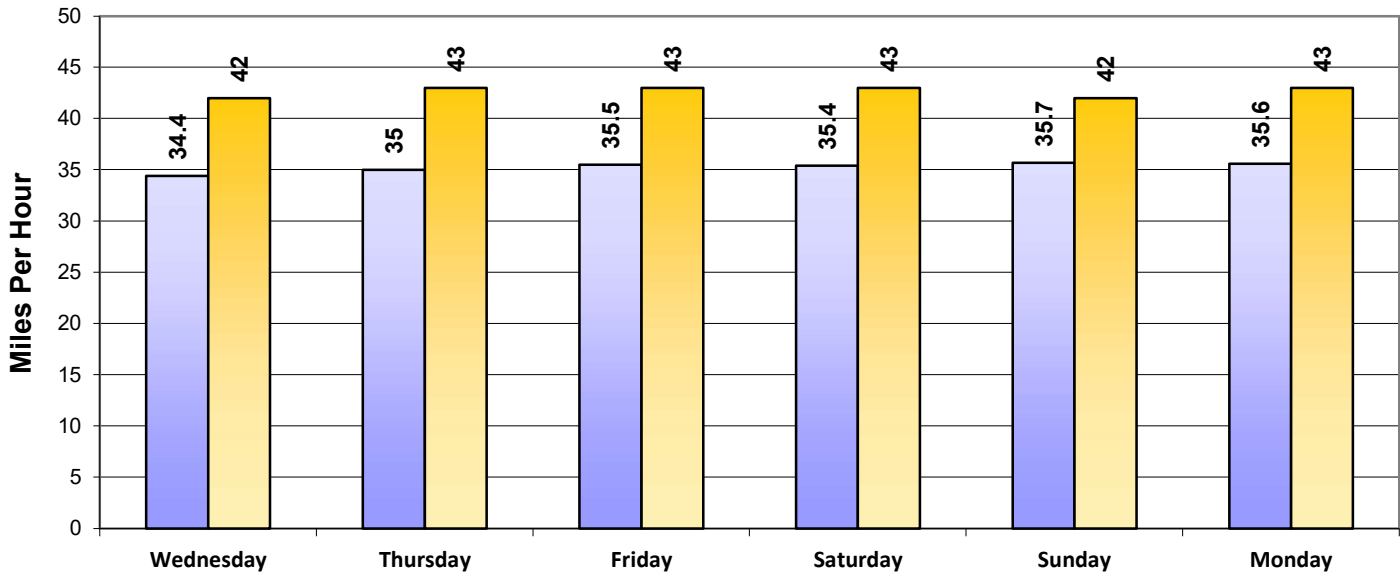
Daily Average Speeds vs. 85th Percentile Speeds

