Minnewashta Pkwy Corridor Study

DRAFT

City of Chanhassen
February 20, 2024

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Study Report

For

Minnewashta Parkway Corridor Study

City of Chanhassen, Minnesota
BMI Project Number: 0T4.M00197

February 20, 2024

PROFESSIONAL ENGINEER

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

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Executive Summary

DRAFT

The Highway 5 Improvements Project, as well as ancillary projects including the 82nd Street Extension and Arboretum Site Improvements, propose to expand and improve a large portion of the transportation infrastructure in the Chanhassen and Victoria communities within Carver County. Such impactful and significant improvements often change how traffic moves through an area, both locally and regionally. Due to the proximity to the projects and role Minnewashta Parkway plays in the area transportation system, a study of this corridor was performed.

The study examined traffic conditions and safety on Minnewashta Parkway in Chanhassen and Victoria, Carver County, and focused on potential impacts from the expansion of Highway 5 and changes to the Landscape Arboretum site. Key findings include below-average corridor crash rates, adequate capacity to serve existing and future volumes, as well as a trend of higher than desired vehicle speeds. The study ultimately makes recommendations for various proven traffic calming measures such as narrower lanes and curb extensions to address speeding and enhance safety. Maintaining the current speed limit of 30 miles per hour is recommended due to limitations in the effectiveness of a decreased speed limit. Additionally, the report suggests careful implementation of pedestrian crosswalk, all-way stop, and speed limit policies to ensure uniformity on Chanhassen's roadways and appropriate engineering solutions are utilized.

The proposed expansion of Highway 5 is expected to drastically influence systematic traffic trends and patterns, likely reducing cut-through traffic on Minnewashta Parkway as Highway 5 delays are drastically reduced. The project will also improve corridor safety along Highway 5 as a divided section is introduced, conflict points are limited through access management, and intersection traffic control improvements are made. Changes to the Landscape Arboretum site, including a new entrance opposite to Minnewashta Parkway, may affect area traffic flow, but analysis indicates minimal impact on Minnewashta Parkway volumes.

Public engagement efforts, including a neighborhood meeting, facilitated community input, with suggestions including relocating the Arboretum entrance and implementing traffic control measures to restrict non-neighborhood traffic from using the roadway. The recommendations made are aimed at introducing traffic calming and reduced speeds on the roadway. Effective implementation may help discourage cut-through traffic as it is more uncomfortable to travel quickly through the corridor. This effect would be considered a secondary benefit.

Short- and long-term traffic calming measures are recommended to maintain the desired level of safety on the corridor and to reduce vehicle speeds. Investment in properly engineered countermeasures, along with appropriate enforcement are likely the most feasible tools for reducing speeds. Engagement with the neighborhood, those who drive the corridor the most, may also be an effective tool in campaigning for slower and more cautious driving on Minnewashta Parkway.

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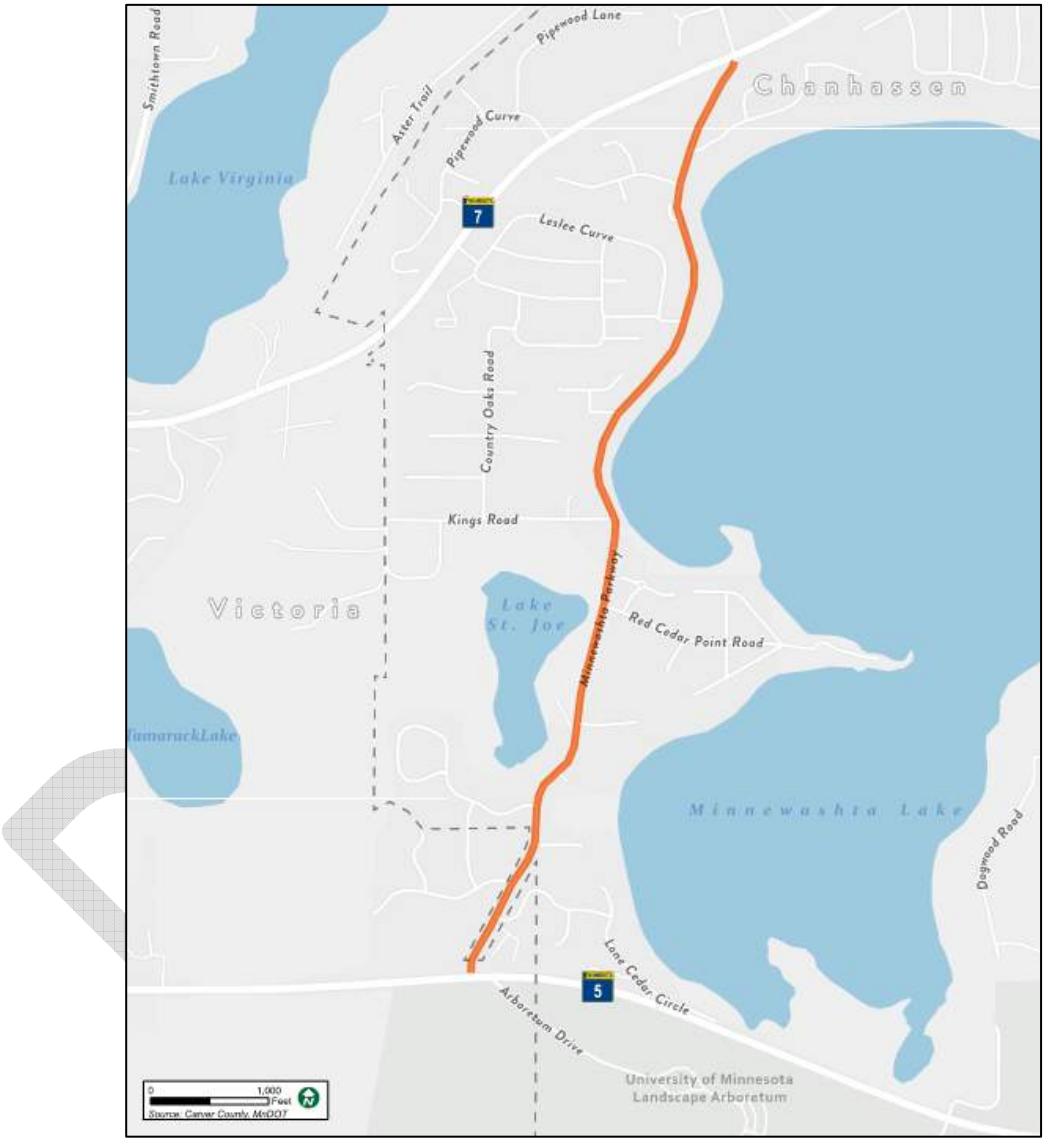
I. Introduction

The contents of this report are intended to summarize a study of the traffic volumes, patterns and crash history of Minnewashta Parkway and how the proposed expansion of Truck Highway (TH) 5 and associated improvements may impact the roadway. The roadway is located in the cities of Chanhassen and Victoria, Carver County, and is bordered by TH 5 and TH 7.

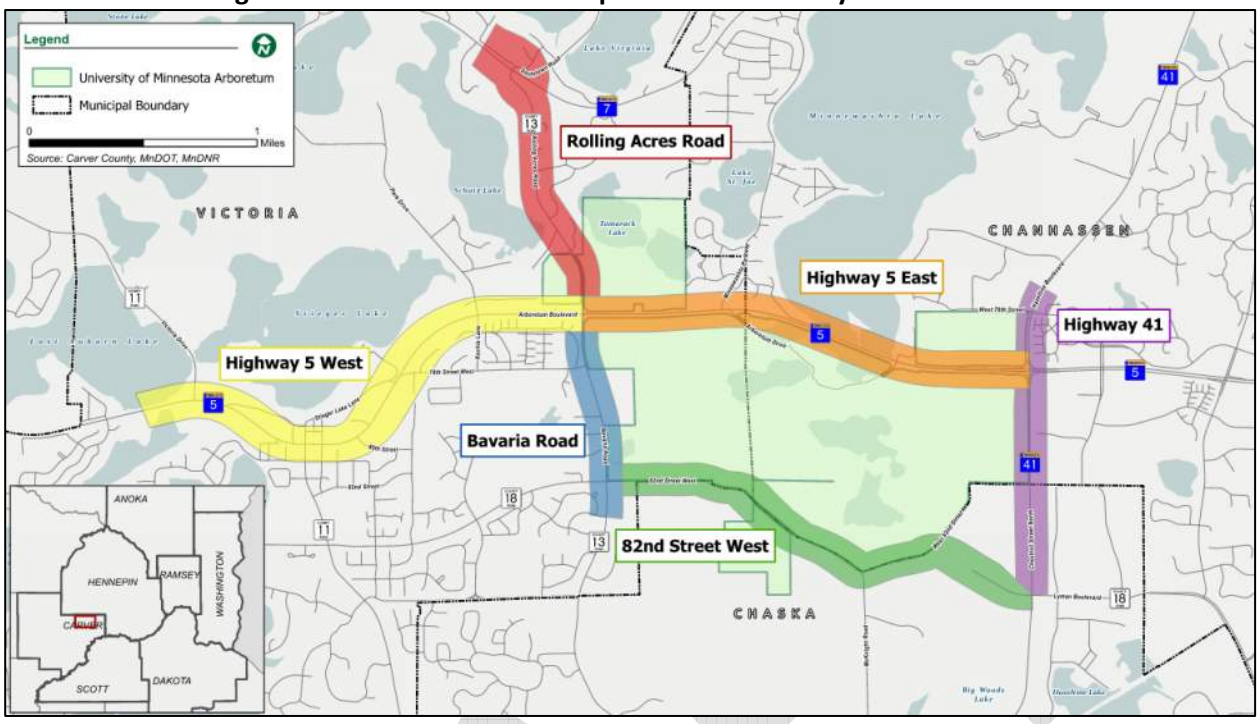
Figure 1: Study Area



II. Previous Studies and Projects

Carver County, in partnership with the Cities of Chanhassen, Chaska, and Victoria, and the Minnesota Department of Transportation (MnDOT), performed a study of the transportation network surrounding the University of Minnesota's Landscape Arboretum and adjacent roadways to establish a vision for various state, county, and local roadways in the area. The study identified existing and potential future deficiencies in the transportation system relating to local and regional mobility, safety, among others, in an area experiencing significant population growth. The study took place between 2018 and 2020.

Figure 2: Arboretum Area Transportation Plan Study Area Overview



The study, named the Arboretum Area Transportation Plan (AATP), made significant recommendations to expand TH 5 to a four-lane section from TH 41 in Chanhassen to County State Aid Highway (CSAH) 11 in Victoria to provide greatly improved capacity to serve the forecasted demand. TH 5 and adjacent roadways would be modernized to improve access control and vehicle safety, and non-motorized facilities would be expanded to better serve pedestrian and bicycle travel through the area. Intersection traffic control at major intersections within the study area was analyzed to determine the best intersection control types to meet study goals.

The AATP featured considerable public engagement efforts. Engagement events targeting broad and specific audiences were performed both in person and online. During this engagement, residents in the Minnewashta Pkwy neighborhood voiced concerns of how the project might impact traffic on the roadway. The AATP team held one public meeting specific to Minnewashta Pkwy in order to present information specific to the roadway and answer questions from stakeholders. Residents voiced pedestrian and vehicle safety concerns during this engagement. Further concerns about Arboretum traffic using the roadway and increasing traffic volumes on Minnewashta Pkwy due to the relocation of the Arboretum Entrance were also raised.

Occurring during and independently of AATP study, the City of Chanhassen performed major rehabilitation work on Minnewashta Pkwy. Spot locations for improved drainage, trail facilities, and pavement rehabilitation were included. The project staging required closure of the roadway which necessitated the installation of a temporary signal at the intersection of Minnewashta Pkwy at TH 5 to facilitate safe and efficient access to and from the neighborhood. Through outreach between the city and MnDOT, residents requested the temporary signal remain in place until the permanent signal is installed by the Highway 5 Improvements Project. An all-way stop was implemented at the intersection of Kings Rd during construction to help with the changes in traffic flow and aid movement of construction materials and equipment as the staging yard was nearby.

III. Existing Conditions

A. Corridor Characteristics

Minnewashta Pkwy is an urban two-lane roadway featuring 16' travel lanes with curb and gutter. A paved trail parallels the roadway; the trail is on the west side of the road north of Kings Rd and crosses to the east side at Kings Rd until reaching TH 5. The trail is typically 10' wide but does narrow to 5' at one pinch point between Stratford Ln and Glendale Dr. Due to area topography, the trail is often adjacent to the back of curb or against retaining walls. A double solid centerline is striped throughout. Marked crosswalks are provided at several locations.

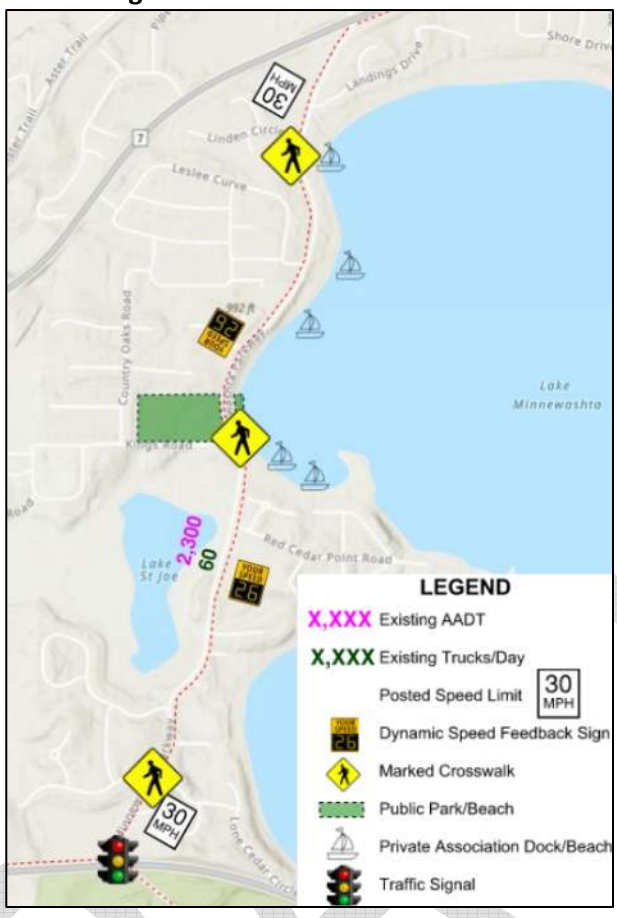
Figure 3: Trail and Crossing Conditions

Due to the presence of Lake Minnewashta on the east side of the alignment, mid-block crossings in unmarked locations are common as residents living west of the roadway cross the roadway to access private docks and beaches east of the roadway. Major recreational attractions in the area include Roundhouse Park and Public Beach and the Landscape Arboretum south of TH 5. An underpass of TH 5 carries this trail onto Arboretum property.

The posted speed limit on Minnewashta Pkwy is posted at 30 miles per hour. Vehicle speed feedback signs are also posted along the corridor; one facing north near Maple Shores Dr and one facing south near Stratford Ln.

The land use around the roadway is entirely low density residential and parks/open space. There are no planned land use changes and small areas of potential redevelopment/lot splitting exist.

Figure 4: Corridor Considerations



B. Functional Classification

Minnewashta Pkwy is identified as a major collector roadway and is specifically listed in the City of Chanhassen's 2040 Comprehensive Plan:

"This street serves as the only north/south route between TH 5 and TH 7 west of Lake Minnewashta. It is also located such that it likely serves some through trips from outside the city along TH 5, traveling to the north to TH 7, as well as locally generated traffic along its route."

Due to the location of Lake Minnewashta, the Minnewashta Pkwy neighborhood, the route serves as a north-south connection between major highways CSAH 13 (Rolling Acres Rd) to the west and TH 41 to the east, the gap between these ranges from 2-3 miles.

C. Data Collection

Data was collected at three intersections within the study area at the intersections of TH 5, Kings Rd, and TH 7 which counted the number of vehicles turning at each intersection in May of 2023. AM and PM peak hours were identified from the 13 hours of counted data and were identified as 7:30 – 8:30 AM and 5:00 – 6:00 PM. Count data is provided in **Appendix A**.

Annual Average Daily Traffic (AADT) volumes were obtained from MnDOT's Traffic Mapping Application. Daily volumes on the roadway range from 2,150 to 2,500 vehicles per day (2019 data). Counts collected in May of 2023 aggregated vehicle types between normal passenger cars and light duty trucks versus heavy trucks; approximately 60 heavy trucks per day, or 2.6% the total daily volume, were recorded traveling the parkway in the 13-hour period

observed.

D. Crash History

Crash data from the Minnesota Department of Public Safety was collected via MnDOT's Crash Mapping Application and analyzed to identify crash trends and calculate corridor and intersection crash rates, as applicable. Data was collected for a 10-year period between 2013 and 2022, full crash report details and crash rate screening worksheet provided in **Appendix B.**

Table 1: Segment Crash Summary

Segment	Total Crashes (2018-2022)	Crash Severity					Crash Rate			
		Fatal	Serious Injury	Minor Injury	Possible Injury	Property Damage Only	Seg. Rate	*Statewide Average*	*Critical Rate*	Crash Index
Minnewashta Pkwy (TH 5 to TH 7)	4	0	0	0	0	4	0.63	*0.83*	*1.84*	0.34

Performing an analysis of the most recent five full years of crash data shows the corridor is operating with a below average crash rate when compared to similar roadways in Minnesota. The calculated crash index of 0.34 indicates that the segment is operating within the statistically expected safety range and a crash issue is not present. A critical crash index of 1.0 or above indicates that the intersection is operating with a statistically significant crash rate and is outside of the expected safety range.

An analysis of the full 10 years of crash data available found that 12 crashes have occurred and were reported to law enforcement within the study area during that time. No intersection within the corridor featured more than one multi-vehicle crash and only two multi-vehicle crashes occurred during the analysis period. The remaining 10 crashes were all reported as single-vehicle crashes with a vehicle running off the roadway and striking a fixed object. Of these crashes:

- Two involved an intoxicated driver
- Eight involved a male driver younger than 20 years old
- Five mentioned speeding in the crash report narrative as a potential attributing factor

The occurrence of crashes involving young or inexperienced drivers, intoxication, and speeding are all more prevalent on Minnewashta Pkwy than is observed statewide according to MnDOT's latest Strategic Highway Safety Plan. According to data listed in the plan, driver inexperience, driver intoxication, and speeding account for 6%, 4%, and 11% of statewide crashes, respectively. Engineering alone cannot mitigate and prevent these crash types from occurring.

E. Speed Study

Speeding on Minnewashta Pkwy is the primary issue residents have raised to city staff and officials in the past. These concerns have since been increased after the 2020 Minnewashta Pkwy construction project and in advance of the TH 5 Improvements project. As such, an analysis of corridor speeds was conducted.

Vehicle quantities and speeds were collected at four locations in May of 2023. Inconspicuous radar equipment was used to not influence driver behavior and to collect 48

continuous hours in both directions. The two data collection days were weekdays without adverse weather conditions that would otherwise impact driving speeds.

Figure 5: Speed Observation Locations

The 48 hours of data was aggregated across each collection point and direction of travel to determine average and 85th percentile speeds at each location. Raw speed data is provided in **Appendix C.** 85th percentile speeds are traditionally used to establish posted speed limits. Speed limits are set based on the speed at which most traffic drives at, not the other way around, and generally align with speeds that feel comfortable on the roadway and surrounding environment.

Table 2: Speed Data Summary

Location	Posted Speed Limit (mph)	Avg Speed (mph)			85th Speed (mph)		
		NB	SB	Avg	NB	SB	Avg
N of Roundhouse Park	30	31.23	31.19	31.21	**35**	**35**	**35.0**
S of Kings Rd	30	33.17	32.52	32.85	**38**	**38**	**38.0**
S of Lakeridge Rd	30	32	29.17	30.59	**36**	**33**	**34.5**
S of Landings Rd	30	30.56	30.52	30.54	**35**	**35**	**35.0**

The collected data finds that average speeds at three of the four collection points are greater than the posted speed limit of 30 mph. More significantly, the 85th percentile speeds at all locations are between three and eight mph greater than the posted speed limit.

If an official speed study was requested of the MnDOT commissioner for Minnewashta Pkwy and the data above was collected, the outcome would likely be an increase of the posted speed limit to 35 mph. The alternative to raising speed limits is implementing countermeasures to introduce traffic calming and reducing vehicle speeds.

F. Travel Patterns

A better understanding of travel patterns along Minnewashta Pkwy is needed to answer several questions; who uses the roadway on a day-to-day basis and what trips does the route serve.

StreetLight Insight GPS data was used to determine that 70% of the daily traffic using Minnewashta Pkwy is local, non-cut through traffic (e.g. vehicles are not going to TH 5 from TH 7 and vice versa). These trips are found to either have a trip beginning or end within the Minnewashta Pkwy area. 20% of trips using Minnewashta Pkwy are between 1-5 miles in length and a further 33% are between 5-10 miles in length, indicating that the majority of trips (53%) using the roadway are short, local trips within the immediate Victoria, Chanhassen, and Excelsior communities.

G. Field Walk

A field walk of the corridor was conducted on July 24, 2023, to take a firsthand note of corridor issues as they relate to pedestrian and vehicle safety. Consultant staff were joined by City and County staff, as well as one resident who lives along Minnewashta Pkwy. Key observations are summarized below, and notes collected are provided in **Appendix D**.

- Walking along the trail felt comfortable
- Driver speeds were noticeably slower when driving past the field walk group
- Sightlines are limited in several areas due to roadway curvature and vegetation
- Kings Road crossing sightlines are questionable due to vegetation overgrowth. Observed a driver park in the northbound through lane to drop off children and beach gear at the public beach.

IV. Build Conditions

A. Highway 5 Improvements Project

The Highway 5 Improvements project proposes to widen TH 5 to a four-lane divided roadway from TH 41 to Commercial Avenue in Victoria. The expansion adds significant capacity to the system, provides improved intersection traffic control at several locations, and will reduce congestion and travel times through the area during peak hours. Such an improvement often has impacts on travel patterns on adjacent roadways. In the case of Minnewashta Pkwy where cut through traffic is observed, an expansion of TH 5 will likely result in reduced cut through traffic.

The largest bottleneck on TH 5 which may impact Minnewashta Pkwy traffic is the eastbound TH 5 to northbound TH 41 movement. The existing signal is a bottleneck and a time saving route to access TH 7 may be Minnewashta Pkwy. Reduced delays at the TH 41 intersection will disincentivize making the cut through onto a lesser roadway. Using existing and forecasting turning movements for this movement, as well as the reverse southbound to westbound movement, a cut through reduction can be estimated. Similarly, if no improvements are made to TH 5, cut-through traffic on Minnewashta Parkway may increase as more congestion is seen on TH 5. The forecasted volumes were calculated using Carver County's 2040 Travel Demand Model, a Met Council approved estimate of future traffic patterns which utilized significant amounts of planning data relating to forecasted employment, economic, and household data inputs.

Table 3: Minnewashta Pkwy Daily Volumes – Scenario Summary

Scenario	Daily Traffic Volume (vpd) on Minnewashta Pkwy
Existing Weekday	2,300
Existing Weekend Day	1,700
2027 Build (Opening Day)	1,950
2045 No Build	6,600
2045 Build	3,000 - 4,000

B. Landscape Arboretum Considerations

The Arboretum is a significant regional destination and trip generator in the project area. The AATP study team met with the Arboretum to understand their long-term goals and transportation needs resulting in recommendations in changes to site circulation, access points, and site operations. Analysis of the site reconfiguration options and how each may impact Minnewashta Pwky were conducted.

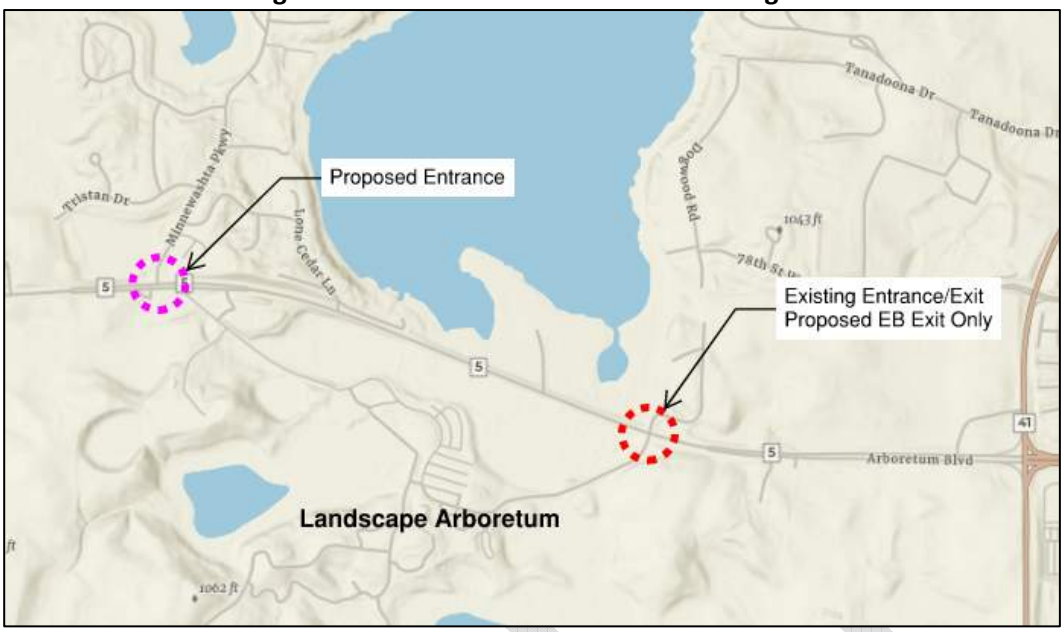
According to the Arboretum, over 500,000 visitors per year visit the campus (including the Arboretum, Bee Center, Apple House, and other ancillary facilities). Gate house data provided by the Arboretum across three years was used to better understand daily attendance in terms of vehicle trips. Three Arboretum peak traffic scenarios were identified in this analysis and an estimated number of trips generated for each scenario was calculated:

- Average weekday: 825 vehicles per day
- Peak event weekday: 2,860 vehicles per day
- Peak event weekend: 4,800 vehicles per day

Note that Arboretum grounds hours are generally 8 AM to 5 PM with exceptions made for special events such as Winter Lights. Peaks in entering traffic generally do not overlap with typical AM and PM peak hours during the weekdays. However, Winter Lights is a week's long event in the evenings during December. The event generally opens at sunset which may overlap with the PM peak hour and is therefore the most likely to cause operational issues on surrounding roadways. It should be noted that the Arboretum accounts for this during event planning by chartering Southwest Metro Transit buses to ferry attendees from other parking lots and area park-and-rides as well as careful site and operations planning.

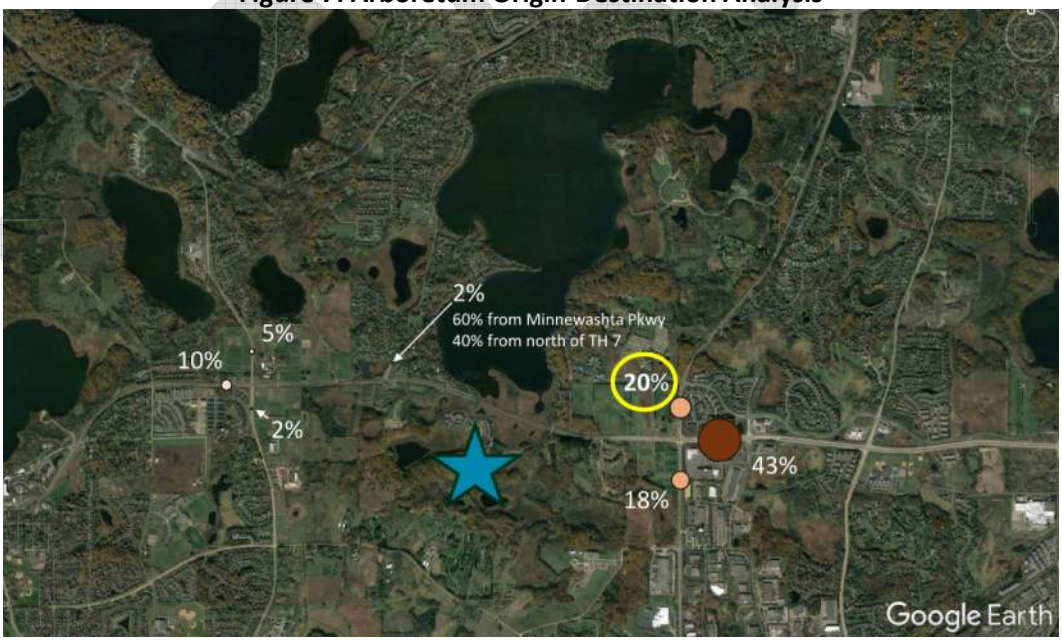
Also of note are the planned reconfigurations of the Arboretum site. The existing entrance at Arboretum Drive is planned to be reconfigured to an exit only location. Visitors would only be able to access eastbound TH 5 at this exit. A new main entrance is planned to be at the TH 5 and Minnewashta Pkwy intersection by forming the south leg to the existing intersection. Realigning the entrance to this location ensures that signal warrants are met at the intersection. Signal warrants are a MnDOT requirement for installing a permanent traffic signal on a trunk highway. However, the realignment of this access point across from Minnewashta Pkwy has raised concerns among residents in the Minnewashta Parkway neighborhood that this may cause traffic volumes to increase on Minnewashta Pkwy.

Figure 6: Arboretum Access Location Changes



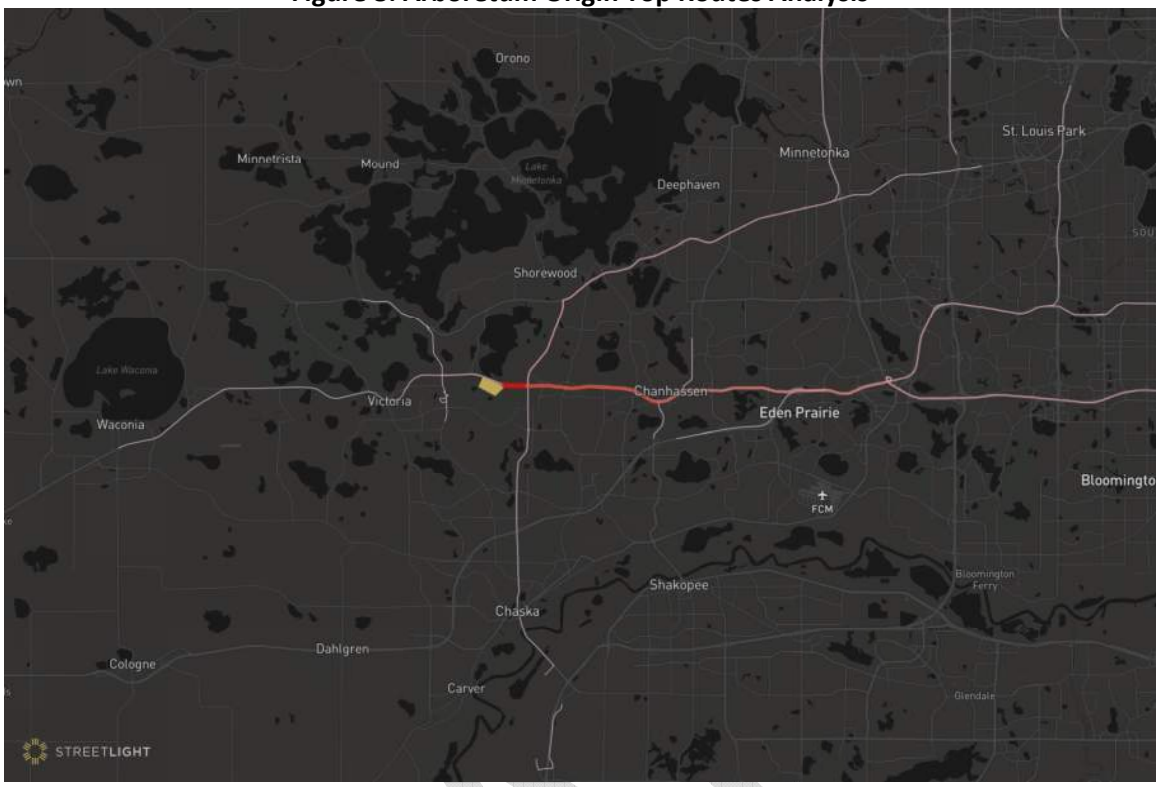
To better understand how these site reconfigurations may influence travel patterns on TH 5, an Origin-Destination (O-D) analysis was performed for the site using StreetLight GPS data. These findings are reflective of the existing site configuration, but the extents of the analysis were set to mitigate any changes in microscopic site changes and rather capture macroscopic travel patterns.

Figure 7: Arboretum Origin-Destination Analysis



81% of all traffic destined to and leaving the Arboretum travels through the TH 5 at TH 41 intersection east of the Arboretum. Just 2% of Arboretum traffic uses Minnewashta Pkwy, the majority of which is from the Minnewashta Pkwy neighborhood. Further analysis confirms the most utilized routes to travel to and from the Arboretum those being TH 5, TH 41, and CSAH 13. This further reinforces that the majority of Arboretum traffic comes from the east and returns to the east.

Figure 8: Arboretum Origin Top Routes Analysis



With an understanding of existing travel patterns and where Arboretum-bound trips are originating, estimates of how these patterns may change due to the TH 5 project improvements and Arboretum site changes can be developed.

Travel time and distance are the most prevalent indicators in driver decision making when selecting routes. The TH 5 preliminary design project collected existing traffic volumes throughout the project area and speed data and extensively modeled existing and proposed traffic scenarios which can be used to confidently predict travel times to and from the Arboretum. Using this data, travel times were estimated for traffic entering and existing the Arboretum via its new access across from Minnewashta Pkwy. This exercise specifically considers trips between the Arboretum and TH 7 as this is the only movement that may benefit from using Minnewashta Pkwy rather than other routes.

Figure 9: Entering Arboretum Travel Times

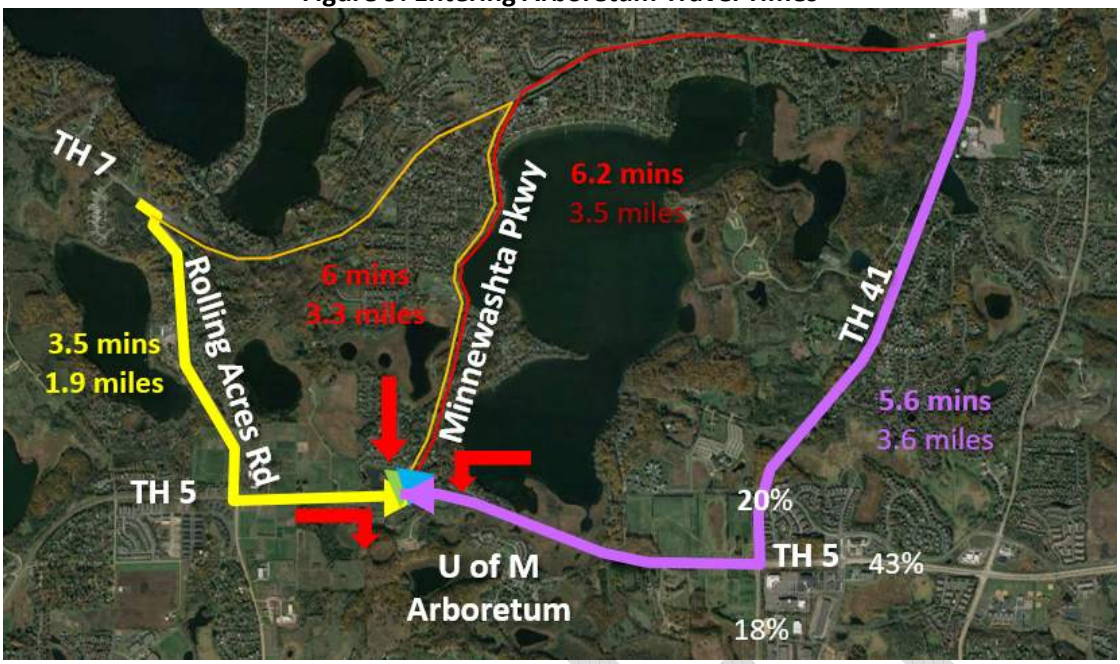
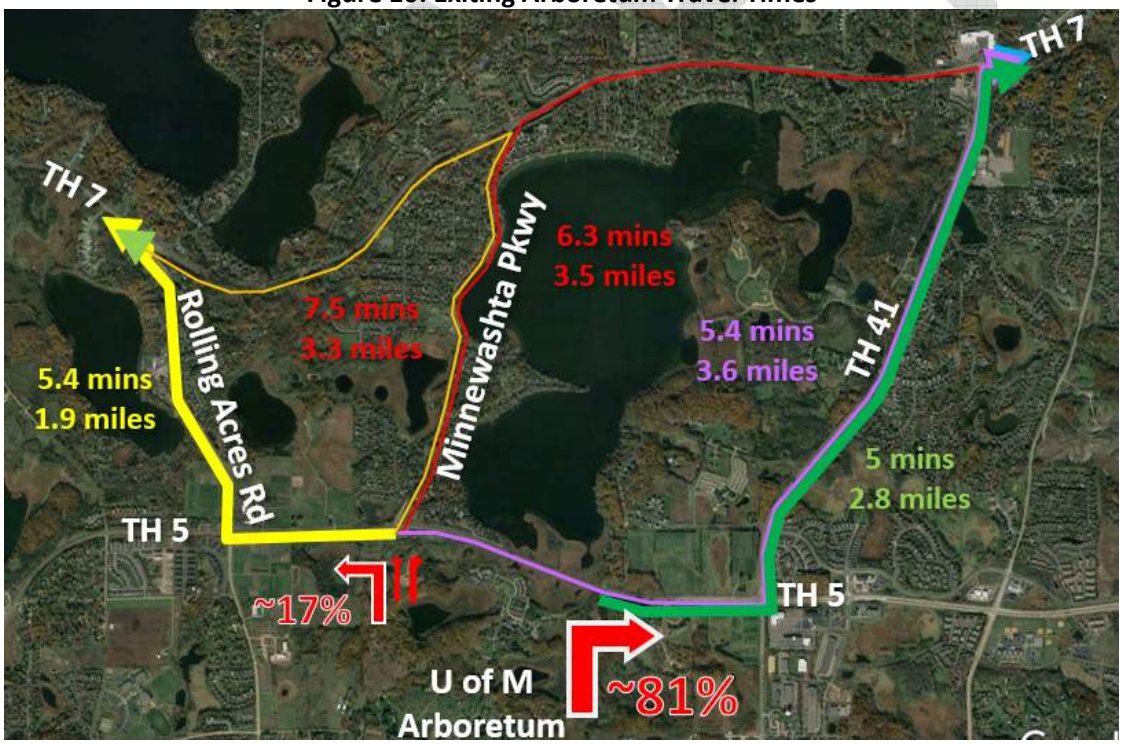


Figure 10: Exiting Arboretum Travel Times



CSAH 13 (Rolling Acres Rd), Minneashta Pkwy, and TH 41 were analyzed as the potential connections between TH 5 and TH 7. The fastest routes to and from the Arboretums new entrance and TH 7 are via CSAH 13 (Rolling Acres Rd) and TH 41. As such, relocating the Arboretum entrance to its proposed location is not anticipated to add notable traffic volumes to Minnewashta Pkwy. However, Arboretum-destined traffic traveling westbound on TH 7 may be advised to utilize Minnewashta Pkwy rather than TH 41 by GPS navigation applications as the travel distance is 0.1 miles shorter in distance. Note that the travel times shown are during peak hours where congestion-induced delays are highest. In off-peak periods, the travel time differences between Minnewashta Pkwy and other primary routes

will be greater than what's shown above and the likelihood of using Minnewashta Pkwy as a cut through route will be further diminished.

To analyze a potential 'worst-case scenario', an exercise was performed to determine the potential for Arboretum-bound traffic using Minnewashta Pkwy rather than TH 7 to TH 41. In this event, it was assumed that a major traffic delay on TH 41 occurred on an entire weekday and during the busiest day of the year in terms of Arboretum attendance. Navigation applications, such as Google Maps, would route 100% of westbound TH 7 traffic bound for the Arboretum to Minnewashta Pkwy. Using O-D data, it was estimated that 572 trips would be added to Minnewashta Pkwy throughout the whole day. The same worst-case event occurring on the Arboretum's busiest weekend day may add 960 trips to Minnewashta Pkwy on that day. This additional traffic would result in a 25% increase in traffic seen on Minnewashta Pkwy on that day.

There are several reasons why the above analysis is not cause for concern in terms of Minnewashta Pkwy traffic operations and safety.

1. The scenario assumes a major incident takes place on TH 41 for one entire day. It is highly unlikely a trunk highway would experience such a lengthy delay and should not be used to determine anything other than a worst-case analysis.
2. This scenario would also impact non-Arboretum destined traffic on TH 41 which makes up over 96-99% of traffic on the roadway. In the hypothetical event, non-Arboretum traffic would be much more likely to overwhelm Minnewashta Pkwy and other surrounding roadways as regional travel patterns are affected.
3. The projected increases in traffic aren't abnormal in terms of existing daily fluctuations in traffic volumes on Minnesota roadways. Daily traffic volumes may fluctuate across each day of the week and month of the year.
4. A 25% increase in daily traffic volume on Minnewashta Pkwy is unlikely to cause noticeable delays and congestion. The flow rate, or number vehicles passing a location per minute, may increase from 2.5 vehicles per minute under normal circumstances to 3.1 vehicles per minute during this worst-case scenario.

V. Traffic Calming Measures

A. Traffic Calming Background

The speed study found that vehicle speeds on Minnewashta Pkwy are higher than desired and would warrant an increase in posted speed limit unless speeds can be controlled by traffic calming countermeasures.