■ Avg. Speed ■ 85th pct Speed



Broadway/Roundabout

Speed Limit = 55 MPH



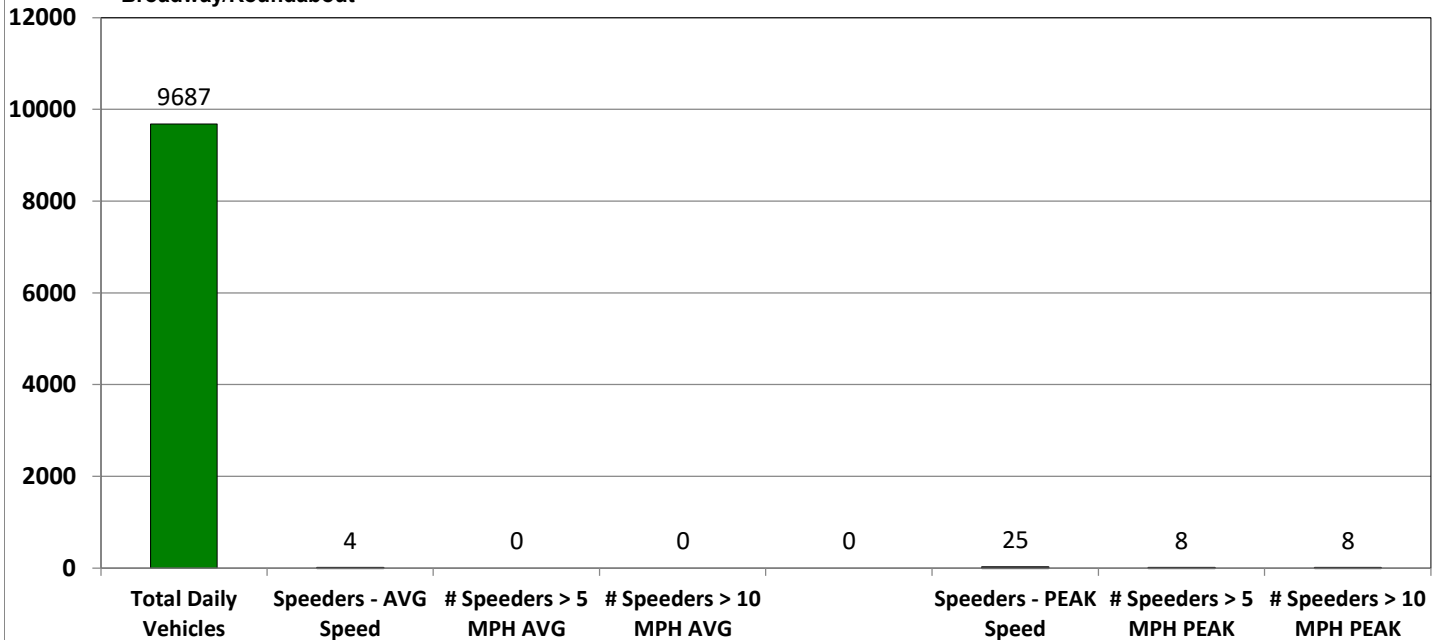
Week (6 days): 11/02/2022 - 11/07/2022

Weekly Speed Summary - Vehicle Counts



Broadway/Roundabout

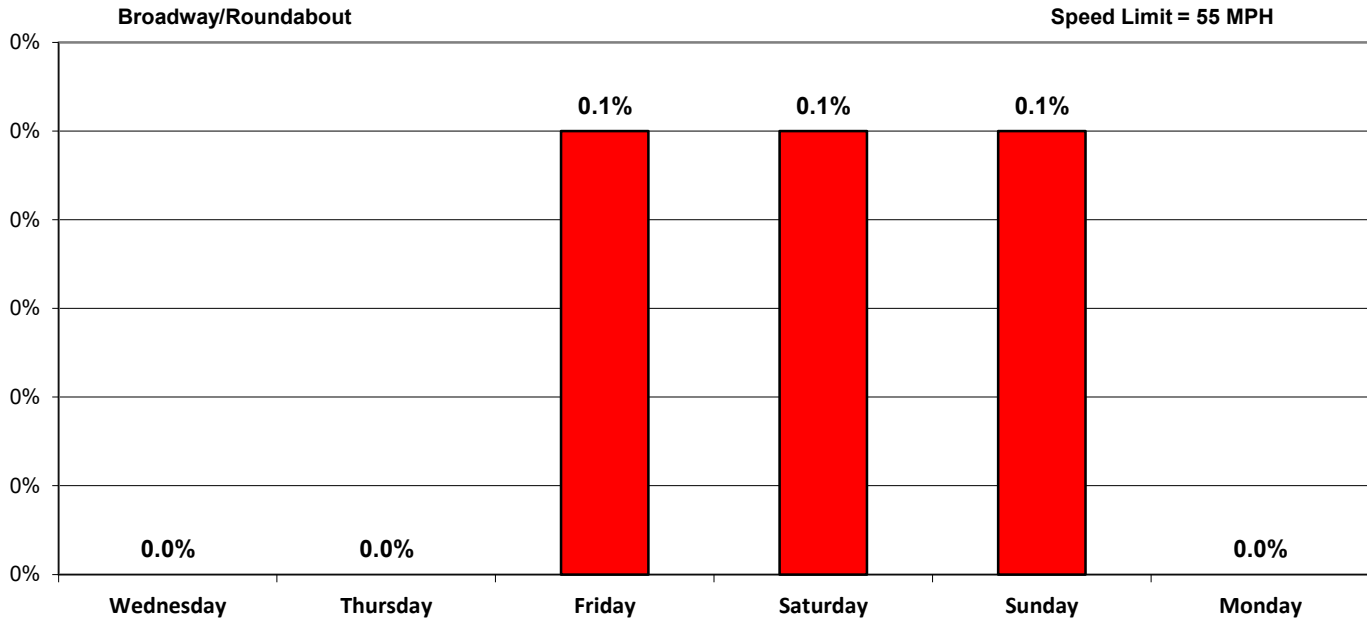
Speed Limit = 55 MPH



Week (6 days): 11/02/2022 - 11/07/2022

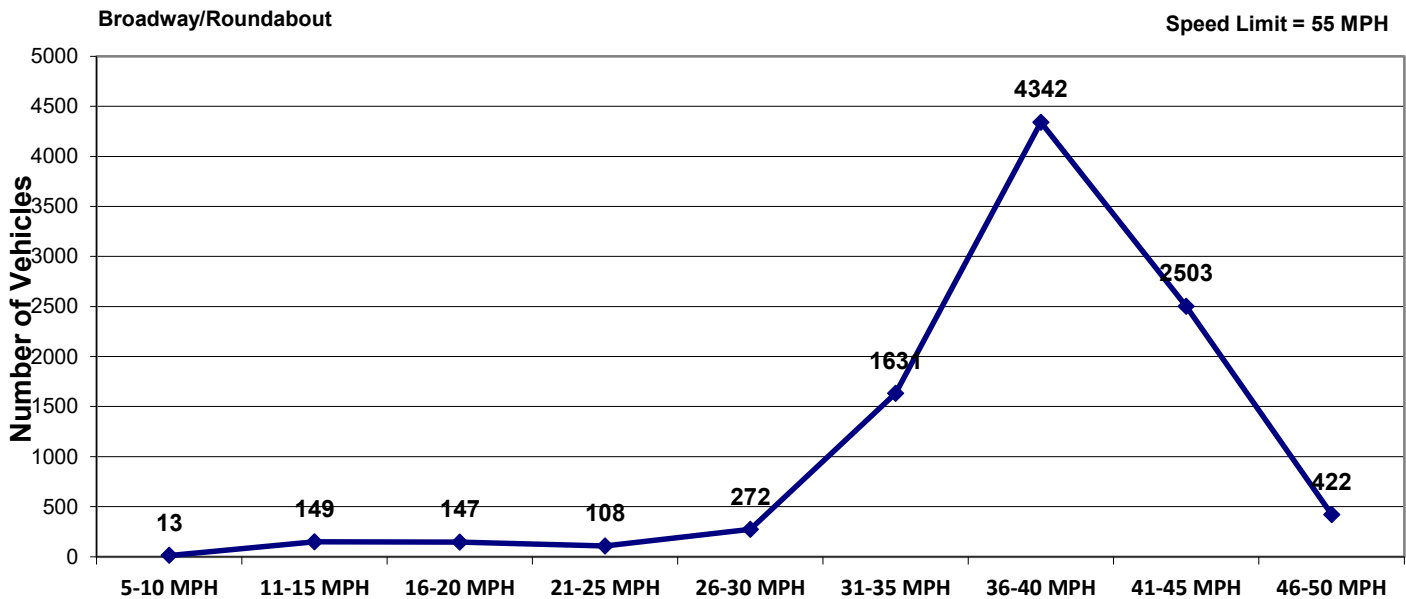
Charts Report

Percentage of Vehicles Speeding



Week (6 days): 11/02/2022 - 11/07/2022

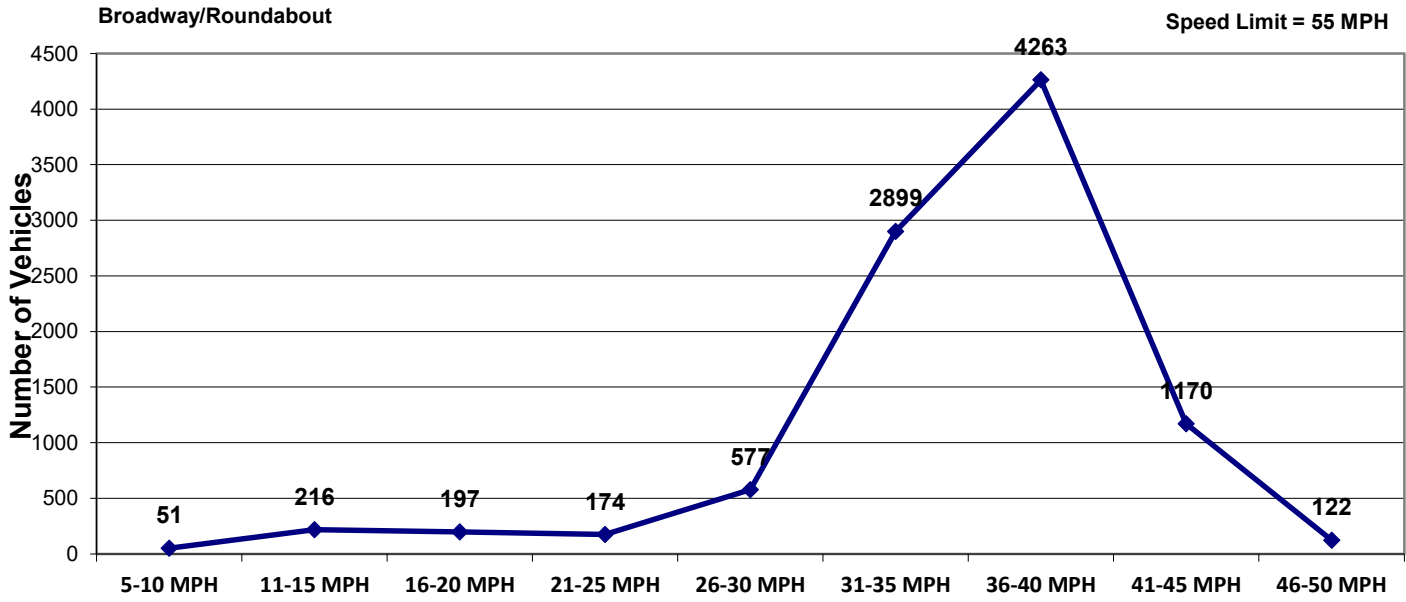
Vehicle Count by Peak Speed Bins



Week (6 days): 11/02/2022 - 11/07/2022

Charts Report

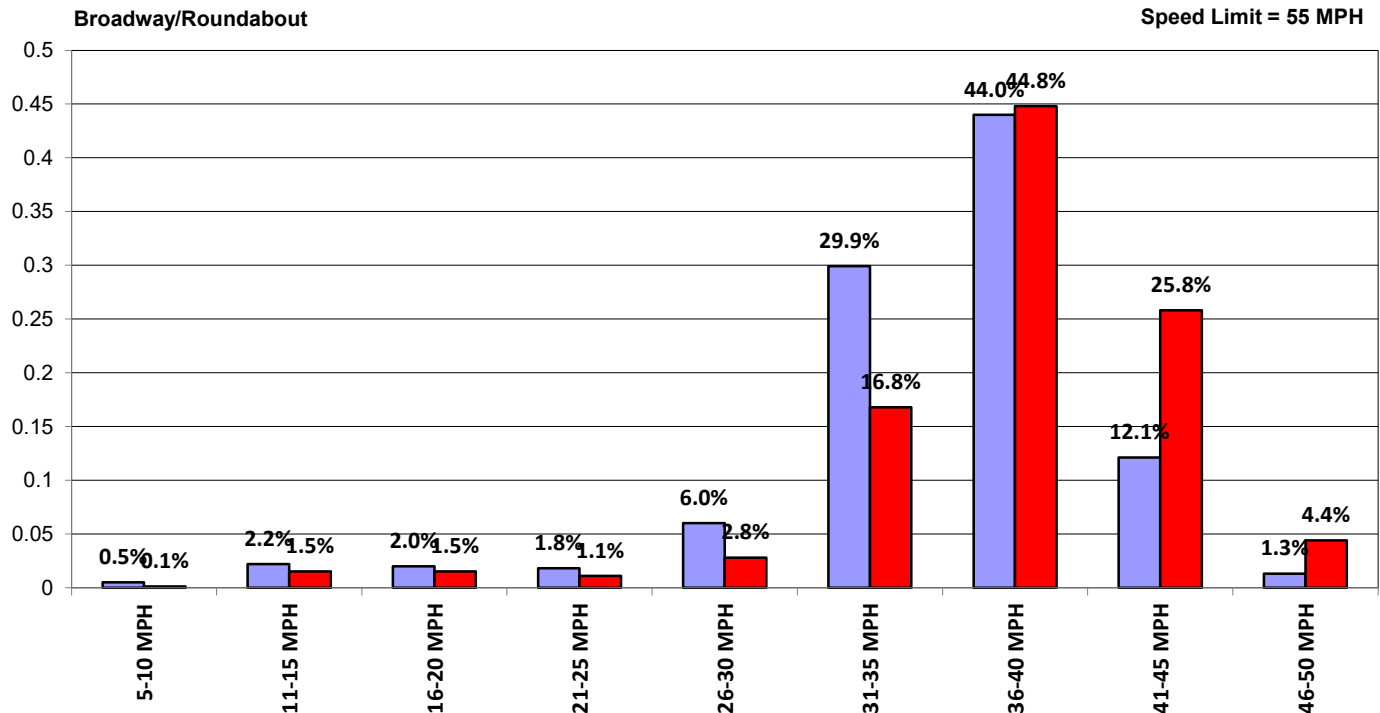
Vehicle Count by Avg. Speed Bins



Week (6 days): 11/02/2022 - 11/07/2022

Avg. vs. Peak Speeds by Percentage

■ AVG ■ PEAK



Week (6 days): 11/02/2022 - 11/07/2022



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MEMORANDUM

Date: January 6, 2023
To: Jim Windingstad, Public Works Director
Elizabeth Mursko, City Administrator
From: Kevin Bittner, P.E., City Engineer
Subject: Evaluation of Dynamic Speed Sign Data
Howard Lake Drive
Project No.: 0R1.126432

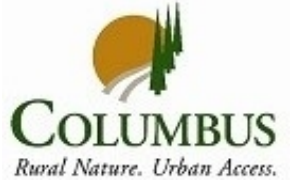
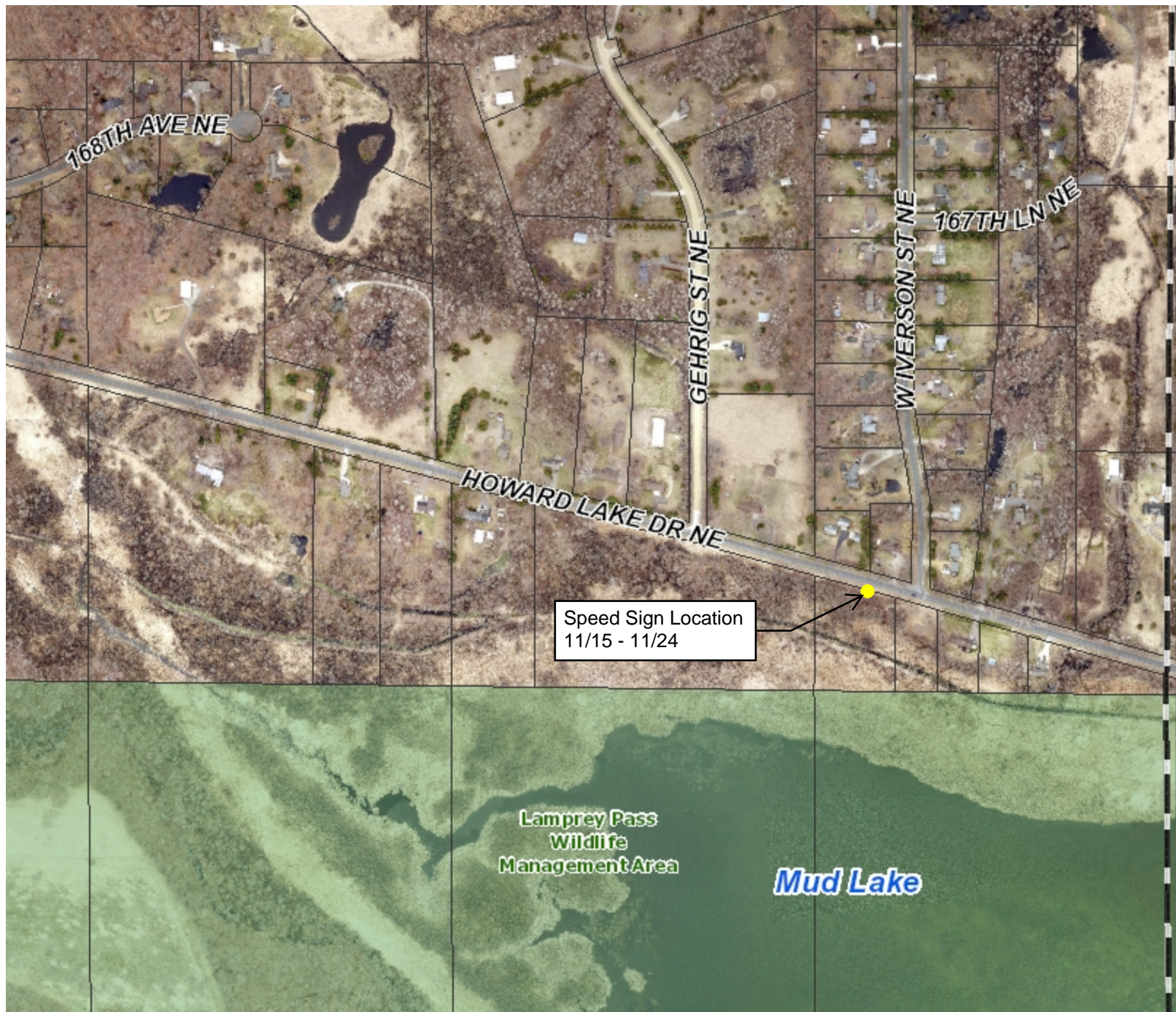
Concerns from neighboring residents have been expressed regarding speeding on Howard Lake Drive, which is a city roadway. A dynamic speed sign was employed in the 9600 block, and speed data was collected on east-bound traffic from November 15 through November 24. The speed sign was placed by the Anoka County Sheriff's Department in coordination with your instructions. A map of the location of the speed sign along with the Charts Report of the raw data are attached. Following is my synopsis and interpretation of the data:

East-Bound Traffic – November 15-24

- The total number of east-bound vehicles during the period was 7,145, for an average number of vehicles per day of 793 (the last day of monitoring, 11/24, was excluded from the total as it appears the sign was removed in the middle of the day).
- The daily average speed ranged from 36 to 38 mph.
- Approximately 50 to 60% of vehicles exceeded the speed limit with their average speed.
- Approximately 86% of vehicles exceeded the speed limit with their peak speed, of which 50% exceeded the speed limit by greater than 5 mph and 22% exceeded the speed limit by greater than 10 mph.
- Peak speed each day exceeded 60 mph, with the highest recorded speed being 77 mph.
- The daily 85th percentile speed, which is a typical standard for setting speed limits, ranged from 46 to 49 mph.

Data Interpretation

- The data indicates that people are comfortable driving above the posted 35 mph speed limit. A more scientific speed study would likely yield a higher speed limit recommendation, perhaps 45 mph.
- The data indicates that speeding on Howard Lake Drive is problematic.



- Legend**
- City Limits
 - County Boundaries
 - Parcels (6/6/2022)
 - County Parks
 - City Parks
 - Wildlife Management Areas