As the national traffic safety mentality pushes towards an initiative called the Safe Systems Approach, which is aimed at limiting roadway fatalities, the focus on vehicle speeds becomes more prevalent in the discussion. Decades of traffic safety data point towards one clear finding: lower speeds result in less crashes, and fewer injuries. National guidelines for implementing traffic calming on public roadways have been published by the FHWA's *Traffic Calming ePRimer*. The document defines traffic calming as "support[ing] the livability and vitality of residential and commercial areas through improvements in non-motorist safety, mobility, and comfort. These objectives are typically achieved by reducing vehicle speeds or volumes on a single street or a street network. Simply lowering posted speed limits and increasing signage is shown to be ineffective in reducing driving speeds and may cause safety issues to worsen. Effective traffic calming measures consist of horizontal, vertical, lane narrowing, roadside, and other features that use self-enforcing physical or psycho-

perception means to produce desired effects."

In other words, true traffic calming can only be achieved by changing driver behavior by influencing comfort levels when driving at target speeds. This is most effectively achieved by altering roadway geometry and characteristics. Five core methods of traffic calming are provided; horizontal deflection, lateral deflection, street width reduction, and roadsides. Routing restrictions, or reducing or closing route circulation, is not feasible due to the roadway classification and purpose served by Minnewashta Pkwy.

B. Recommended Traffic Calming Applications

The simplest traffic calming strategy to deploy is narrower travel lanes. This can be achieved by restriping the roadway to feature 11' travel lanes via a wide (6") shoulder stripe.

Figure 11: Shoulder Striping

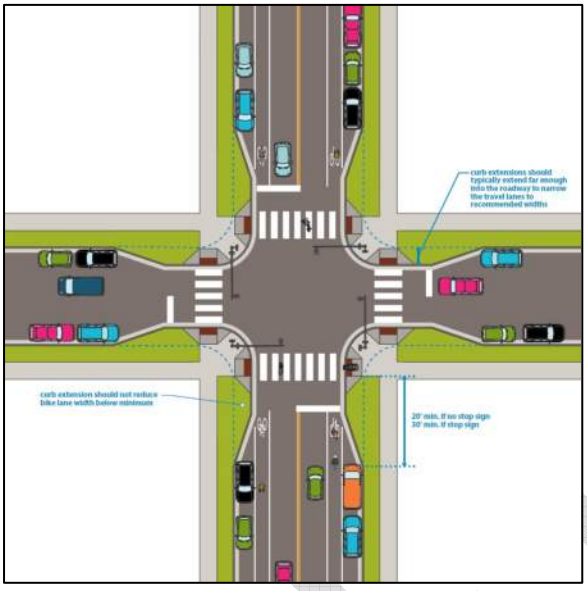
In-road crosswalk signs (R1-6a) may be placed on the centerline at key pedestrian crossing locations. These signs show increased stop/yield compliance to pedestrians and offer slight traffic calming benefits.

Figure 12: In-Road Crosswalk Signs

Curb extensions, or bump outs, should be considered at key pedestrian crossing locations or intersections. The Kings Road intersection and adjacent beach/park area are where pedestrian traffic is focused and is a corridor mid-point where speeds may be faster. These

also increase pedestrian safety as crossing distances are shortened.

Figure 13: Curb Extensions



A review of intersection lighting, corridor signage, and sightlines are also recommended for improved safety and traffic calming potential. All public street intersections currently feature intersection lighting, but light type and placement could be altered to better light pedestrian crossings and change the character of the intersection. Outdated and non-compliant signage is present and should be removed and updated. Vegetation blocking signage should be trimmed or removed to the greatest extent possible to improve visibility of those signs.

Increased speed enforcement should be discussed and coordinated with local law enforcement, but balanced use of these resources often makes routine enforcement challenging to perform.

A mini roundabout is not recommended for implementation at Kings Road. While this treatment does offer significant traffic calming and pedestrian safety benefits, it may be challenging to construct a properly sized roundabout at this location without significant impacts to the nearby lake, wetlands, private property, or park areas. Mini roundabouts with smaller inscribed diameters offer less of a traffic calming effect as desirable vehicle deflection angles cannot be achieved.

The recommended countermeasures should be implemented incrementally until the desired traffic calming effect, or target speed reduction, is achieved. Periodic speed data collection should be performed before and after each countermeasure is constructed to determine its effectiveness and determine if additional treatments are needed.

C. Kings Road All-Way Stop

A review of the need for implementing AWSC at this intersection considers entering traffic volumes, intersection sightlines, and historical crash data per Minnesota Manual for Minimum Uniform Traffic Control Devices (MnMUCTD) Section 2B.7 Multi-Way Stop Applications.

Per the MnMUTCD, the decision to install AWSC should be based on an engineering study. According to MnMUTCD Chapter 2B.7, the following criteria should be considered:

A. Where traffic control signals are justified, the multi-way stop is an interim measure to

control traffic while traffic control signal construction is underway;

B. Five or more reported crashes within a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left turn collisions as well as right-angle collisions.

C. Minimum volumes:

1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and

2. The combined vehicular, pedestrian, and bicycle volume entering the intersection for the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but

3. If the 85th-percentile approach speed of the major street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in items 1 and 2.

D. Where no single criterion is satisfied, by where Criteria B, C.1 and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

Other criteria that may be considered in an engineering study include:

A. The need to control left turn conflicts;

B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;

C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and

D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.

Based on these considerations and an analysis of the King's Road intersection finds the following:

A. No traffic control signal is planned or warranted to the study intersection.

B. Crash data obtained from MnDOT's crash database indicates only 2 crashes have been reported at the intersection within the last ten years. The crash history does not meet the crash threshold for implementing intersection control.

C. The volumes observed at the intersection major and minor approaches do not meet the prescribed thresholds for any hours of the day.

D. Even with a 70 percent reduction in volume thresholds, hourly volumes on the major and minor approaches do not meet the reduced thresholds for any hours of the day.

None of the Criterion D items apply to the intersection. While the intersection is adjacent to a city park, beach, and trail, these locations do not generate what might be classified as "high pedestrian" numbers. Field observations at the crossing did see a well-used crossing, but few crossing movements were actually required to interact with oncoming traffic. Warrants analysis results are provided in **Appendix E.**

Additionally, all-way stop control intersections should not be used as traffic calming devices

as documented by the City of Chanhassen's stop signs policy - "*Stop signs are often requested to control speeds and/or to encourage traffic to use other routes. A stop sign is ineffective as a comprehensive speed control device. Stop signs installed without meeting proper criteria, result in high occurrence of violations and increased disrespect for traffic signs in general. Speed reduction is usually only effective in the immediate vicinity of the stop sign. Increased speeds between intersections often occur as drivers attempt to make up time lost."* This policy is based on industry standard best practice as applies to intersection traffic control and traffic calming.

D. Posted Speed Limits

It is recommended that the existing 30 mph posted speed limit be maintained granted proper traffic calming countermeasures are implemented.

Lowering the posted speed limit on Minnewashta Pkwy, or any roadway, is not an effective strategy for lowering vehicle speeds. The City of Chanhassen's speed limit policy, which is based on industry standard practices, states that "*Although it is a commonly held belief that posting a speed limit sign will reduce speeds, research indicates that a driver's speed is influenced more by their comfort level driving on the road which can be commonly related to the geometrics of the road and the prevailing traffic conditions rather than the posted speed limit. Additionally, if speed limit signs are posted artificially low, many drivers will ignore posted limits while some drivers will stay within the posted limits. This creates a conflict between faster and slower moving drivers and an increase in the number of accidents."*

Citywide speed limit implementation is a hot button topic in the traffic engineering and public safety realms with several Twin Cities municipalities implementing these policies in recent years. A 2023 study[1] of St Louis Park's program analyzed before and after speed data at 24 sites within the city. On average, speeds decreased between 1-2 miles per hour, far less than the drop in posted speed limits. The change in average speeds ranged from a 7 mph decrease to a 2.4 mph increase. Additionally, an increase in speed variance at all sites was observed. The study concluded that "changes in posted speed limits do not lead to speed decreases" and explained that driving is a habitual behavior and such a change in behavior may need to take place over a much longer period of time unless a change in roadway characteristics is implemented. Implementing such a policy requires a systemwide engineering study before adoption.

VI. Other Considerations

A. Pedestrian Crosswalk Policy

Numerous marked crosswalks across Minnewashta Pkwy are in place. While crosswalks raise visibility of crossing areas to drivers, they can create a false sense of security for pedestrians. As such, methodical practice should be applied when installing adequate crossing facilities. The City of Chanhassen has developed a Crosswalk Policy which establishes guidelines for proper treatment on city streets. When applying the policy to the Kings Road intersection, recommended treatment options include a marked crossing with road-side signs and in-roadway (bollard mounted) signage. Rectangular Rapid Flashing Beacon (RRFB) devices provide enhanced visibility and high yielding compliance rates but are typically not used on lower-volume, low-speed two-lane roadways. The Crosswalk Policy

[1] Impact of Speed Limit Changes on Urban Streets, LRRB 2023-22. https://mdl.mndot.gov/items/202322

should be applied as intended.

VII. Public Meeting and Engagement

The Highway 5 Improvements project team hosted a neighborhood meeting on November 1, 2023, to share the results of the traffic study and talk with residents. More than 500 postcards were mailed out to homeowners in the surrounding area. 25 Individuals attended the meeting, and five comment cards were received at the neighborhood meeting. Suggestions from attendees included relocating the Arboretum entrance, reducing speed limits, and implementing traffic control measures.

VIII. Recommendations

The following recommendations are made to introduce traffic calming on Minnewashta Pkwy and maintain the existing safety performance of the roadway:

1. Maintain 30 mph posted speed limit
2. Restripe roadway to feature 11’ travel lanes
3. Evaluate feasibility of curb extensions at all public street intersections and pedestrian crossing locations with a focus on the Kings Rd and Roundhouse Park area
4. Provide in-road pedestrian crossing signs at the Kings Rd pedestrian crossing
5. Review intersection lighting throughout the corridor
6. Review and update existing signage throughout the corridor to ensure outdated signs are removed, reflectivity standards are met, and adequate sight distance to signage is provided
7. Provide routing speed enforcement via local law enforcement

Appendix A: Traffic Count Data

Bolton & Menk, Inc.

Turning Movements Counts

TH 5 at Minnewashta Pkwy
Carver County, MN

File Name : 6 - TH 5 at Minnewashta Pkwy 24hr
Site Code :
Start Date : 5/16/2023

Groups Printed- Cars - Trucks

	Minnewashta Pkwy From North				TH 5 From East				Private Driveway From South				TH 5 From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 AM	0	0	0	0	1	12	0	0	0	0	0	0	0	11	1	0	25
12:15 AM	0	0	0	0	1	13	0	0	0	0	0	0	0	9	0	0	23
12:30 AM	0	0	0	0	2	15	0	0	0	0	0	0	0	8	0	0	25
12:45 AM	0	0	0	0	1	4	0	0	0	0	0	0	0	4	0	0	9
Total	0	0	0	0	5	44	0	0	0	0	0	0	0	32	1	0	82
01:00 AM	0	0	0	0	0	8	0	0	0	0	0	0	0	6	0	0	14
01:15 AM	0	0	0	0	0	7	0	0	0	0	0	0	0	7	0	0	14
01:30 AM	0	0	1	0	1	10	0	0	0	0	0	0	0	3	0	0	15
01:45 AM	0	0	0	0	1	8	0	0	0	0	0	0	0	0	1	0	10
Total	0	0	1	0	2	33	0	0	0	0	0	0	0	16	1	0	53
02:00 AM	0	0	0	0	2	17	0	0	0	0	0	0	0	2	0	0	21
02:15 AM	0	0	1	0	1	6	0	0	0	0	0	0	0	7	0	0	15
02:30 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	7	0	0	10
02:45 AM	0	0	0	0	0	6	0	0	0	0	0	0	0	5	0	0	11
Total	0	0	1	0	3	32	0	0	0	0	0	0	0	21	0	0	57
03:00 AM	0	0	0	0	0	7	0	0	0	0	0	0	0	9	0	0	16
03:15 AM	0	0	1	0	0	2	0	0	0	0	0	0	0	12	0	0	15
03:30 AM	0	0	0	0	1	6	0	0	0	0	0	0	0	21	0	0	28
03:45 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	22	0	0	26
Total	0	0	3	0	1	17	0	0	0	0	0	0	0	64	0	0	85
04:00 AM	0	0	0	0	0	6	0	0	0	0	0	0	0	24	0	0	30
04:15 AM	0	0	1	0	0	5	0	0	0	0	0	0	0	36	0	0	42
04:30 AM	0	0	0	0	0	7	0	0	0	0	0	0	0	48	0	0	55
04:45 AM	0	0	3	0	0	9	0	0	0	0	0	0	0	74	2	0	88
Total	0	0	4	0	0	27	0	0	0	0	0	0	0	182	2	0	215
05:00 AM	1	0	6	0	0	10	0	0	0	0	0	0	0	75	1	0	93
05:15 AM	0	0	3	0	0	19	0	0	0	0	0	0	0	131	0	0	153
05:30 AM	1	0	8	0	1	29	0	0	0	0	0	0	0	173	1	0	213
05:45 AM	1	0	6	0	3	38	0	0	0	0	0	0	0	191	9	0	248
Total	3	0	23	0	4	96	0	0	0	0	0	0	0	570	11	0	707
06:00 AM	1	0	4	0	1	50	0	0	0	0	0	0	0	181	2	0	239
06:15 AM	4	0	1	0	3	60	0	0	0	0	0	0	0	231	2	0	301
06:30 AM	4	0	13	0	3	105	0	0	0	0	0	0	0	296	1	0	422
06:45 AM	6	0	12	1	1	94	0	0	0	0	0	0	0	319	8	0	441
Total	15	0	30	1	8	309	0	0	0	0	0	0	0	1027	13	0	1403

Bolton & Menk, Inc.

Turning Movements Counts

TH 5 at Minnewashta Pkwy
Carver County, MN

File Name : 6 - TH 5 at Minnewashta Pkwy 24hr
Site Code :
Start Date : 5/16/2023

Groups Printed- Cars - Trucks

	Minnewashta Pkwy From North				TH 5 From East				Private Driveway From South				TH 5 From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	19	0	16	0	5	135	0	0	0	0	0	0	0	343	6	0	524
07:15 AM	7	0	19	0	8	122	0	0	0	0	0	0	0	368	4	0	528
07:30 AM	14	0	23	0	10	188	0	0	0	0	0	0	0	350	6	0	591
07:45 AM	11	0	23	1	8	151	0	0	0	0	0	0	0	351	1	0	546
Total	51	0	81	1	31	596	0	0	0	0	0	0	0	1412	17	0	2189
08:00 AM	5	0	21	2	8	147	0	0	0	0	0	0	0	345	10	0	538
08:15 AM	9	0	24	0	10	111	0	0	0	0	0	0	0	351	8	0	513
08:30 AM	8	0	18	1	12	152	0	0	0	0	0	0	0	324	4	0	519
08:45 AM	8	0	16	1	6	140	0	0	0	0	0	0	0	287	4	0	462
Total	30	0	79	4	36	550	0	0	0	0	0	0	0	1307	26	0	2032
09:00 AM	1	0	15	0	10	152	0	0	0	0	0	0	0	237	5	0	420
09:15 AM	14	0	16	0	8	144	0	0	0	0	0	0	0	271	5	0	458
09:30 AM	5	0	16	0	9	146	0	0	0	0	0	0	0	251	5	0	432
09:45 AM	12	0	10	0	8	178	0	0	0	0	0	0	0	233	4	0	445
Total	32	0	57	0	35	620	0	0	0	0	0	0	0	992	19	0	1755
10:00 AM	3	0	17	1	10	142	0	0	0	0	0	0	0	219	7	0	399
10:15 AM	5	0	16	3	14	134	0	0	0	0	0	0	0	193	4	0	369
10:30 AM	4	0	19	2	11	150	0	0	0	0	0	0	0	211	5	0	402
10:45 AM	3	0	10	1	16	148	0	0	0	0	0	0	0	214	7	0	399
Total	15	0	62	7	51	574	0	0	0	0	0	0	0	837	23	0	1569
11:00 AM	7	0	21	5	13	155	0	0	0	0	0	0	0	197	2	0	400
11:15 AM	5	0	12	1	21	215	0	0	0	0	0	0	0	182	2	0	438
11:30 AM	7	0	21	5	10	204	0	0	0	0	0	0	0	228	8	0	483
11:45 AM	10	0	9	0	20	207	0	0	0	0	0	0	0	241	7	0	494
Total	29	0	63	11	64	781	0	0	0	0	0	0	0	848	19	0	1815
12:00 PM	6	0	15	0	12	194	0	0	0	0	0	0	0	182	4	0	413
12:15 PM	6	0	7	0	19	221	0	0	0	0	0	0	0	200	2	0	455
12:30 PM	9	0	11	0	18	210	0	0	0	0	0	0	0	211	6	0	465
12:45 PM	9	0	6	0	21	262	2	0	0	0	0	0	0	212	5	0	517
Total	30	0	39	0	70	887	2	0	0	0	0	0	0	805	17	0	1850
01:00 PM	6	0	14	0	15	237	0	0	0	0	1	0	0	170	3	0	446
01:15 PM	5	0	13	0	19	210	0	0	1	0	0	0	0	179	5	0	432
01:30 PM	10	0	10	0	10	237	0	0	0	0	0	0	0	169	9	0	445
01:45 PM	5	0	11	0	26	213	0	0	0	0	0	0	0	191	6	0	452
Total	26	0	48	0	70	897	0	0	1	0	1	0	0	709	23	0	1775
02:00 PM	8	0	5	2	16	253	0	0	0	0	0	0	0	191	7	0	482
02:15 PM	5	0	6	1	12	246	0	0	0	0	0	0	0	212	3	0	485

Bolton & Menk, Inc.

Turning Movements Counts

TH 5 at Minnewashta Pkwy
Carver County, MN

File Name : 6 - TH 5 at Minnewashta Pkwy 24hr
Site Code :
Start Date : 5/16/2023

Groups Printed- Cars - Trucks

	Minnewashta Pkwy From North				TH 5 From East				Private Driveway From South				TH 5 From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
02:30 PM	6	0	17	0	16	280	0	0	0	0	0	0	0	221	7	0	547
02:45 PM	6	0	12	2	17	308	0	0	0	0	0	0	0	194	12	0	551
Total	25	0	40	5	61	1087	0	0	0	0	0	0	0	818	29	0	2065
03:00 PM	13	0	15	1	11	284	0	0	0	0	0	0	0	194	7	0	525
03:15 PM	5	0	10	0	11	323	0	0	0	0	0	0	0	197	11	0	557
03:30 PM	10	0	10	1	19	337	0	0	0	0	0	0	0	227	6	0	610
03:45 PM	8	0	12	1	20	346	0	0	0	0	0	0	0	236	6	0	629
Total	36	0	47	3	61	1290	0	0	0	0	0	0	0	854	30	0	2321
04:00 PM	6	0	11	2	12	353	0	0	0	0	0	0	0	239	5	0	628
04:15 PM	8	0	14	0	21	331	0	0	0	0	0	0	0	238	16	0	628
04:30 PM	4	0	17	0	20	331	0	0	0	0	0	0	0	260	9	0	641
04:45 PM	9	0	14	0	14	329	0	0	0	0	0	0	0	273	12	0	651
Total	27	0	56	2	67	1344	0	0	0	0	0	0	0	1010	42	0	2548
05:00 PM	17	0	20	0	26	351	0	0	0	0	0	0	0	295	6	0	715
05:15 PM	6	0	16	0	27	349	0	0	0	0	0	0	0	271	9	0	678
05:30 PM	8	0	15	0	23	319	0	0	0	0	0	0	0	257	11	0	633
05:45 PM	12	0	15	1	23	313	0	0	0	0	0	0	0	221	10	0	595
Total	43	0	66	1	99	1332	0	0	0	0	0	0	0	1044	36	0	2621
06:00 PM	5	0	17	0	21	292	0	0	0	0	0	0	0	189	4	0	528
06:15 PM	10	0	11	3	27	287	0	0	0	0	0	0	0	211	11	0	560
06:30 PM	2	0	13	6	22	246	0	0	0	0	0	0	0	207	3	0	499
06:45 PM	9	0	6	2	12	257	0	0	0	0	0	0	0	208	5	0	499
Total	26	0	47	11	82	1082	0	0	0	0	0	0	0	815	23	0	2086
07:00 PM	5	0	15	0	14	258	0	0	0	0	0	1	0	180	4	0	477
07:15 PM	5	0	11	2	13	250	0	0	0	0	0	0	0	143	3	0	427
07:30 PM	7	0	6	0	16	265	0	0	0	0	0	0	0	141	7	0	442
07:45 PM	5	0	8	0	14	188	0	0	0	0	0	0	0	111	7	0	333
Total	22	0	40	2	57	961	0	0	0	0	0	1	0	575	21	0	1679
08:00 PM	3	0	3	0	17	204	0	0	0	0	0	0	0	131	5	0	363
08:15 PM	5	0	4	0	12	159	0	0	0	0	0	0	0	150	5	0	335
08:30 PM	3	0	11	0	10	194	0	0	0	0	0	0	0	138	6	0	362
08:45 PM	2	0	9	0	13	165	0	0	0	0	0	0	0	121	3	0	313
Total	13	0	27	0	52	722	0	0	0	0	0	0	0	540	19	0	1373
09:00 PM	5	0	3	0	9	176	0	0	0	0	0	0	0	101	1	0	295
09:15 PM	1	0	3	0	8	143	0	0	0	0	0	0	0	90	3	0	248
09:30 PM	1	0	7	0	10	134	0	0	0	0	0	0	0	53	1	0	206
09:45 PM	0	0	4	0	11	120	0	0	0	0	0	0	0	52	0	0	187
Total	7	0	17	0	38	573	0	0	0	0	0	0	0	296	5	0	936

Bolton & Menk, Inc.

Turning Movements Counts

TH 5 at Minnewashta Pkwy
Carver County, MN

File Name : 6 - TH 5 at Minnewashta Pkwy 24hr
Site Code :
Start Date : 5/16/2023

Groups Printed- Cars - Trucks

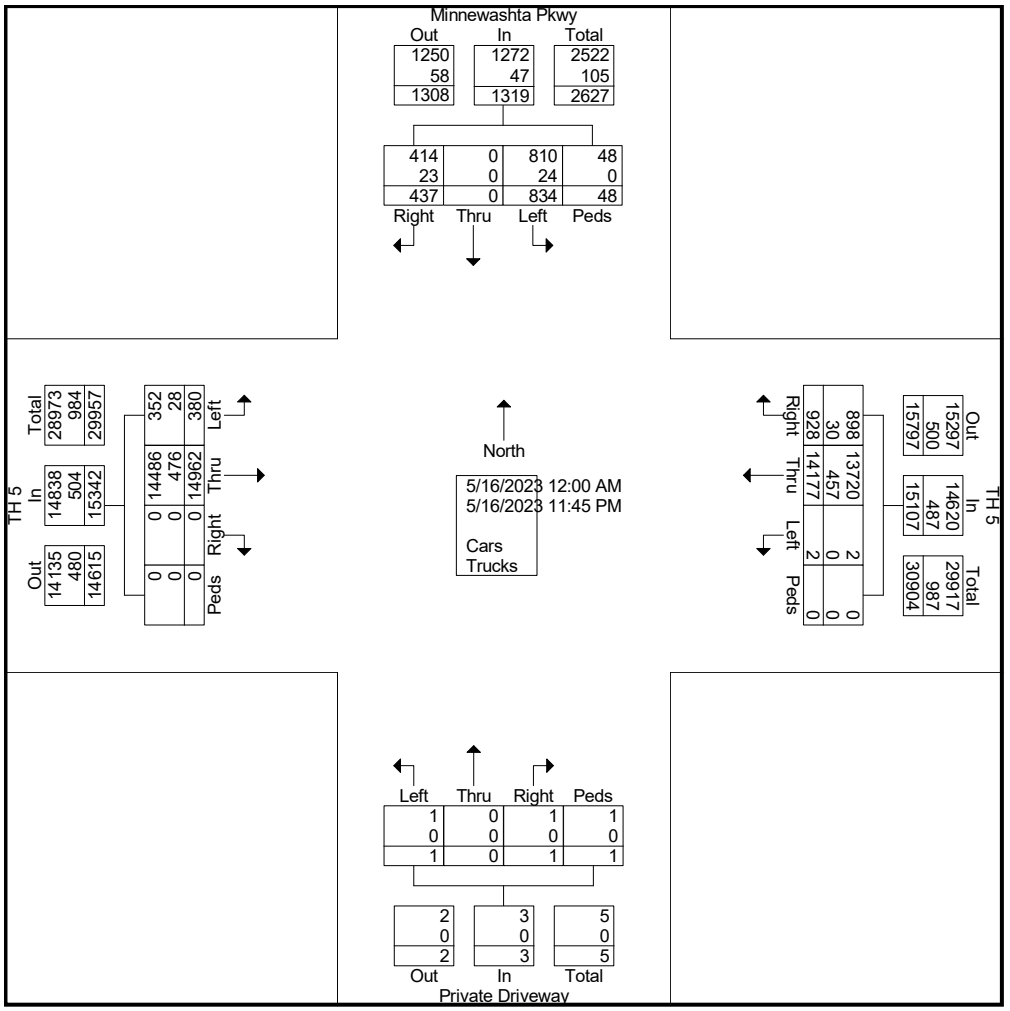
	Minnewashta Pkwy From North				TH 5 From East				Private Driveway From South				TH 5 From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
10:00 PM	3	0	0	0	9	70	0	0	0	0	0	0	0	45	1	0	128
10:15 PM	2	0	1	0	8	79	0	0	0	0	0	0	0	32	1	0	123
10:30 PM	0	0	0	0	6	48	0	0	0	0	0	0	0	31	1	0	86
10:45 PM	0	0	2	0	1	26	0	0	0	0	0	0	0	17	0	0	46
Total	5	0	3	0	24	223	0	0	0	0	0	0	0	125	3	0	383
11:00 PM	0	0	0	0	3	37	0	0	0	0	0	0	0	20	0	0	60
11:15 PM	0	0	0	0	1	21	0	0	0	0	0	0	0	11	0	0	33
11:30 PM	0	0	0	0	1	22	0	0	0	0	0	0	0	20	0	0	43
11:45 PM	2	0	0	0	2	20	0	0	0	0	0	0	0	12	0	0	36
Total	2	0	0	0	7	100	0	0	0	0	0	0	0	63	0	0	172
Grand Total	437	0	834	48	928	14177	2	0	1	0	1	1	0	14962	380	0	31771
Apprch %	33.1	0	63.2	3.6	6.1	93.8	0	0	33.3	0	33.3	33.3	0	97.5	2.5	0	
Total %	1.4	0	2.6	0.2	2.9	44.6	0	0	0	0	0	0	0	47.1	1.2	0	
Cars	414	0	810	48	898	13720	2	0	1	0	1	1	0	14486	352	0	30733
% Cars	94.7	0	97.1	100	96.8	96.8	100	0	100	0	100	100	0	96.8	92.6	0	96.7
Trucks	23	0	24	0	30	457	0	0	0	0	0	0	0	476	28	0	1038
% Trucks	5.3	0	2.9	0	3.2	3.2	0	0	0	0	0	0	0	3.2	7.4	0	3.3

Bolton & Menk, Inc.

Turning Movements Counts

TH 5 at Minnewashta Pkwy
Carver County, MN

File Name : 6 - TH 5 at Minnewashta Pkwy 24hr
Site Code :
Start Date : 5/16/2023
Page No : 5



Bolton & Menk, Inc.

Turning Movements Counts

TH 5 at Minnewashta Pkwy
Carver County, MN

File Name : 6 - TH 5 at Minnewashta Pkwy 24hr
Site Code :
Start Date : 5/16/2023
Page No : 6

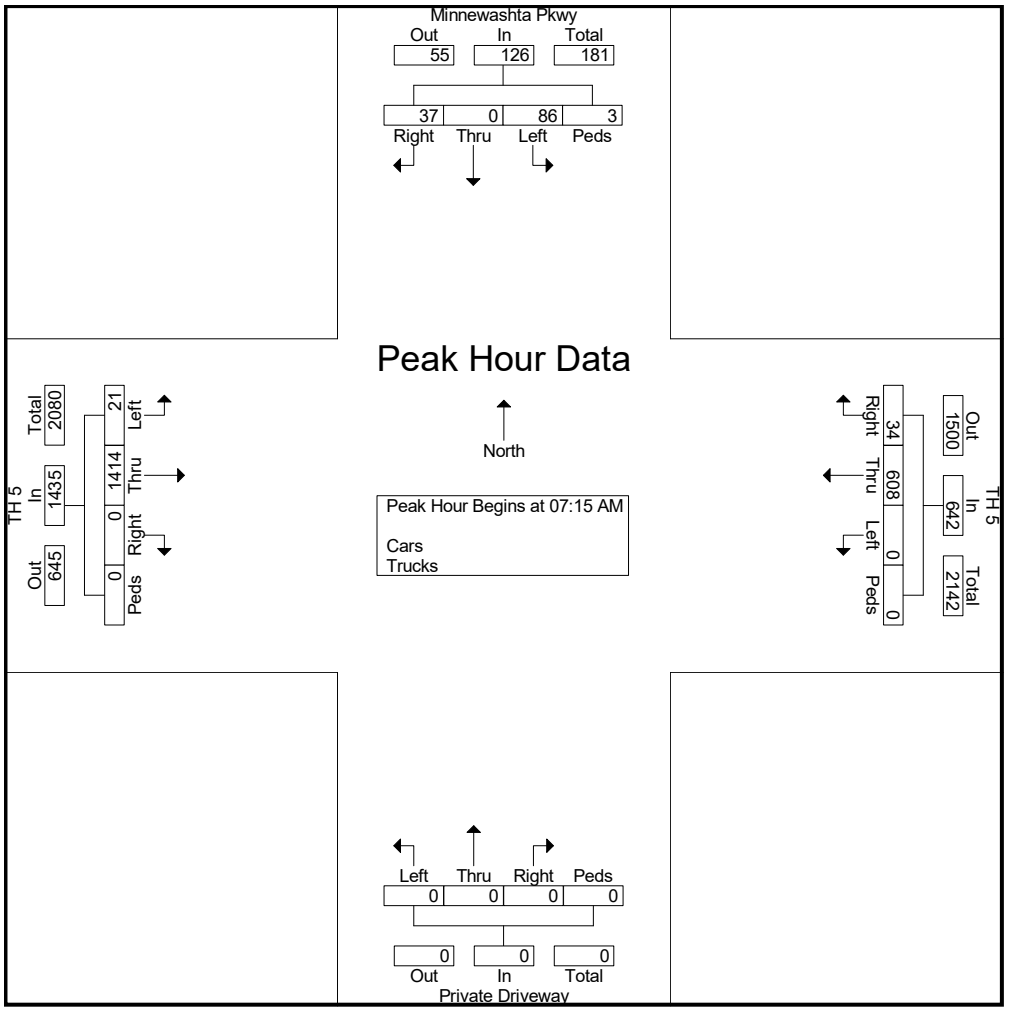
	Minnewashta Pkwy From North					TH 5 From East					Private Driveway From South					TH 5 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	7	0	19	0	26	8	122	0	0	130	0	0	0	0	0	0	**368**	4	0	**372**	528
07:30 AM	**14**	0	**23**	0	**37**	**10**	**188**	0	0	**198**	0	0	0	0	0	0	350	6	0	356	**591**
07:45 AM	11	0	23	1	35	8	151	0	0	159	0	0	0	0	0	0	351	1	0	352	546
08:00 AM	5	0	21	**2**	28	8	147	0	0	155	0	0	0	0	0	0	345	**10**	0	355	538
Total Volume	37	0	86	3	126	34	608	0	0	642	0	0	0	0	0	0	1414	21	0	1435	2203
% App. Total	29.4	0	68.3	2.4		5.3	94.7	0	0		0	0	0	0		0	98.5	1.5	0		
PHF	.661	.000	.935	.375	.851	.850	.809	.000	.000	.811	.000	.000	.000	.000	.000	.000	.961	.525	.000	.964	.932

Bolton & Menk, Inc.

Turning Movements Counts

TH 5 at Minnewashta Pkwy
Carver County, MN

File Name : 6 - TH 5 at Minnewashta Pkwy 24hr
Site Code :
Start Date : 5/16/2023
Page No : 7



Bolton & Menk, Inc.

Turning Movements Counts

TH 5 at Minnewashta Pkwy
Carver County, MN

File Name : 6 - TH 5 at Minnewashta Pkwy 24hr
Site Code :
Start Date : 5/16/2023
Page No : 8

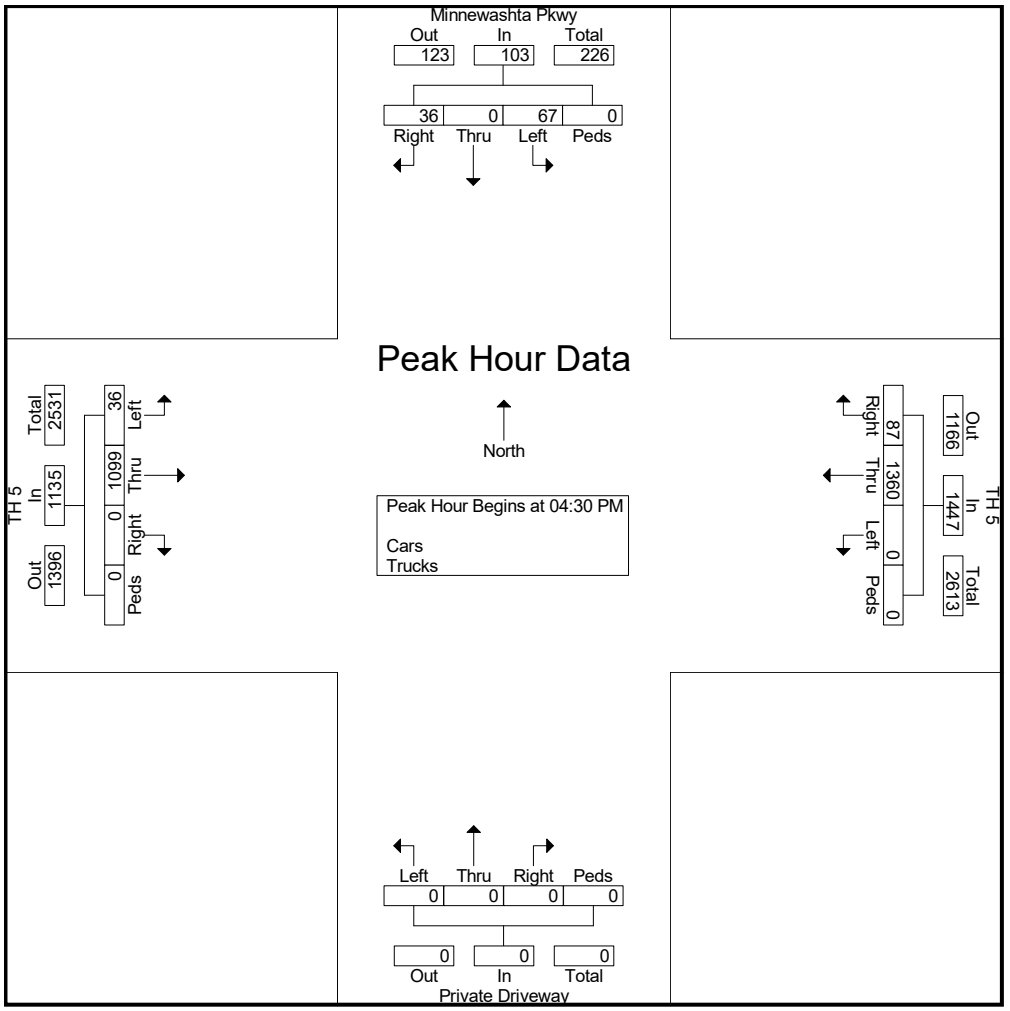
	Minnewashta Pkwy From North					TH 5 From East					Private Driveway From South					TH 5 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 11:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	4	0	17	0	21	20	331	0	0	351	0	0	0	0	0	0	260	9	0	269	641
04:45 PM	9	0	14	0	23	14	329	0	0	343	0	0	0	0	0	0	273	**12**	0	285	651
05:00 PM	**17**	0	**20**	0	**37**	26	**351**	0	0	**377**	0	0	0	0	0	0	**295**	6	0	**301**	**715**
05:15 PM	6	0	16	0	22	**27**	349	0	0	376	0	0	0	0	0	0	271	9	0	280	678
Total Volume	36	0	67	0	103	87	1360	0	0	1447	0	0	0	0	0	0	1099	36	0	1135	2685
% App. Total	35	0	65	0		6	94	0	0		0	0	0	0		0	96.8	3.2	0		
PHF	.529	.000	.838	.000	.696	.806	.969	.000	.000	.960	.000	.000	.000	.000	.000	.000	.931	.750	.000	.943	.939

Bolton & Menk, Inc.

Turning Movements Counts

TH 5 at Minnewashta Pkwy
Carver County, MN

File Name : 6 - TH 5 at Minnewashta Pkwy 24hr
Site Code :
Start Date : 5/16/2023
Page No : 9



Bolton & Menk, Inc.

Turning Movements Counts

File Name : 19- Minnewashta parkway at Kings Rd 13hr
Site Code :
Start Date : 9/22/2022
Page No : 1

Groups Printed- Cars - Trucks

	Minneswashta Pkwy From North				Kings Rd From East				Minneswashta Pkwy From South				Kings Rd From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
06:00 AM	0	5	0	5	0	0	0	0	0	2	0	0	1	0	1	1	15
06:15 AM	0	2	0	2	0	0	0	0	0	7	0	0	1	0	0	0	12
06:30 AM	0	4	0	2	0	0	0	0	0	6	1	1	3	0	0	0	17
06:45 AM	2	11	0	1	0	0	0	0	0	12	1	0	4	0	2	0	33
Total	2	22	0	10	0	0	0	0	0	27	2	1	9	0	3	1	77
07:00 AM	0	15	0	2	0	0	0	0	0	15	3	0	5	0	2	0	42
07:15 AM	0	13	0	2	0	0	0	0	0	16	2	0	6	0	4	0	43
07:30 AM	1	14	0	0	0	0	0	0	0	18	6	0	12	0	6	0	57
07:45 AM	9	19	0	4	0	0	0	0	0	11	10	0	7	0	5	0	65
Total	10	61	0	8	0	0	0	0	0	60	21	0	30	0	17	0	207
08:00 AM	4	11	0	5	0	0	0	0	0	16	6	0	9	0	2	0	53
08:15 AM	3	8	0	5	0	0	0	0	0	19	4	1	6	0	3	0	49
08:30 AM	1	12	0	1	0	0	0	0	0	18	6	1	2	0	7	0	48
08:45 AM	5	15	0	0	0	0	0	0	0	19	7	0	8	0	2	0	56
Total	13	46	0	11	0	0	0	0	0	72	23	2	25	0	14	0	206
09:00 AM	4	10	0	5	0	0	0	0	0	8	3	0	6	0	2	0	38
09:15 AM	5	12	0	6	0	0	0	0	0	10	4	0	4	0	0	0	41
09:30 AM	3	6	0	7	0	0	0	0	0	10	4	0	9	0	3	0	42
09:45 AM	2	6	0	3	0	0	0	0	0	13	4	0	8	0	3	0	39
Total	14	34	0	21	0	0	0	0	0	41	15	0	27	0	8	0	160
10:00 AM	3	7	0	1	0	0	0	0	0	7	2	0	5	0	0	0	25
10:15 AM	4	5	0	8	0	0	0	0	0	10	4	0	5	0	3	0	39
10:30 AM	3	7	0	3	0	0	0	0	0	8	2	0	7	0	3	0	33
10:45 AM	5	9	0	6	0	0	0	0	0	8	7	0	4	0	1	0	40
Total	15	28	0	18	0	0	0	0	0	33	15	0	21	0	7	0	137
11:00 AM	0	10	0	3	0	0	0	0	0	14	3	0	7	0	1	0	38
11:15 AM	0	15	0	3	0	0	0	0	0	15	3	0	8	0	5	0	49
11:30 AM	1	11	0	2	0	0	0	0	0	15	3	0	3	0	0	0	35
11:45 AM	0	14	0	0	0	0	0	0	0	8	2	0	4	0	1	0	29
Total	1	50	0	8	0	0	0	0	0	52	11	0	22	0	7	0	151
12:00 PM	2	9	0	0	0	0	0	0	0	12	11	0	2	0	2	0	38
12:15 PM	2	12	0	3	0	0	0	0	0	7	2	1	2	0	1	1	31
12:30 PM	3	21	0	3	0	0	0	0	0	10	6	1	3	0	3	1	51
12:45 PM	0	10	0	4	0	0	0	0	0	11	5	0	4	0	2	0	36
Total	7	52	0	10	0	0	0	0	0	40	24	2	11	0	8	2	156

Bolton & Menk, Inc.