**Howard Lake Dr.
Speed Sign**



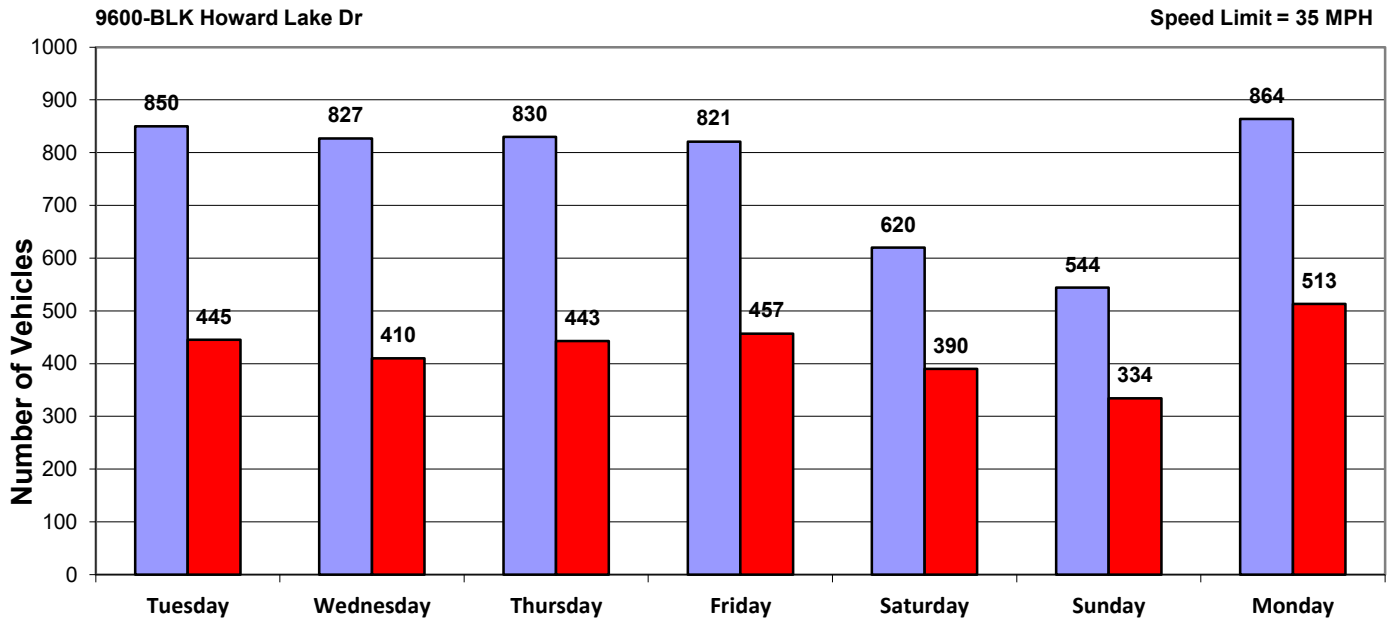
0 500 Feet

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Charts Report

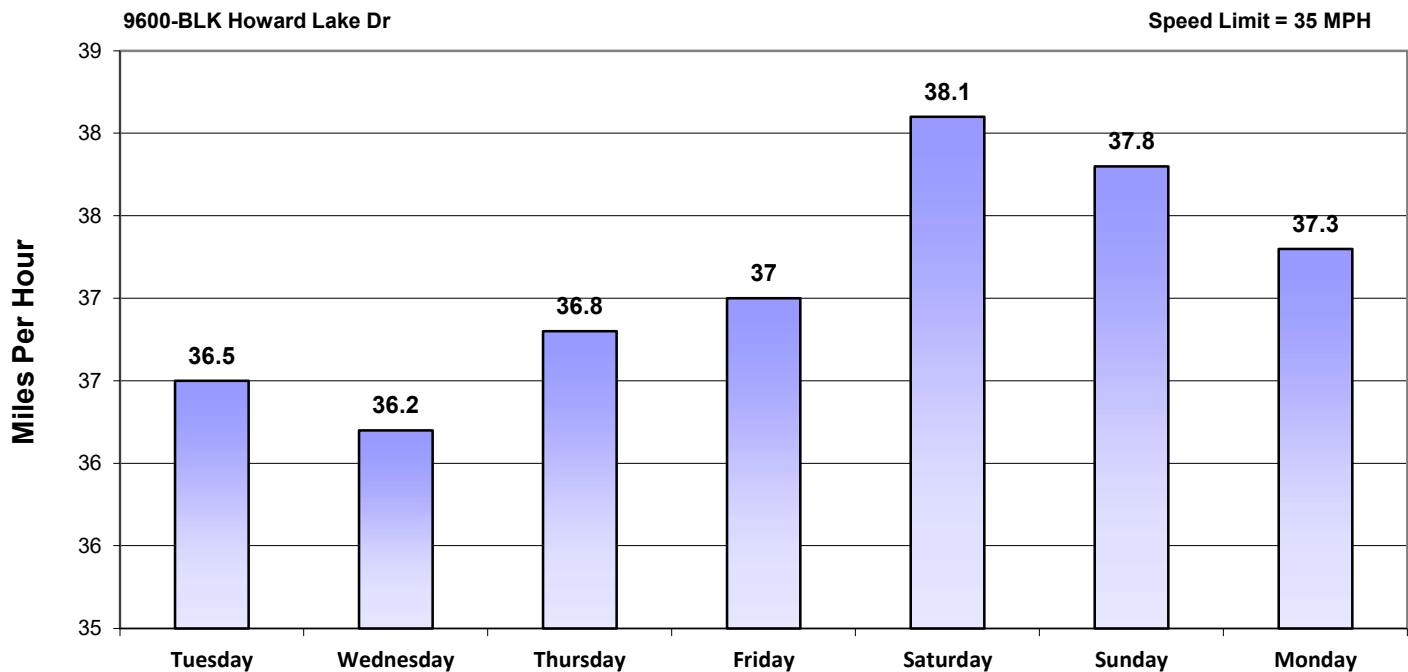
Vehicle and Speed Violator Counts

Tot. Vehicles # Violators



Week (7 days): 11/15/2022 - 11/21/2022

Daily Average Speeds



Week (7 days): 11/15/2022 - 11/21/2022

Charts Report

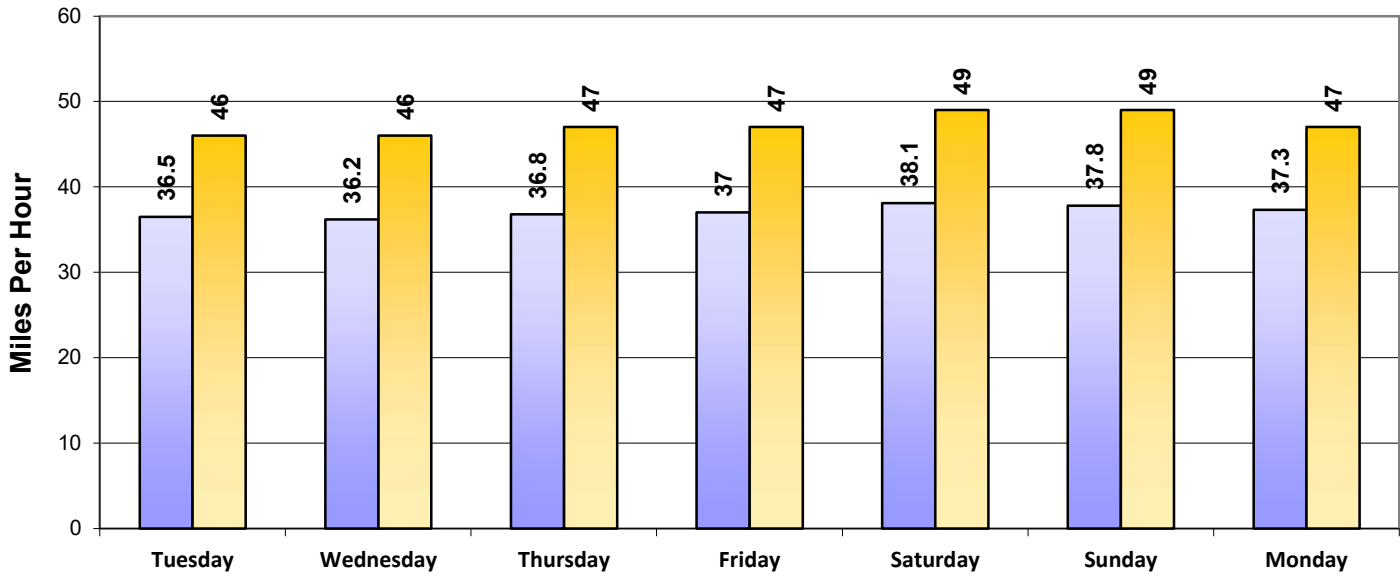
Daily Average Speeds vs. 85th Percentile Speeds