Turning Movements Counts

File Name : 19- Minnewashta parkway at Kings Rd 13hr
Site Code :
Start Date : 9/22/2022
Page No : 2

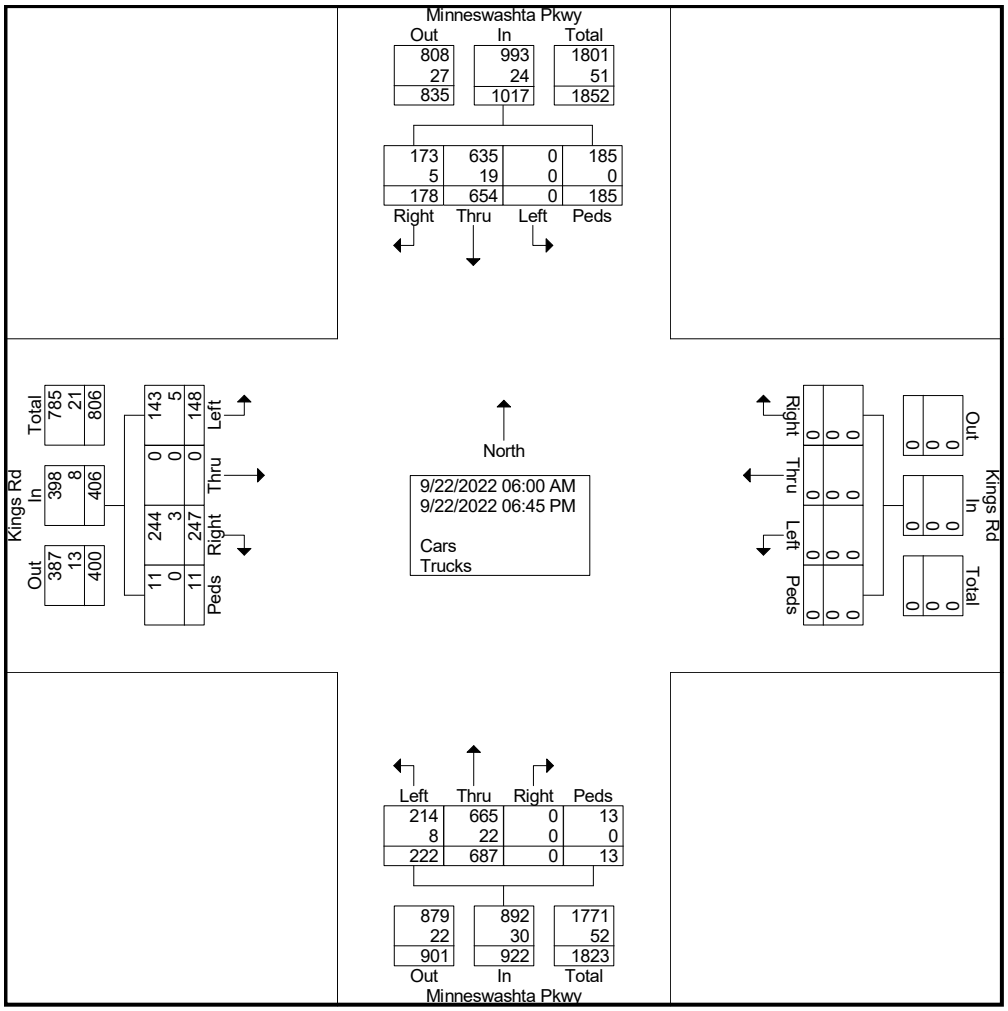
Groups Printed- Cars - Trucks

	Minneswashta Pkwy From North				Kings Rd From East				Minneswashta Pkwy From South				Kings Rd From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
01:00 PM	2	10	0	1	0	0	0	0	0	7	4	0	4	0	3	0	31
01:15 PM	7	4	0	3	0	0	0	0	0	13	4	1	2	0	3	1	38
01:30 PM	7	7	0	4	0	0	0	0	0	12	6	1	5	0	2	1	45
01:45 PM	4	15	0	6	0	0	0	0	0	11	2	0	0	0	1	0	39
Total	20	36	0	14	0	0	0	0	0	43	16	2	11	0	9	2	153
02:00 PM	2	10	0	0	0	0	0	0	0	13	0	0	5	0	0	0	30
02:15 PM	5	20	0	1	0	0	0	0	0	13	5	0	5	0	4	0	53
02:30 PM	2	17	0	0	0	0	0	0	0	14	4	0	5	0	9	0	51
02:45 PM	3	9	0	2	0	0	0	0	0	14	6	0	0	0	3	0	37
Total	12	56	0	3	0	0	0	0	0	54	15	0	15	0	16	0	171
03:00 PM	4	19	0	2	0	0	0	0	0	18	5	0	5	0	6	0	59
03:15 PM	2	14	0	4	0	0	0	0	0	11	3	0	7	0	5	0	46
03:30 PM	4	26	0	3	0	0	0	0	0	20	3	0	3	0	4	0	63
03:45 PM	6	19	0	0	0	0	0	0	0	15	3	0	5	0	4	0	52
Total	16	78	0	9	0	0	0	0	0	64	14	0	20	0	19	0	220
04:00 PM	5	12	0	3	0	0	0	0	0	24	6	0	8	0	1	1	60
04:15 PM	7	19	0	2	0	0	0	0	0	15	8	0	8	0	4	0	63
04:30 PM	4	13	0	3	0	0	0	0	0	15	3	3	4	0	0	0	45
04:45 PM	7	17	0	1	0	0	0	0	0	17	6	0	4	0	5	0	57
Total	23	61	0	9	0	0	0	0	0	71	23	3	24	0	10	1	225
05:00 PM	4	21	0	11	0	0	0	0	0	10	8	0	4	0	2	0	60
05:15 PM	7	23	0	1	0	0	0	0	0	19	8	0	3	0	3	0	64
05:30 PM	4	12	0	7	0	0	0	0	0	21	8	0	4	0	5	0	61
05:45 PM	8	23	0	7	0	0	0	0	0	15	4	2	4	0	4	2	69
Total	23	79	0	26	0	0	0	0	0	65	28	2	15	0	14	2	254
06:00 PM	4	9	0	7	0	0	0	0	0	14	4	0	7	0	4	2	51
06:15 PM	5	14	0	7	0	0	0	0	0	16	4	0	1	0	3	0	50
06:30 PM	6	11	0	12	0	0	0	0	0	19	5	1	5	0	4	1	64
06:45 PM	7	17	0	12	0	0	0	0	0	16	2	0	4	0	5	0	63
Total	22	51	0	38	0	0	0	0	0	65	15	1	17	0	16	3	228
Grand Total	178	654	0	185	0	0	0	0	0	687	222	13	247	0	148	11	2345
Apprch %	17.5	64.3	0	18.2	0	0	0	0	0	74.5	24.1	1.4	60.8	0	36.5	2.7	
Total %	7.6	27.9	0	7.9	0	0	0	0	0	29.3	9.5	0.6	10.5	0	6.3	0.5	
Cars	173	635	0	185	0	0	0	0	0	665	214	13	244	0	143	11	2283
% Cars	97.2	97.1	0	100	0	0	0	0	0	96.8	96.4	100	98.8	0	96.6	100	97.4
Trucks	5	19	0	0	0	0	0	0	0	22	8	0	3	0	5	0	62
% Trucks	2.8	2.9	0	0	0	0	0	0	0	3.2	3.6	0	1.2	0	3.4	0	2.6

Bolton & Menk, Inc.

Turning Movements Counts

File Name : 19- Minnewashta parkway at Kings Rd 13hr
Site Code :
Start Date : 9/22/2022
Page No : 3



Bolton & Menk, Inc.

Turning Movements Counts

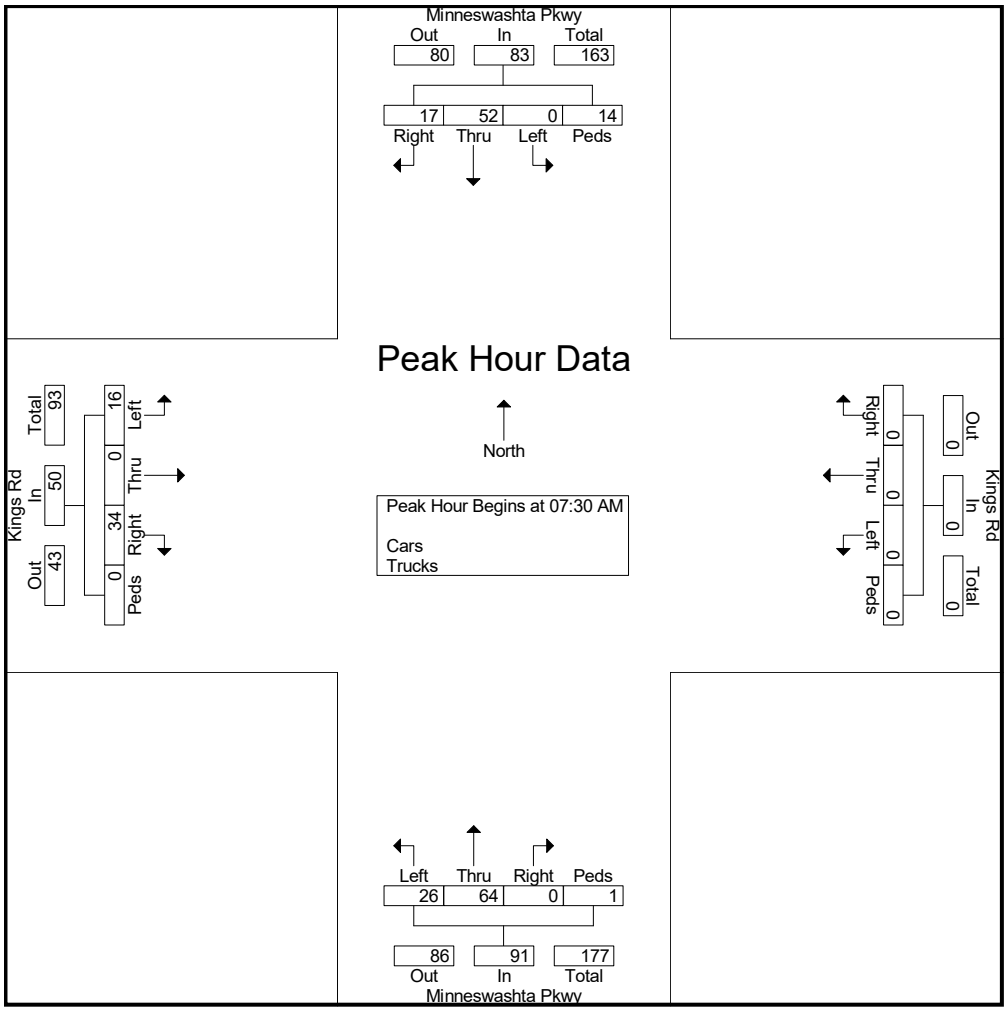
File Name : 19- Minnewashta parkway at Kings Rd 13hr
Site Code :
Start Date : 9/22/2022
Page No : 4

	Minneswashta Pkwy From North					Kings Rd From East					Minneswashta Pkwy From South					Kings Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 12:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	1	14	0	0	15	0	0	0	0	0	0	18	6	0	**24**	**12**	0	**6**	0	**18**	57
07:45 AM	**9**	**19**	0	4	**32**	0	0	0	0	0	0	11	**10**	0	21	7	0	5	0	12	**65**
08:00 AM	4	11	0	**5**	20	0	0	0	0	0	0	16	6	0	22	9	0	2	0	11	53
08:15 AM	3	8	0	5	16	0	0	0	0	0	0	**19**	4	**1**	24	6	0	3	0	9	49
Total Volume	17	52	0	14	83	0	0	0	0	0	0	64	26	1	91	34	0	16	0	50	224
% App. Total	20.5	62.7	0	16.9		0	0	0	0		0	70.3	28.6	1.1		68	0	32	0		
PHF	.472	.684	.000	.700	.648	.000	.000	.000	.000	.000	.000	.842	.650	.250	.948	.708	.000	.667	.000	.694	.862

Bolton & Menk, Inc.

Turning Movements Counts

File Name : 19- Minnewashta parkway at Kings Rd 13hr
Site Code :
Start Date : 9/22/2022
Page No : 5



Bolton & Menk, Inc.

Turning Movements Counts

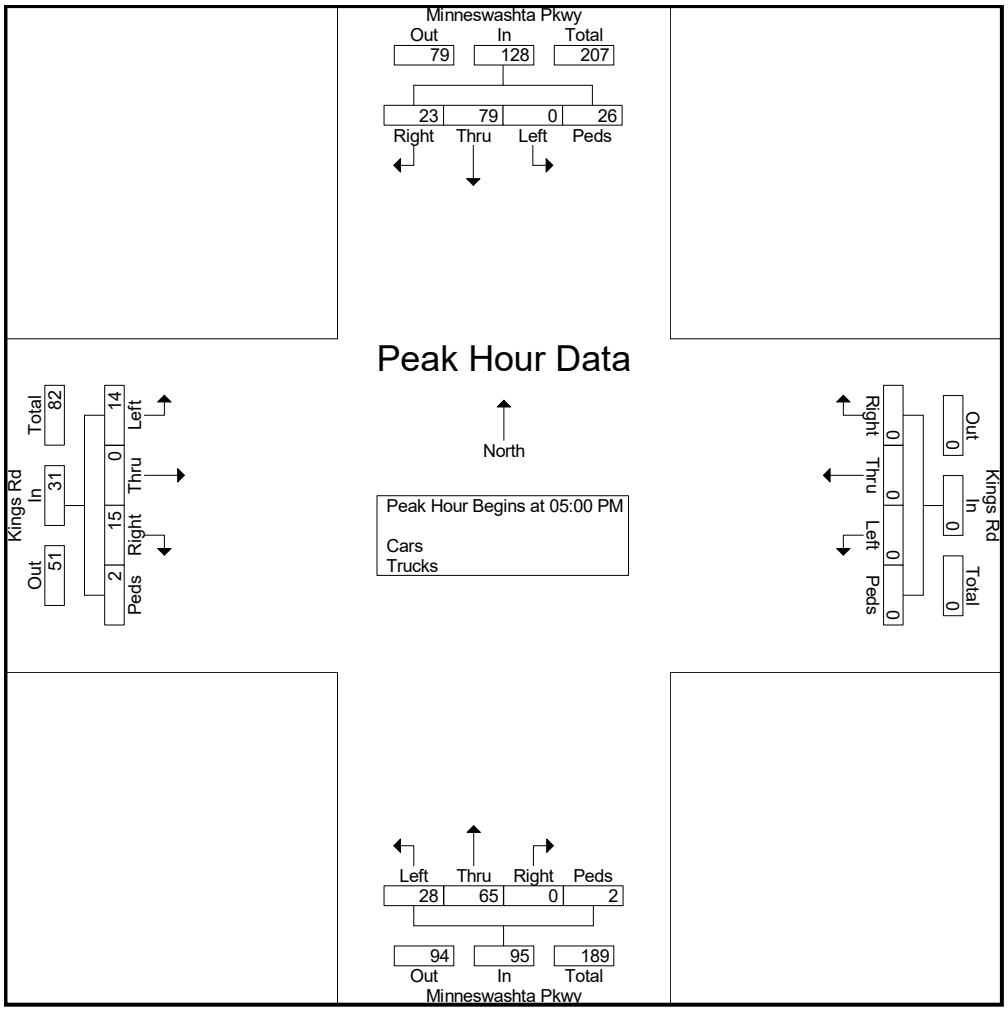
File Name : 19- Minnewashta parkway at Kings Rd 13hr
Site Code :
Start Date : 9/22/2022
Page No : 6

	Minneswashta Pkwy From North					Kings Rd From East					Minneswashta Pkwy From South					Kings Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:45 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	4	21	0	**11**	36	0	0	0	0	0	0	10	**8**	0	18	**4**	0	2	0	6	60
05:15 PM	7	**23**	0	1	31	0	0	0	0	0	0	19	8	0	27	3	0	3	0	6	64
05:30 PM	4	12	0	7	23	0	0	0	0	0	0	**21**	8	0	**29**	4	0	**5**	0	9	61
05:45 PM	**8**	23	0	7	**38**	0	0	0	0	0	0	15	4	**2**	21	4	0	4	**2**	**10**	**69**
Total Volume	23	79	0	26	128	0	0	0	0	0	0	65	28	2	95	15	0	14	2	31	254
% App. Total	18	61.7	0	20.3		0	0	0	0		0	68.4	29.5	2.1		48.4	0	45.2	6.5		
PHF	.719	.859	.000	.591	.842	.000	.000	.000	.000	.000	.000	.774	.875	.250	.819	.938	.000	.700	.250	.775	.920

Bolton & Menk, Inc.

Turning Movements Counts

File Name : 19- Minnewashta parkway at Kings Rd 13hr
Site Code :
Start Date : 9/22/2022
Page No : 7



Bolton & Menk, Inc.

Turning Movements Counts

File Name : 20- Minnewashta Parkway at TH 7 13hr
Site Code :
Start Date : 9/22/2022
Page No : 1

Groups Printed- Cars - Trucks

	Church Rd From North				TH 7 From East				Minneswashta Pkwy From South				TH 7 From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
06:00 AM	0	1	3	0	1	26	1	0	4	1	1	0	1	89	1	1	130
06:15 AM	0	2	11	0	0	31	0	0	8	1	0	1	0	118	1	0	173
06:30 AM	2	0	10	0	1	55	1	0	10	1	1	0	0	106	1	0	188
06:45 AM	5	2	16	0	2	52	3	0	16	2	0	0	5	140	1	0	244
Total	7	5	40	0	4	164	5	0	38	5	2	1	6	453	4	1	735
07:00 AM	1	0	14	0	1	69	13	0	21	2	0	1	0	186	1	0	309
07:15 AM	0	1	24	0	7	74	6	0	30	1	0	0	2	267	1	0	413
07:30 AM	4	1	20	0	5	95	11	0	36	2	0	0	1	267	3	0	445
07:45 AM	3	4	22	0	5	84	17	0	25	0	2	3	4	192	5	0	366
Total	8	6	80	0	18	322	47	0	112	5	2	4	7	912	10	0	1533
08:00 AM	1	2	17	0	17	84	12	0	16	1	1	2	1	226	5	0	385
08:15 AM	0	2	15	0	11	103	11	0	25	7	0	2	1	179	10	0	366
08:30 AM	3	5	20	0	11	94	14	0	23	2	3	3	2	173	9	2	364
08:45 AM	1	3	19	0	9	84	14	0	25	1	0	2	2	154	1	0	315
Total	5	12	71	0	48	365	51	0	89	11	4	9	6	732	25	2	1430
09:00 AM	4	0	12	0	10	82	12	0	11	2	3	0	3	114	0	0	253
09:15 AM	3	2	18	0	9	96	14	0	12	0	3	0	0	126	3	0	286
09:30 AM	2	0	17	0	10	80	8	0	10	4	1	6	1	118	0	0	257
09:45 AM	2	1	12	0	10	103	10	0	18	2	4	0	1	118	1	0	282
Total	11	3	59	0	39	361	44	0	51	8	11	6	5	476	4	0	1078
10:00 AM	2	1	9	0	11	97	4	0	9	0	1	1	0	98	0	2	235
10:15 AM	1	0	7	0	4	67	9	0	13	3	0	2	1	90	3	0	200
10:30 AM	0	4	6	0	10	89	12	0	11	2	3	1	1	100	1	2	242
10:45 AM	1	4	8	0	12	94	5	0	13	2	1	1	3	106	0	0	250
Total	4	9	30	0	37	347	30	0	46	7	5	5	5	394	4	4	927
11:00 AM	2	0	13	0	11	73	5	0	14	1	0	1	2	107	1	0	230
11:15 AM	2	1	8	0	9	114	7	0	17	1	2	0	3	111	4	0	279
11:30 AM	3	1	9	0	18	79	7	0	13	3	2	3	2	103	3	0	246
11:45 AM	1	2	13	0	8	100	11	0	10	1	0	0	3	110	1	0	260
Total	8	4	43	0	46	366	30	0	54	6	4	4	10	431	9	0	1015
12:00 PM	2	1	10	0	10	102	12	0	10	0	2	0	0	94	2	0	245
12:15 PM	4	3	6	0	15	96	17	0	7	2	3	1	3	90	0	0	247
12:30 PM	2	1	10	0	10	95	17	0	9	2	0	0	4	96	4	0	250
12:45 PM	3	0	9	0	16	101	13	0	7	2	1	1	1	103	5	0	262
Total	11	5	35	0	51	394	59	0	33	6	6	2	8	383	11	0	1004

Bolton & Menk, Inc.

Turning Movements Counts

File Name : 20- Minnewashta Parkway at TH 7 13hr
Site Code :
Start Date : 9/22/2022
Page No : 2

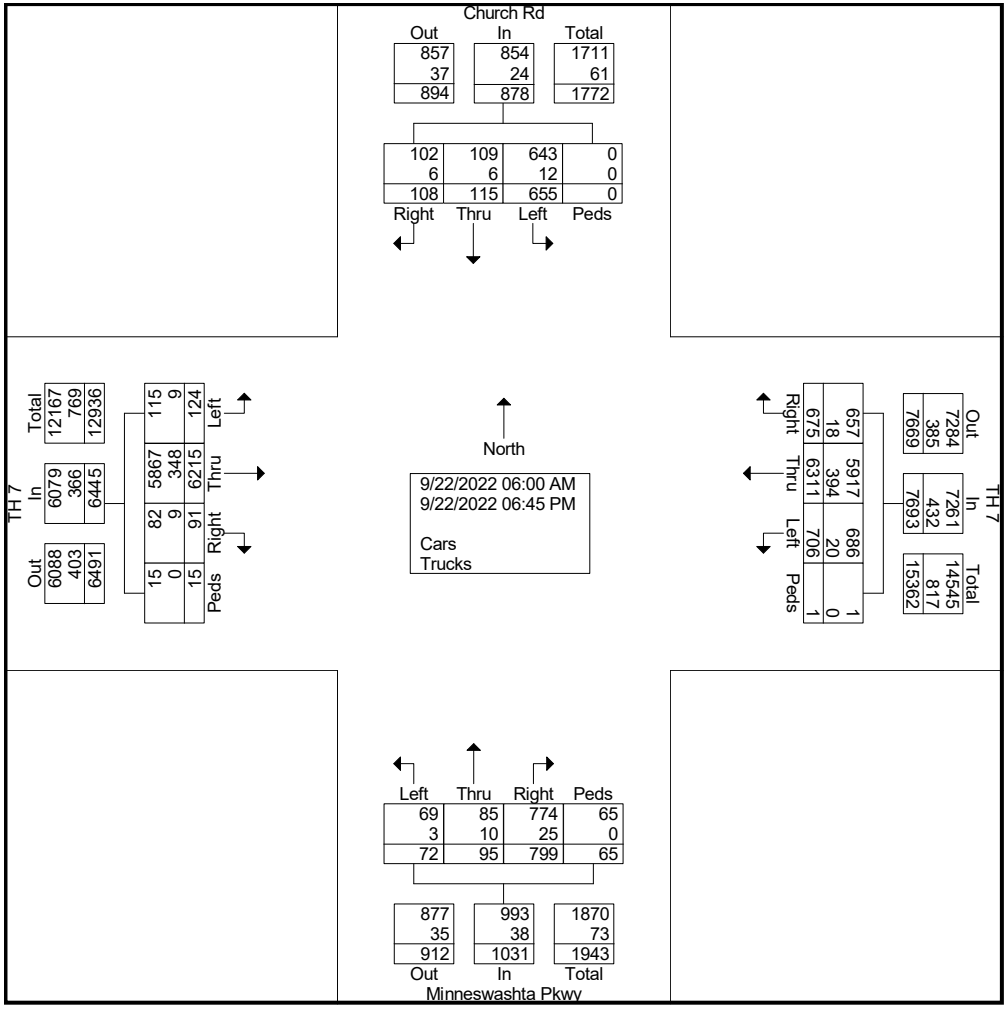
Groups Printed- Cars - Trucks

	Church Rd From North				TH 7 From East				Minneswashta Pkwy From South				TH 7 From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
01:00 PM	4	3	4	0	12	94	9	0	10	1	0	4	1	93	1	0	236
01:15 PM	1	1	12	0	17	109	9	0	6	3	2	1	3	102	2	1	269
01:30 PM	1	3	13	0	12	135	13	0	9	2	0	0	2	109	1	0	300
01:45 PM	1	1	15	0	7	122	10	0	16	1	1	0	1	70	2	0	247
Total	7	8	44	0	48	460	41	0	41	7	3	5	7	374	6	1	1052
02:00 PM	1	2	10	0	18	127	9	0	7	2	1	0	0	85	3	0	265
02:15 PM	3	2	12	0	15	125	20	0	9	2	4	2	2	93	4	0	293
02:30 PM	6	3	9	0	16	139	15	1	17	4	0	0	3	99	2	0	314
02:45 PM	4	2	6	0	16	159	17	0	13	4	2	0	1	96	2	0	322
Total	14	9	37	0	65	550	61	1	46	12	7	2	6	373	11	0	1194
03:00 PM	2	5	3	0	20	172	22	0	14	6	2	1	1	106	1	1	356
03:15 PM	2	4	17	0	32	149	22	0	14	3	0	0	1	100	4	0	348
03:30 PM	7	2	14	0	11	151	19	0	17	1	6	1	3	114	1	0	347
03:45 PM	0	3	14	0	17	211	21	0	29	1	4	1	6	114	3	1	425
Total	11	14	48	0	80	683	84	0	74	11	12	3	11	434	9	2	1476
04:00 PM	2	1	17	0	16	233	22	0	19	1	5	4	5	113	1	0	439
04:15 PM	3	9	17	0	20	245	21	0	24	1	1	4	2	118	5	3	473
04:30 PM	1	1	6	0	16	236	19	0	11	2	2	2	1	117	8	0	422
04:45 PM	2	1	23	0	13	241	27	0	25	1	3	2	1	111	1	0	451
Total	8	12	63	0	65	955	89	0	79	5	11	12	9	459	15	3	1785
05:00 PM	2	3	13	0	19	238	20	0	18	1	0	3	1	115	3	0	436
05:15 PM	2	5	13	0	21	222	27	0	16	3	0	1	3	113	4	0	430
05:30 PM	2	3	12	0	27	191	22	0	20	0	0	1	2	116	1	0	397
05:45 PM	0	3	15	0	22	179	23	0	17	3	1	4	0	98	2	0	367
Total	6	14	53	0	89	830	92	0	71	7	1	9	6	442	10	0	1630
06:00 PM	1	2	11	0	28	145	16	0	13	2	0	0	0	99	3	1	321
06:15 PM	3	2	18	0	16	116	20	0	16	0	3	0	1	99	0	1	295
06:30 PM	0	1	15	0	18	122	16	0	16	1	1	2	2	86	2	0	282
06:45 PM	4	9	8	0	23	131	21	0	20	2	0	1	2	68	1	0	290
Total	8	14	52	0	85	514	73	0	65	5	4	3	5	352	6	2	1188
Grand Total	108	115	655	0	675	6311	706	1	799	95	72	65	91	6215	124	15	16047
Apprch %	12.3	13.1	74.6	0	8.8	82	9.2	0	77.5	9.2	7	6.3	1.4	96.4	1.9	0.2	
Total %	0.7	0.7	4.1	0	4.2	39.3	4.4	0	5	0.6	0.4	0.4	0.6	38.7	0.8	0.1	
Cars	102	109	643	0	657	5917	686	1	774	85	69	65	82	5867	115	15	15187
% Cars	94.4	94.8	98.2	0	97.3	93.8	97.2	100	96.9	89.5	95.8	100	90.1	94.4	92.7	100	94.6
Trucks	6	6	12	0	18	394	20	0	25	10	3	0	9	348	9	0	860
% Trucks	5.6	5.2	1.8	0	2.7	6.2	2.8	0	3.1	10.5	4.2	0	9.9	5.6	7.3	0	5.4

Bolton & Menk, Inc.

Turning Movements Counts

File Name : 20- Minnewashta Parkway at TH 7 13hr
Site Code :
Start Date : 9/22/2022
Page No : 3



Bolton & Menk, Inc.

Turning Movements Counts

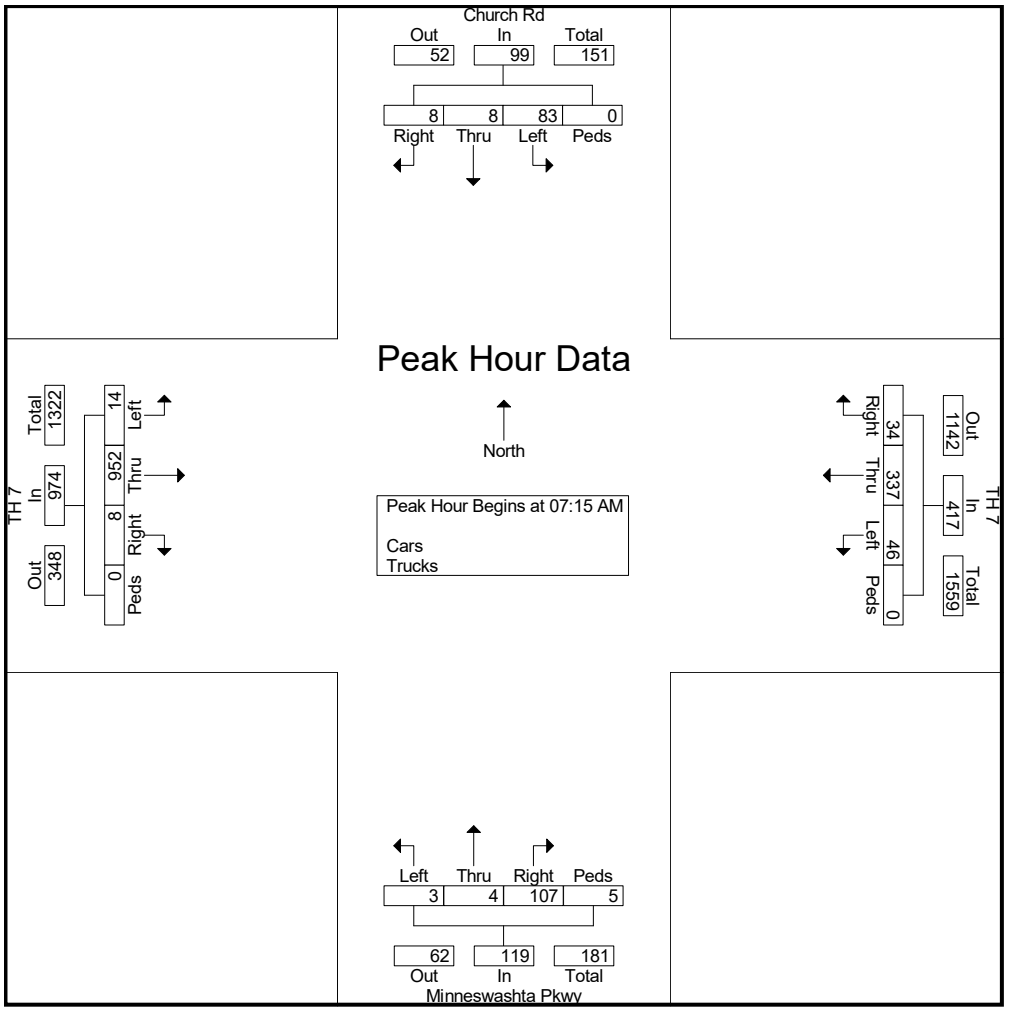
File Name : 20- Minnewashta Parkway at TH 7 13hr
Site Code :
Start Date : 9/22/2022
Page No : 4

	Church Rd From North					TH 7 From East					Minneswashta Pkwy From South					TH 7 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 12:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	1	**24**	0	25	7	74	6	0	87	30	1	0	0	31	2	**267**	1	0	270	413
07:30 AM	**4**	1	20	0	25	5	**95**	11	0	111	**36**	**2**	0	0	**38**	1	267	3	0	**271**	**445**
07:45 AM	3	**4**	22	0	**29**	5	84	**17**	0	106	25	0	**2**	**3**	30	**4**	192	**5**	0	201	366
08:00 AM	1	2	17	0	20	**17**	84	12	0	**113**	16	1	1	2	20	1	226	5	0	232	385
Total Volume	8	8	83	0	99	34	337	46	0	417	107	4	3	5	119	8	952	14	0	974	1609
% App. Total	8.1	8.1	83.8	0		8.2	80.8	11	0		89.9	3.4	2.5	4.2		0.8	97.7	1.4	0		
PHF	.500	.500	.865	.000	.853	.500	.887	.676	.000	.923	.743	.500	.375	.417	.783	.500	.891	.700	.000	.899	.904

Bolton & Menk, Inc.

Turning Movements Counts

File Name : 20- Minnewashta Parkway at TH 7 13hr
Site Code :
Start Date : 9/22/2022
Page No : 5



Bolton & Menk, Inc.

Turning Movements Counts

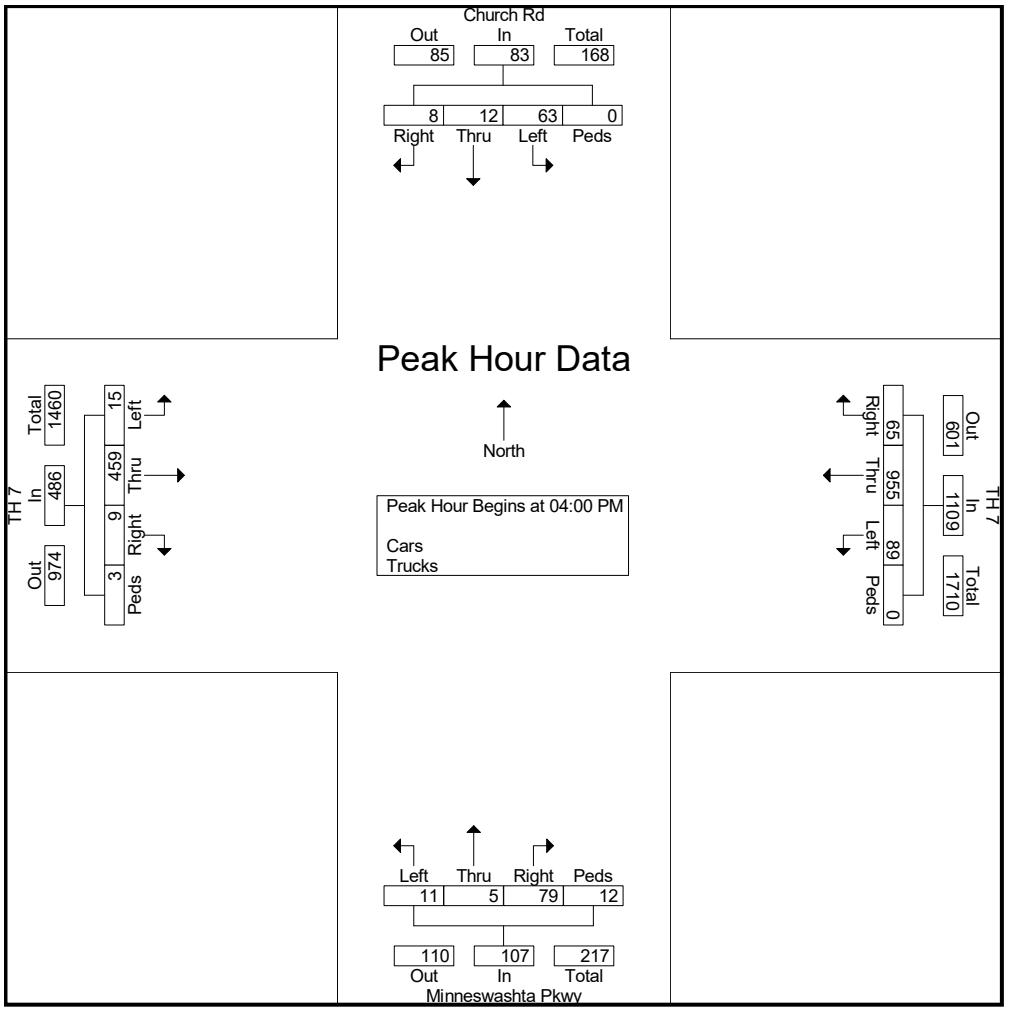
File Name : 20- Minnewashta Parkway at TH 7 13hr
Site Code :
Start Date : 9/22/2022
Page No : 6

	Church Rd From North					TH 7 From East					Minneswashta Pkwy From South					TH 7 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:45 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	2	1	17	0	20	16	233	22	0	271	19	1	**5**	**4**	29	**5**	113	1	0	119	439
04:15 PM	**3**	**9**	17	0	**29**	**20**	**245**	21	0	**286**	24	1	1	4	30	2	**118**	5	**3**	**128**	**473**
04:30 PM	1	1	6	0	8	16	236	19	0	271	11	**2**	2	2	17	1	117	**8**	0	126	422
04:45 PM	2	1	**23**	0	26	13	241	**27**	0	281	**25**	1	3	2	**31**	1	111	1	0	113	451
Total Volume	8	12	63	0	83	65	955	89	0	1109	79	5	11	12	107	9	459	15	3	486	1785
% App. Total	9.6	14.5	75.9	0		5.9	86.1	8	0		73.8	4.7	10.3	11.2		1.9	94.4	3.1	0.6		
PHF	.667	.333	.685	.000	.716	.813	.974	.824	.000	.969	.790	.625	.550	.750	.863	.450	.972	.469	.250	.949	.943

Bolton & Menk, Inc.

Turning Movements Counts

File Name : 20- Minnewashta Parkway at TH 7 13hr
Site Code :
Start Date : 9/22/2022
Page No : 7



Appendix B: Crash Reports and Screening Data

Segment Safety Screening

Segment: Minnewashta Pkwy between TH5 and TH7

Statewide Averages based on 2018-2022 crashes

Crashes by Crash Severity	
Fatal (K)	0
Incapacitating Injury (A)	0
Minor Injury (B)	0
Possible Injury (C)	0
Property Damage (PDO)	4
Total Crashes	4

Analysis Description	
Length	1.630 miles
VMT	6,402,722
Non-junction AND Junction Crashes	

Annual crash cost per mile = $6,380

Statewide comparison = Urban 2-Lane AADT 1500-4999

Total Crash Rate (CR)	
Observed	0.625
Statewide Average	0.834
Critical Rate	1.840
Critical Index	**0.34**

Fatal & Serious Injury Crash Rate (FAR)	
Observed	0.000
Statewide Average	2.891
Critical Rate	19.310
Critical Index	**0.00**

The observed crash rate is the number of crashes per million vehicle miles traveled (MVMT). The critical rate is a statistical comparison based on similar trunk highways statewide. An observed crash rate greater than the critical rate indicates that the section operates outside the expected, normal range. The critical index reports the magnitude of this difference (i.e. observed crash rate ÷ critical crash rate).

The observed total crash rate for this period is 0.63 per MVMT; this is 66% below the critical rate. Based on similar statewide segments, an additional 8 crashes over the five years would indicate this section operates outside the normal range.

The observed fatal and serious injury crash rate for this period is 0.00 per 100 MVMT; this is 100% below the critical rate. The section operates within the normal range.

Crash Detail Report - Short Form

MP - 10 year

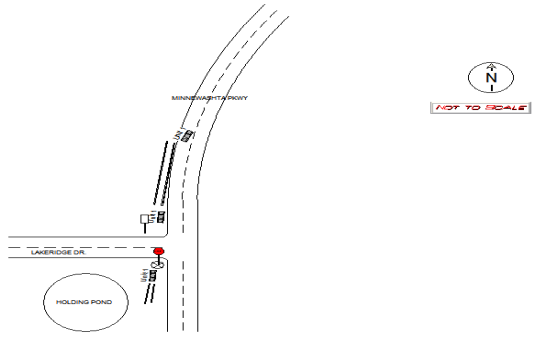
INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
10939188	05-MSAS	0111	0.301	MINNEWASHTA PKWY.	0500023937990111-I	10-Carver	Chanhassen

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
	1	0	11/29/14	04:17	Sat	44.871270	-93.622567	450823.1	4968838.0	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Single Vehicle Run Off Road	C - Possible Injury	Roadway Sign or Sign Structure	Dark (Str Lights On)	Cloudy

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Motor Vehicle in Transport			
Vehicle Type	Passenger Car			
Direction of Travel	Southbound			
Maneuver	Moving Forward			
Age/Sex	18 M			
Physical Cond	UNDER THE INFLU			
Contributing Factor 1	CHEMICAL IMPRMNT			

OFFICER SKETCH



NARRATIVE

THE DRIVER OF VEHICLE 1 WAS FOUND OFF THE ROADWAY NEAR A HOLDING POND. THE VEHICLE LOOKED AS IF IT WAS CLOSER TO THE HOLDING POND AND HAD BACKED UP. A STOP SIGN WAS FOUND IN THE HOLDING POND, AND DAMAGE TO THE FRONT OF THE VEHICLE WAS NOTICED. TIRE MARKS IN THE SNOW SHOWED A PATH COMING OFF THE ROADWAY, AND NARROWLY MISSING A SECOND SIGN. THE DRIVER WAS EVENTUALLY ARRESTED FOR DWI AND THE CAR WAS TOWED FROM THE SCENE.

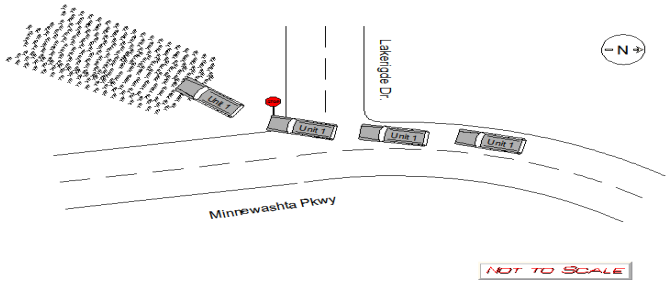
INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
11023658	05-MSAS	0111	0.301	Minnewashta Pkwy	0500023937990111-I	10-Carver	Chanhassen

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
	1	0	11/30/15	17:58	Mon	44.871270	-93.622567	450823.1	4968838.0	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Single Vehicle Run Off Road	N - Prop Damage Only	Roadway Sign or Sign Structure	Dark (Str Lights On)	Snow

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Motor Vehicle in Transport			
Vehicle Type	Sport Utility Vehicle			
Direction of Travel	Southbound			
Maneuver	Moving Forward			
Age/Sex	16 M			
Physical Cond	Apparently Normal			
Contributing Factor 1	DRIVR INXPERENCE			

OFFICER SKETCH



NARRATIVE

UNIT 1 WAS TRAVELLING SOUTHBOUND ON MINNEWASHTA PKWY AS IT WAS SNOWING AND THE ROAD WAS COVERED WITH A COATING OF SNOW. UNIT 1 WAS APPROACHING THE INTERSECTION OF LAKERIDGE DR., WHEN UNIT 1 STARTED TO SLIDE. UNIT 1 COULD NOT STOP AND WENT OVER THE CURB AT THE INTERSECTION OF MINNEWASHTA PKWY AND LAKERIDGE DR., STRIKING THE STOP SIGN. UNIT 1 CONTINUED ONTO THE GRASS BEFORE THE FRONT END OF UNIT 1 CAME TO REST IN A RETAINING POND. UNIT 1 HAD MODERATE FRONT END DAMAGE AND WAS TOWED FROM THE SCENE. THE CITY OF CHANHASSEN WAS NOTIFIED ABOUT THE DAMAGED STOP SIGN. THE STOP SIGN WAS NOT TAGGED BECAUSE IT WAS IN THE MIDDLE OF THE RETAINING POND.