■ Avg. Speed ■ 85th pct Speed



9600-BLK Howard Lake Dr

Speed Limit = 35 MPH



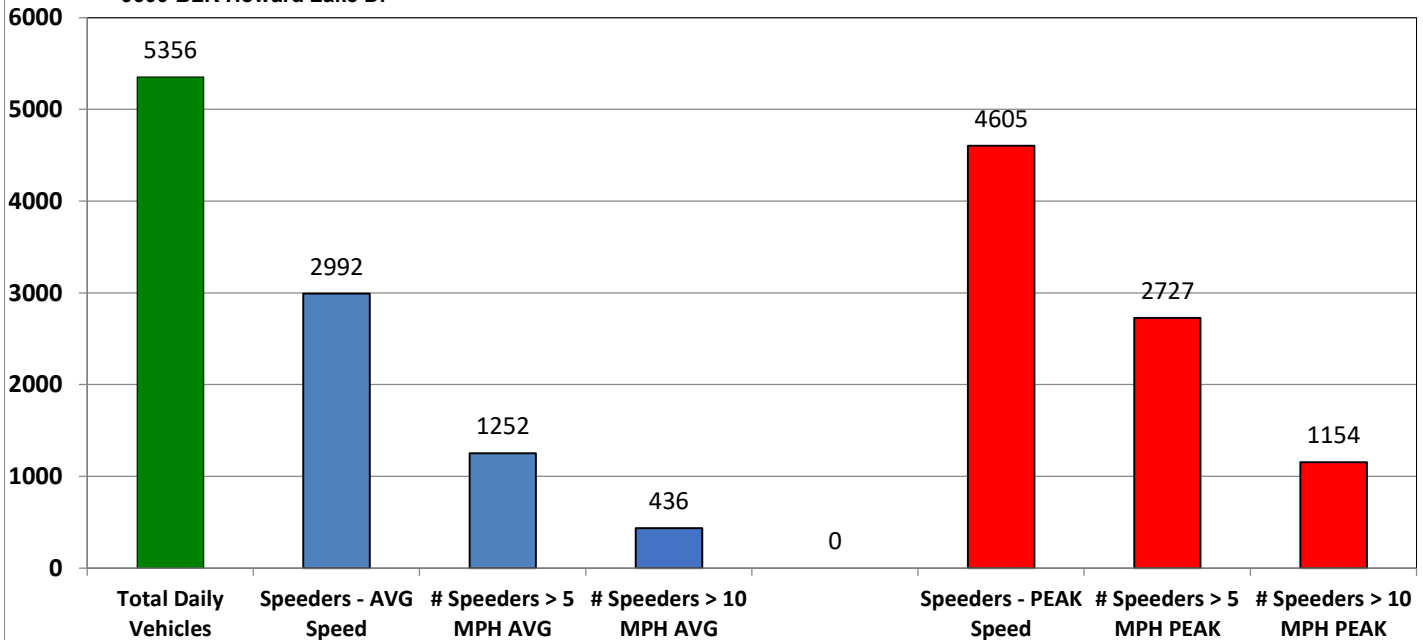
Week (7 days): 11/15/2022 - 11/21/2022

Weekly Speed Summary - Vehicle Counts



9600-BLK Howard Lake Dr

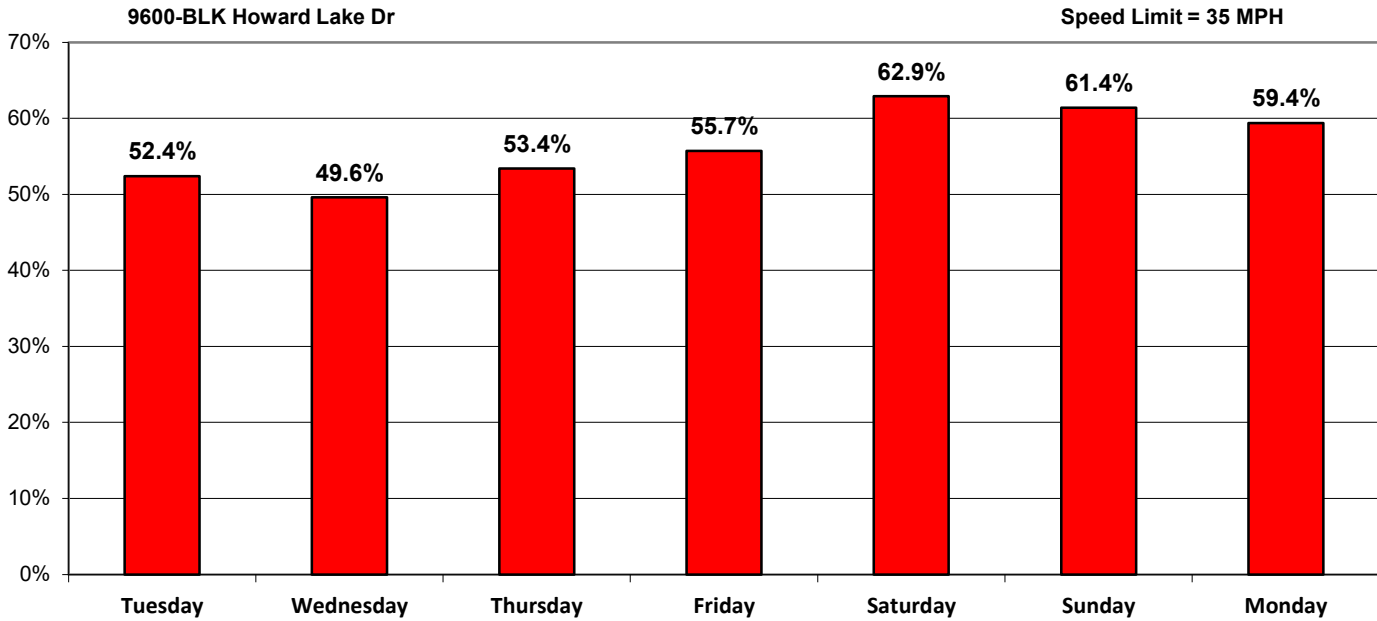
Speed Limit = 35 MPH



Week (7 days): 11/15/2022 - 11/21/2022

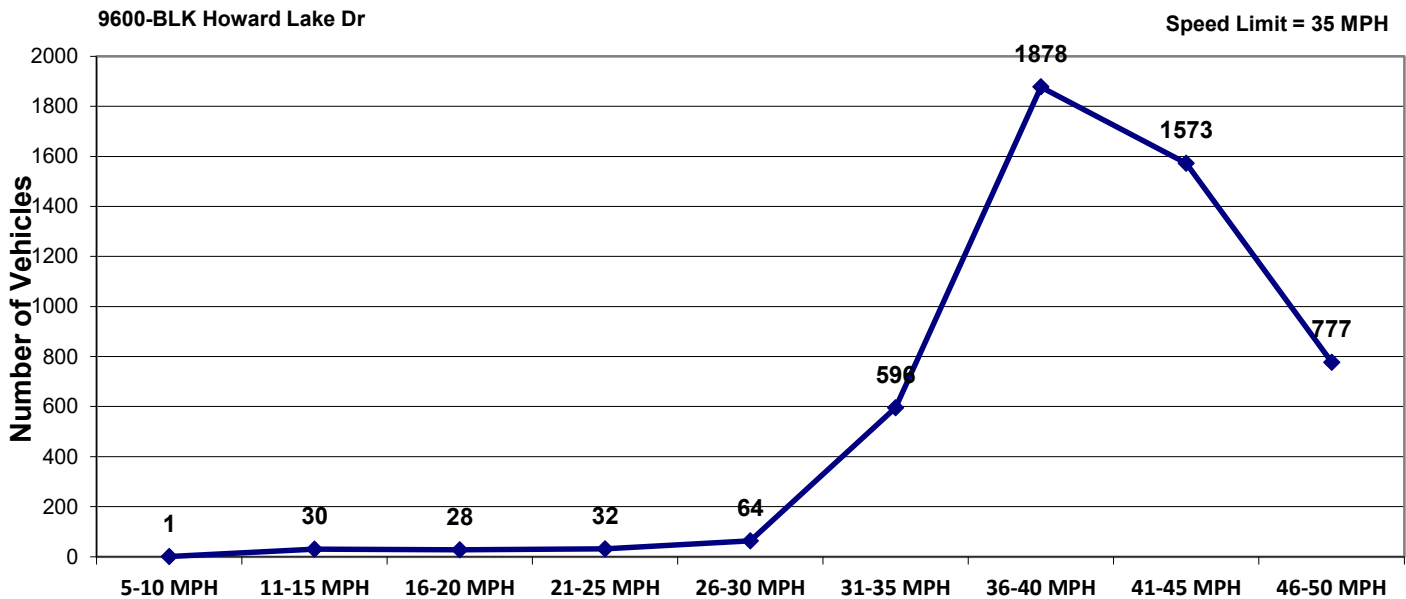
Charts Report

Percentage of Vehicles Speeding



Week (7 days): 11/15/2022 - 11/21/2022

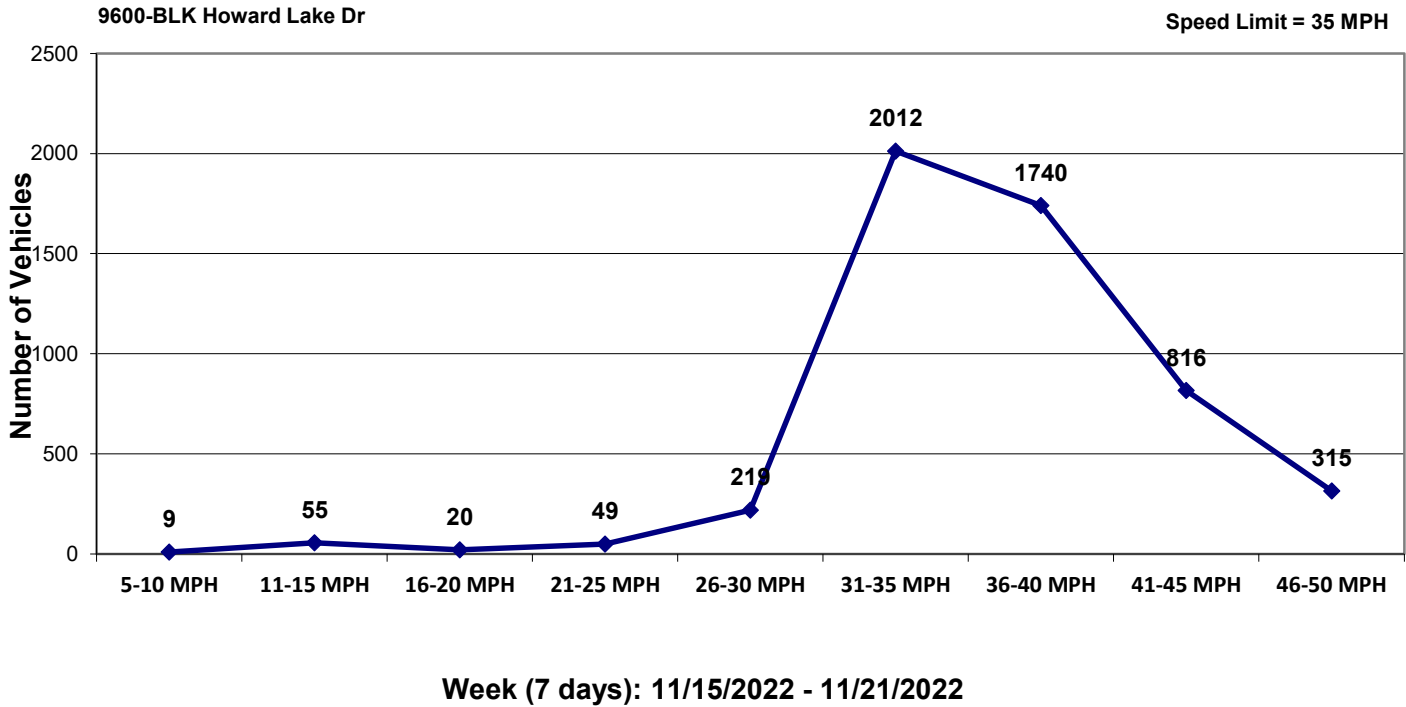
Vehicle Count by Peak Speed Bins



Week (7 days): 11/15/2022 - 11/21/2022

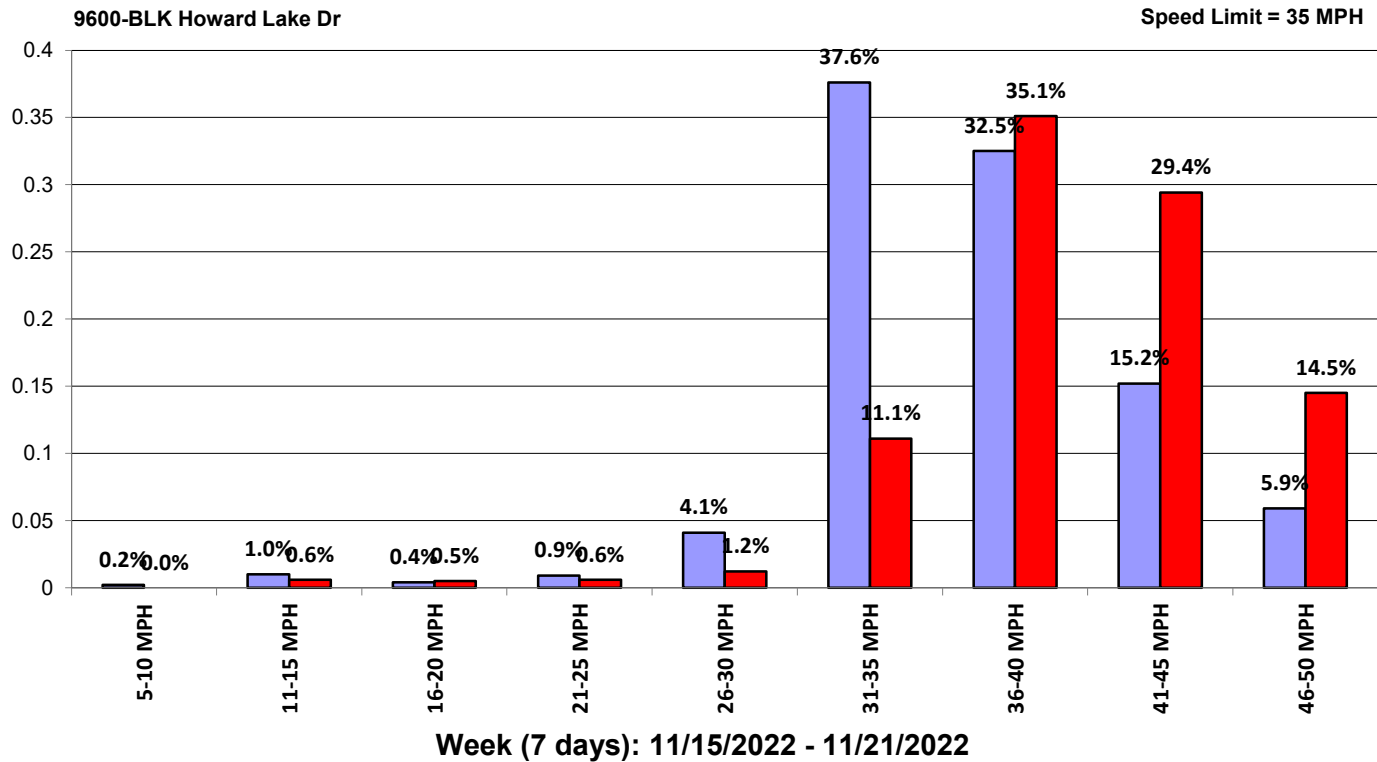
Charts Report

Vehicle Count by Avg. Speed Bins