Crash Detail Report - Short Form

MP - 10 year

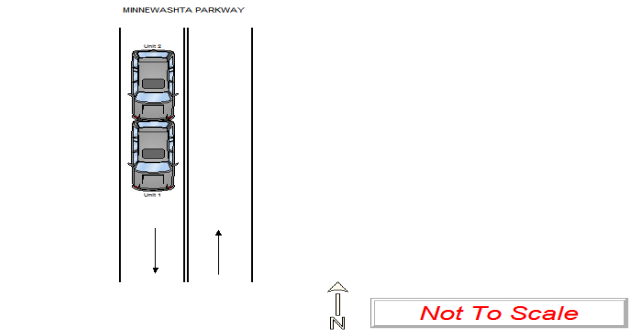
INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
00412555	05-MSAS	0111	0.610	MINNEWASHTA PKWY	0500023937990111-I	10-Carver	Chanhassen

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
	2	0	01/08/17	23:03	Sun	44.875365	-93.620491	450990.5	4969291.6	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Rear End	C - Possible Injury	Motor Vehicle In Transport	Dark (Str Lights On)	Clear

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Motor Vehicle in Transport	Motor Vehicle in Transport		
Vehicle Type	Sport Utility Vehicle	Sport Utility Vehicle		
Direction of Travel	Southbound	Southbound		
Maneuver	Moving Forward	Moving Forward		
Age/Sex	24 F	24 M		
Physical Cond	Apparently Normal	Apparently Normal		
Contributing Factor 1	No Clear Contributing Action	Following Too Closely		

OFFICER SKETCH



NARRATIVE

CRASH LOCATION MINNEWASHTA PARKWAY / RED CEDAR POINT ROAD. UNIT 1 SOUTHBOUND MINNEWASHTA PARKWAY. DRIVER UNIT 1 STATED MAINTAINING LANE AND WAS REAR ENDED BY UNIT 2. UNIT 2 SOUTHBOUND MINNEWASHTA PARKWAY DIRECTLY BEHIND UNIT 1. DRIVER UNIT 2 STATED UNIT 1 SLOWED TO THE FRONT, AND HE WAS UNABLE TO SLOW. DRIVER UNIT 2 STATED REAR ENDED UNIT 1.

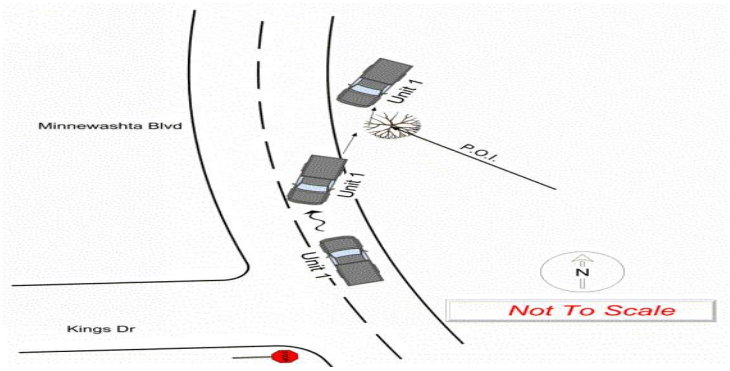
INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
00329131	05-MSAS	0111	0.828	MINNEWASHTA PKWY	0500023937990111-I	10-Carver	Chanhassen

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
	1	0	02/14/16	23:45	Sun	44.878443	-93.620333	451005.6	4969633.4	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Single Vehicle Run Off Road	N - Prop Damage Only	Other - Fixed Object	Dark (Str Lights On)	Clear

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Motor Vehicle in Transport			
Vehicle Type	Pickup			
Direction of Travel	Northbound			
Maneuver	Moving Forward			
Age/Sex	17 M			
Physical Cond	Apparently Normal			
Contributing Factor 1	No Clear Contributing Action			

OFFICER SKETCH



NARRATIVE

DRIVER WAS TRAVELING NB ON MINNEWASHTA BLVD JUST PAST KINGS RD. DRIVER STATED HIS VEHICLE SPUN OUT AND SPUN 180 DEGREES COUNTER CLOCKWISE. DRIVER STATED HIS VEHICLE CONTINUED NB HOWEVER HE WAS FACING SB. DRIVER STATED HIS VEHICLE WENT INTO THE DITCH AND HIS FRONT DRIVER SIDE QUARTER PANEL STRUCK A TREE. THE COLLISION WITH THE TREE CAUSED SIGNIFICANT DAMAGE TO THE FRONT DRIVER SIDE AXEL, DISABLING THE VEHICLE. THE ONLY DAMAGE TO THE TREE WAS REMOVED BARK. VEHICLE WAS TOWED FROM THE SCENE BY WILLIAMS TOWING.

Crash Detail Report - Short Form

MP - 10 year

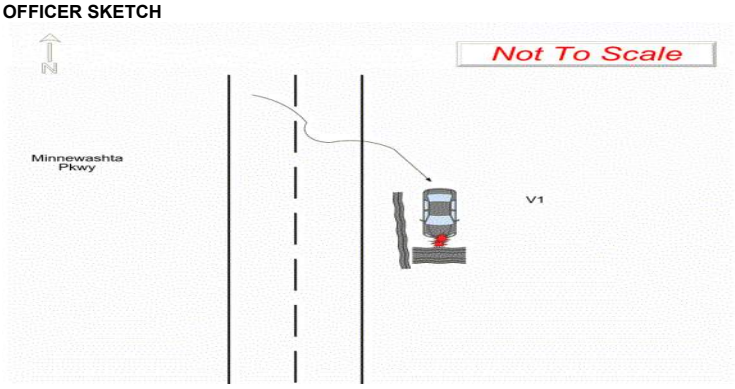
INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
00902505	05-MSAS	0111	1.104	MINNEWASHTA PKWY	0500023937990111-I	10-Carver	Chanhassen

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
	1	0	04/26/21	15:38	Mon	44.881887	-93.618131	451182.5	4970014.7	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Single Vehicle Run Off Road	N - Prop Damage Only	Ditch	Daylight	Cloudy

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Motor Vehicle in Transport			
Vehicle Type	Passenger Car			
Direction of Travel	Southbound			
Maneuver	Moving Forward			
Age/Sex	16 M			
Physical Cond	Apparently Normal			
Contributing Factor 1	Driver Speeding			

OFFICER SKETCH



NARRATIVE

VEHICLE WAS SOUTH ON MINNEWASHTA PARKWAY JUST SOUTH OF GLENDALE DRIVE WHEN DRIVER ADVISED A YELLOW DOG RAN IN FRONT OF HIS VEHICLE. DRIVER ADVISED HE SWERVED TO AVOID HITTING THE DOG, CROSSED INTO THE ONCOMING TRAFFIC LANE, THEN WENT INTO THE EAST SIDE DITCH OF MINNEWASHTA. THE VEHICLE WENT DOWN A RETAINING WALL, AND CAME TO A FINAL REST ALMOST PERPENDICULAR TO THE ROADWAY. VEHICLE HAD SEVERE DISABLING DAMAGE, NO INJURIES TO EITHER DRIVER OR PASSANGER.

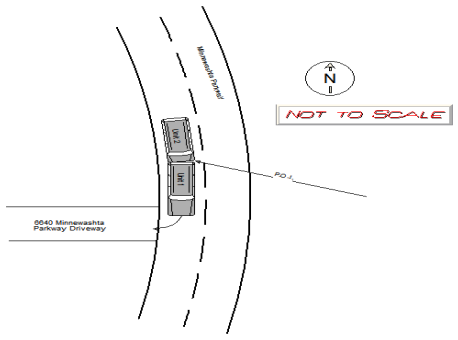
INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
11019865	05-MSAS	0111	1.210	6640 Minnewashta Prk	0500023937990111-I	10-Carver	Chanhassen

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
0.50 M S MNTH 7	2	0	06/04/15	10:50	Thu	44.883301	-93.617331	451246.8	4970171.2	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Rear End	N - Prop Damage Only	Motor Vehicle In Transport	Daylight	Cloudy

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Motor Vehicle in Transport	Motor Vehicle in Transport		
Vehicle Type	Sport Utility Vehicle	VAN OR MINIVAN		
Direction of Travel	Southbound	Southbound		
Maneuver	Turning Right	Moving Forward		
Age/Sex	33 M	38 F		
Physical Cond	Apparently Normal	Apparently Normal		
Contributing Factor 1	No Clear Contributing Action	Inattentive/Distraction (Talkin		

OFFICER SKETCH



NARRATIVE

THERE WAS A TWO VEHICLE PROPERTY DAMAGE CRASH AT 6640 MINNEWASHTA PARKWAY IN THE CITY OF CHANHASSEN. UNIT 1 WAS DRIVING SOUTHBOUND ON MINNEWASHTA AND SLOWED TO TURN INTO A DRIVEWAY. UNIT 2 WAS BEHIND UNIT 1 AND COULD NOT STOP IN TIME DUE TO INATTENTION AND STRUCK THE REAR OF UNIT 1. UNIT 1 AND 2 SUSTAINED MODERATE DAMAGE. UNIT 1 TO THE REAR AND UNIT 2 TO THE FRONT. UNIT 2 TOWED BY WILLIAMS PRIVATELY. NO INJURIES REPORTED. DRIVER 2 CITED FOR FAILURE TO DRIVE WITH DUE CARE.

Crash Detail Report - Short Form

MP - 10 year

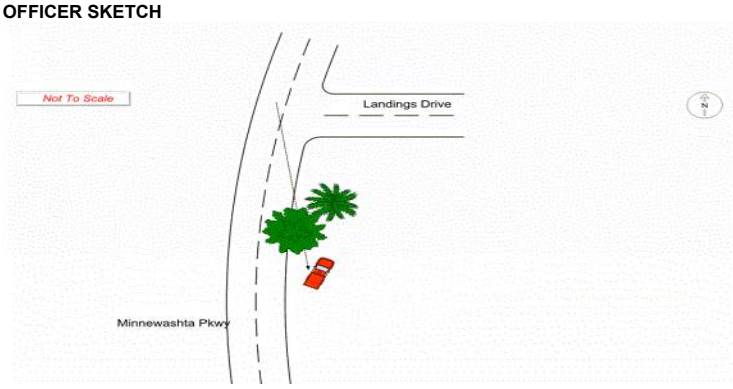
INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
00419902	05-MSAS	0111	1.428	MINNEWASHTA PKWY	0500023937990111-I	10-Carver	Chanhassen

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
	1	0	01/31/17	18:19	Tue	44.886337	-93.617535	451233.3	4970508.5	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Single Vehicle Run Off Road	C - Possible Injury	Hydrant	Dark (Str Lights On)	Snow

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Motor Vehicle in Transport			
Vehicle Type	Pickup			
Direction of Travel	Southbound			
Maneuver	Negotiating a Curve			
Age/Sex	16 M			
Physical Cond	Apparently Normal			
Contributing Factor 1	Driver Speeding			

OFFICER SKETCH



NARRATIVE

DEPUTIES WERE DISPATCHED TO A SINGLE VEHICLE PERSONAL INJURY CRASH AT NEAR LANDINGS DRIVE ON MINNEWASHTA PARKWAY. UPON ARRIVAL, DEPUTIES IDENTIFIED THE VEHICLE AND THE DRIVER. I SPOKE TO THE DRIVER OF V1, WHO ADVISED THAT HE WAS TRAVELING SB ON MINNEWASHTA PARKWAY. D1 ADVISED THAT THE VEHICLE LOST TRACTION AND CAUSED IT TO CROSS THE NB LANE, OVER THE CURB, STRIKING MULTIPLE TREES, AND DAMAGING A FIRE HYDRANT. V1 SUSTAINED HEAVY DAMAGE AND APPEARED TO BE A TOTAL LOSS. THE TOTAL ESTIMATED DAMAGE TO THE FIRE HYDRANT IS CURRENTLY UNKNOWN. THE DRIVER WAS ISSUED A CITATION FOR SPEED - DUTY TO DRIVE WITH DUE CARE. THE DRIVER WAS TRAVELING TOO FAST FOR THE ICY ROAD CONDITIONS.

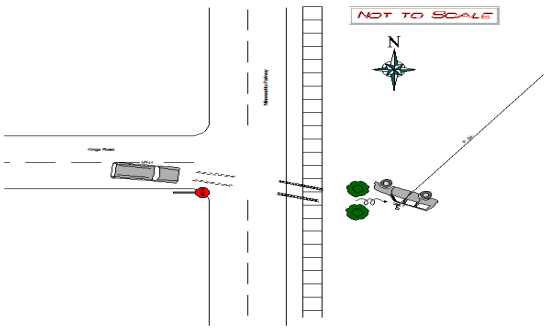
INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
10936811	10-MUN	0007	0.401	Kings Road	1000023937990007-I	10-Carver	Chanhassen

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
	1	0	08/17/14	21:52	Sun	44.877902	-93.620354	451003.5	4969573.3	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Single Vehicle Run Off Road	B - Minor Injury	UTILITY POLE	Dark (Str Lights On)	Cloudy

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Motor Vehicle in Transport			
Vehicle Type	Sport Utility Vehicle			
Direction of Travel	Eastbound			
Maneuver	Turning Right			
Age/Sex	18 M			
Physical Cond	Apparently Normal			
Contributing Factor 1	ILLEGAL/UNSAF SP			

OFFICER SKETCH



NARRATIVE

UNIT 1 WAS EB ON KINGS ROAD TOWARDS MINNEWASHTA PARKWAY. DRIVER OF UNIT 1 ADMITTED TO RACING ANOTHER VEHICLE AT APPROXIMATLY 80-90 MPH. OTHER VEHICLE SLOWED AND PULLED BEHIND UNIT 1 BEFORE STOP SIGN. DRIVER OF UNIT 1 WAS UNFAMILIAR WITH AREA AND WAS UNAWARE OF STOP SIGN. DRIVER OF UNIT 1 APPLIED BRAKES HARD AND TOO LATE. DRIVER OF UNIT 1 SKIDDED ACROSS MINNEWASHTA PARKWAY, HIT THE CURB, HIT SHRUBBERY AND A UTILITY POLE. UNIT 1 ROLLED OVER ON ITS SIDE. DRIVER OF UNIT 1 WAS CITED FOR FAILURE TO DRIVE WITH DUE CARE, RECKLESS DRIVING AND FAIL TO STOP. DRIVER AND PASSANGER OF UNIT 1 WERE TRANSPORTED TO SOUTHDALE HOSPITAL BY RIDGEVIEW FOR MODERATE INJURIES. VEHICLE WAS TOWED TO WILLIAMS BY WILLIAMS WITH SEVERE DAMAGE.

Crash Detail Report - Short Form

MP - 10 year

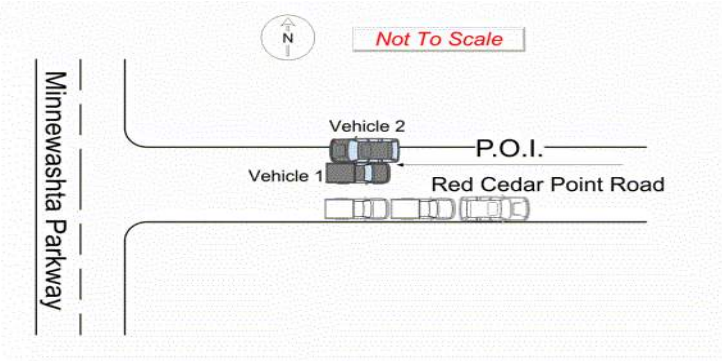
INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
00820776	10-MUN	0011	0.016	RED CEDAR POINT AVE	1000023937990011-I	10-Carver	Chanhassen

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
	2	0	07/20/20	13:40	Mon	44.875843	-93.619991	451030.4	4969344.3	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Sideswipe Opposing	N - Prop Damage Only	Motor Vehicle In Transport	Daylight	Clear

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Motor Vehicle in Transport	Motor Vehicle in Transport		
Vehicle Type	Pickup	Sport Utility Vehicle		
Direction of Travel	Eastbound	Westbound		
Maneuver	Moving Forward	Moving Forward		
Age/Sex	15 M	77 M		
Physical Cond	Apparently Normal	Apparently Normal		
Contributing Factor 1	Failure to Yield Right-of-Way	Failure to Yield Right-of-Way		

OFFICER SKETCH



NARRATIVE

BOTH VEHICLES WERE DRIVING ON RED CEDER POINT ROAD; V1 WAS GOING EASTBOUND AND V2 WAS GOING WESTBOUND. THERE WAS A HOUSE ON THE SOUTH SIDE OF THE ROAD WHICH HAD THREE VEHICLES (TWO LARGE PICKUP TRUCKS AND AN SUV) PARKED ON THE SOUTH SIDE OF THE ROAD. DUE TO THIS, THE ROADWAY CAN ONLY BE SAFELY NAVIGATED BY ONE CAR AT A TIME. BOTH INVOLVED CLAIM THE OTHER PERSON SHOULD HAVE YIELDED TO THEM. THE PASSENGER OF V1 (THE MOTHER OF THE DRIVER; THE DRIVER HAD AN INSTRUCTIONAL PERMIT) STATED HER SON WAS AT THE AREA FIRST AND STARTED TO DRIVE AROUND THE TRUCKS. AFTER HAVING ENTERED THE OPPOSITE LANE TO SAFELY PASS THE TRUCKS, SHE CLAIMS V2 CAME DOWN THE ROADWAY AND DID NOT STOP FOR THEM. PASSENGER STATED HER SON STOPPED THE VEHICLE IN THE ROADWAY, UNABLE TO MOVE FORWARD DUE TO V2 AND UNABLE TO MOVE BACKWARDS DUE TO THE WITNESS BEING BEHIND THEM IN HIS

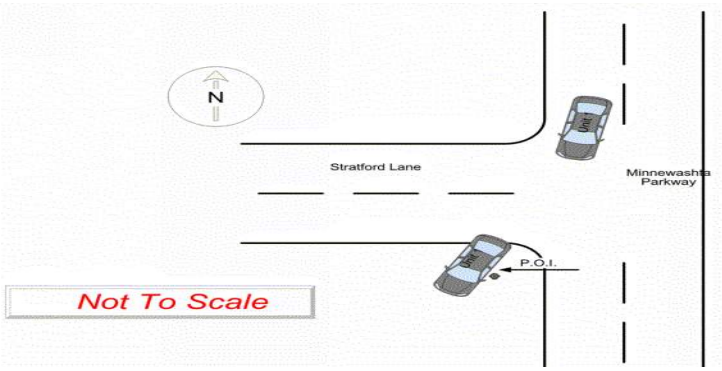
INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
00681133	10-MUN	0351	0.075	STRATFORD LA	1000023937990351-I	10-Carver	Chanhassen

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
MINNEWASHTA PKWY	1	0	01/19/19	09:20	Sat	44.880416	-93.619848	451045.6	4969852.2	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Single Vehicle Run Off Road	N - Prop Damage Only	Hydrant	Daylight	Clear

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Motor Vehicle in Transport			
Vehicle Type	Passenger Car			
Direction of Travel	Southbound			
Maneuver	Moving Forward			
Age/Sex	19 M			
Physical Cond	Apparently Normal			
Contributing Factor 1	No Clear Contributing Action			

OFFICER SKETCH



NARRATIVE

VEHICLE WAS TURNING RIGHT ONTO STRATFORD LANE. VEHICLE SLID ON SNOWY AND ICY PAVEMENT AND SIDE SWIPED A FIRE HYDRANT. NO INJURIES BUT MODERATE DAMAGE TO VEHICLE. NO DAMAGE TO PROPERTY.

Crash Detail Report - Short Form

MP - 10 year

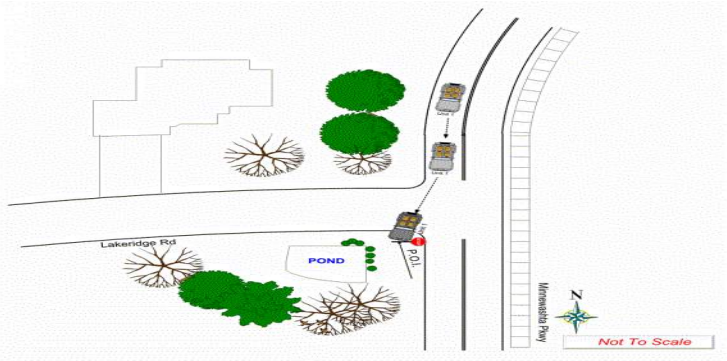
INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
00665041	10-MUN	0499	0.458	LAKE RIDGE RD	1000023937990499-I	10-Carver	Chanhassen

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
MINNEWASHTA PKWY	1	0	12/02/18	12:08	Sun	44.871273	-93.622602	450820.3	4968838.3	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Single Vehicle Run Off Road	N - Prop Damage Only	Roadway Sign or Sign Structure	Daylight	Clear

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Motor Vehicle in Transport			
Vehicle Type	Sport Utility Vehicle			
Direction of Travel	Southbound			
Maneuver	Moving Forward			
Age/Sex	17 M			
Physical Cond	Apparently Normal			
Contributing Factor 1	No Clear Contributing Action			

OFFICER SKETCH



NARRATIVE

UNIT 1 WAS SOUTHBOUND ON MINNEWASHTA PKWY. UNIT 1 LOST CONTROL DUE TO SLIPPERY CONDITIONS AND RAN OFF THE ROADWAY STRIKING A STOP SIGN. THERE WAS NO REPORTED DAMAGE TO THE VEHICLE.

INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
00523685	10-MUN	0533	0.001	HAWTHORNE CIR	1000023937990533-I	10-Carver	Chanhassen

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
	1	0	12/07/17	06:50	Thu	44.870411	-93.622560	450822.8	4968742.4	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Single Vehicle Run Off Road	N - Prop Damage Only	Standing Tree/Shrubbery	Unknown	Unknown

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Motor Vehicle in Transport			
Vehicle Type	Passenger Van (Seats Install			
Direction of Travel	Northbound			
Maneuver	Unknown			
Age/Sex	36 F			
Physical Cond	Unknown			
Contributing Factor 1	Unknown			

OFFICER SKETCH

NARRATIVE

PARTY ADVISED DISPATCH THAT SHE RAN OFF THE ROAD AND STRUCK A TREE AND HAD A TOW ENROUTE. DISPATCH DID NOT CREATE AN ICR FOR THE INCIDENT. I WAS ADVISED BY THE SUPERVISOR TO CHECK THE VEHICLE TO CONFIRM NO DAMAGE TO PROPERTY, AND OBSERVED DAMAGED PROPERTY. THE VAN STRUCK A TREE IN THE YARD OF 3980 HAWTHORNE CIR AFTER SLIDING OFF THE ROAD DUE TO THE SNOWY/ICY ROADS.

Crash Detail Report - Short Form

MP - 10 year

Selection Filter:

WORK AREA: County('659455') - FILTER: Year('2014','2015','2016','2017','2018','2019','2020','2021','2022') - SPATIAL FILTER APPLIED

Analyst: Mike Larson

Notes:

Appendix C: Speed Data

For Project:	Minnewashta S of Landings				
Project Notes:	nb incoming				
Location/Name:	Incoming				
Report Generated:	6/2/2023	15:52			
Speed Intervals	1 MPH				
Time Intervals	Instant				
Traffic Report From	5/31/2023	00:00:00	through	6/1/2023	23:59:59
85th Percentile Speed	35 MPH				
85th Percentile Vehicles	1779				
Max Speed	47 MPH	on	6/1/2023	06:52:22	
Total Vehicles	2093				
AADT:	1046				

Volumes - weekly counts

	Time	5 Day	7 Day
Average Daily		1046	1046
AM Peak	07:30	98	98
PM Peak	02:30	84	84

Speed

Speed Limit:	30
85th Percentile Speed:	35
Average Speed:	30.56

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Count over limit	N/A	N/A	635	611	N/A	N/A	N/A
% over limit	N/A	N/A	60.9	58.1	N/A	N/A	N/A
Avg Speeder	N/A	N/A	34.0	33.9	N/A	N/A	N/A

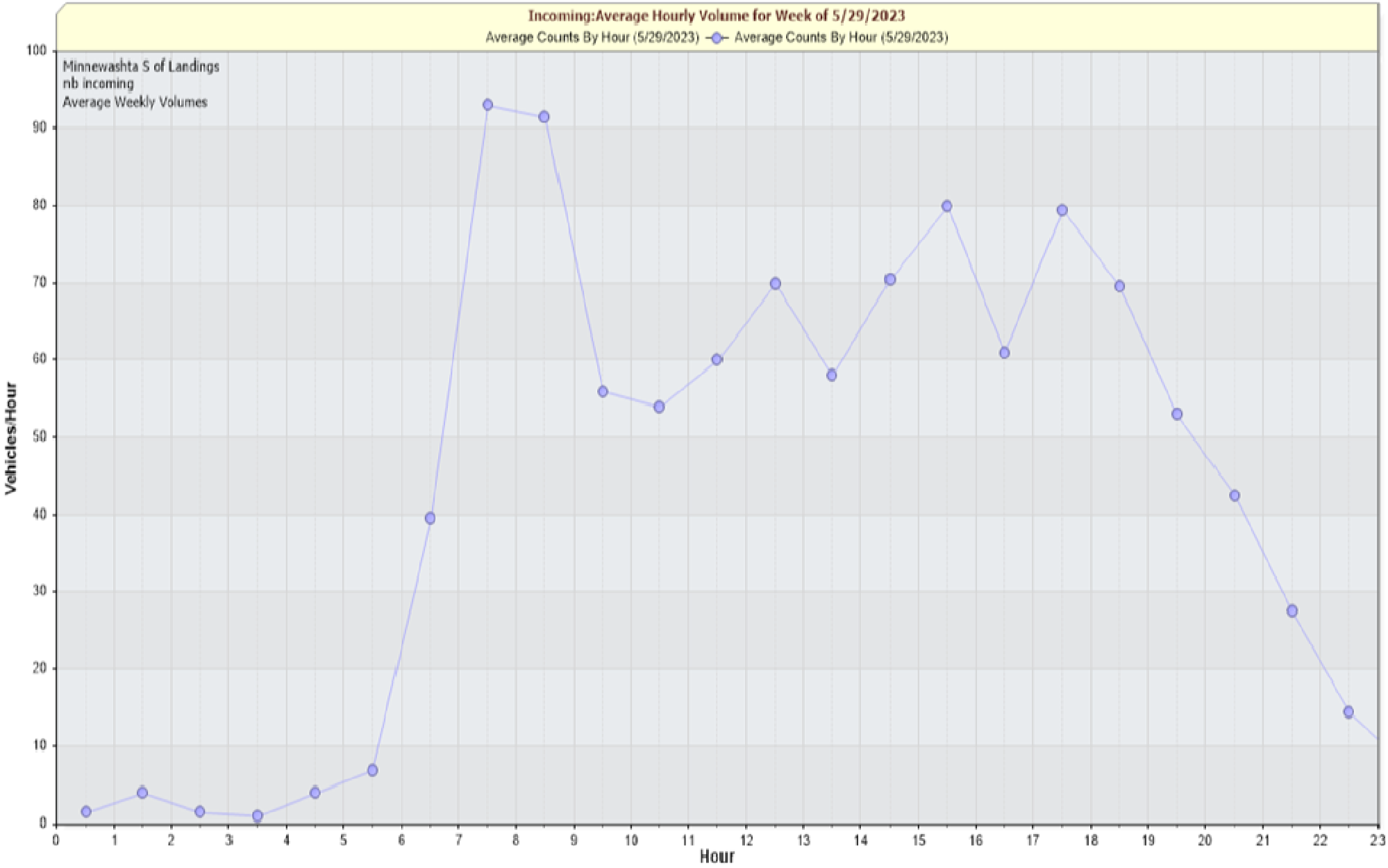
Class Counts

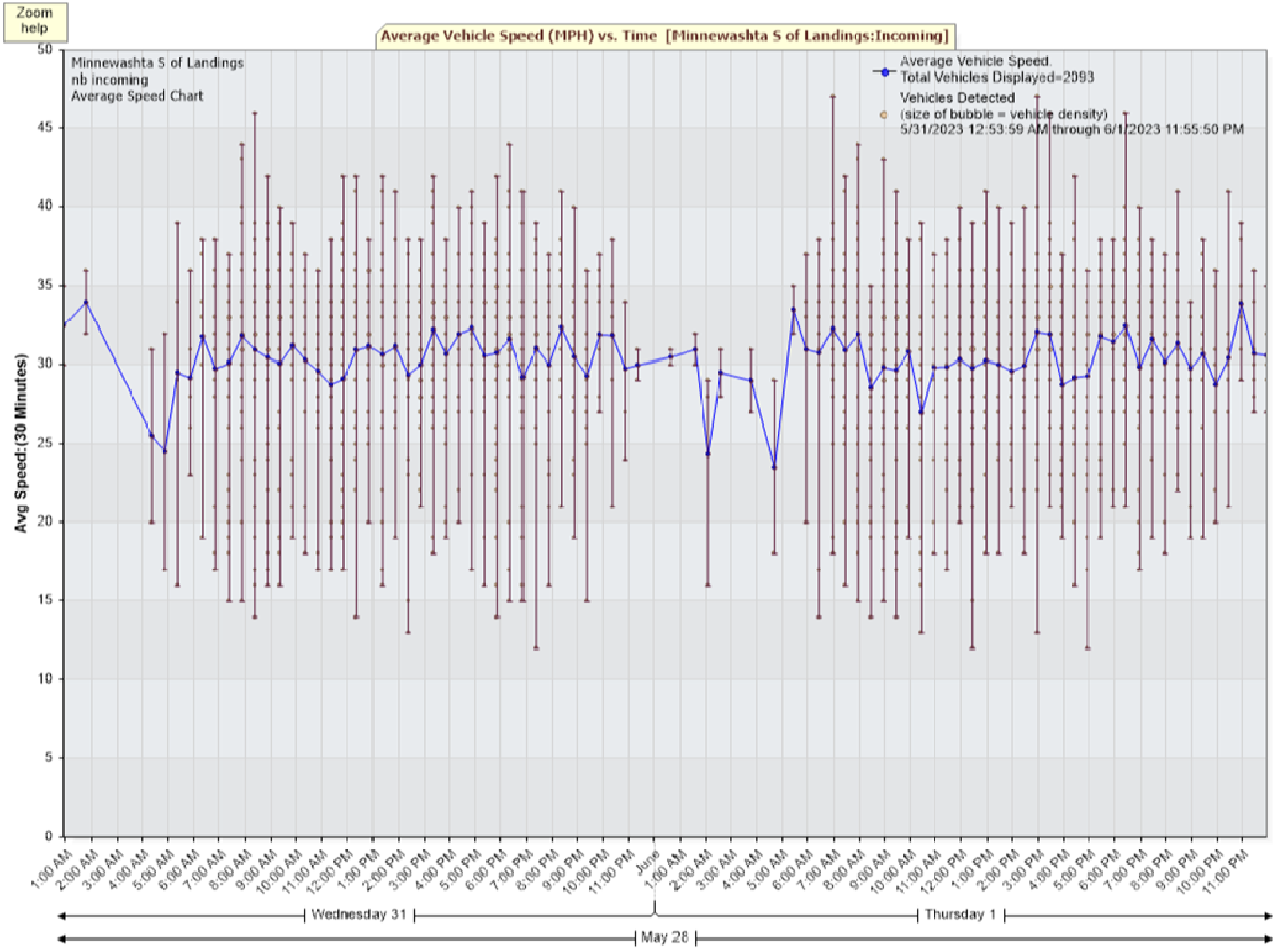
	Number	%
VEH_SM	22	1.1
VEH_MED	2013	96.2
VEH_LG	58	2.8

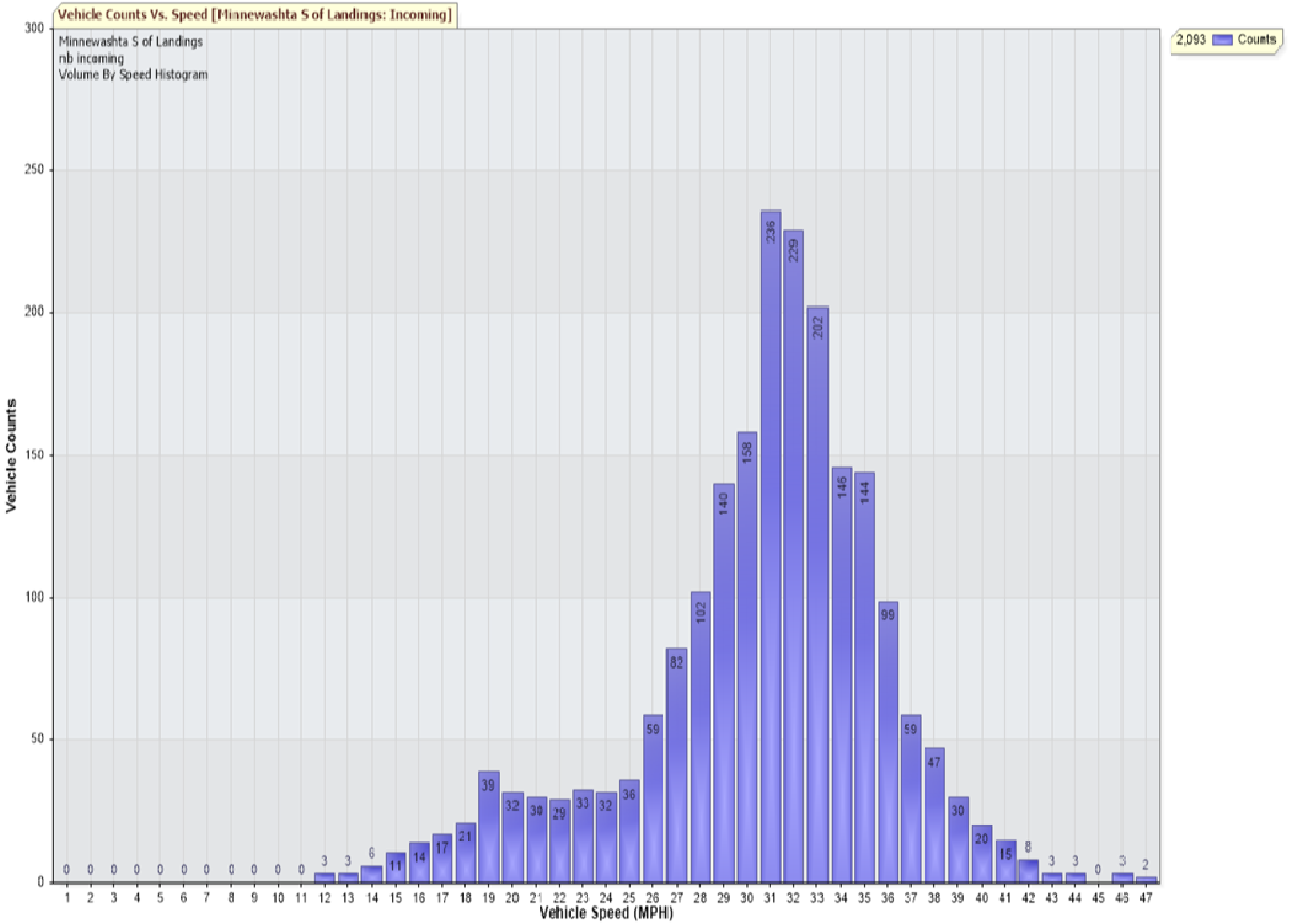
[VEH_SM=motorcycle, VEH_MED = sedan, VEH_LG = truck]

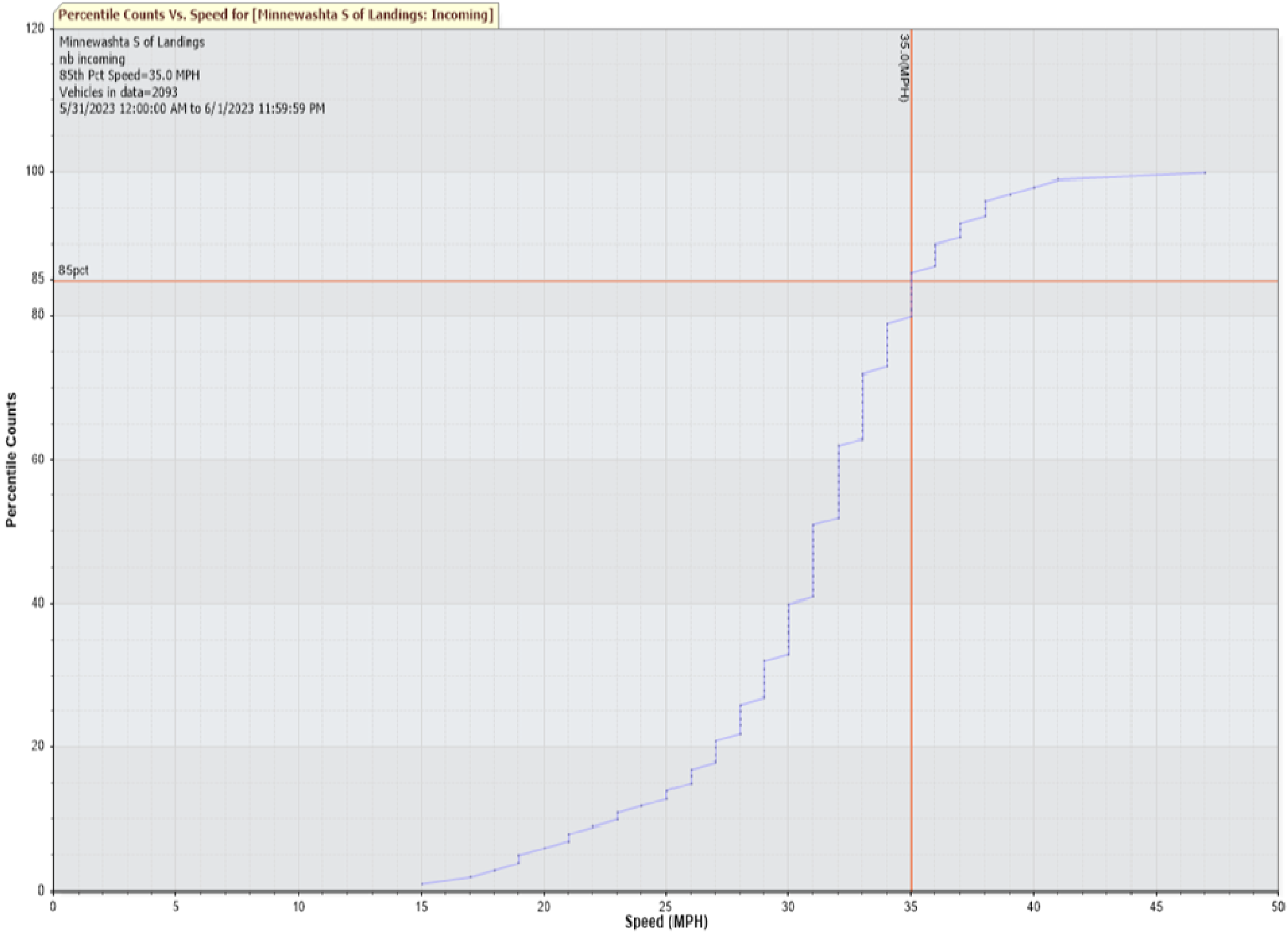
Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
5/31/2023 01:00:00 AM	35.0	2	2	35	35.0	50.0%
5/31/2023 02:00:00 AM	36.0	3	3	36	33.0	100.0%
5/31/2023 03:00:00 AM	**No Data**					
5/31/2023 04:00:00 AM	**No Data**					
5/31/2023 05:00:00 AM	34.0	5	6	39	35.0	50.0%
5/31/2023 06:00:00 AM	33.0	8	9	36	32.8	44.4%
5/31/2023 07:00:00 AM	35.0	28	33	38	33.5	69.7%
5/31/2023 08:00:00 AM	36.0	78	92	46	34.7	62.0%
5/31/2023 09:00:00 AM	36.0	81	95	42	33.8	64.2%
5/31/2023 10:00:00 AM	35.0	42	50	39	33.8	72.0%
5/31/2023 11:00:00 AM	34.0	46	54	37	33.3	48.1%
5/31/2023 12:00:00 PM	35.0	51	60	42	34.5	46.7%
5/31/2023 01:00:00 PM	36.0	51	60	42	33.8	71.7%
5/31/2023 02:00:00 PM	34.0	54	64	42	34.2	50.0%
5/31/2023 03:00:00 PM	34.0	62	73	41	33.5	56.2%
5/31/2023 04:00:00 PM	35.0	71	84	42	33.9	65.5%
5/31/2023 05:00:00 PM	36.0	50	59	41	34.4	64.4%
5/31/2023 06:00:00 PM	35.0	79	93	42	33.7	67.7%
5/31/2023 07:00:00 PM	36.0	58	68	44	34.1	61.8%
5/31/2023 08:00:00 PM	36.0	39	46	39	34.2	54.3%
5/31/2023 09:00:00 PM	36.0	38	45	41	34.5	60.0%
5/31/2023 10:00:00 PM	35.0	26	31	37	33.4	58.1%
5/31/2023 11:00:00 PM	34.0	10	12	38	33.9	58.3%
6/1/2023 12:00:00 AM	31.0	3	3	31	31.0	66.7%
6/1/2023 01:00:00 AM	30.0	1	1	30	0.0	0.0%
6/1/2023 02:00:00 AM	30.0	4	5	32	32.0	20.0%
6/1/2023 03:00:00 AM	31.0	3	3	31	31.0	66.7%
6/1/2023 04:00:00 AM	29.0	2	2	29	0.0	0.0%
6/1/2023 05:00:00 AM	35.0	2	2	35	35.0	50.0%
6/1/2023 06:00:00 AM	34.0	4	5	37	34.0	80.0%
6/1/2023 07:00:00 AM	36.0	39	46	47	34.4	78.3%
6/1/2023 08:00:00 AM	38.0	80	94	44	34.9	62.8%
6/1/2023 09:00:00 AM	33.0	75	88	43	33.1	51.1%
6/1/2023 10:00:00 AM	35.0	53	62	41	33.7	56.5%
6/1/2023 11:00:00 AM	35.0	46	54	39	34.2	40.7%
6/1/2023 12:00:00 PM	35.0	51	60	40	33.7	51.7%
6/1/2023 01:00:00 PM	34.0	68	80	41	33.4	57.5%
6/1/2023 02:00:00 PM	34.0	44	52	39	33.6	44.2%
6/1/2023 03:00:00 PM	35.0	58	68	47	34.0	69.1%
6/1/2023 04:00:00 PM	35.0	65	76	46	33.7	53.9%
6/1/2023 05:00:00 PM	35.0	54	63	42	34.0	57.1%
6/1/2023 06:00:00 PM	35.0	56	66	38	33.5	75.8%
6/1/2023 07:00:00 PM	36.0	60	71	46	34.6	59.2%
6/1/2023 08:00:00 PM	35.0	51	60	38	33.1	71.7%
6/1/2023 09:00:00 PM	34.0	34	40	41	34.2	50.0%
6/1/2023 10:00:00 PM	35.0	20	24	41	34.3	45.8%
6/1/2023 11:00:00 PM	35.0	14	17	39	33.7	64.7%
6/2/2023 12:00:00 AM	34.0	10	12	36	33.6	41.7%

Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
6/1/2023 12:00:00 AM	35.0	886	1042	46	34.0	60.9%
6/1/2023 11:59:59 PM	35.0	893	1051	47	33.9	58.1%


Incoming:Average Hourly Volume for Week of 5/29/2023
Average Counts By Hour (5/29/2023)
Average Counts By Hour (5/29/2023)
Minnewashta S of Landings
nb incoming
Average Weekly Volumes
Vehicles/Hour
Hour
0
10
20
30
40
50
60
70
80
90
100
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23


Zoom help
Average Vehicle Speed (MPH) vs. Time [Minnewashta S of Landings:Incoming]
Minnewashta S of Landings
nb incoming
Average Speed Chart
Average Vehicle Speed.
Total Vehicles Displayed=2093
Vehicles Detected
(size of bubble = vehicle density)
5/31/2023 12:53:59 AM through 6/1/2023 11:55:50 PM
Avg Speed:(30 Minutes)
50
45
40
35
30
25
20
15
10
5
0
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
June
Wednesday 31
Thursday 1
May 28


Vehicle Counts Vs. Speed [Minnewashta S of Landings: Incoming]
Minnewashta S of Landings
nb incoming
Volume By Speed Histogram
2,093 Counts
Vehicle Counts
Vehicle Speed (MPH)
0 0 0 0 0 0 0 0 0 0 0 3 3 6 11 14 17 21 39 32 30 29 33 32 36 59 82 102 140 158 236 229 202 146 144 99 59 47 30 20 15 8 3 3 0 3 2
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
0 50 100 150 200 250 300


Percentile Counts Vs. Speed for [Minnewashta S of Landings: Incoming]
Minnewashta S of Landings
nb incoming
85th Pct Speed=35.0 MPH
Vehicles in data=2093
5/31/2023 12:00:00 AM to 6/1/2023 11:59:59 PM
35.0(MPH)
85pct
Percentile Counts
Speed (MPH)
0
20
40
60
80
85
100
120
0
5
10
15
20
25
30
35
40
45
50

For Project:	Minnewashta S of Landings				
Project Notes:	nb incoming				
Location/Name:	Outgoing				
Report Generated:	6/2/2023	15:52			
Speed Intervals	1 MPH				
Time Intervals	Instant				
Traffic Report From	5/31/2023	00:00:00	through	6/1/2023	23:59:59
85th Percentile Speed	35 MPH				
85th Percentile Vehicles	1771				
Max Speed	55 MPH	on	6/1/2023	09:47:32	
Total Vehicles	2084				
AADT:	1042				

Volumes - weekly counts

	Time	5 Day	7 Day
Average Daily		1042	1042
AM Peak	08:15	65	65
PM Peak	04:00	114	114

Speed

Speed Limit:	30
85th Percentile Speed:	35
Average Speed:	30.52

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Count over limit	N/A	N/A	531	590	N/A	N/A	N/A
% over limit	N/A	N/A	52.4	55.1	N/A	N/A	N/A
Avg Speeder	N/A	N/A	34.0	34.0	N/A	N/A	N/A

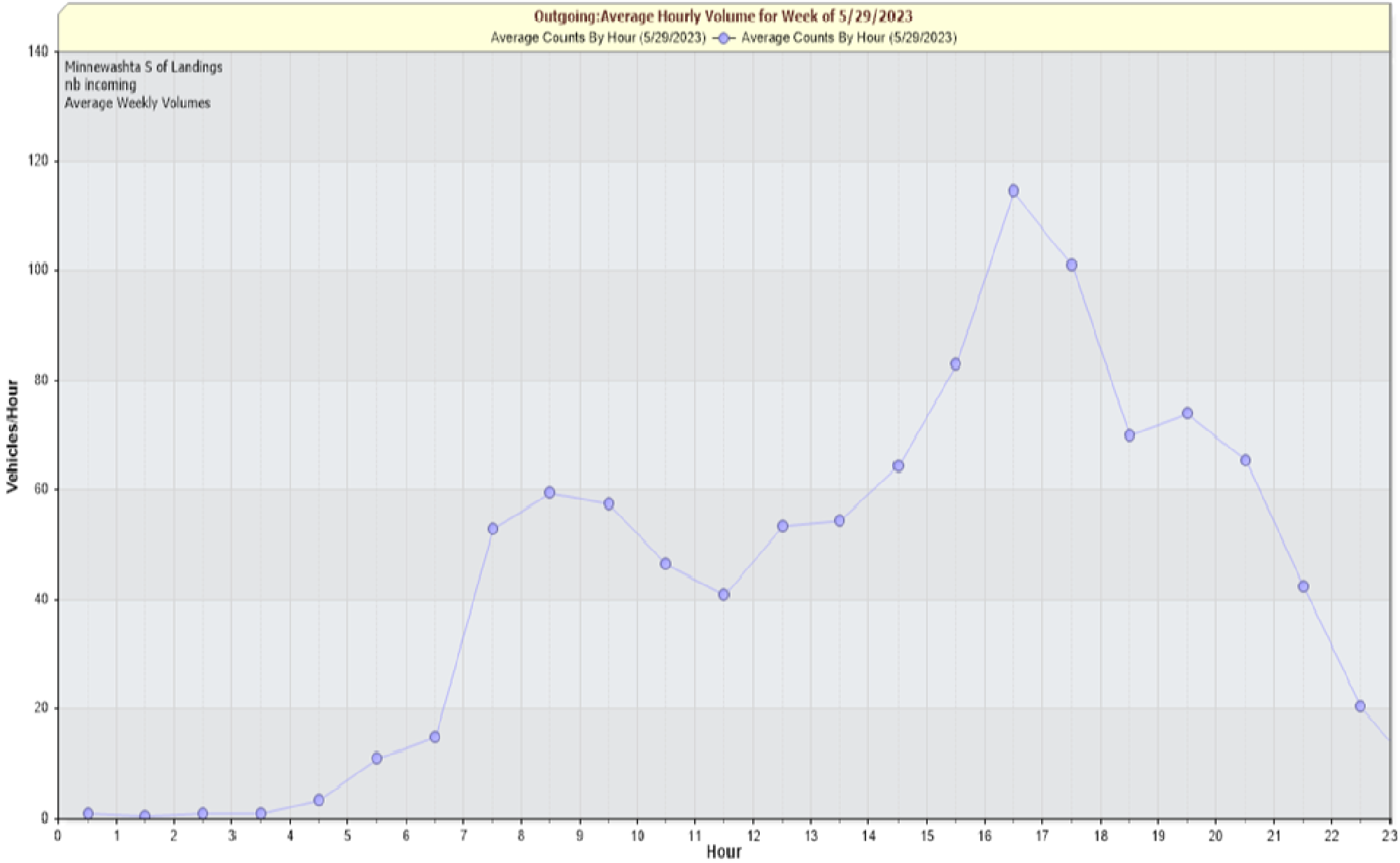
Class Counts

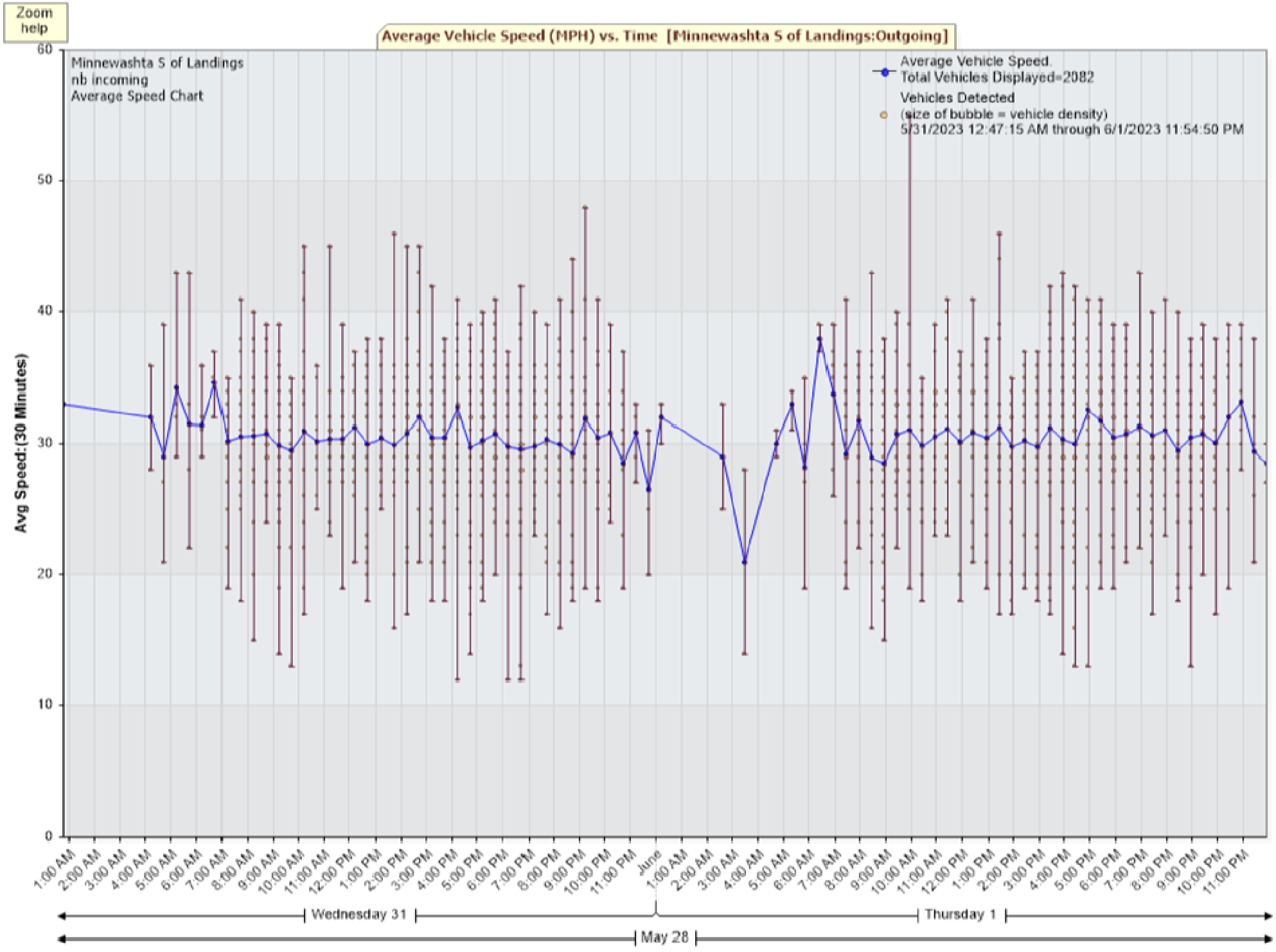
	Number	%
VEH_SM	72	3.5
VEH_MED	1961	94.1
VEH_LG	51	2.4

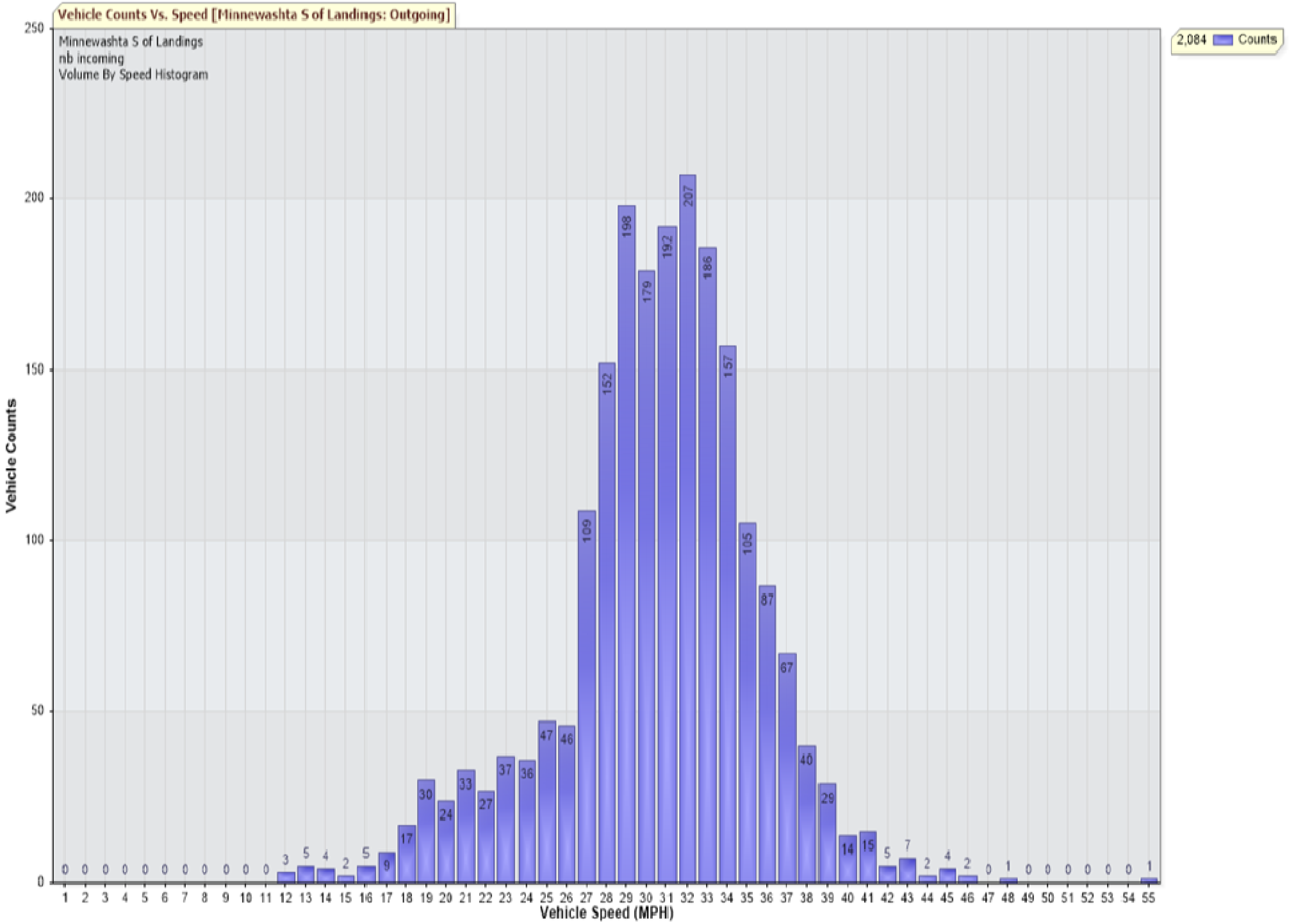
[VEH_SM=motorcycle, VEH_MED = sedan, VEH_LG = truck]

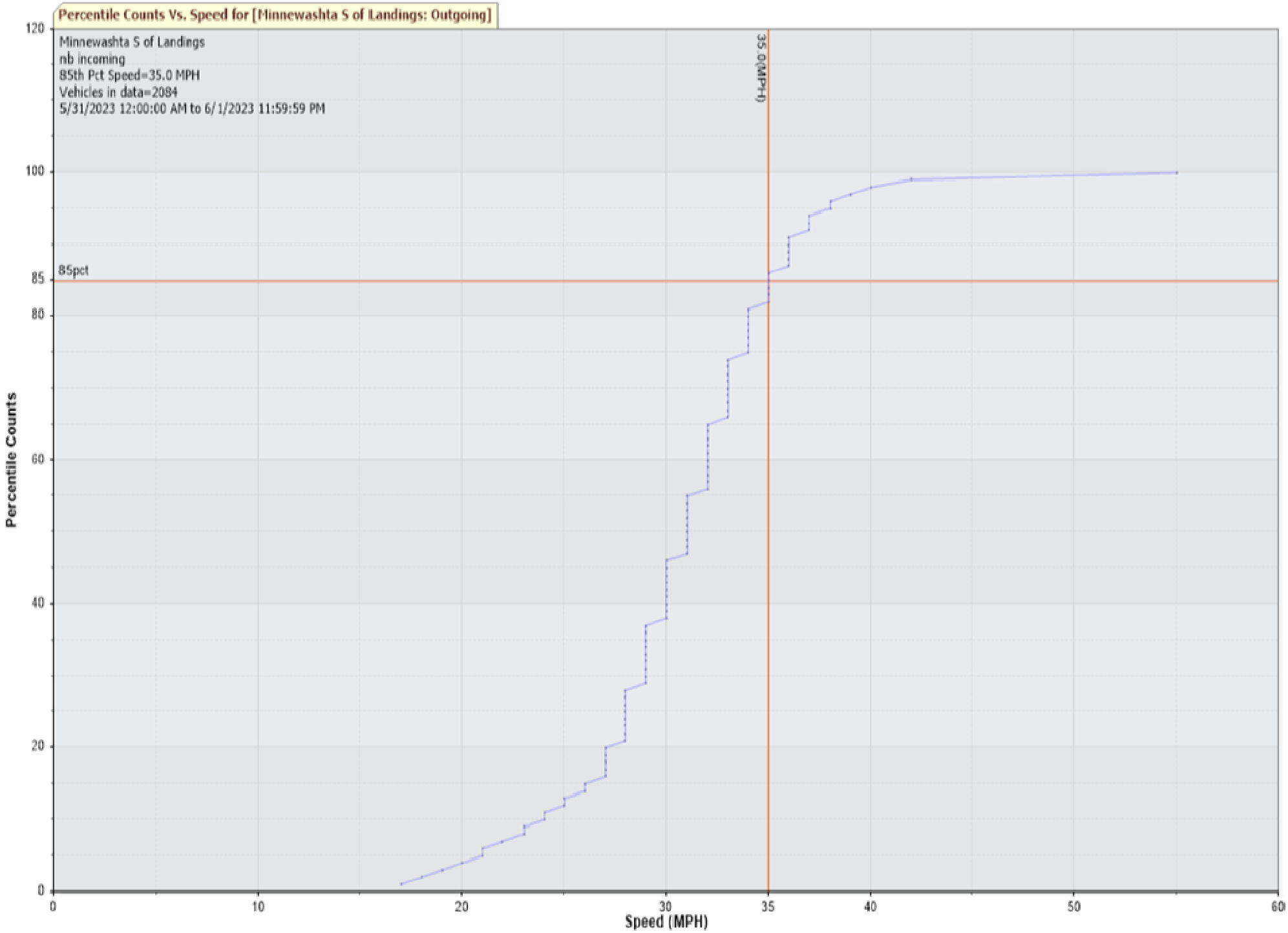
Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
5/31/2023 01:00:00 AM	33.0	1	1	33	33.0	100.0%
5/31/2023 02:00:00 AM	**No Data**					
5/31/2023 03:00:00 AM	28.0	1	1	28	0.0	0.0%
5/31/2023 04:00:00 AM	**No Data**					
5/31/2023 05:00:00 AM	39.0	4	5	43	39.3	60.0%
5/31/2023 06:00:00 AM	33.0	10	12	43	34.3	58.3%
5/31/2023 07:00:00 AM	35.0	14	16	37	33.4	62.5%
5/31/2023 08:00:00 AM	35.0	41	48	41	34.3	58.3%
5/31/2023 09:00:00 AM	34.0	53	62	39	33.9	38.7%
5/31/2023 10:00:00 AM	35.0	43	51	45	34.1	54.9%
5/31/2023 11:00:00 AM	32.0	31	36	43	32.9	47.2%
5/31/2023 12:00:00 PM	35.0	35	41	45	34.4	43.9%
5/31/2023 01:00:00 PM	34.0	42	50	38	33.8	52.0%
5/31/2023 02:00:00 PM	34.0	46	54	46	33.7	48.1%
5/31/2023 03:00:00 PM	36.0	56	66	45	34.4	62.1%
5/31/2023 04:00:00 PM	36.0	68	80	41	34.9	56.3%
5/31/2023 05:00:00 PM	35.0	90	106	40	33.9	58.5%
5/31/2023 06:00:00 PM	35.0	77	91	41	33.9	48.4%
5/31/2023 07:00:00 PM	35.0	70	82	42	33.9	46.3%
5/31/2023 08:00:00 PM	35.0	61	72	41	33.3	56.9%
5/31/2023 09:00:00 PM	35.0	59	69	48	34.3	52.2%
5/31/2023 10:00:00 PM	36.0	37	43	41	33.7	55.8%
5/31/2023 11:00:00 PM	33.0	18	21	37	33.1	38.1%
6/1/2023 12:00:00 AM	33.0	6	7	33	32.3	57.1%
6/1/2023 01:00:00 AM	30.0	1	1	30	0.0	0.0%
6/1/2023 02:00:00 AM	33.0	1	1	33	33.0	100.0%
6/1/2023 03:00:00 AM	25.0	1	1	25	0.0	0.0%
6/1/2023 04:00:00 AM	28.0	2	2	28	0.0	0.0%
6/1/2023 05:00:00 AM	31.0	2	2	31	31.0	50.0%
6/1/2023 06:00:00 AM	34.0	8	10	37	34.2	50.0%
6/1/2023 07:00:00 AM	39.0	12	14	41	36.7	71.4%
6/1/2023 08:00:00 AM	35.0	49	58	43	34.3	51.7%
6/1/2023 09:00:00 AM	34.0	48	57	38	33.8	38.6%
6/1/2023 10:00:00 AM	34.0	54	64	55	34.0	54.7%
6/1/2023 11:00:00 AM	34.0	48	57	40	33.2	59.6%
6/1/2023 12:00:00 PM	35.0	35	41	41	33.9	56.1%
6/1/2023 01:00:00 PM	34.0	48	57	46	34.4	57.9%
6/1/2023 02:00:00 PM	34.0	47	55	39	33.1	50.9%
6/1/2023 03:00:00 PM	36.0	54	63	42	34.4	57.1%
6/1/2023 04:00:00 PM	36.0	73	86	43	34.5	47.7%
6/1/2023 05:00:00 PM	37.0	105	123	42	34.5	63.4%
6/1/2023 06:00:00 PM	35.0	94	111	41	33.9	56.8%
6/1/2023 07:00:00 PM	34.0	49	58	43	33.3	65.5%
6/1/2023 08:00:00 PM	35.0	65	76	41	34.3	48.7%
6/1/2023 09:00:00 PM	35.0	53	62	38	33.6	56.5%
6/1/2023 10:00:00 PM	34.0	36	42	39	33.1	52.4%
6/1/2023 11:00:00 PM	38.0	17	20	39	35.4	70.0%
6/2/2023 12:00:00 AM	32.0	8	9	38	33.3	44.4%

Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
6/1/2023 12:00:00 AM	35.0	862	1014	48	34.0	52.4%
6/1/2023 11:59:59 PM	35.0	910	1070	55	34.0	55.1%


Outgoing:Average Hourly Volume for Week of 5/29/2023
Average Counts By Hour (5/29/2023)
Average Counts By Hour (5/29/2023)
Minnewashta S of Landings
nb incoming
Average Weekly Volumes
Vehicles/Hour
Hour
0
20
40
60
80
100
120
140
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23


Zoom help
Average Vehicle Speed (MPH) vs. Time [Minnewashta S of Landings:Outgoing]
Minnewashta S of Landings
nb incoming
Average Speed Chart
Average Vehicle Speed.
Total Vehicles Displayed=2082
Vehicles Detected
(size of bubble = vehicle density)
5/31/2023 12:47:15 AM through 6/1/2023 11:54:50 PM
Avg Speed:(30 Minutes)
60
50
40
30
20
10
0
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
June
Wednesday 31
Thursday 1
May 28


Vehicle Counts Vs. Speed [Minnewashta S of Landings: Outgoing]
Minnewashta S of Landings
nb incoming
Volume By Speed Histogram
2,084 Counts
Vehicle Counts
Vehicle Speed (MPH)
0 0 0 0 0 0 0 0 0 0 0 3 5 4 2 5 9 17 30 24 33 27 37 36 47 46 109 152 198 179 192 207 186 157 105 87 67 40 29 14 15 5 7 2 4 2 0 1 0 0 0 0 0 0 1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55
0 50 100 150 200 250


Percentile Counts Vs. Speed for [Minnewashta S of Landings: Outgoing]
Minnewashta S of Landings
nb incoming
85th Pct Speed=35.0 MPH
Vehicles in data=2084
5/31/2023 12:00:00 AM to 6/1/2023 11:59:59 PM
35.0(MPH)
85pct
Percentile Counts
Speed (MPH)
0
20
40
60
80
85
100
120
0
10
20
30
35
40
50
60

For Project:	Minnewashta N of Roundhouse Park				
Project Notes:	sb incoming				
Location/Name:	Incoming				
Report Generated:	6/2/2023	16:02			
Speed Intervals	1 MPH				
Time Intervals	Instant				
Traffic Report From	5/31/2023	00:00:00	through	6/1/2023	23:59:59
85th Percentile Speed	35 MPH				
85th Percentile Vehicles	1677				
Max Speed	44 MPH	on	5/31/2023	11:10:33	
Total Vehicles	1973				
AADT:	986				

Volumes - weekly counts

	Time	5 Day	7 Day
Average Daily		986	986
AM Peak	08:00	68	68
PM Peak	04:30	108	108

Speed

Speed Limit:	30
85th Percentile Speed:	35
Average Speed:	31.19

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Count over limit	N/A	N/A	568	637	N/A	N/A	N/A
% over limit	N/A	N/A	59.4	62.7	N/A	N/A	N/A
Avg Speeder	N/A	N/A	33.4	33.3	N/A	N/A	N/A

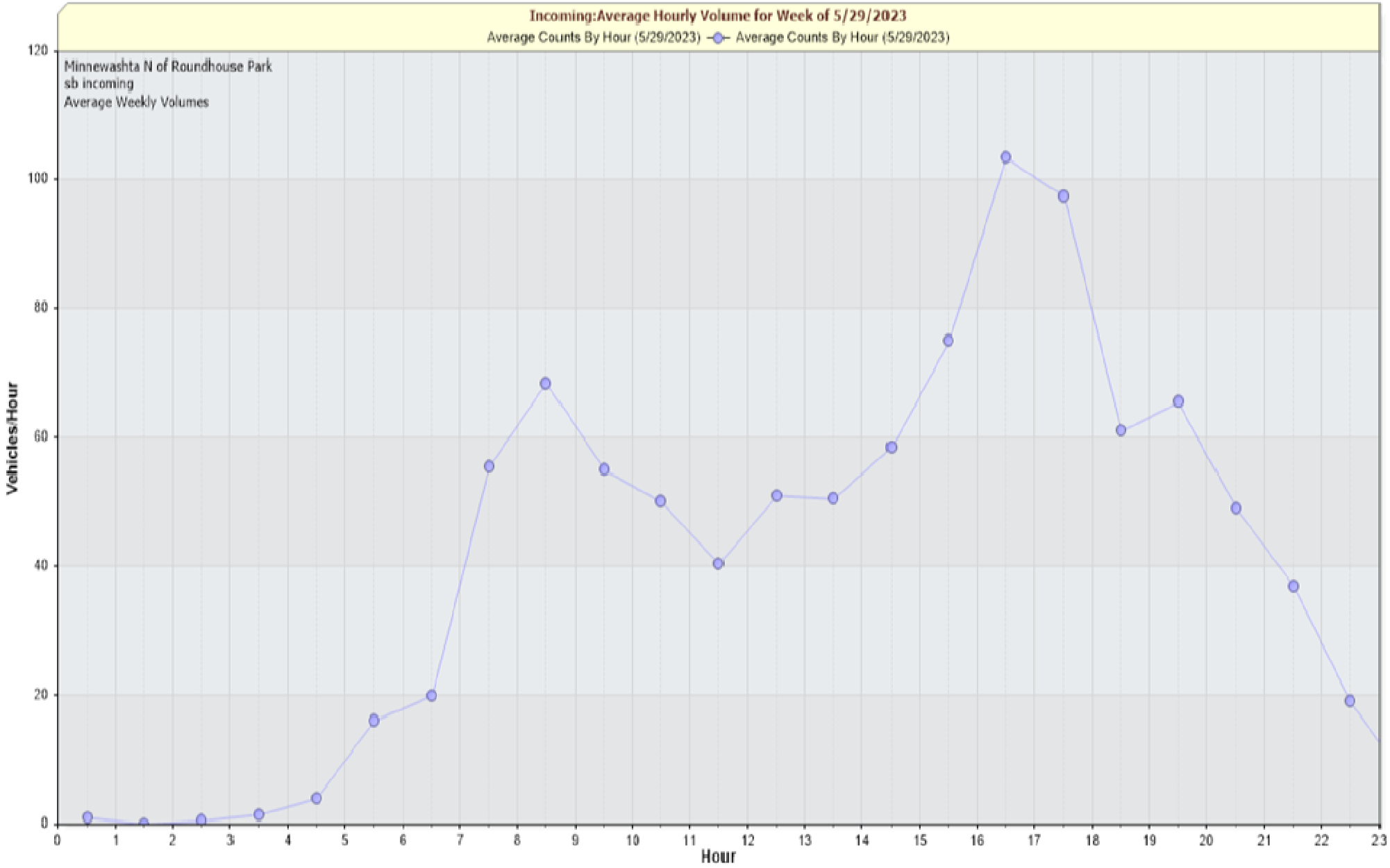
Class Counts

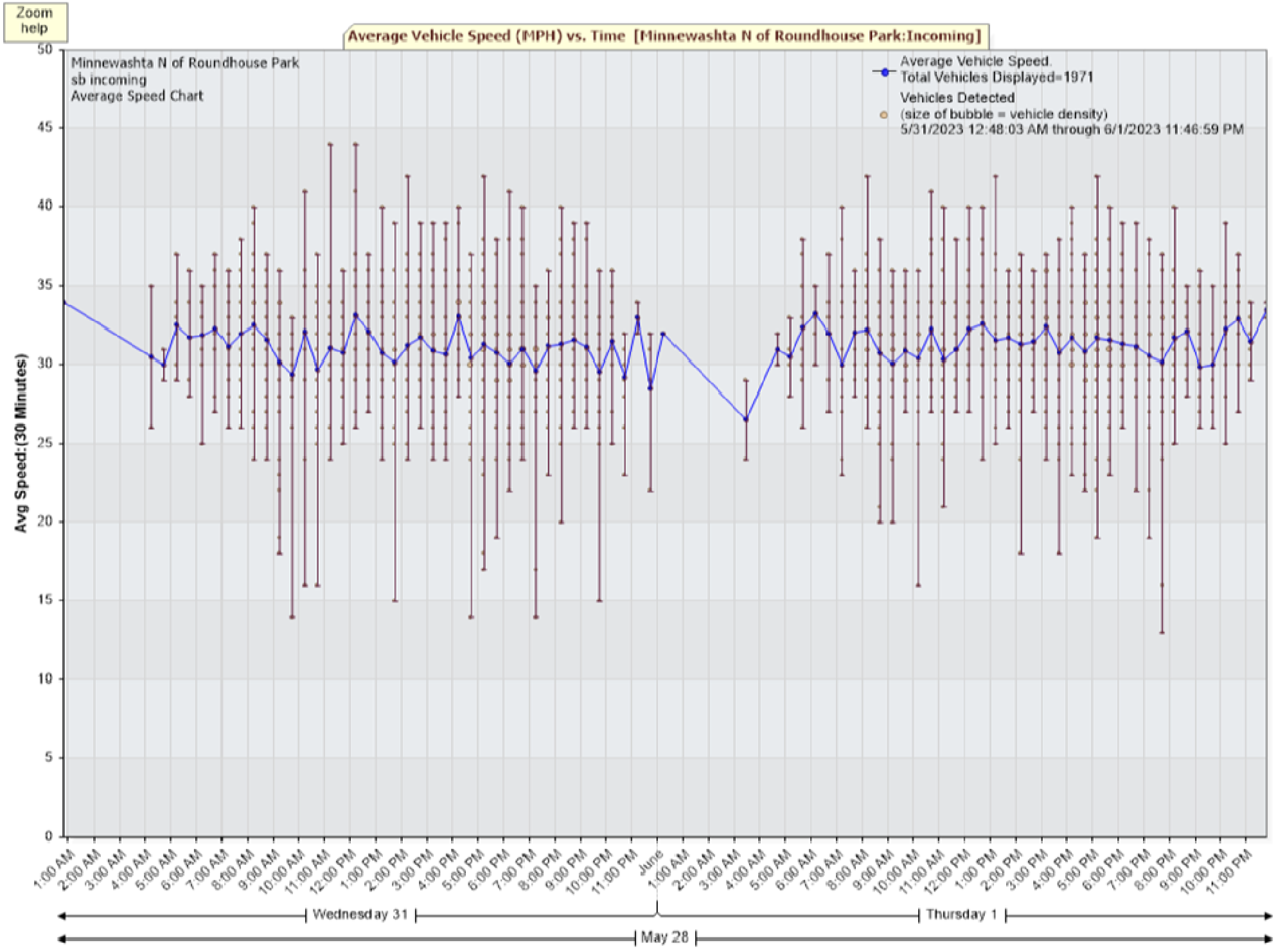
	Number	%
VEH_SM	22	1.1
VEH_MED	1894	96
VEH_LG	57	2.9

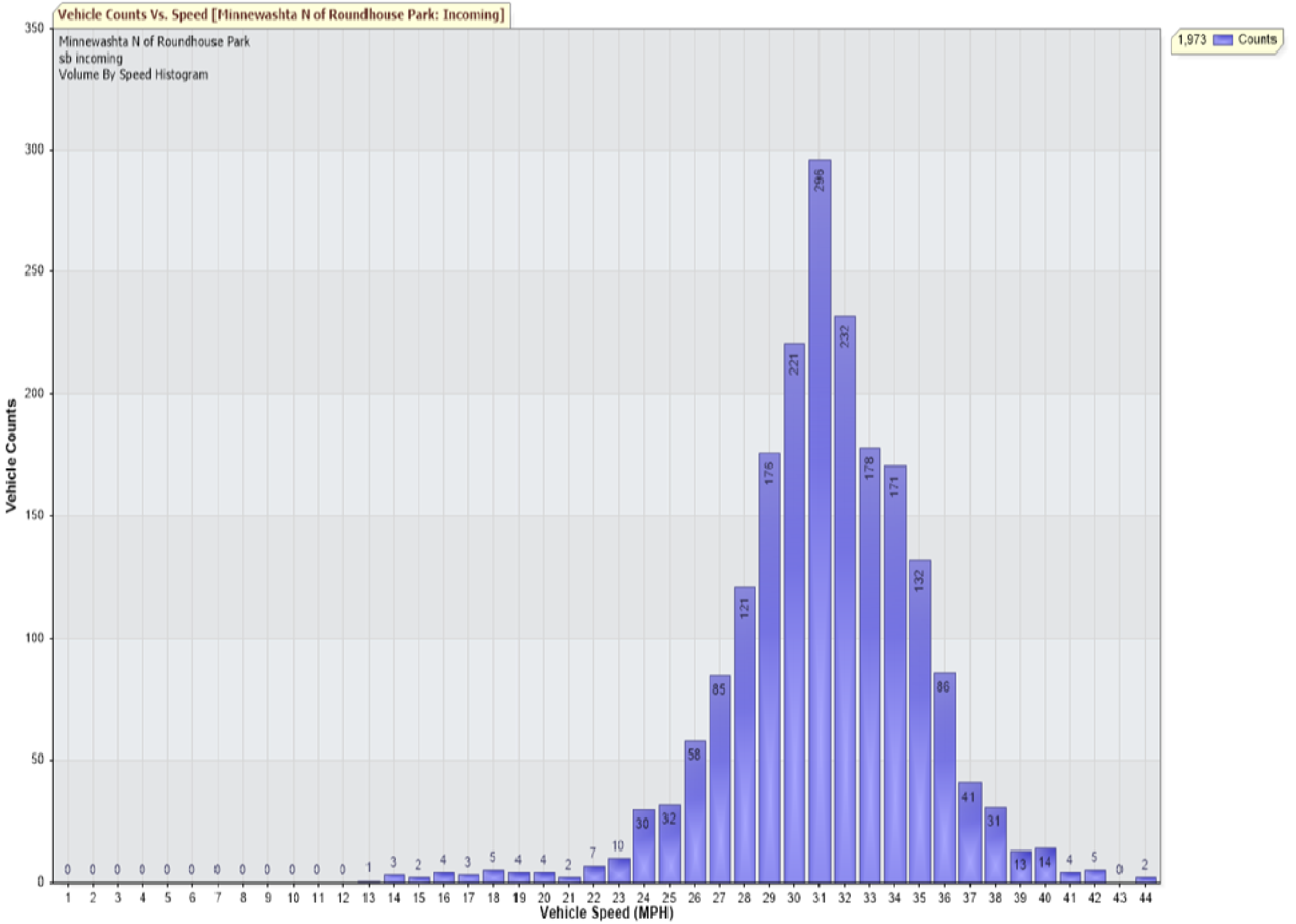
[VEH_SM=motorcycle, VEH_MED = sedan, VEH_LG = truck]

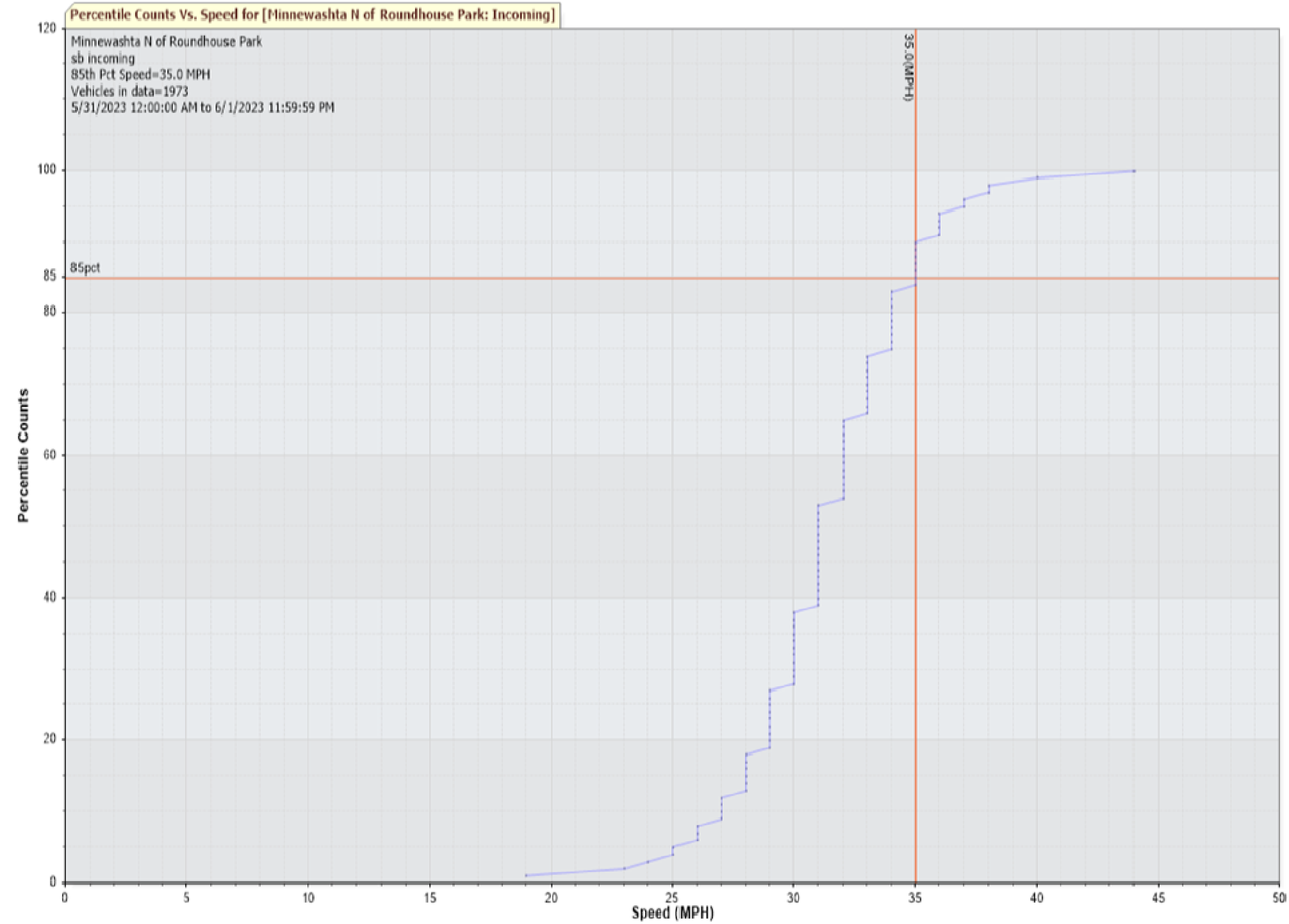
Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
5/31/2023 01:00:00 AM	34.0	1	1	34	34.0	100.0%
5/31/2023 02:00:00 AM	**No Data**					
5/31/2023 03:00:00 AM	**No Data**					
5/31/2023 04:00:00 AM	26.0	1	1	26	0.0	0.0%
5/31/2023 05:00:00 AM	35.0	4	5	37	33.8	80.0%
5/31/2023 06:00:00 AM	35.0	13	15	36	33.9	66.7%
5/31/2023 07:00:00 AM	34.0	17	20	37	33.4	45.0%
5/31/2023 08:00:00 AM	36.0	44	52	40	34.2	75.0%
5/31/2023 09:00:00 AM	34.0	59	69	37	33.0	60.9%
5/31/2023 10:00:00 AM	34.0	39	46	41	33.2	65.2%
5/31/2023 11:00:00 AM	34.0	33	39	37	32.9	53.8%
5/31/2023 12:00:00 PM	36.0	34	40	44	34.6	62.5%
5/31/2023 01:00:00 PM	35.0	43	51	37	33.4	64.7%
5/31/2023 02:00:00 PM	34.0	43	51	40	33.6	45.1%
5/31/2023 03:00:00 PM	36.0	51	60	42	34.0	60.0%
5/31/2023 04:00:00 PM	35.0	57	67	40	34.1	53.7%
5/31/2023 05:00:00 PM	34.0	78	92	42	33.4	63.0%
5/31/2023 06:00:00 PM	35.0	81	95	41	33.2	60.0%
5/31/2023 07:00:00 PM	33.0	63	74	40	32.5	55.4%
5/31/2023 08:00:00 PM	34.0	55	65	40	33.2	63.1%
5/31/2023 09:00:00 PM	35.0	47	55	39	33.7	54.5%
5/31/2023 10:00:00 PM	34.0	31	36	36	33.2	50.0%
5/31/2023 11:00:00 PM	32.0	14	17	34	32.1	58.8%
6/1/2023 12:00:00 AM	32.0	5	6	34	32.3	66.7%
6/1/2023 01:00:00 AM	32.0	1	1	32	32.0	100.0%
6/1/2023 02:00:00 AM	**No Data**					
6/1/2023 03:00:00 AM	29.0	1	1	29	0.0	0.0%
6/1/2023 04:00:00 AM	30.0	2	2	30	0.0	0.0%
6/1/2023 05:00:00 AM	33.0	3	3	33	32.5	66.7%
6/1/2023 06:00:00 AM	35.0	14	17	38	34.0	70.6%
6/1/2023 07:00:00 AM	35.0	17	20	40	34.2	55.0%
6/1/2023 08:00:00 AM	35.0	50	59	37	33.1	69.5%
6/1/2023 09:00:00 AM	35.0	58	68	42	33.5	55.9%
6/1/2023 10:00:00 AM	33.0	55	65	36	32.6	56.9%
6/1/2023 11:00:00 AM	34.0	52	61	41	33.2	70.5%
6/1/2023 12:00:00 PM	34.0	35	41	40	33.1	56.1%
6/1/2023 01:00:00 PM	35.0	43	51	42	33.6	74.5%
6/1/2023 02:00:00 PM	35.0	42	50	37	33.3	72.0%
6/1/2023 03:00:00 PM	35.0	48	57	36	33.5	66.7%
6/1/2023 04:00:00 PM	36.0	71	83	40	33.4	69.9%
6/1/2023 05:00:00 PM	35.0	98	115	42	33.6	56.5%
6/1/2023 06:00:00 PM	35.0	85	100	40	33.7	63.0%
6/1/2023 07:00:00 PM	34.0	41	48	39	33.4	45.8%
6/1/2023 08:00:00 PM	34.0	56	66	40	33.0	63.6%
6/1/2023 09:00:00 PM	35.0	37	43	36	33.0	69.8%
6/1/2023 10:00:00 PM	32.0	32	38	35	32.6	42.1%
6/1/2023 11:00:00 PM	35.0	18	21	39	33.9	81.0%
6/2/2023 12:00:00 AM	34.0	6	7	35	33.4	71.4%

Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
6/1/2023 12:00:00 AM	35.0	813	957	44	33.4	59.4%
6/1/2023 11:59:59 PM	35.0	864	1016	42	33.3	62.7%


Incoming:Average Hourly Volume for Week of 5/29/2023
Average Counts By Hour (5/29/2023)
Average Counts By Hour (5/29/2023)
Minnewashta N of Roundhouse Park
sb incoming
Average Weekly Volumes
Vehicles/Hour
Hour
0
20
40
60
80
100
120
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23


Zoom help
Average Vehicle Speed (MPH) vs. Time [Minnewashta N of Roundhouse Park:Incoming]
Minnewashta N of Roundhouse Park
sb incoming
Average Speed Chart
Average Vehicle Speed.
Total Vehicles Displayed=1971
Vehicles Detected
(size of bubble = vehicle density)
5/31/2023 12:48:03 AM through 6/1/2023 11:46:59 PM
Avg Speed:(30 Minutes)
0
5
10
15
20
25
30
35
40
45
50
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
June
Wednesday 31
Thursday 1
May 28


Vehicle Counts Vs. Speed [Minnewashta N of Roundhouse Park: Incoming]
Minnewashta N of Roundhouse Park
sb incoming
Volume By Speed Histogram
1,973 Counts
Vehicle Counts
Vehicle Speed (MPH)
0 0 0 0 0 0 0 0 0 0 0 0 1 3 2 4 3 5 4 4 2 7 10 30 32 58 85 121 176 221 296 232 178 171 132 86 41 31 13 14 4 5 0 2
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44
0 50 100 150 200 250 300 350


Percentile Counts Vs. Speed for [Minnewashta N of Roundhouse Park: Incoming]
Minnewashta N of Roundhouse Park
sb incoming
85th Pct Speed=35.0 MPH
Vehicles in data=1973
5/31/2023 12:00:00 AM to 6/1/2023 11:59:59 PM
85pct
35.0(MPH)
Percentile Counts
Speed (MPH)
0
20
40
60
80
85
100
120
0
5
10
15
20
25
30
35
40
45
50

For Project:	Minnewashta N of Roundhouse Park				
Project Notes:	sb incoming				
Location/Name:	Outgoing				
Report Generated:	6/2/2023	16:02			
Speed Intervals	1 MPH				
Time Intervals	Instant				
Traffic Report From	5/31/2023	00:00:00	through	6/1/2023	23:59:59
85th Percentile Speed	35 MPH				
85th Percentile Vehicles	1812				
Max Speed	54 MPH	on	5/31/2023	16:23:28	
Total Vehicles	2132				
AADT:	1066				

Volumes - weekly counts

	Time	5 Day	7 Day
Average Daily		1066	1066
AM Peak	07:30	84	84
PM Peak	02:30	95	95

Speed

Speed Limit:	30
85th Percentile Speed:	35
Average Speed:	31.23

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Count over limit	N/A	N/A	633	591	N/A	N/A	N/A
% over limit	N/A	N/A	58.4	56.3	N/A	N/A	N/A
Avg Speeder	N/A	N/A	33.8	34.0	N/A	N/A	N/A

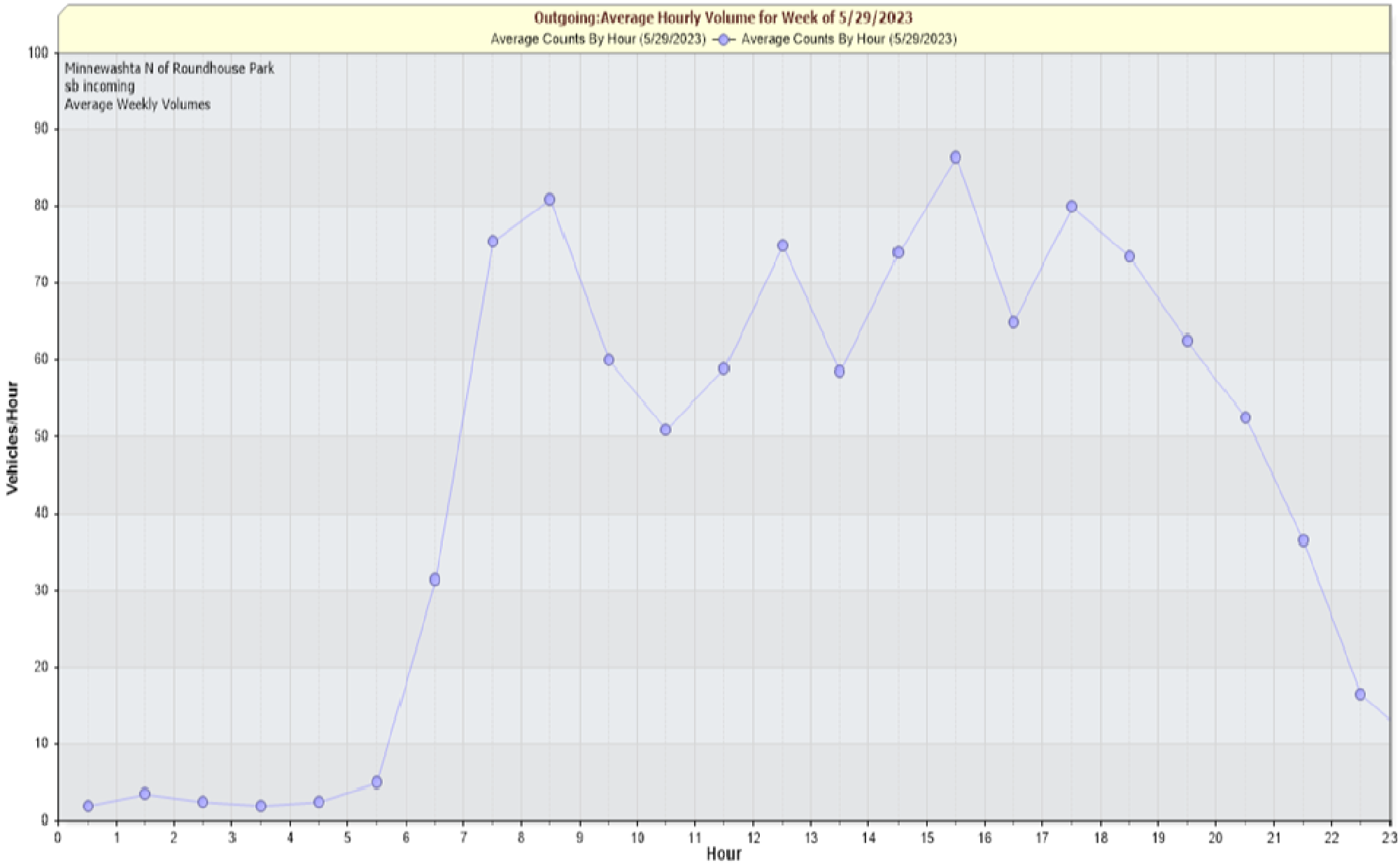
Class Counts

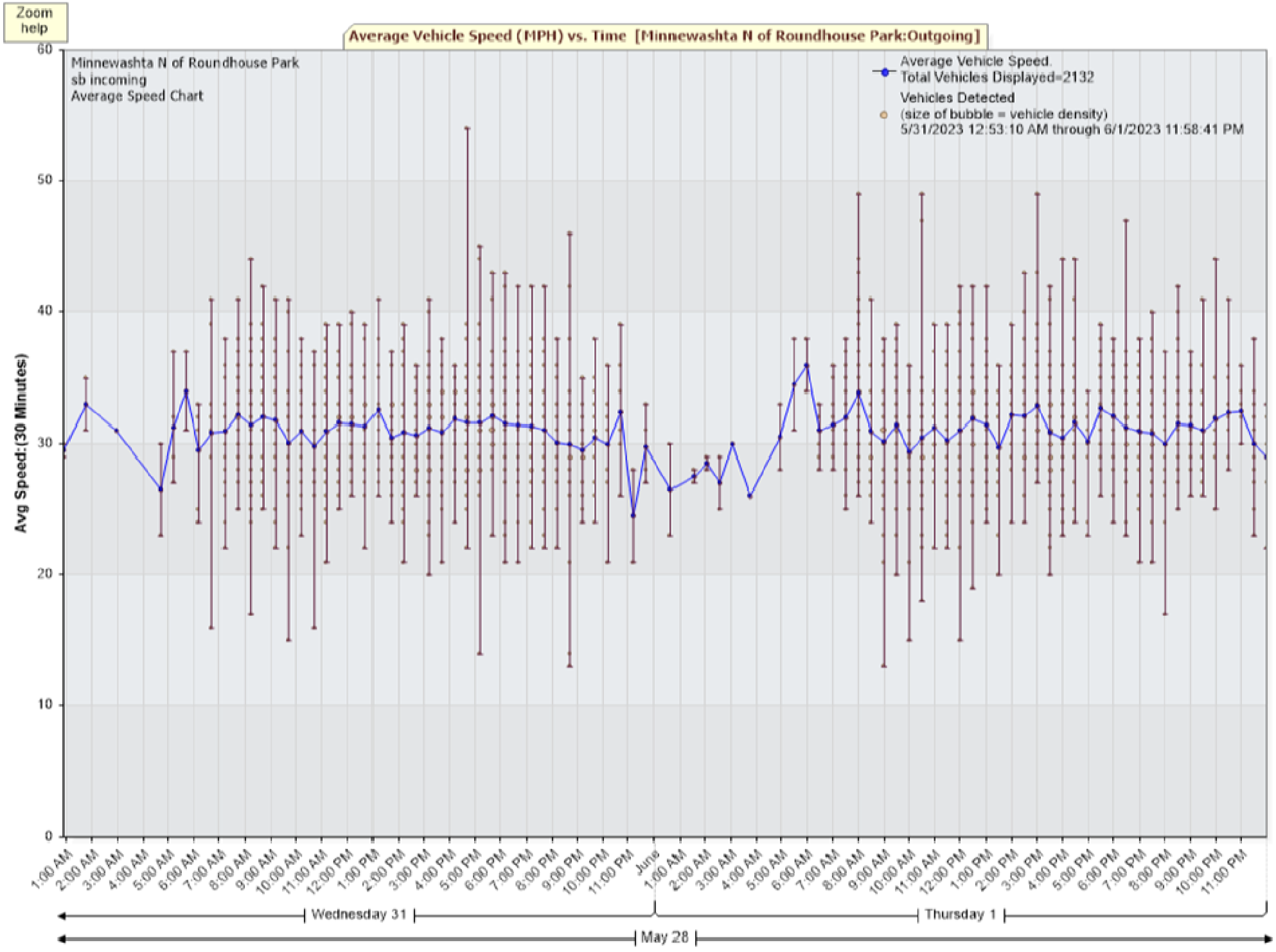
	Number	%
VEH_SM	1	0
VEH_MED	2083	97.7
VEH_LG	48	2.3

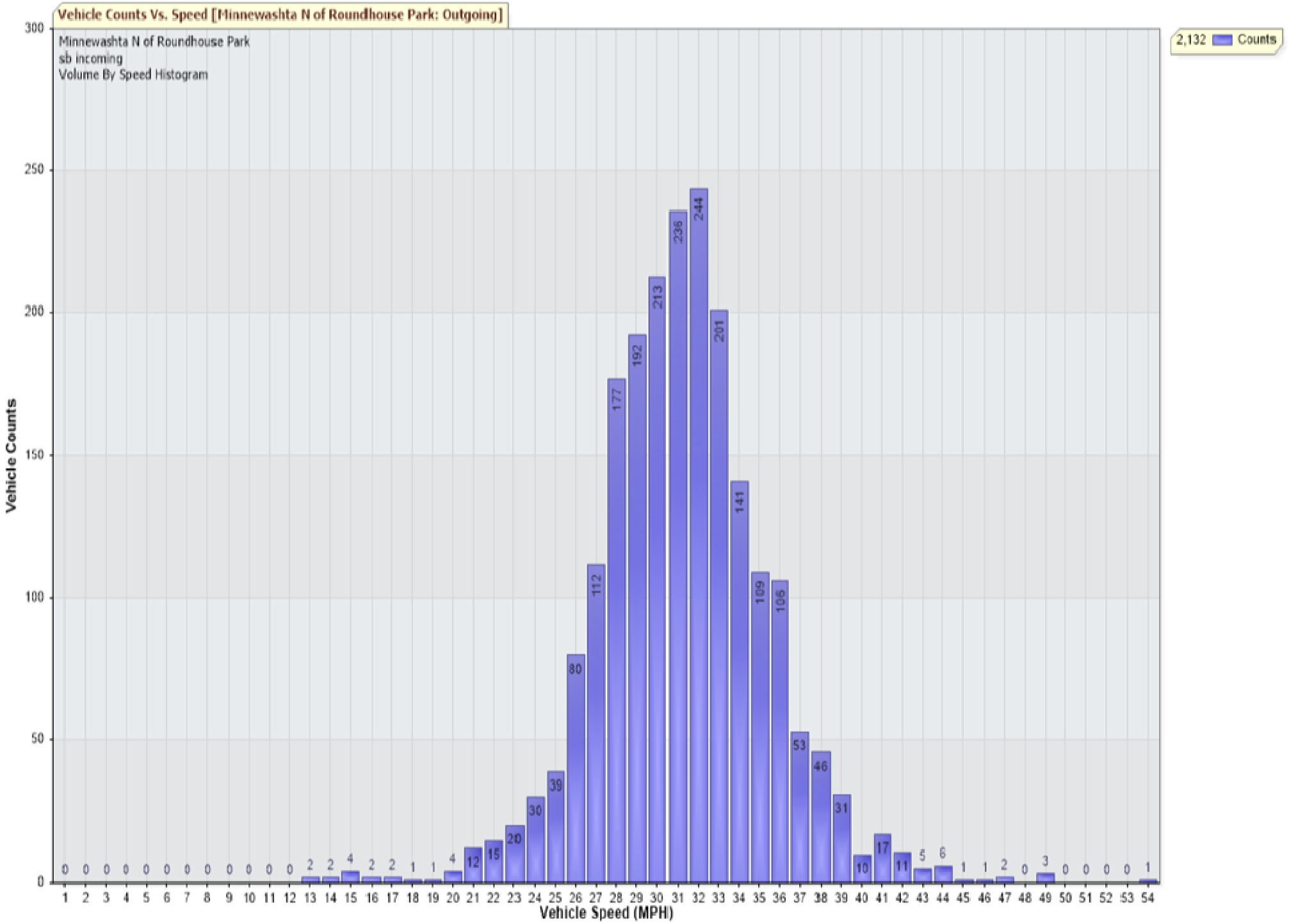
[VEH_SM=motorcycle, VEH_MED = sedan, VEH_LG = truck]

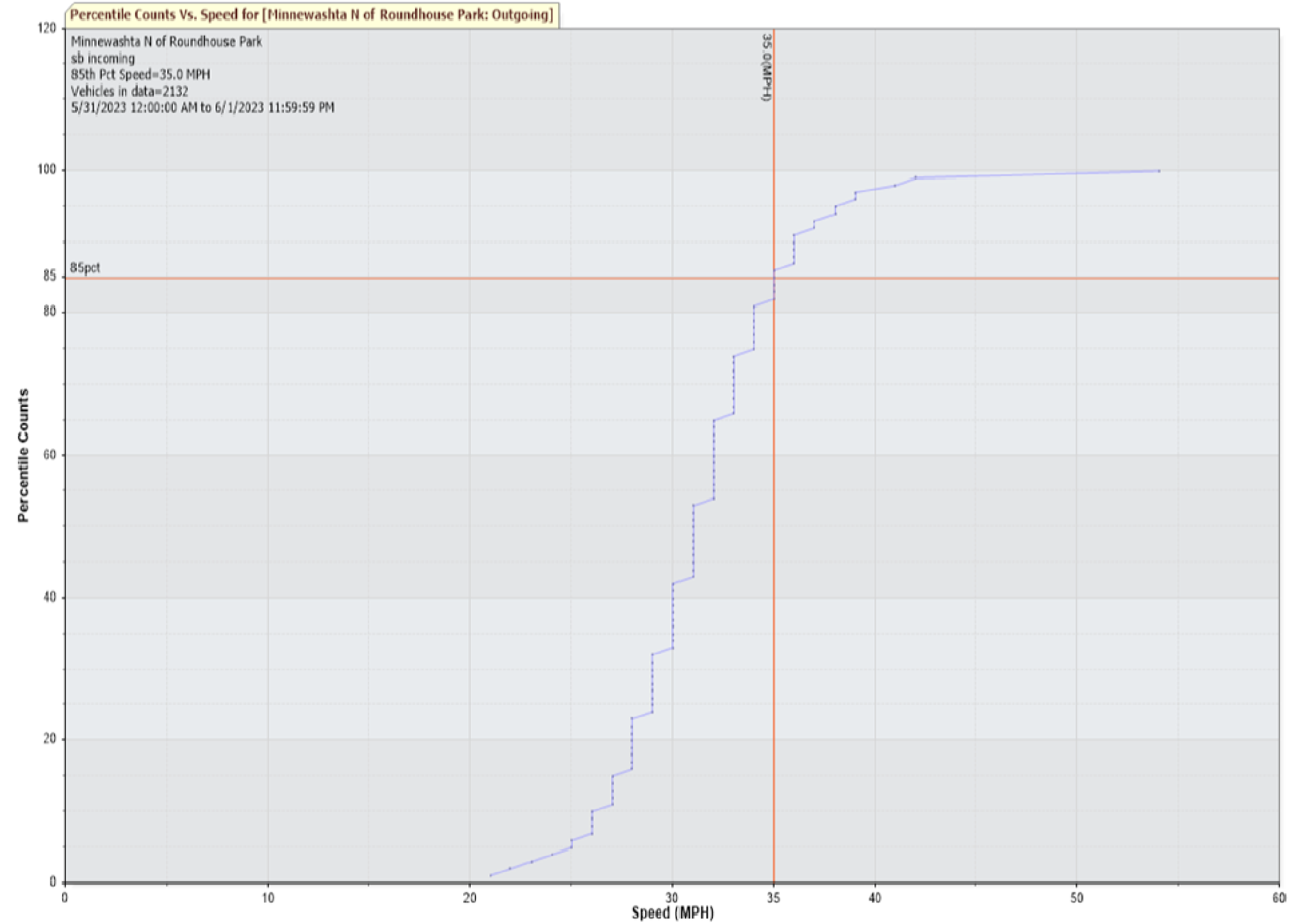
Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
5/31/2023 01:00:00 AM	30.0	2	2	30	0.0	0.0%
5/31/2023 02:00:00 AM	35.0	3	3	35	32.3	100.0%
5/31/2023 03:00:00 AM	31.0	1	1	31	31.0	100.0%
5/31/2023 04:00:00 AM	23.0	1	1	23	0.0	0.0%
5/31/2023 05:00:00 AM	32.0	3	4	37	34.5	50.0%
5/31/2023 06:00:00 AM	32.0	5	6	37	32.6	83.3%
5/31/2023 07:00:00 AM	33.0	24	28	41	33.3	60.7%
5/31/2023 08:00:00 AM	37.0	64	75	44	34.2	66.7%
5/31/2023 09:00:00 AM	36.0	72	85	42	34.2	60.0%
5/31/2023 10:00:00 AM	35.0	48	57	41	34.6	50.9%
5/31/2023 11:00:00 AM	36.0	42	49	39	33.9	57.1%
5/31/2023 12:00:00 PM	35.0	48	56	40	33.6	60.7%
5/31/2023 01:00:00 PM	35.0	60	70	41	33.8	61.4%
5/31/2023 02:00:00 PM	36.0	51	60	41	34.5	53.3%
5/31/2023 03:00:00 PM	35.0	65	76	40	33.5	56.6%
5/31/2023 04:00:00 PM	34.0	80	94	41	33.5	60.6%
5/31/2023 05:00:00 PM	35.0	61	72	54	34.2	62.5%
5/31/2023 06:00:00 PM	35.0	82	96	43	33.5	68.8%
5/31/2023 07:00:00 PM	36.0	65	77	43	34.3	57.1%
5/31/2023 08:00:00 PM	35.0	44	52	42	34.0	53.8%
5/31/2023 09:00:00 PM	33.0	50	59	46	33.8	42.4%
5/31/2023 10:00:00 PM	33.0	35	41	38	32.7	46.3%
5/31/2023 11:00:00 PM	34.0	13	15	39	33.3	60.0%
6/1/2023 12:00:00 AM	31.0	3	4	33	32.0	50.0%
6/1/2023 01:00:00 AM	30.0	2	2	30	0.0	0.0%
6/1/2023 02:00:00 AM	28.0	3	4	29	0.0	0.0%
6/1/2023 03:00:00 AM	30.0	3	4	30	0.0	0.0%
6/1/2023 04:00:00 AM	28.0	3	3	28	0.0	0.0%
6/1/2023 05:00:00 AM	33.0	1	1	33	33.0	100.0%
6/1/2023 06:00:00 AM	38.0	3	4	38	35.3	100.0%
6/1/2023 07:00:00 AM	33.0	30	35	37	33.1	60.0%
6/1/2023 08:00:00 AM	37.0	65	76	49	35.1	71.1%
6/1/2023 09:00:00 AM	34.0	65	77	41	33.0	58.4%
6/1/2023 10:00:00 AM	36.0	54	63	39	34.2	49.2%
6/1/2023 11:00:00 AM	34.0	45	53	49	34.3	47.2%
6/1/2023 12:00:00 PM	35.0	53	62	42	34.1	51.6%
6/1/2023 01:00:00 PM	35.0	68	80	42	34.2	61.3%
6/1/2023 02:00:00 PM	35.0	48	57	39	34.0	52.6%
6/1/2023 03:00:00 PM	36.0	61	72	49	34.6	62.5%
6/1/2023 04:00:00 PM	34.0	67	79	44	34.1	50.6%
6/1/2023 05:00:00 PM	34.0	49	58	44	33.4	63.8%
6/1/2023 06:00:00 PM	36.0	54	64	39	34.3	67.2%
6/1/2023 07:00:00 PM	35.0	60	70	47	34.3	50.0%
6/1/2023 08:00:00 PM	33.0	62	73	40	33.1	47.9%
6/1/2023 09:00:00 PM	35.0	39	46	42	34.2	54.3%
6/1/2023 10:00:00 PM	35.0	27	32	44	34.4	56.3%
6/1/2023 11:00:00 PM	34.0	15	18	36	32.7	77.8%
6/2/2023 12:00:00 AM	33.0	14	16	38	33.3	43.8%

Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
6/1/2023 12:00:00 AM	35.0	921	1083	54	33.8	58.4%
6/1/2023 11:59:59 PM	35.0	892	1049	49	34.0	56.3%


Outgoing:Average Hourly Volume for Week of 5/29/2023
Average Counts By Hour (5/29/2023)
Average Counts By Hour (5/29/2023)
Minnewashta N of Roundhouse Park
sb incoming
Average Weekly Volumes
Vehicles/Hour
Hour
0
10
20
30
40
50
60
70
80
90
100
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23


Zoom help
Average Vehicle Speed (MPH) vs. Time [Minnewashta N of Roundhouse Park:Outgoing]
Minnewashta N of Roundhouse Park
sb incoming
Average Speed Chart
Average Vehicle Speed.
Total Vehicles Displayed=2132
Vehicles Detected
(size of bubble = vehicle density)
5/31/2023 12:53:10 AM through 6/1/2023 11:58:41 PM
Avg Speed:(30 Minutes)
60
50
40
30
20
10
0
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
June
Wednesday 31
Thursday 1
May 28


Vehicle Counts Vs. Speed [Minnewashta N of Roundhouse Park: Outgoing]
Minnewashta N of Roundhouse Park
sb incoming
Volume By Speed Histogram
2,132 Counts
Vehicle Counts
Vehicle Speed (MPH)
0 50 100 150 200 250 300
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54
0 0 0 0 0 0 0 0 0 0 0 0 2 2 4 2 2 1 1 4 12 15 20 30 39 80 112 177 192 213 236 244 201 141 109 106 53 46 31 10 17 11 5 6 1 1 2 0 3 0 0 0 0 1


Percentile Counts Vs. Speed for [Minnewashta N of Roundhouse Park: Outgoing]
Minnewashta N of Roundhouse Park
sb incoming
85th Pct Speed=35.0 MPH
Vehicles in data=2132
5/31/2023 12:00:00 AM to 6/1/2023 11:59:59 PM
35.0(MPH)
85pct
Percentile Counts
Speed (MPH)
0
20
40
60
80
85
100
120
0
10
20
30
35
40
50
60

For Project:	Minnewashta S of Kings				
Project Notes:	nb incoming				
Location/Name:	Incoming				
Report Generated:	6/2/2023	15:36			
Speed Intervals	1 MPH				
Time Intervals	Instant				
Traffic Report From	5/31/2023	00:00:00	through	6/1/2023	23:59:59
85th Percentile Speed	38 MPH				
85th Percentile Vehicles	2058				
Max Speed	56 MPH	on	6/1/2023	18:13:53	
Total Vehicles	2421				
AADT:	1210				

Volumes - weekly counts

	Time	5 Day	7 Day
Average Daily		1210	1210
AM Peak	08:00	78	78
PM Peak	05:15	113	113

Speed

Speed Limit:	30
85th Percentile Speed:	38
Average Speed:	33.17

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Count over limit	N/A	N/A	966	904	N/A	N/A	N/A
% over limit	N/A	N/A	78.0	76.4	N/A	N/A	N/A
Avg Speeder	N/A	N/A	35.3	34.9	N/A	N/A	N/A

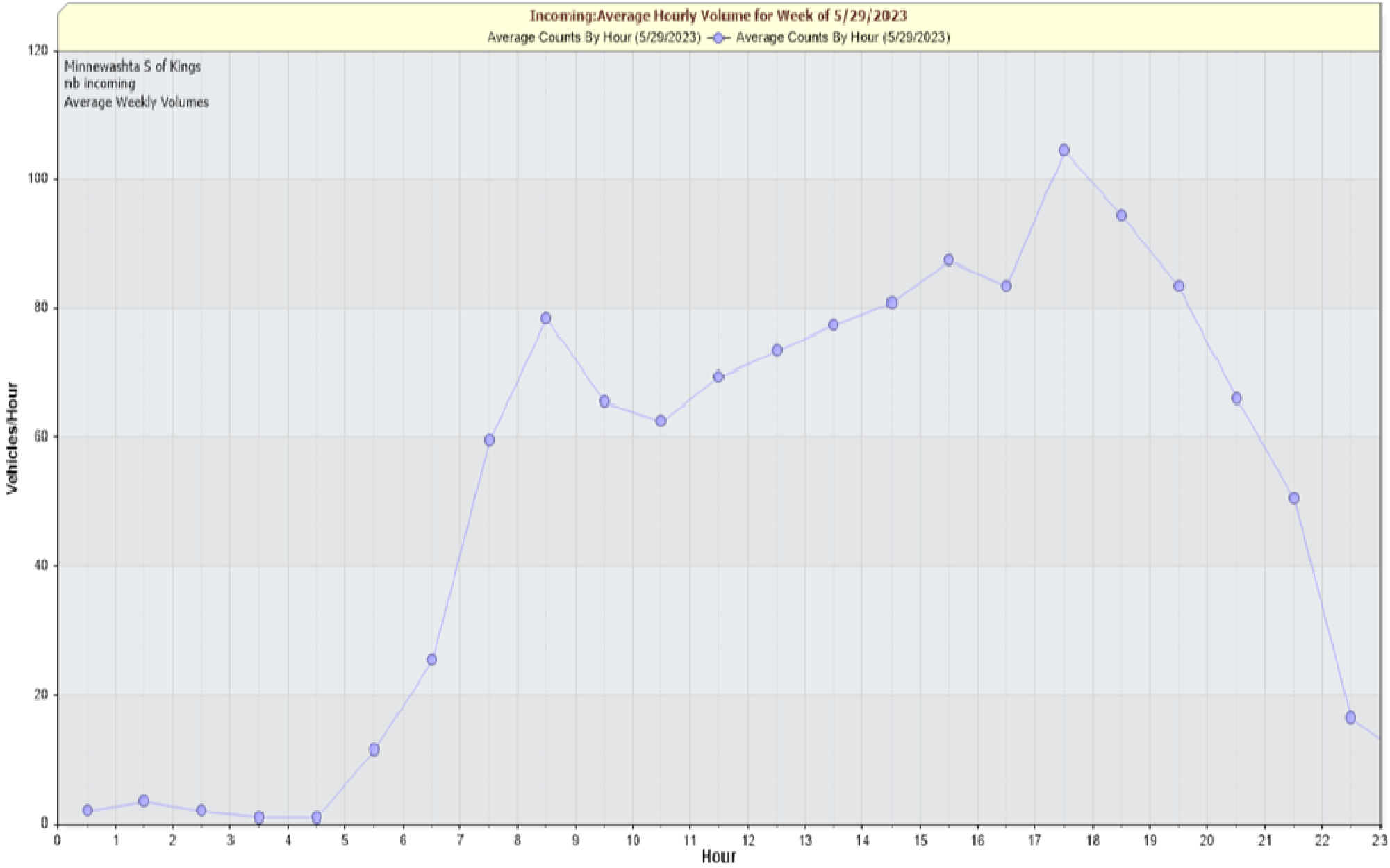
Class Counts

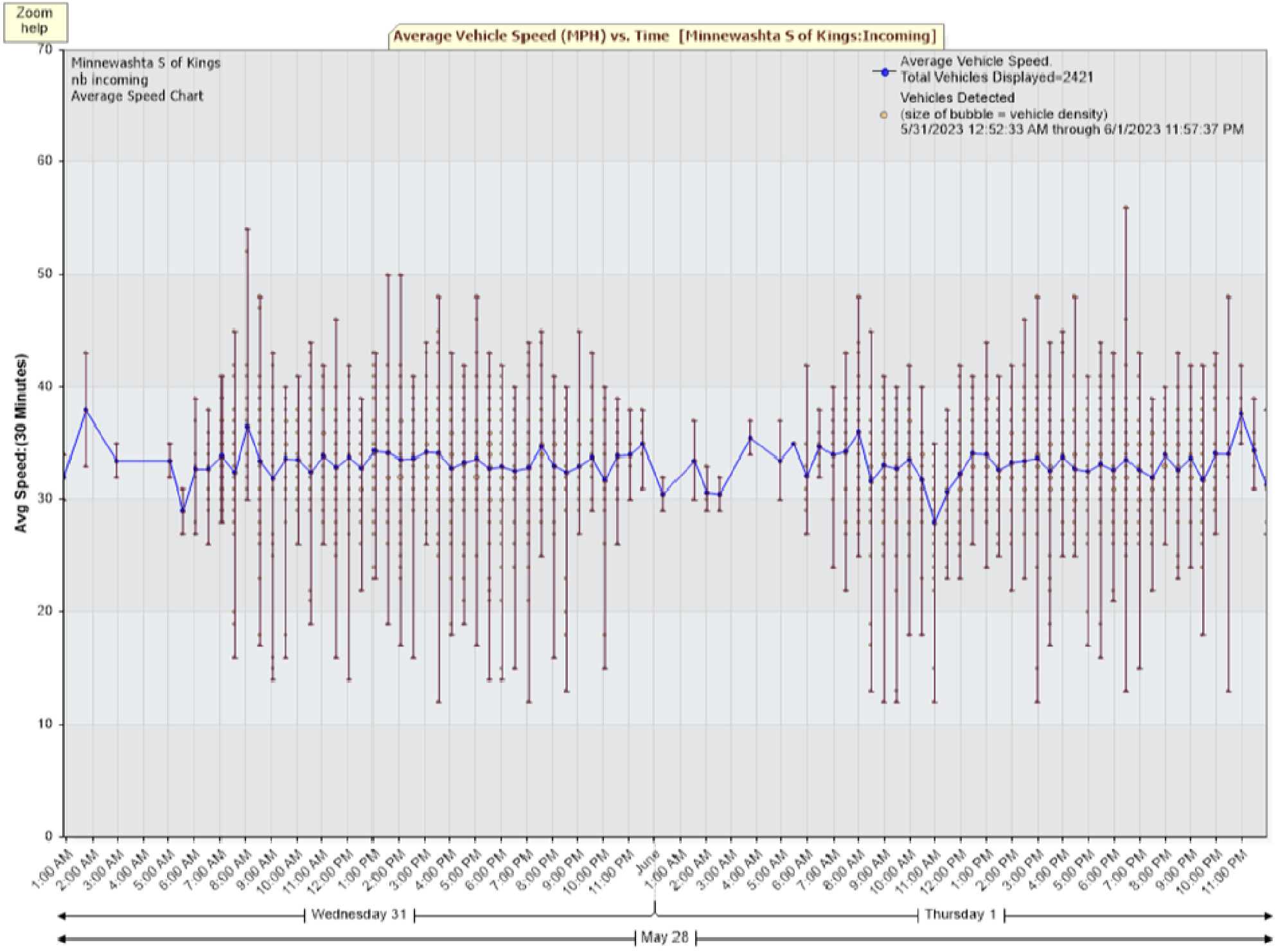
	Number	%
VEH_SM	44	1.8
VEH_MED	2317	95.7
VEH_LG	60	2.5

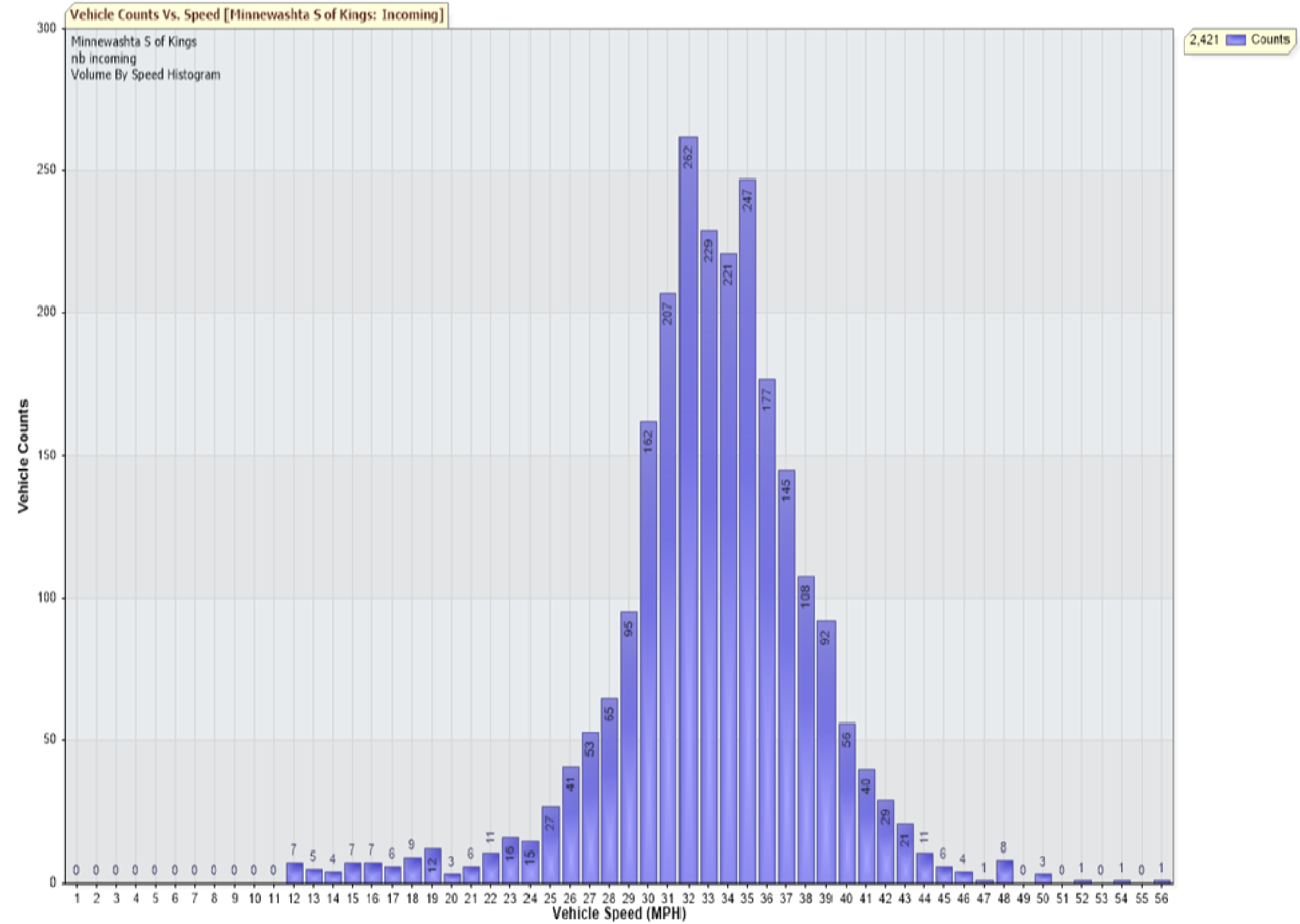
[VEH_SM=motorcycle, VEH_MED = sedan, VEH_LG = truck]

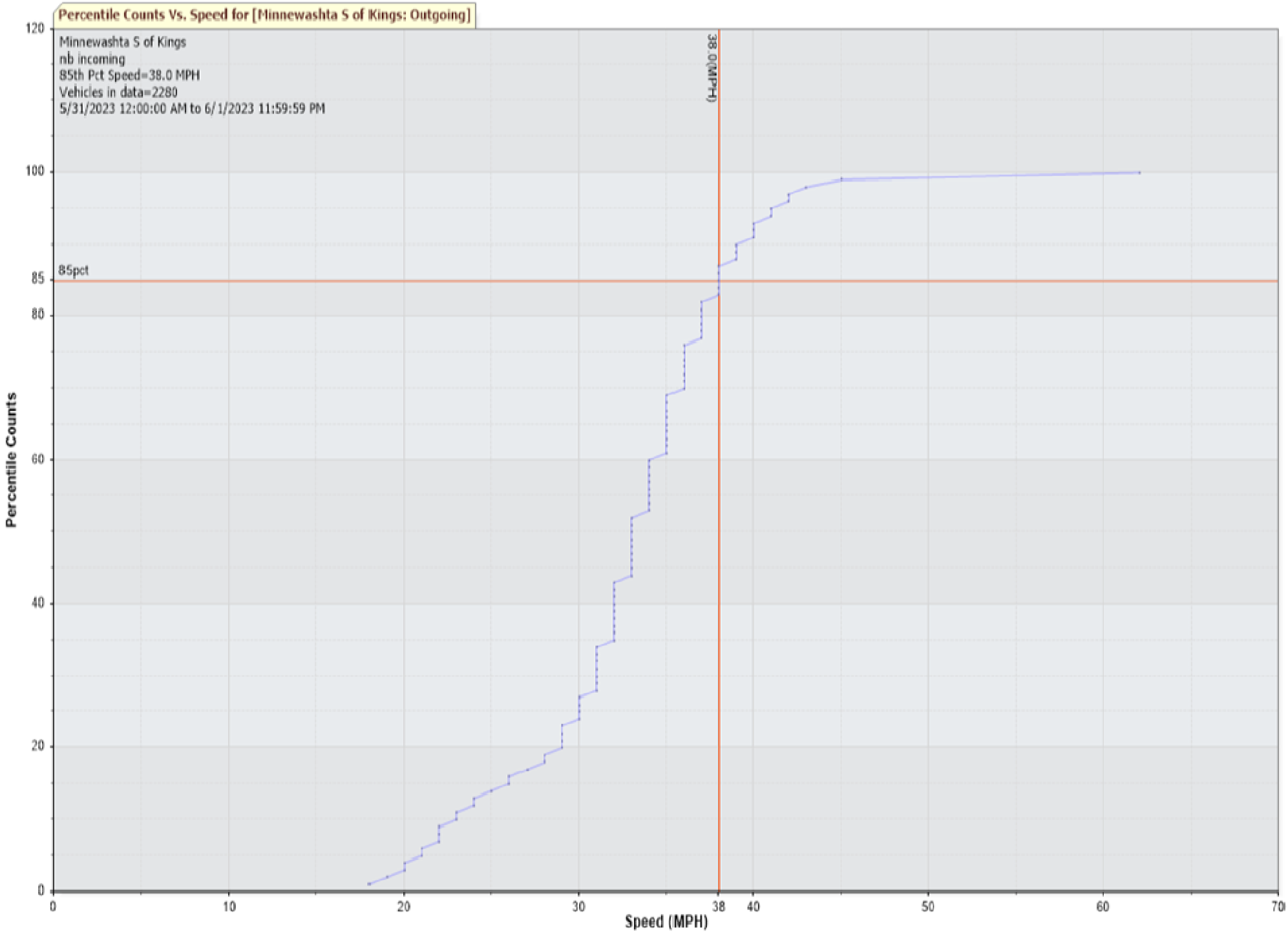
Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
5/31/2023 01:00:00 AM	34.0	2	2	34	34.0	50.0%
5/31/2023 02:00:00 AM	43.0	3	3	43	36.0	100.0%
5/31/2023 03:00:00 AM	35.0	1	1	35	35.0	100.0%
5/31/2023 04:00:00 AM	**No Data**					
5/31/2023 05:00:00 AM	35.0	1	1	35	35.0	100.0%
5/31/2023 06:00:00 AM	34.0	9	11	39	33.8	72.7%
5/31/2023 07:00:00 AM	36.0	19	22	39	34.8	81.8%
5/31/2023 08:00:00 AM	39.0	54	63	54	36.2	76.2%
5/31/2023 09:00:00 AM	39.0	56	66	48	36.4	71.2%
5/31/2023 10:00:00 AM	38.0	55	65	41	35.1	83.1%
5/31/2023 11:00:00 AM	38.0	58	68	44	35.1	76.5%
5/31/2023 12:00:00 PM	38.0	59	69	46	35.5	76.8%
5/31/2023 01:00:00 PM	38.0	62	73	43	35.1	83.6%
5/31/2023 02:00:00 PM	38.0	69	81	50	35.7	76.5%
5/31/2023 03:00:00 PM	39.0	70	82	44	35.3	85.4%
5/31/2023 04:00:00 PM	39.0	81	95	48	35.6	76.8%
5/31/2023 05:00:00 PM	39.0	81	95	48	35.7	74.7%
5/31/2023 06:00:00 PM	37.0	105	124	43	35.0	76.6%
5/31/2023 07:00:00 PM	37.0	94	110	44	34.8	72.7%
5/31/2023 08:00:00 PM	38.0	62	73	45	35.4	84.9%
5/31/2023 09:00:00 PM	36.0	52	61	45	34.5	80.3%
5/31/2023 10:00:00 PM	37.0	41	48	43	35.1	75.0%
5/31/2023 11:00:00 PM	37.0	15	18	39	35.1	77.8%
6/1/2023 12:00:00 AM	37.0	6	7	38	34.6	100.0%
6/1/2023 01:00:00 AM	37.0	2	2	37	37.0	50.0%
6/1/2023 02:00:00 AM	30.0	3	4	33	33.0	25.0%
6/1/2023 03:00:00 AM	37.0	3	3	37	34.5	66.7%
6/1/2023 04:00:00 AM	34.0	2	2	34	34.0	50.0%
6/1/2023 05:00:00 AM	37.0	1	1	37	37.0	100.0%
6/1/2023 06:00:00 AM	35.0	10	12	42	35.1	58.3%
6/1/2023 07:00:00 AM	38.0	25	29	40	35.3	89.7%
6/1/2023 08:00:00 AM	41.0	48	56	48	36.6	83.9%
6/1/2023 09:00:00 AM	37.0	77	91	45	34.5	76.9%
6/1/2023 10:00:00 AM	37.0	56	66	42	35.0	84.8%
6/1/2023 11:00:00 AM	34.0	48	57	40	33.4	50.9%
6/1/2023 12:00:00 PM	36.0	60	70	42	34.3	62.9%
6/1/2023 01:00:00 PM	39.0	63	74	44	35.2	79.7%
6/1/2023 02:00:00 PM	37.0	63	74	42	34.4	82.4%
6/1/2023 03:00:00 PM	38.0	68	80	48	35.0	83.8%
6/1/2023 04:00:00 PM	37.0	68	80	45	34.8	80.0%
6/1/2023 05:00:00 PM	37.0	61	72	48	34.7	72.2%
6/1/2023 06:00:00 PM	38.0	72	85	44	34.9	78.8%
6/1/2023 07:00:00 PM	37.0	67	79	56	35.4	68.4%
6/1/2023 08:00:00 PM	36.0	80	94	40	34.3	78.7%
6/1/2023 09:00:00 PM	37.0	60	71	43	34.7	80.3%
6/1/2023 10:00:00 PM	39.0	45	53	48	35.2	71.7%
6/1/2023 11:00:00 PM	38.0	13	15	42	35.9	100.0%
6/2/2023 12:00:00 AM	36.0	11	13	39	33.9	84.6%

Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
6/1/2023 12:00:00 AM	38.0	1052	1238	54	35.3	78.0%
6/1/2023 11:59:59 PM	37.0	1006	1183	56	34.9	76.4%


Incoming:Average Hourly Volume for Week of 5/29/2023
Average Counts By Hour (5/29/2023)
Average Counts By Hour (5/29/2023)
Minnewashta S of Kings
nb incoming
Average Weekly Volumes
Vehicles/Hour
Hour
0
20
40
60
80
100
120
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23


Zoom help
Average Vehicle Speed (MPH) vs. Time [Minnewashta S of Kings:Incoming]
Minnewashta S of Kings
nb incoming
Average Speed Chart
Average Vehicle Speed.
Total Vehicles Displayed=2421
Vehicles Detected
(size of bubble = vehicle density)
5/31/2023 12:52:33 AM through 6/1/2023 11:57:37 PM
Avg Speed:(30 Minutes)
70
60
50
40
30
20
10
0
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
June
Wednesday 31
Thursday 1
May 28


Vehicle Counts Vs. Speed [Minnewashta S of Kings: Incoming]
Minnewashta S of Kings
nb incoming
Volume By Speed Histogram
2,421 Counts
Vehicle Counts
Vehicle Speed (MPH)
0 50 100 150 200 250 300
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56
0 0 0 0 0 0 0 0 0 0 0 7 5 4 7 7 6 9 12 3 6 11 16 15 27 41 53 65 95 162 207 262 229 221 247 177 145 108 92 56 40 29 21 11 6 4 1 8 0 3 0 1 0 1 0 1


Percentile Counts Vs. Speed for [Minnewashta S of Kings: Outgoing]
Minnewashta S of Kings
nb incoming
85th Pct Speed=38.0 MPH
Vehicles in data=2280
5/31/2023 12:00:00 AM to 6/1/2023 11:59:59 PM
38.0(MPH)
85pct
Percentile Counts
Speed (MPH)
0
20
40
60
80
85
100
120
0
10
20
30
38
40
50
60
70

For Project:	Minnewashta S of Kings				
Project Notes:	nb incoming				
Location/Name:	Outgoing				
Report Generated:	6/2/2023	15:36			
Speed Intervals	1 MPH				
Time Intervals	Instant				
Traffic Report From	5/31/2023	00:00:00	through	6/1/2023	23:59:59
85th Percentile Speed	38 MPH				
85th Percentile Vehicles	1938				
Max Speed	62 MPH	on	6/1/2023	08:05:05	
Total Vehicles	2280				
AADT:	1140				

Volumes - weekly counts

	Time	5 Day	7 Day
Average Daily		1140	1140
AM Peak	07:30	90	90
PM Peak	04:00	113	113

Speed

Speed Limit:	30
85th Percentile Speed:	38
Average Speed:	32.52

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Count over limit	N/A	N/A	825	827	N/A	N/A	N/A
% over limit	N/A	N/A	72.9	72.0	N/A	N/A	N/A
Avg Speeder	N/A	N/A	35.5	35.4	N/A	N/A	N/A

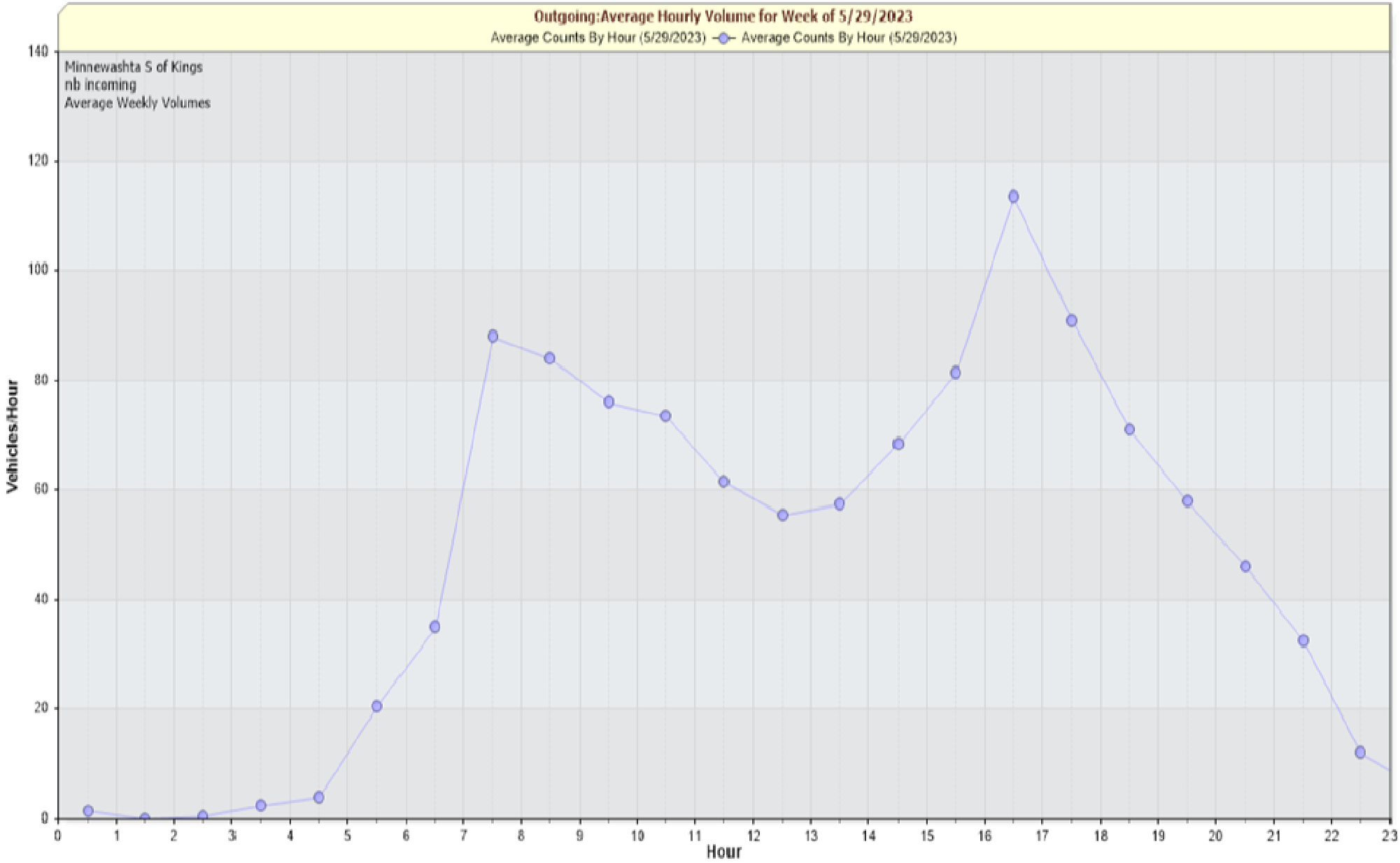
Class Counts

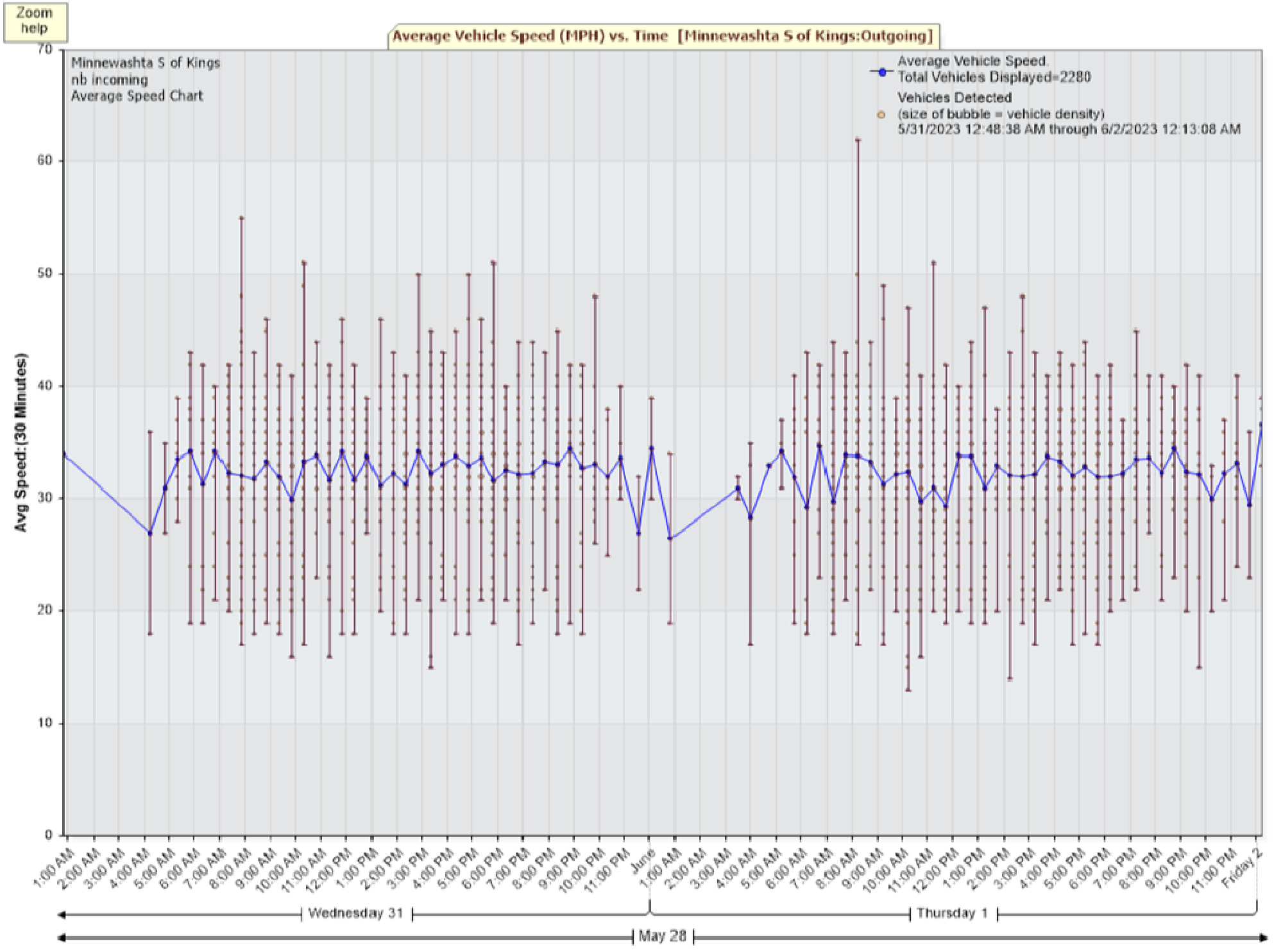
	Number	%
VEH_SM	32	1.4
VEH_MED	2025	88.8
VEH_LG	223	9.8

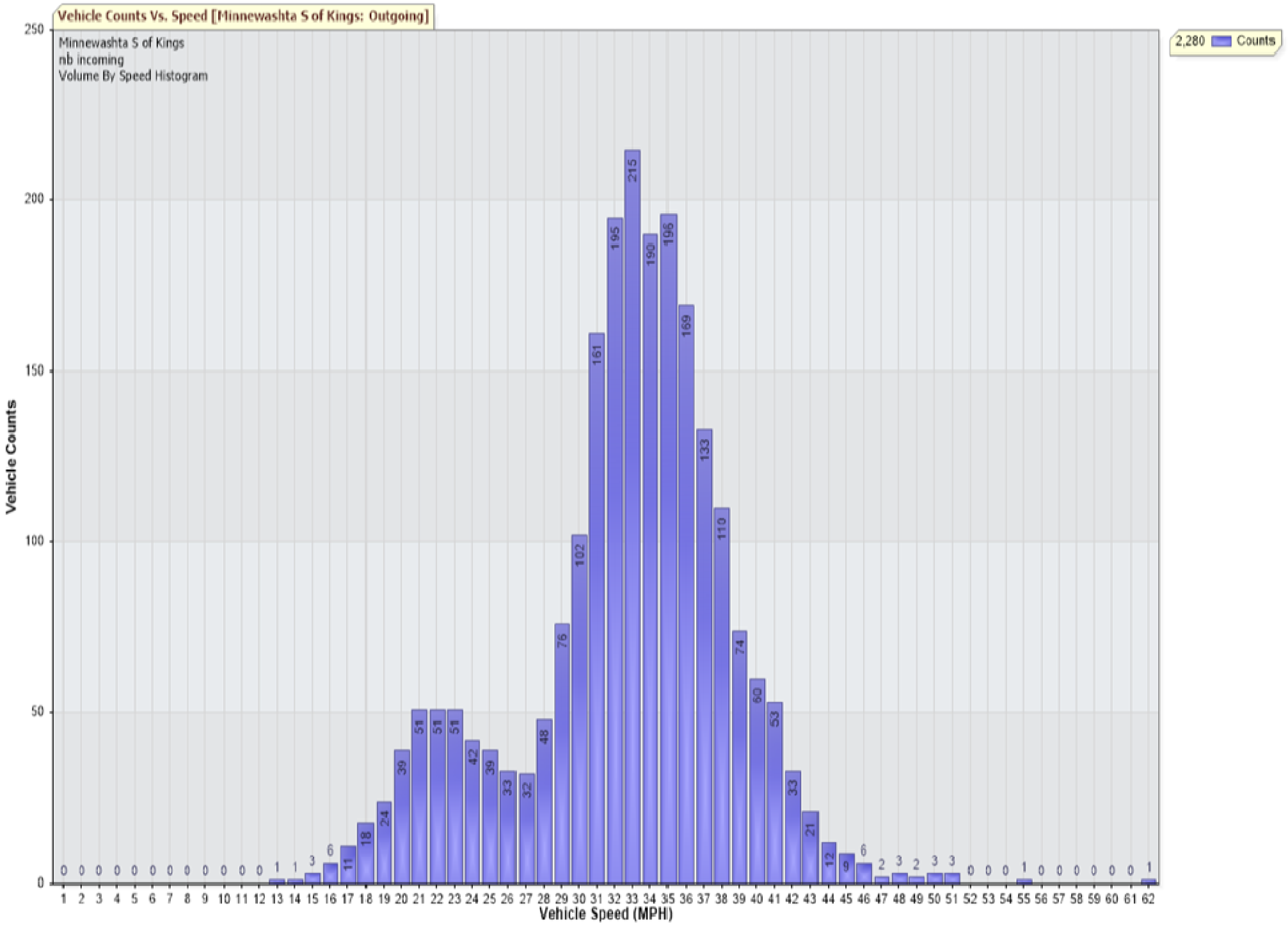
[VEH_SM=motorcycle, VEH_MED = sedan, VEH_LG = truck]

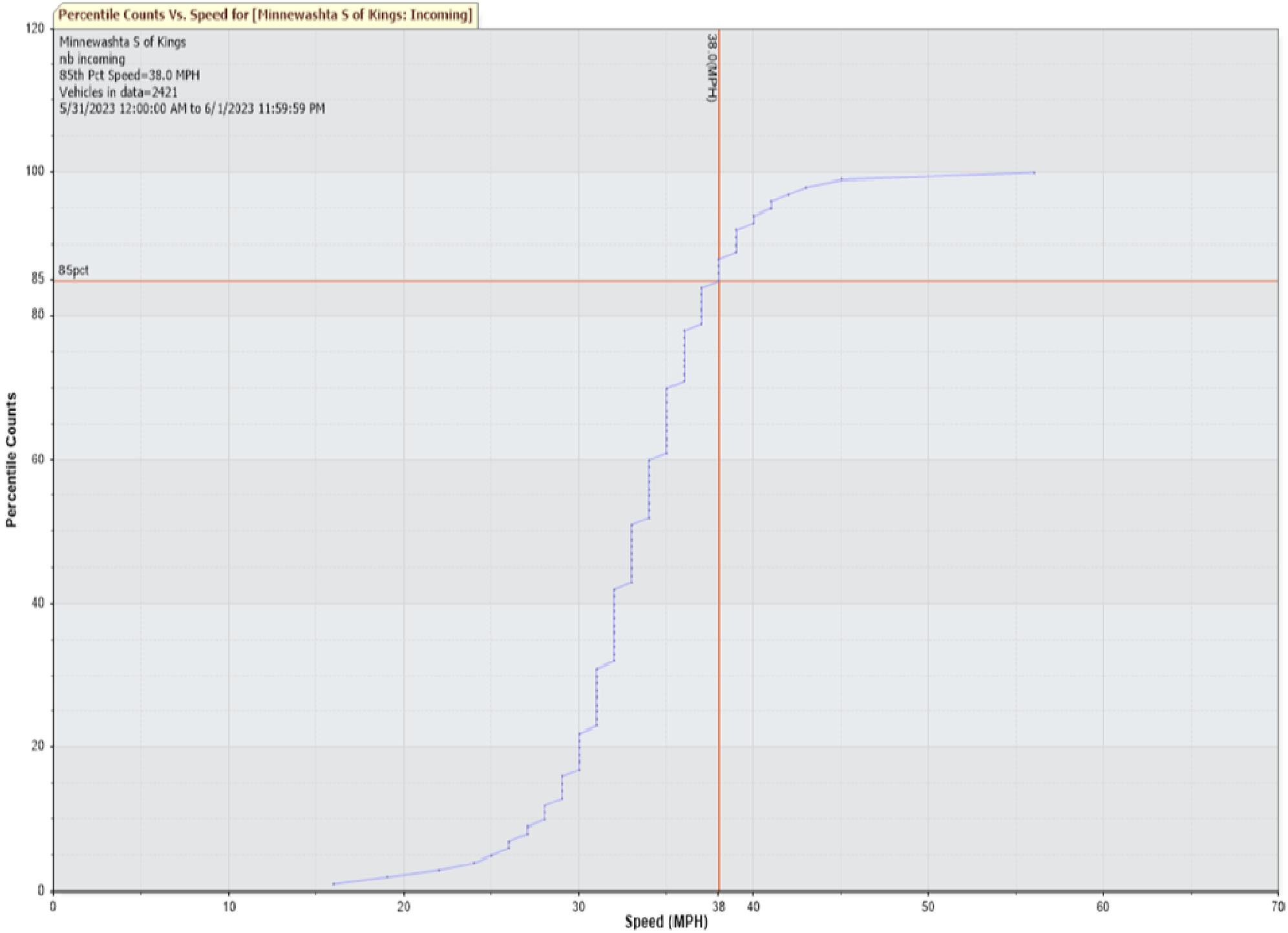
Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
5/31/2023 01:00:00 AM	34.0	1	1	34	34.0	100.0%
5/31/2023 02:00:00 AM	**No Data**					
5/31/2023 03:00:00 AM	**No Data**					
5/31/2023 04:00:00 AM	18.0	1	1	18	0.0	0.0%
5/31/2023 05:00:00 AM	36.0	3	4	37	36.0	75.0%
5/31/2023 06:00:00 AM	39.0	18	21	43	35.9	81.0%
5/31/2023 07:00:00 AM	39.0	30	35	42	36.6	68.6%
5/31/2023 08:00:00 AM	40.0	77	91	55	36.6	64.8%
5/31/2023 09:00:00 AM	37.0	72	85	46	35.2	72.9%
5/31/2023 10:00:00 AM	37.0	59	69	51	35.8	63.8%
5/31/2023 11:00:00 AM	38.0	50	59	49	35.3	72.9%
5/31/2023 12:00:00 PM	38.0	50	59	46	35.8	71.2%
5/31/2023 01:00:00 PM	38.0	44	52	42	35.0	80.8%
5/31/2023 02:00:00 PM	37.0	54	64	46	35.2	65.6%
5/31/2023 03:00:00 PM	38.0	60	71	50	35.4	69.0%
5/31/2023 04:00:00 PM	39.0	76	90	45	35.5	81.1%
5/31/2023 05:00:00 PM	39.0	78	92	50	35.6	81.5%
5/31/2023 06:00:00 PM	38.0	76	89	51	35.2	69.7%
5/31/2023 07:00:00 PM	37.0	75	88	44	34.5	71.6%
5/31/2023 08:00:00 PM	39.0	50	59	45	36.1	81.4%
5/31/2023 09:00:00 PM	37.0	44	52	45	35.6	80.8%
5/31/2023 10:00:00 PM	36.0	30	35	48	34.8	68.6%
5/31/2023 11:00:00 PM	37.0	9	11	40	34.8	72.7%
6/1/2023 12:00:00 AM	39.0	3	3	39	35.5	66.7%
6/1/2023 01:00:00 AM	34.0	2	2	34	34.0	50.0%
6/1/2023 02:00:00 AM	**No Data**					
6/1/2023 03:00:00 AM	30.0	1	1	30	0.0	0.0%
6/1/2023 04:00:00 AM	33.0	3	4	35	33.3	75.0%
6/1/2023 05:00:00 AM	33.0	3	4	37	33.5	100.0%
6/1/2023 06:00:00 AM	38.0	17	20	43	36.5	75.0%
6/1/2023 07:00:00 AM	39.0	30	35	44	36.7	60.0%
6/1/2023 08:00:00 AM	38.0	72	85	44	35.3	74.1%
6/1/2023 09:00:00 AM	38.0	71	83	62	36.2	69.9%
6/1/2023 10:00:00 AM	37.0	71	83	49	35.4	72.3%
6/1/2023 11:00:00 AM	37.0	75	88	42	34.6	65.9%
6/1/2023 12:00:00 PM	36.0	54	64	51	35.5	53.1%
6/1/2023 01:00:00 PM	39.0	50	59	47	36.5	79.7%
6/1/2023 02:00:00 PM	37.0	43	51	43	34.8	70.6%
6/1/2023 03:00:00 PM	37.0	56	66	48	36.0	69.7%
6/1/2023 04:00:00 PM	38.0	62	73	43	35.5	80.8%
6/1/2023 05:00:00 PM	37.0	115	135	44	34.9	73.3%
6/1/2023 06:00:00 PM	38.0	79	93	42	35.2	74.2%
6/1/2023 07:00:00 PM	36.0	46	54	45	34.5	77.8%
6/1/2023 08:00:00 PM	38.0	48	57	41	35.6	73.7%
6/1/2023 09:00:00 PM	38.0	34	40	42	35.5	75.0%
6/1/2023 10:00:00 PM	37.0	26	30	41	34.9	76.7%
6/1/2023 11:00:00 PM	36.0	11	13	39	34.5	84.6%
6/2/2023 12:00:00 AM	39.0	8	9	41	37.0	66.7%

Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
6/1/2023 12:00:00 AM	38.0	961	1131	55	35.5	72.9%
6/1/2023 11:59:59 PM	38.0	977	1149	62	35.4	72.0%


Outgoing:Average Hourly Volume for Week of 5/29/2023
Average Counts By Hour (5/29/2023)
Average Counts By Hour (5/29/2023)
Minnewashta S of Kings
nb incoming
Average Weekly Volumes
Vehicles/Hour
Hour
0
20
40
60
80
100
120
140
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23


Zoom help
Average Vehicle Speed (MPH) vs. Time [Minnewashta S of Kings:Outgoing]
Minnewashta S of Kings
nb incoming
Average Speed Chart
Average Vehicle Speed.
Total Vehicles Displayed=2280
Vehicles Detected
(size of bubble = vehicle density)
5/31/2023 12:48:38 AM through 6/2/2023 12:13:08 AM
Avg Speed:(30 Minutes)
70
60
50
40
30
20
10
0
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
June
Friday 2
Wednesday 31
Thursday 1
May 28


Vehicle Counts Vs. Speed [Minnewashta S of Kings: Outgoing]
Minnewashta S of Kings
nb incoming
Volume By Speed Histogram
2,280 Counts
Vehicle Counts
Vehicle Speed (MPH)
0 0 0 0 0 0 0 0 0 0 0 0 1 1 3 6 11 18 24 39 51 51 51 42 39 33 32 48 76 102 161 195 215 190 196 169 133 110 74 60 53 33 21 12 9 6 2 3 2 3 3 0 0 0 1 0 0 0 0 0 0 1


Percentile Counts Vs. Speed for [Minnewashta S of Kings: Incoming]
Minnewashta S of Kings
nb incoming
85th Pct Speed=38.0 MPH
Vehicles in data=2421
5/31/2023 12:00:00 AM to 6/1/2023 11:59:59 PM
38.0(MPH)
85pct
Percentile Counts
Speed (MPH)
0
20
40
60
80
85
100
120
0
10
20
30
38
40
50
60
70

For Project:	Minnewashta S of Lakeridge				
Project Notes:	SB incoming				
Location/Name:	Incoming				
Report Generated:	6/2/2023	15:44			
Speed Intervals	1 MPH				
Time Intervals	Instant				
Traffic Report From	5/31/2023	03:00:00	through	6/1/2023	23:59:59
85th Percentile Speed	33 MPH				
85th Percentile Vehicles	1790				
Max Speed	45 MPH	on	6/1/2023	08:05:34	
Total Vehicles	2106				
AADT:	1123				

Volumes - weekly counts

	Time	5 Day	7 Day
Average Daily		1053	1053
AM Peak	07:30	98	98
PM Peak	04:30	96	96

Speed

Speed Limit:	30
85th Percentile Speed:	33
Average Speed:	29.17

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Count over limit	N/A	N/A	412	441	N/A	N/A	N/A
% over limit	N/A	N/A	39.1	42.0	N/A	N/A	N/A
Avg Speeder	N/A	N/A	32.8	32.6	N/A	N/A	N/A

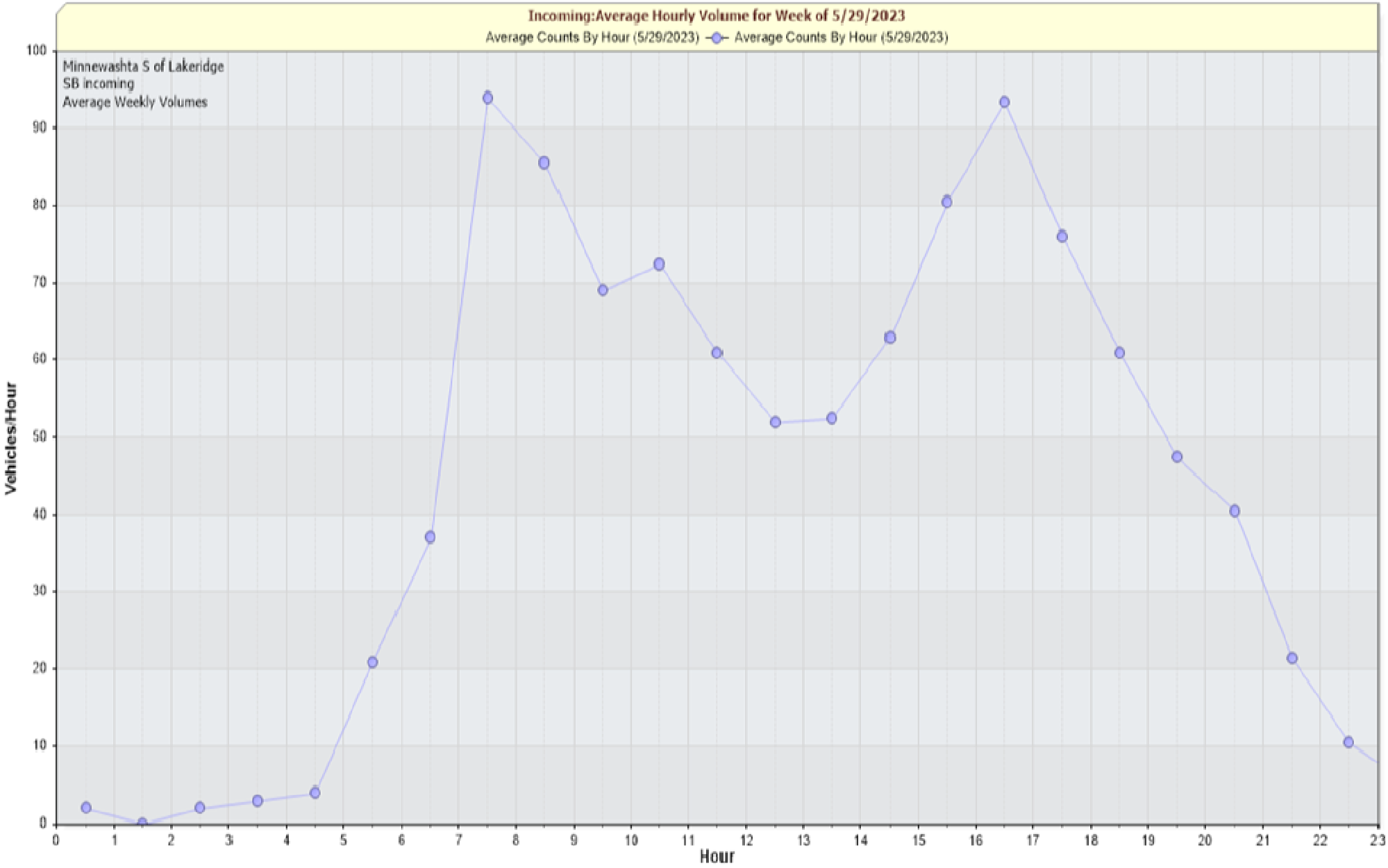
Class Counts

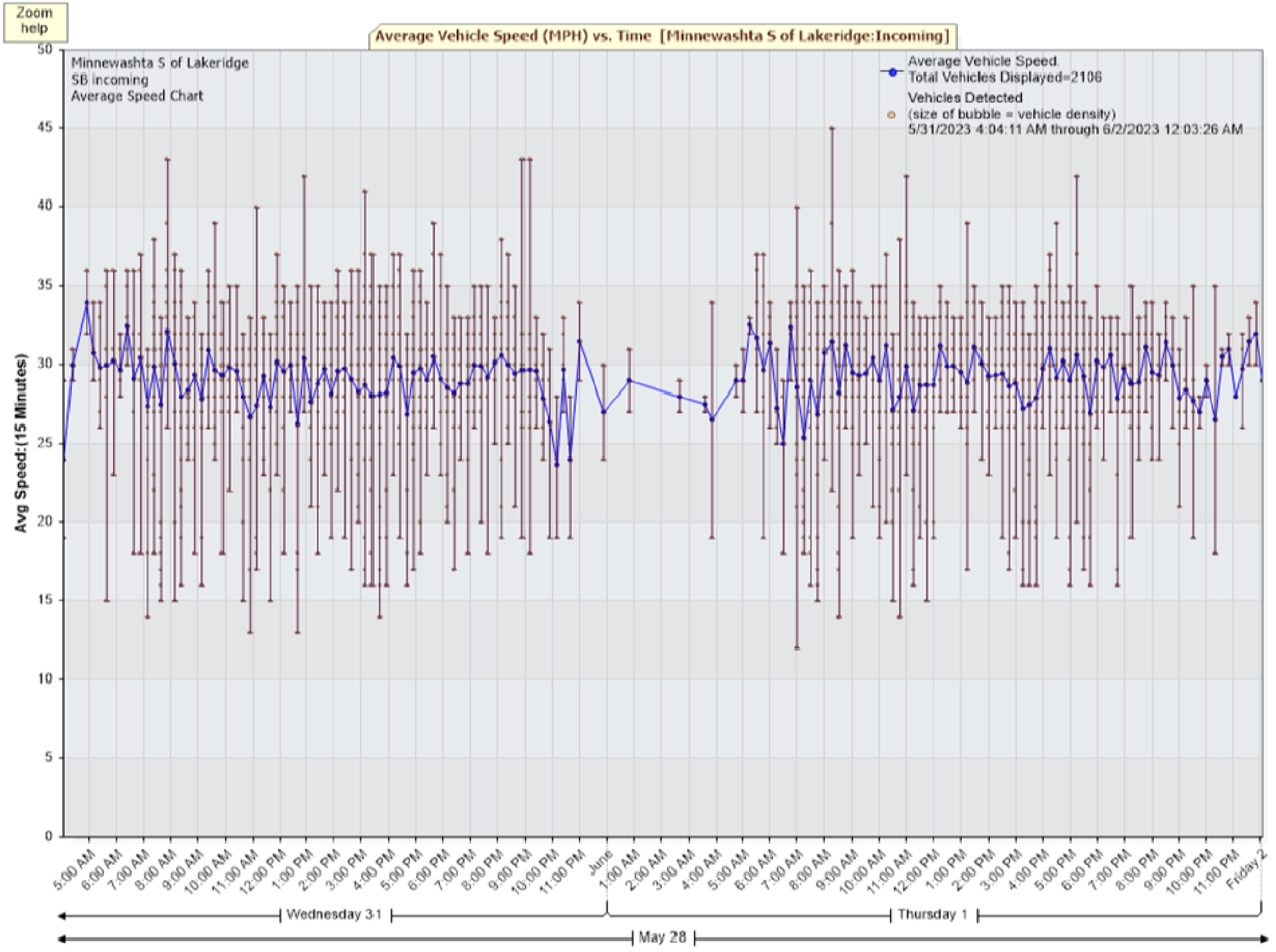
	Number	%
VEH_SM	5	0.2
VEH_MED	2027	96.2
VEH_LG	74	3.5

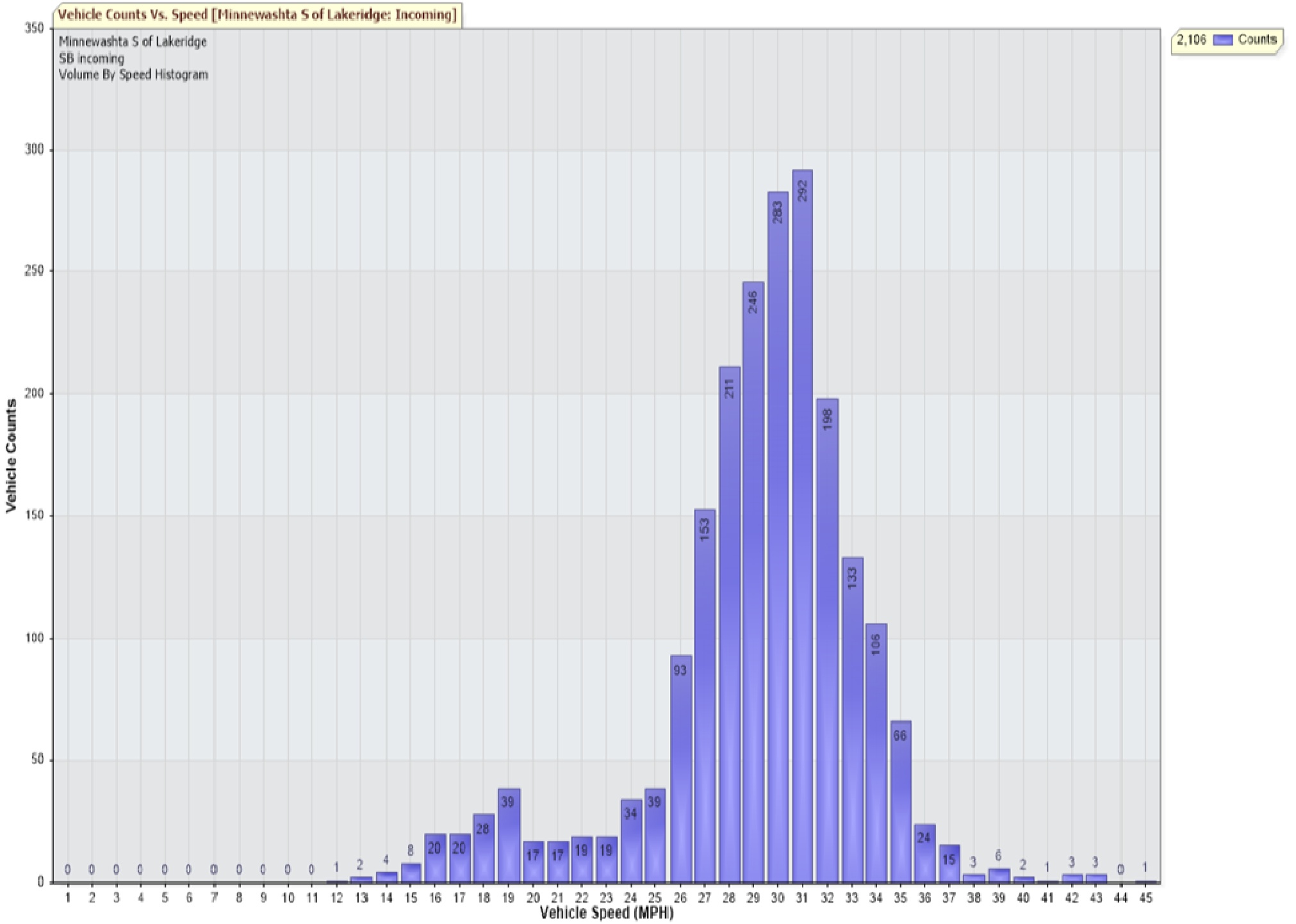
[VEH_SM=motorcycle, VEH_MED = sedan, VEH_LG = truck]