Avg. vs. Peak Speeds by Percentage

■ AVG ■ PEAK



Charts Report

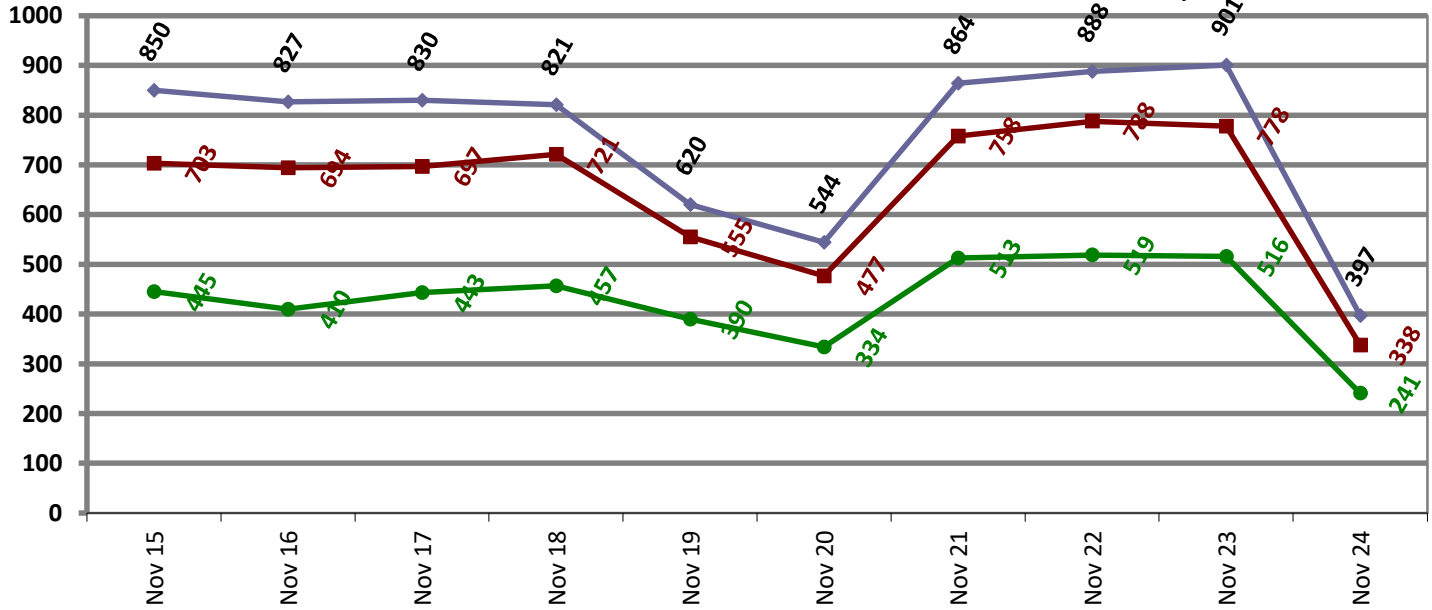
Vehicles & Violators



Vehicles # Peak Spdrs # Avg Spdrs

9600-BLK Howard Lake Dr

Speed Limit = 35 MPH



Period (10 days): 11/15/2022 - 11/24/2022

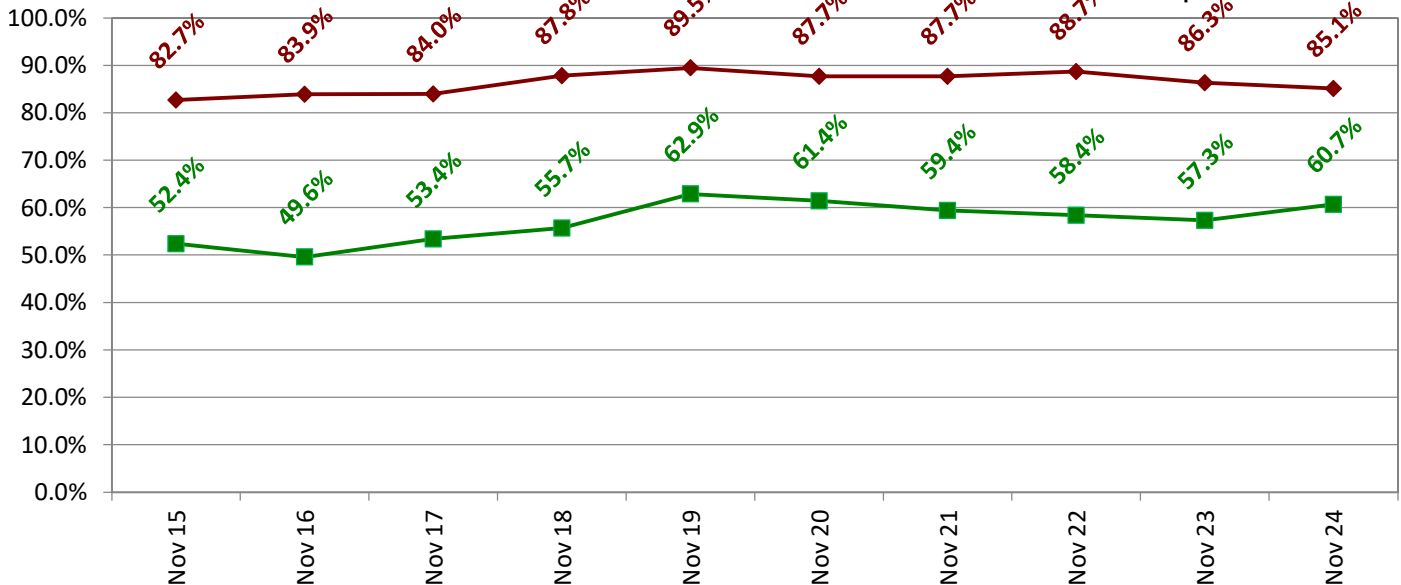
Daily Speeders (Avg. & Peak Speeds)



Peak Speed % Average Speed %

9600-BLK Howard Lake Dr

Speed Limit = 35 MPH



Period (10 days): 11/15/2022 - 11/24/2022

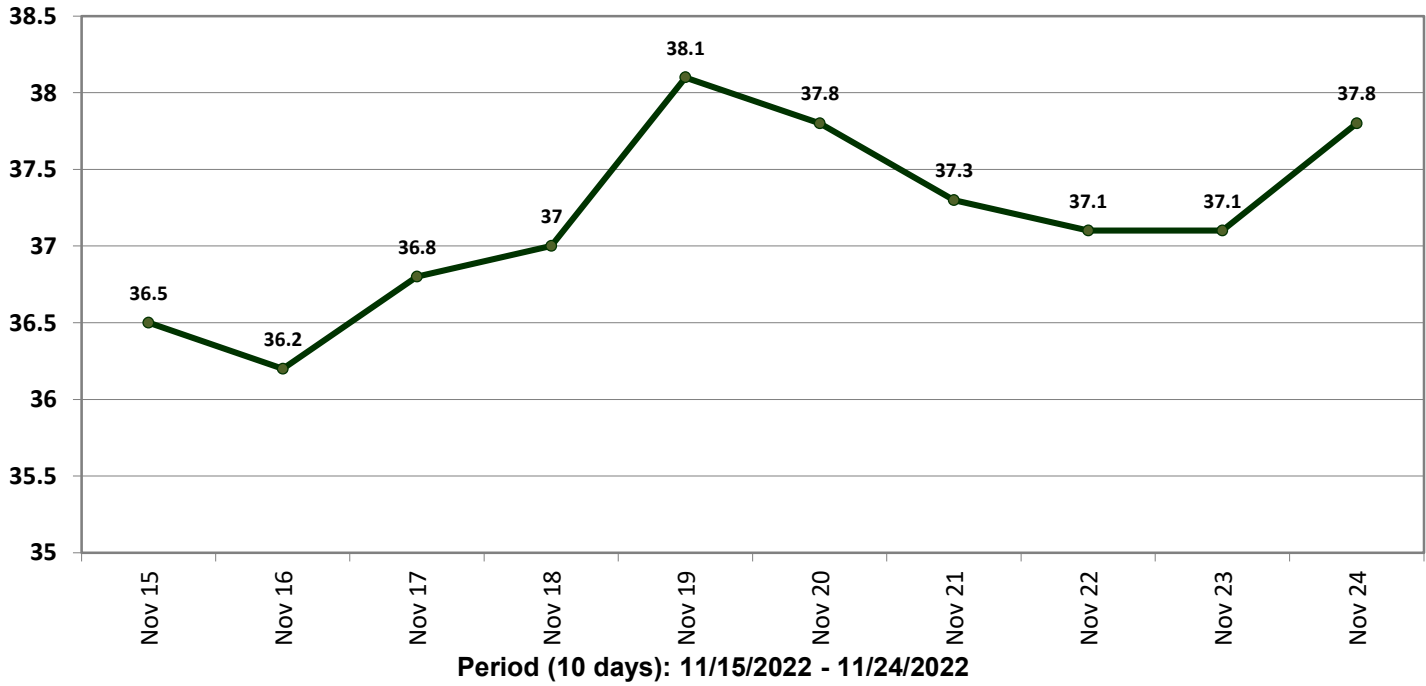
Charts Report

Daily Average Speeds



9600-BLK Howard Lake Dr

Speed Limit = 35 MPH

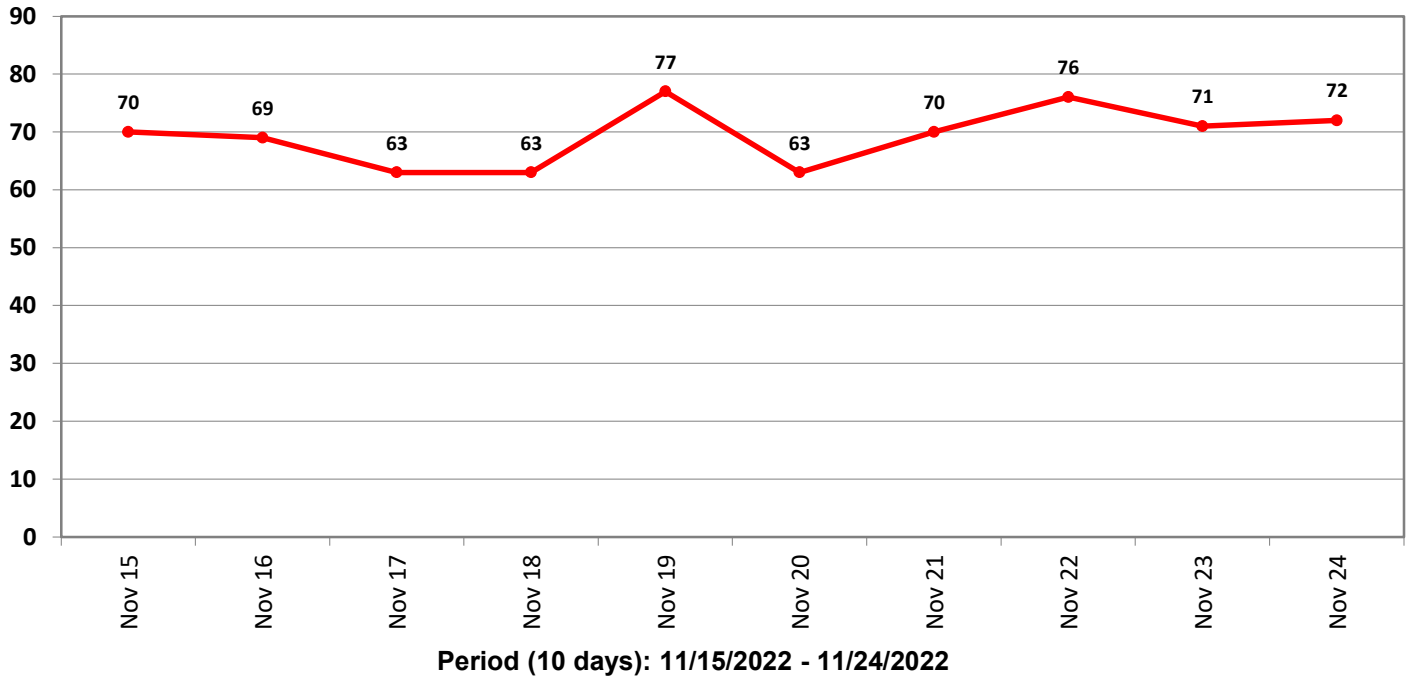


Daily Peak Speeds



9600-BLK Howard Lake Dr

Speed Limit = 35 MPH



Charts Report

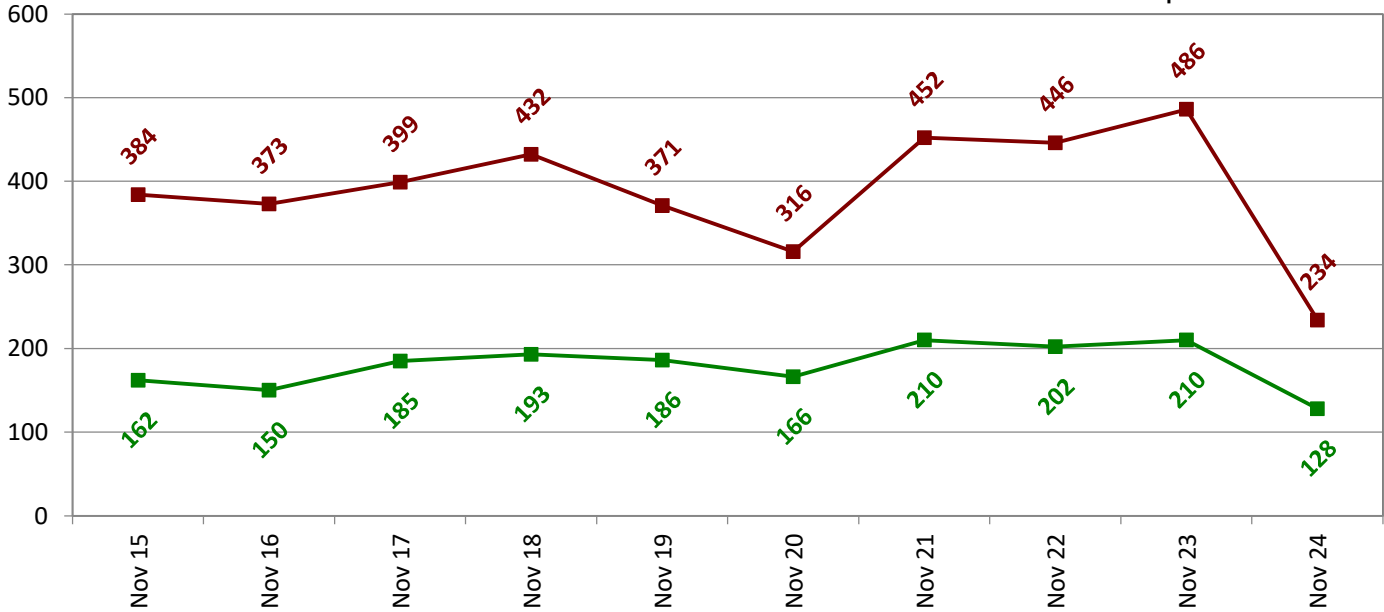
Violator Trends: > 5 MPH (Avg. & Peak Spds)



Violators > 5 MPH Avg Violators > 5 MPH Peak

9600-BLK Howard Lake Dr

Speed Limit = 35 MPH



Period (10 days): 11/15/2022 - 11/24/2022

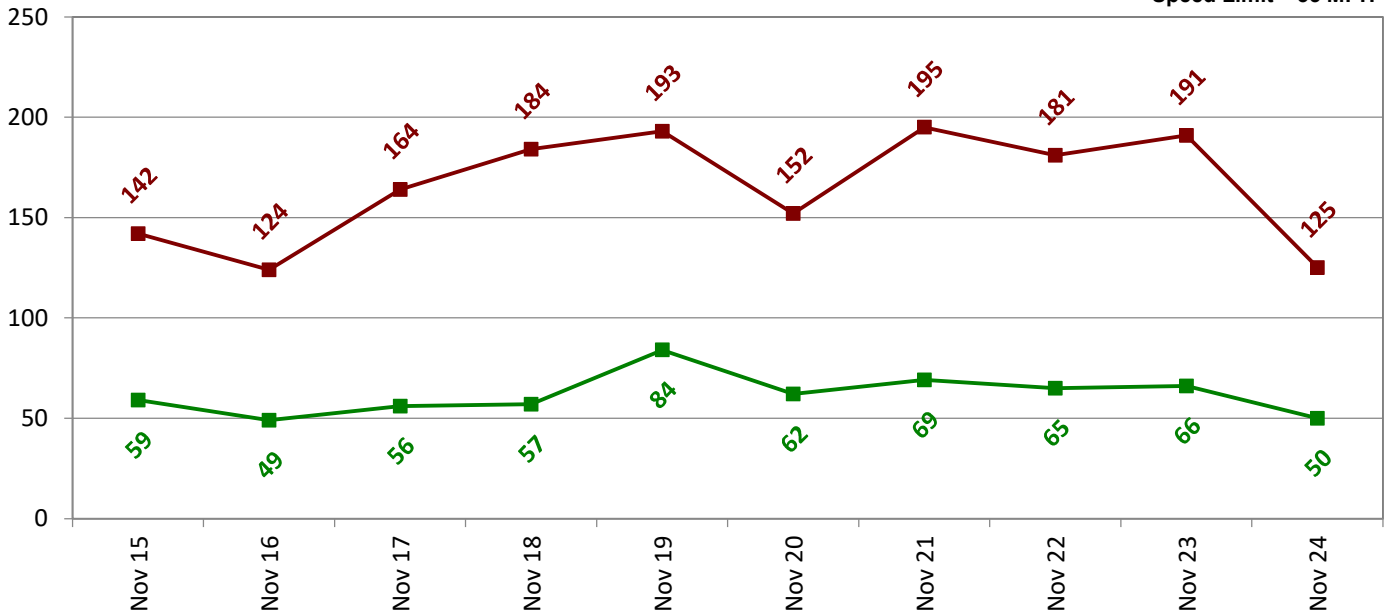
Violator Trends: > 10 MPH (Avg. & Peak Spds)



Violators > 10 MPH Avg Violators > 10 MPH Peak

9600-BLK Howard Lake Dr

Speed Limit = 35 MPH



Period (10 days): 11/15/2022 - 11/24/2022

Charts Report

Violator Trends: > 15 MPH (Avg. & Peak Spds)



—■— Violators > 15 MPH Avg —■— Violators > 15 MPH Peak