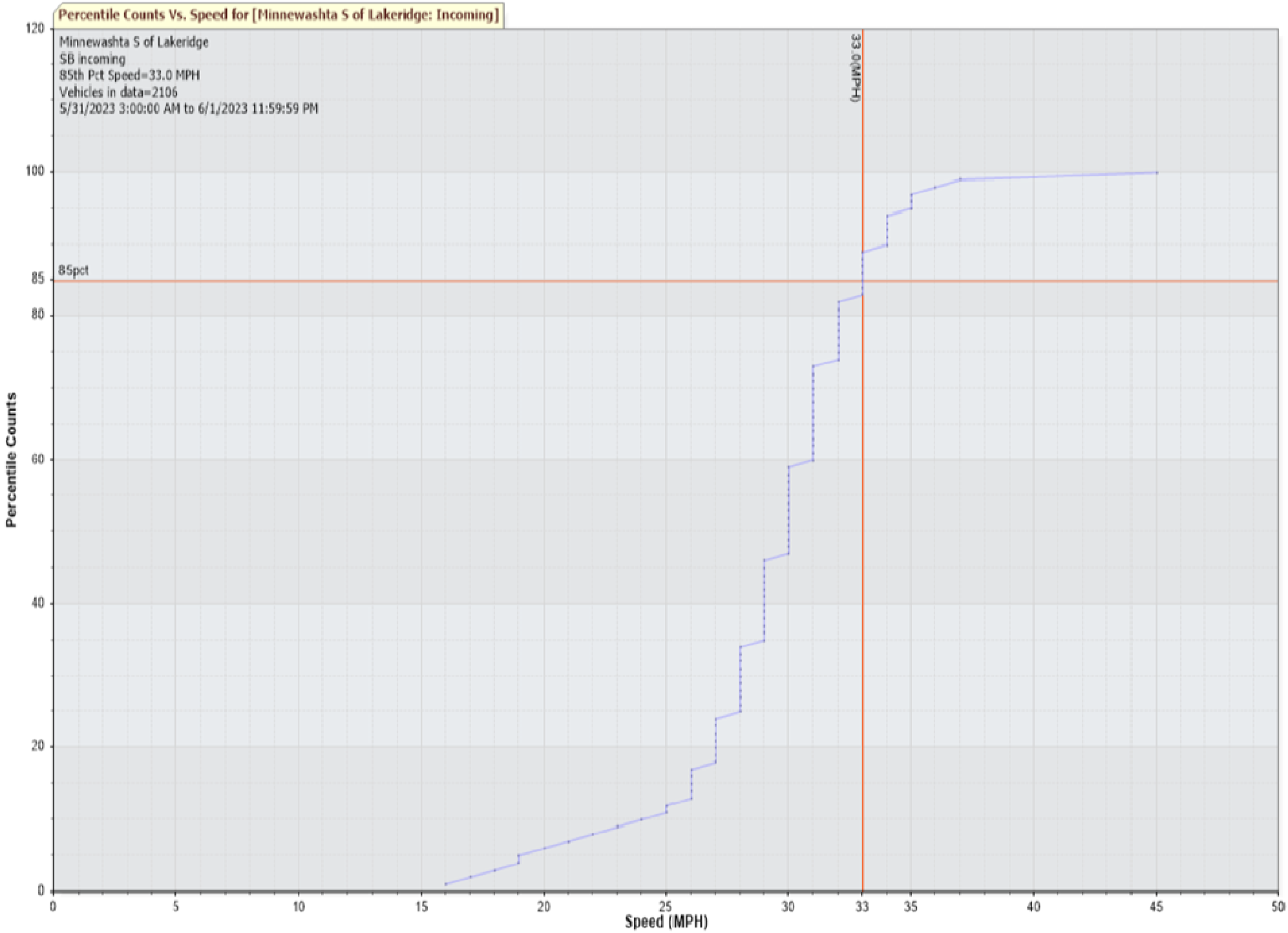
Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
5/31/2023 04:00:00 AM	29.0	2	2	29	0.0	0.0%
5/31/2023 05:00:00 AM	32.0	3	4	36	33.0	75.0%
5/31/2023 06:00:00 AM	35.0	19	22	36	33.3	54.5%
5/31/2023 07:00:00 AM	32.0	33	39	37	32.8	43.6%
5/31/2023 08:00:00 AM	33.0	85	100	43	32.9	49.0%
5/31/2023 09:00:00 AM	32.0	70	82	36	32.1	37.8%
5/31/2023 10:00:00 AM	32.0	58	68	39	32.6	39.7%
5/31/2023 11:00:00 AM	31.0	53	62	35	32.2	25.8%
5/31/2023 12:00:00 PM	33.0	50	59	40	32.9	47.5%
5/31/2023 01:00:00 PM	32.0	44	52	42	33.1	30.8%
5/31/2023 02:00:00 PM	33.0	51	60	36	32.7	33.3%
5/31/2023 03:00:00 PM	33.0	52	61	41	33.4	36.1%
5/31/2023 04:00:00 PM	33.0	70	82	37	32.7	42.7%
5/31/2023 05:00:00 PM	33.0	70	82	37	32.6	47.6%
5/31/2023 06:00:00 PM	32.0	60	70	39	33.0	34.3%
5/31/2023 07:00:00 PM	31.0	62	73	35	32.0	27.4%
5/31/2023 08:00:00 PM	33.0	37	44	38	32.9	50.0%
5/31/2023 09:00:00 PM	33.0	45	53	43	33.7	39.6%
5/31/2023 10:00:00 PM	31.0	21	25	33	31.7	28.0%
5/31/2023 11:00:00 PM	32.0	11	13	34	33.0	23.1%
6/1/2023 12:00:00 AM	30.0	2	2	30	0.0	0.0%
6/1/2023 01:00:00 AM	31.0	2	2	31	31.0	50.0%
6/1/2023 02:00:00 AM	**No Data**					
6/1/2023 03:00:00 AM	29.0	2	2	29	0.0	0.0%
6/1/2023 04:00:00 AM	28.0	3	4	34	34.0	25.0%
6/1/2023 05:00:00 AM	30.0	3	4	31	31.0	25.0%
6/1/2023 06:00:00 AM	35.0	17	20	37	33.7	65.0%
6/1/2023 07:00:00 AM	34.0	30	35	40	33.5	42.9%
6/1/2023 08:00:00 AM	33.0	75	88	36	32.6	39.8%
6/1/2023 09:00:00 AM	34.0	76	89	45	33.2	50.6%
6/1/2023 10:00:00 AM	33.0	60	70	35	32.5	44.3%
6/1/2023 11:00:00 AM	33.0	71	83	42	33.1	34.9%
6/1/2023 12:00:00 PM	32.0	54	63	34	32.0	39.7%
6/1/2023 01:00:00 PM	33.0	44	52	39	32.7	48.1%
6/1/2023 02:00:00 PM	32.0	38	45	35	32.2	37.8%
6/1/2023 03:00:00 PM	32.0	55	65	35	32.0	40.0%
6/1/2023 04:00:00 PM	33.0	67	79	35	32.6	38.0%
6/1/2023 05:00:00 PM	33.0	89	105	42	32.9	47.6%
6/1/2023 06:00:00 PM	32.0	70	82	35	32.2	42.7%
6/1/2023 07:00:00 PM	32.0	42	49	33	31.7	42.9%
6/1/2023 08:00:00 PM	32.0	43	51	35	32.5	37.3%
6/1/2023 09:00:00 PM	32.0	24	28	34	32.1	46.4%
6/1/2023 10:00:00 PM	29.0	15	18	35	34.0	11.1%
6/1/2023 11:00:00 PM	32.0	7	8	35	32.7	37.5%
6/2/2023 12:00:00 AM	33.0	8	9	34	32.5	44.4%

Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
6/1/2023 12:00:00 AM	33.0	897	1055	43	32.8	39.1%
6/1/2023 11:59:59 PM	33.0	893	1051	45	32.6	42.0%


Incoming:Average Hourly Volume for Week of 5/29/2023
Average Counts By Hour (5/29/2023)
Average Counts By Hour (5/29/2023)
Minnewashta S of Lakeridge
SB incoming
Average Weekly Volumes
Vehicles/Hour
Hour
0
10
20
30
40
50
60
70
80
90
100
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23


Zoom help
Average Vehicle Speed (MPH) vs. Time [Minnewashta S of Lakeridge:Incoming]
Minnewashta S of Lakeridge
SB incoming
Average Speed Chart
Average Vehicle Speed.
Total Vehicles Displayed=2106
Vehicles Detected
(size of bubble = vehicle density)
5/31/2023 4:04:11 AM through 6/2/2023 12:03:26 AM
Avg Speed:(15 Minutes)
0
5
10
15
20
25
30
35
40
45
50
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
June
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
Friday 2
Wednesday 31
Thursday 1
May 28


Vehicle Counts Vs. Speed [Minnewashta S of Lakeridge: Incoming]
Minnewashta S of Lakeridge
SB incoming
Volume By Speed Histogram
2,106 Counts
Vehicle Counts
Vehicle Speed (MPH)
0 0 0 0 0 0 0 0 0 0 0 1 2 4 8 20 20 28 39 17 17 19 19 34 39 93 153 211 246 283 292 198 133 106 66 24 15 3 6 2 1 3 3 0 1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45
0 50 100 150 200 250 300 350


Percentile Counts Vs. Speed for [Minnewashta S of Lakeridge: Incoming]
Minnewashta S of Lakeridge
SB incoming
85th Pct Speed=33.0 MPH
Vehicles in data=2106
5/31/2023 3:00:00 AM to 6/1/2023 11:59:59 PM
85pct
33.0(MPH)
Percentile Counts
Speed (MPH)
0
20
40
60
80
85
100
120
0
5
10
15
20
25
30
33
35
40
45
50

For Project:	Minnewashta S of Kings				
Project Notes:	nb incoming				
Location/Name:	Outgoing				
Report Generated:	6/2/2023	15:36			
Speed Intervals	1 MPH				
Time Intervals	Instant				
Traffic Report From	5/31/2023	00:00:00	through	6/1/2023	23:59:59
85th Percentile Speed	38 MPH				
85th Percentile Vehicles	1938				
Max Speed	62 MPH	on	6/1/2023	08:05:05	
Total Vehicles	2280				
AADT:	1140				

Volumes - weekly counts

	Time	5 Day	7 Day
Average Daily		1140	1140
AM Peak	07:30	90	90
PM Peak	04:00	113	113

Speed

Speed Limit:	30
85th Percentile Speed:	38
Average Speed:	32.52

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Count over limit	N/A	N/A	825	827	N/A	N/A	N/A
% over limit	N/A	N/A	72.9	72.0	N/A	N/A	N/A
Avg Speeder	N/A	N/A	35.5	35.4	N/A	N/A	N/A

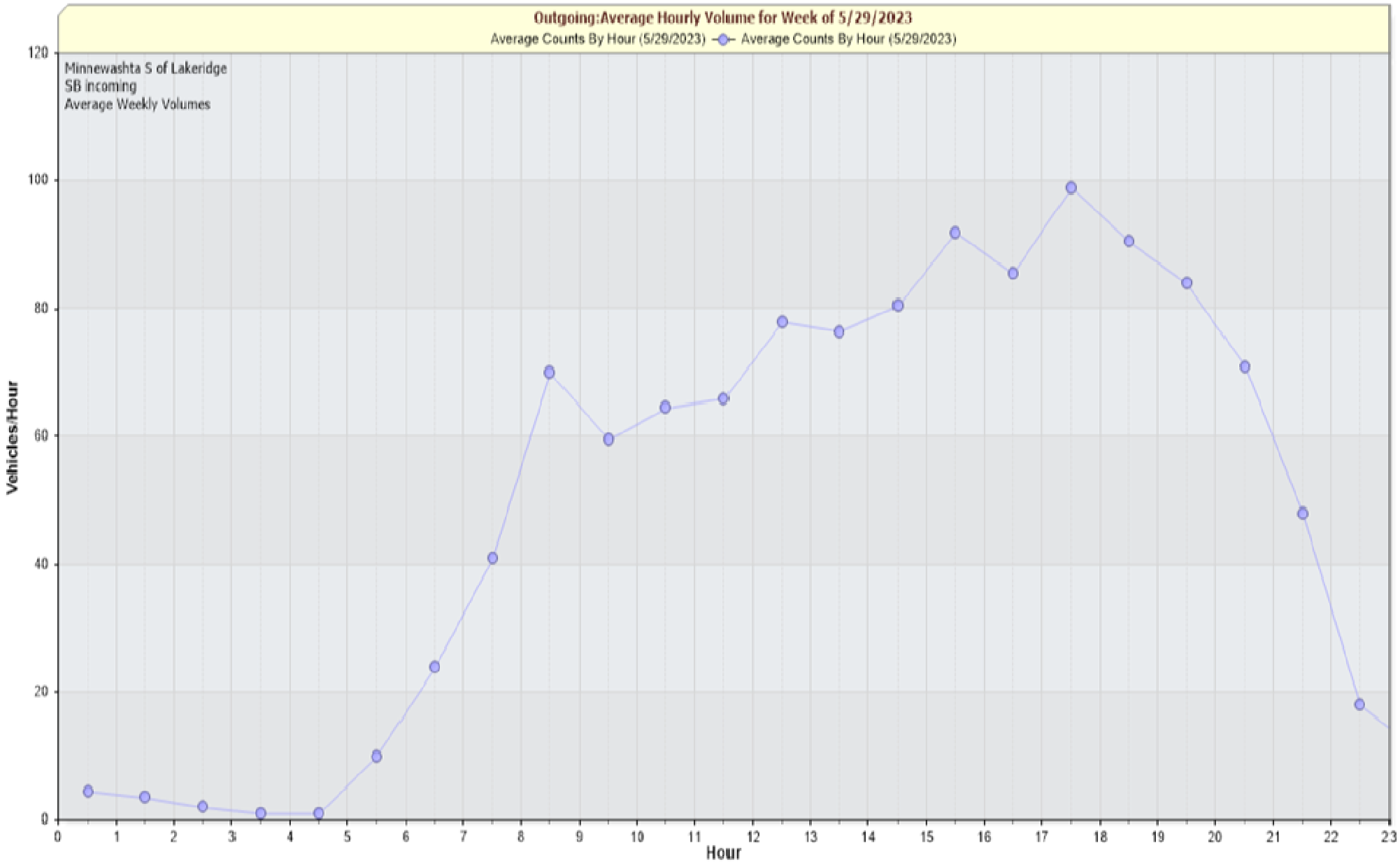
Class Counts

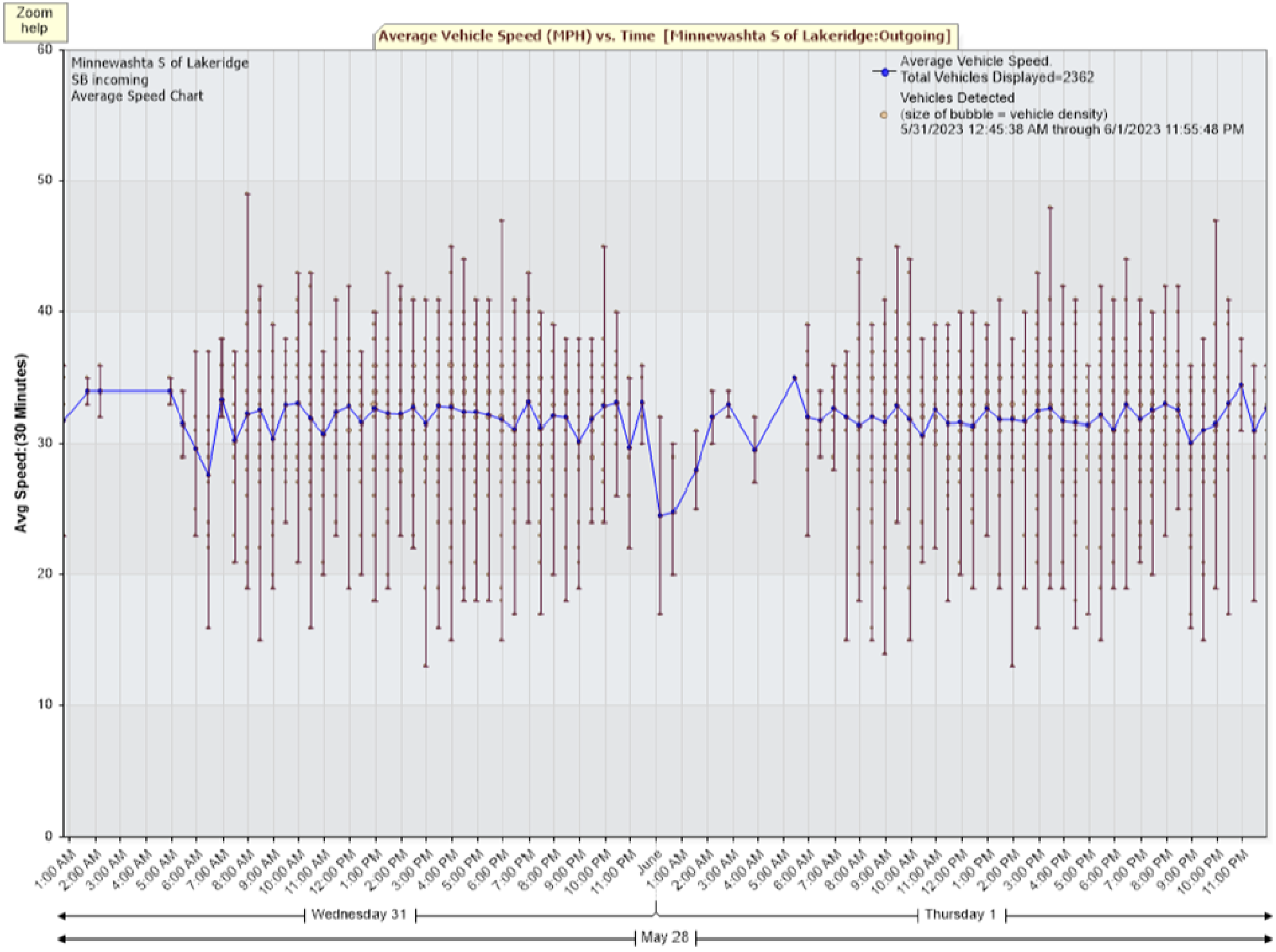
	Number	%
VEH_SM	32	1.4
VEH_MED	2025	88.8
VEH_LG	223	9.8

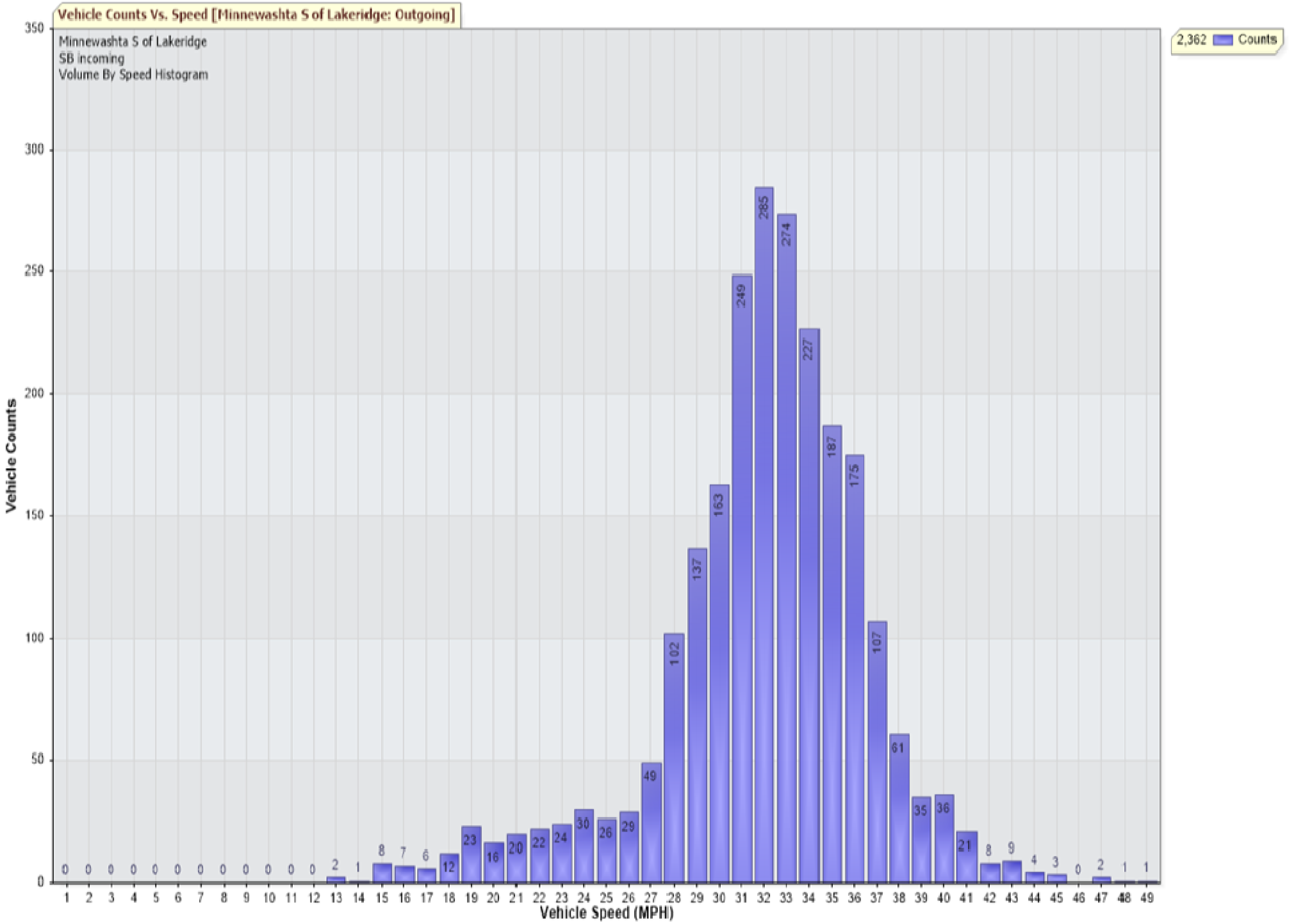
[VEH_SM=motorcycle, VEH_MED = sedan, VEH_LG = truck]

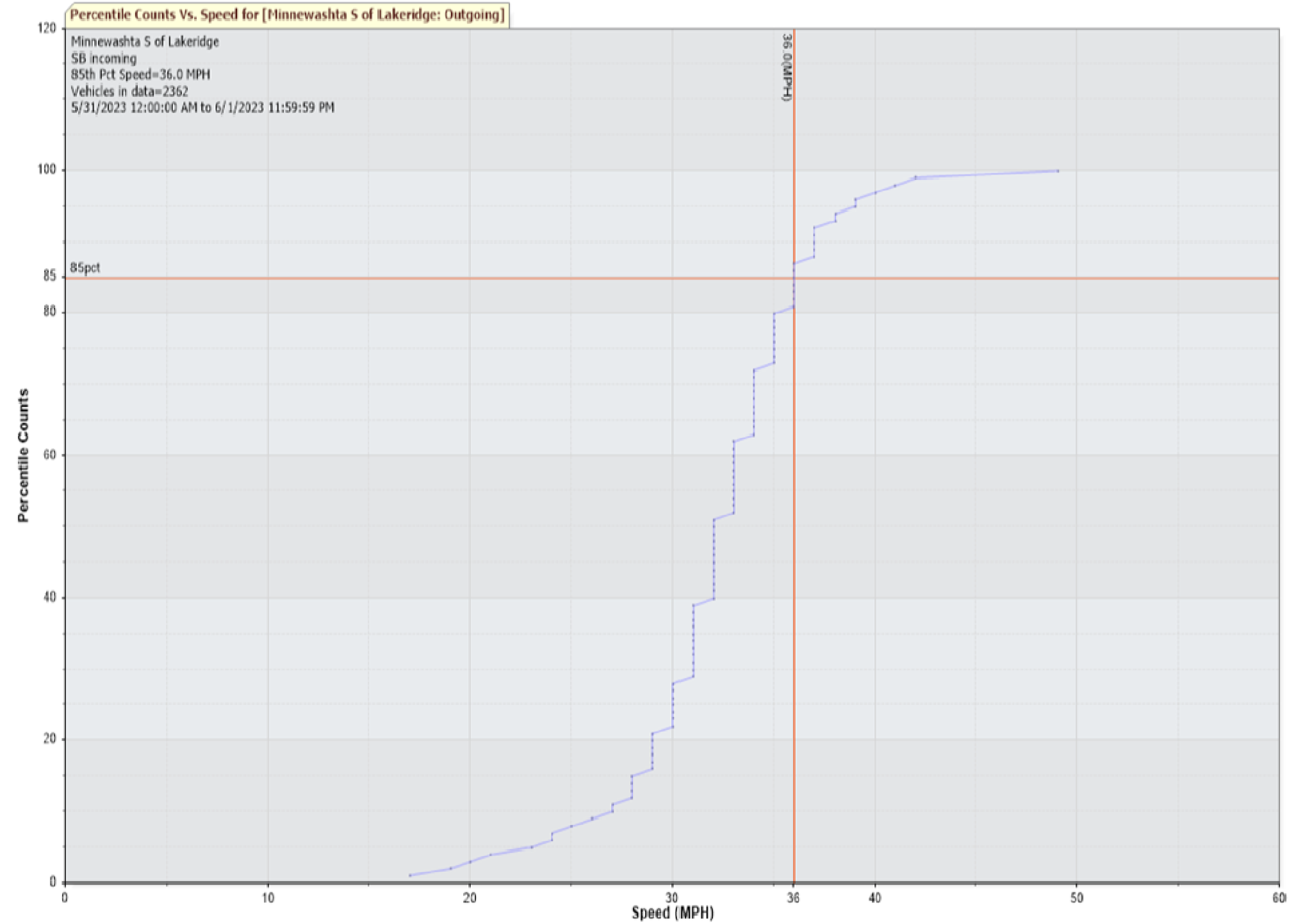
Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
5/31/2023 01:00:00 AM	34.0	1	1	34	34.0	100.0%
5/31/2023 02:00:00 AM	**No Data**					
5/31/2023 03:00:00 AM	**No Data**					
5/31/2023 04:00:00 AM	18.0	1	1	18	0.0	0.0%
5/31/2023 05:00:00 AM	36.0	3	4	37	36.0	75.0%
5/31/2023 06:00:00 AM	39.0	18	21	43	35.9	81.0%
5/31/2023 07:00:00 AM	39.0	30	35	42	36.6	68.6%
5/31/2023 08:00:00 AM	40.0	77	91	55	36.6	64.8%
5/31/2023 09:00:00 AM	37.0	72	85	46	35.2	72.9%
5/31/2023 10:00:00 AM	37.0	59	69	51	35.8	63.8%
5/31/2023 11:00:00 AM	38.0	50	59	49	35.3	72.9%
5/31/2023 12:00:00 PM	38.0	50	59	46	35.8	71.2%
5/31/2023 01:00:00 PM	38.0	44	52	42	35.0	80.8%
5/31/2023 02:00:00 PM	37.0	54	64	46	35.2	65.6%
5/31/2023 03:00:00 PM	38.0	60	71	50	35.4	69.0%
5/31/2023 04:00:00 PM	39.0	76	90	45	35.5	81.1%
5/31/2023 05:00:00 PM	39.0	78	92	50	35.6	81.5%
5/31/2023 06:00:00 PM	38.0	76	89	51	35.2	69.7%
5/31/2023 07:00:00 PM	37.0	75	88	44	34.5	71.6%
5/31/2023 08:00:00 PM	39.0	50	59	45	36.1	81.4%
5/31/2023 09:00:00 PM	37.0	44	52	45	35.6	80.8%
5/31/2023 10:00:00 PM	36.0	30	35	48	34.8	68.6%
5/31/2023 11:00:00 PM	37.0	9	11	40	34.8	72.7%
6/1/2023 12:00:00 AM	39.0	3	3	39	35.5	66.7%
6/1/2023 01:00:00 AM	34.0	2	2	34	34.0	50.0%
6/1/2023 02:00:00 AM	**No Data**					
6/1/2023 03:00:00 AM	30.0	1	1	30	0.0	0.0%
6/1/2023 04:00:00 AM	33.0	3	4	35	33.3	75.0%
6/1/2023 05:00:00 AM	33.0	3	4	37	33.5	100.0%
6/1/2023 06:00:00 AM	38.0	17	20	43	36.5	75.0%
6/1/2023 07:00:00 AM	39.0	30	35	44	36.7	60.0%
6/1/2023 08:00:00 AM	38.0	72	85	44	35.3	74.1%
6/1/2023 09:00:00 AM	38.0	71	83	62	36.2	69.9%
6/1/2023 10:00:00 AM	37.0	71	83	49	35.4	72.3%
6/1/2023 11:00:00 AM	37.0	75	88	42	34.6	65.9%
6/1/2023 12:00:00 PM	36.0	54	64	51	35.5	53.1%
6/1/2023 01:00:00 PM	39.0	50	59	47	36.5	79.7%
6/1/2023 02:00:00 PM	37.0	43	51	43	34.8	70.6%
6/1/2023 03:00:00 PM	37.0	56	66	48	36.0	69.7%
6/1/2023 04:00:00 PM	38.0	62	73	43	35.5	80.8%
6/1/2023 05:00:00 PM	37.0	115	135	44	34.9	73.3%
6/1/2023 06:00:00 PM	38.0	79	93	42	35.2	74.2%
6/1/2023 07:00:00 PM	36.0	46	54	45	34.5	77.8%
6/1/2023 08:00:00 PM	38.0	48	57	41	35.6	73.7%
6/1/2023 09:00:00 PM	38.0	34	40	42	35.5	75.0%
6/1/2023 10:00:00 PM	37.0	26	30	41	34.9	76.7%
6/1/2023 11:00:00 PM	36.0	11	13	39	34.5	84.6%
6/2/2023 12:00:00 AM	39.0	8	9	41	37.0	66.7%

Day/Time Ending	85th pctl (MPH)	85th pctl cnts	Total Cnts	Max Speed	Avg Speeder	% Speeders
6/1/2023 12:00:00 AM	38.0	961	1131	55	35.5	72.9%
6/1/2023 11:59:59 PM	38.0	977	1149	62	35.4	72.0%

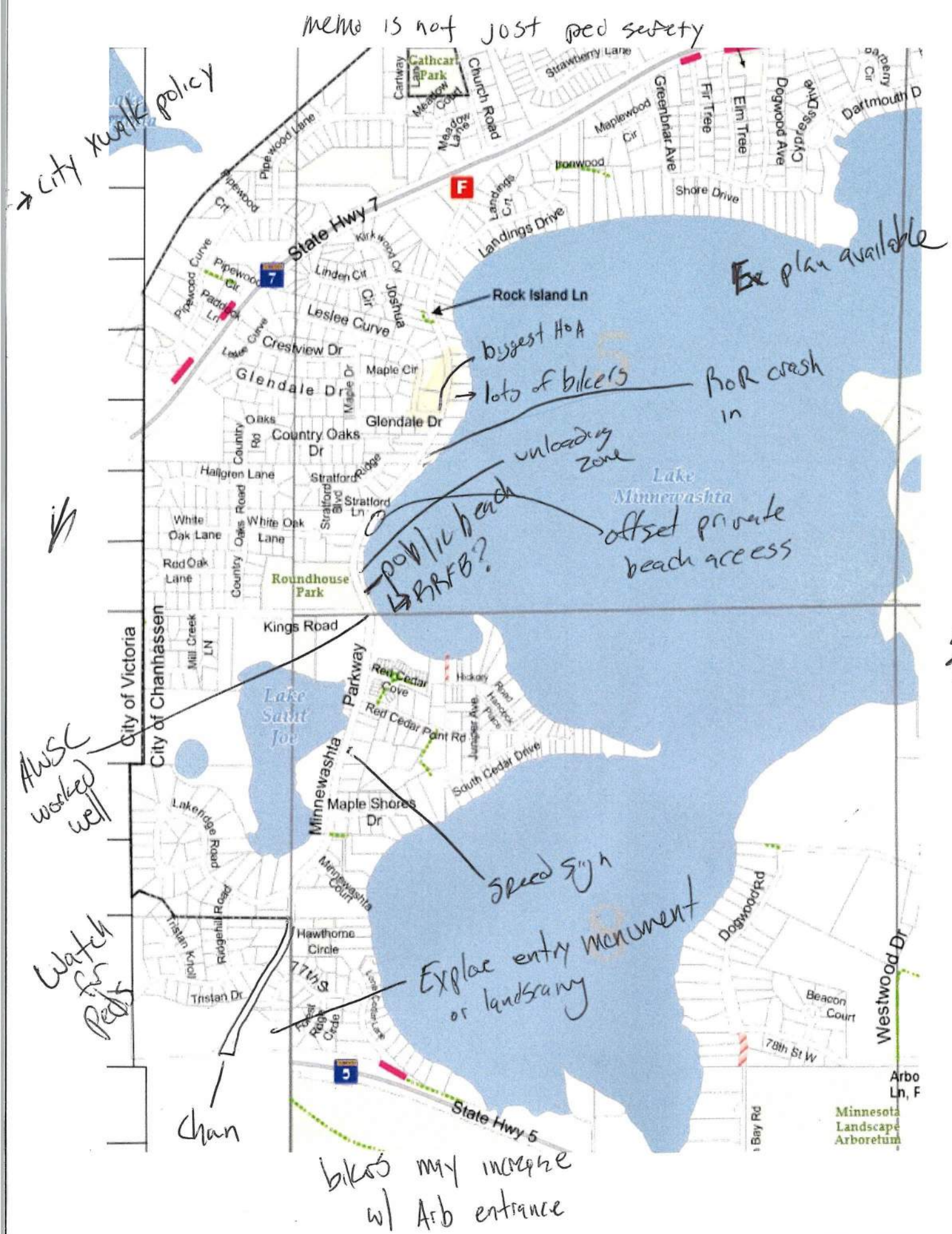

Outgoing:Average Hourly Volume for Week of 5/29/2023
Average Counts By Hour (5/29/2023)
Average Counts By Hour (5/29/2023)
Minnewashta S of Lakeridge
SB incoming
Average Weekly Volumes
Vehicles/Hour
Hour
0
20
40
60
80
100
120
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23


Zoom help
Average Vehicle Speed (MPH) vs. Time [Minnewashta S of Lakeridge:Outgoing]
Minnewashta S of Lakeridge
SB incoming
Average Speed Chart
Average Vehicle Speed.
Total Vehicles Displayed=2362
Vehicles Detected
(size of bubble = vehicle density)
5/31/2023 12:45:38 AM through 6/1/2023 11:55:48 PM
Avg Speed:(30 Minutes)
60
50
40
30
20
10
0
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
June
Wednesday 31
Thursday 1
May 28


Vehicle Counts Vs. Speed [Minnewashta S of Lakeridge: Outgoing]
Minnewashta S of Lakeridge
SB incoming
Volume By Speed Histogram
2,362 Counts
Vehicle Counts
Vehicle Speed (MPH)
0 50 100 150 200 250 300 350
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49
0 0 0 0 0 0 0 0 0 0 0 0 2 1 8 7 6 12 23 16 20 22 24 30 26 29 49 102 137 163 249 285 274 227 187 175 107 61 35 36 21 8 9 4 3 0 2 1 1


Percentile Counts Vs. Speed for [Minnewashta S of Lakeridge: Outgoing]
Minnewashta S of Lakeridge
SB incoming
85th Pct Speed=36.0 MPH
Vehicles in data=2362
5/31/2023 12:00:00 AM to 6/1/2023 11:59:59 PM
36.0(MPH)
85pct
120
100
85
80
60
40
20
0
Percentile Counts
0
10
20
30
36
40
50
60
Speed (MPH)

Appendix D: 7/24/23 Field Walk Notes


memo is not just ped safety
city xwalk policy
Ex plan available
biggest HOA
lots of bikers
RoR crash in
unloading zone
Lake Minnewashta
offset private beach access
pavilion beach BBRB?
AWSC worked well
Speed Sign
Explore entry monument or landscaping
Watch for Peds
Chan
bikes may increase w/ Arb entrance
Cathcart Park
Strawberry Lane
Church Road
Meadow Lane
Meadow Court
Cartway Lane
Maplewood Cir
Greenbriar Ave
Fir Tree
Elm Tree
Dogwood Ave
Cypress Drive
Dartmouth D
Ironwood
Shore Drive
Landings Cir
Landings Drive
Pipewood Lane
Pipewood Cir
Pipewood Curve
Paddock Ln
State Hwy 7
Kirkwood Cir
Linden Cir
Joshua Cir
Rock Island Ln
Leslee Curve
Crestview Dr
Glendale Dr
Maple Cir
Maple Dr
Country Oaks Dr
Country Oaks Rd
Hallgren Lane
Stratford Ridge
Stratford Blvd
Stratford Ln
White Oak Lane
Red Oak Lane
Country Oaks Road
Roundhouse Park
Kings Road
City of Victoria
City of Chanhassen
Mill Creek LN
Lake Saint Joe
Minnewashta Parkway
Red Cedar Cove
Red Cedar Point Rd
Hickory Road
Handcock Place
Grey Fox Lane
South Cedar Drive
Maple Shores Dr
Lakeridge Road
Minnewashta Court
Ridgehill Road
Tristan Knoll
Tristan Dr
Hawthorne Circle
77th St
Forest Ridge Circle
Long Cedar Lane
Dogwood Rd
Beacon Court
78th St W
Westwood Dr
Arbo Ln, F
State Hwy 5
Bay Rd
Minnesota Landscape Arboretum

Mike Larson

From: Aaron Bartling
Sent: Tuesday, July 25, 2023 6:41 AM
To: Mike Larson
Subject: Minnewashta Pkwy Bike/Ped Observations

Hi Mike,

I wanted to share my observations from the field walk yesterday, though they are likely similar to yours. I also saved my photos here: H:\CACO\0T4M00197\8_Photos-Images\D_Images\Minnewashta Field Walk (feel free to move them to a better spot).

Kings Road Crossing

- Cars didn't slow down, even with our group waiting on the corner
- NB traffic has very limited site lines approaching the crossing
- More visible to SB traffic, but they pick up speed coming down the hill
- Pick up/drop off area may be necessary for beach access (observed car parked illegally to unload vehicle near beach)
- Opportunities:
    - Stop Sign – consider LED enhanced / push button for peds
    - Mini roundabout
    - Raised crossing with pedestrian flashers (though the city and residents don't seem supportive)
    - Curb extension (again, city likely not supportive of)

Other Crossings

- Painted crossings are difficult for cars to see
- No crossings at HOA beach access points. I understand the public $ for private benefit concern, but these access points are hidden and not lined up well with curb cuts or intersections, creating safety issues for both peds and vehicles accessing them.
- Obsolete signs ("Watch for Pedestrians") – consider removal and focus signage on where there are crossings or more ped activity
- No crosswalk at Lakeridge, consider adding a landing point on west side to allow a painted crosswalk
- Opportunities
    - Pedestrian flashers at painted crossings
    - Something to address HOA access points (curb cuts on trail side, vertical elements to direct peds to safer crossing points, etc.)

Trail

- Generally felt comfortable to walk along. Concrete strip created a visual buffer from road but still allows bikes/peds to use it when needed.
- Somewhat tight for both bikes and peds, especially in narrow sections. Supportive of long-term modifications to narrow travel lanes, move centerline and add shoulder for bikes
- Opportunities
    - Painting stripe down center of path to guide peds/bikes
    - Vertical elements between road and path
    - Fog lines to further separate cars from bikes/peds

Gateway at TH 5

- Supportive of gateway elements (plants, signage, monument, etc.) to deter regional traffic from traveling on Minnewashta, but also as a way to make it more inviting for pedestrians/bicyclists using the path
- Opportunity to partner with the arboretum

Aaron Bartling
Senior Transit Planner
Bolton & Menk, Inc.
12224 Nicollet Avenue
Burnsville, MN 55337
Mobile: (952) 256-0976
Aaron.Bartling@bolton-menk.com
Bolton-Menk.com

Appendix E: Kings Rd All-Way Stop Warrants

ALL WAY STOP WARRANT

2023 Volumes

LOCATION: Kings Rd at MP — Kings Rd at Minnewashta Pkwy

COUNTY: Carver

REF. POINT:

DATE: 5/16/2023

OPERATOR: ML

Speed	Approach Description	Lanes
30	Major App1: SB Minnewashta Parkway	1
30	Major App3: NB Minnewashta Parkway	1
30	Minor App2:	1
30	Minor App4: EB Kings Rd	1

0.70 FACTOR USED? Yes

					210	140	
HOUR	MAJOR APP. 1	MAJOR APP. 3	MINOR APP. 2	MINOR APP. 4	MAJOR TOTAL Σ (APP. 1 & APP. 3)	MINOR TOTAL APP. 2 + APP. 4	WARRANT MET
0:00 - 1:00	0	0	0	0	0	0	/
1:00 - 2:00	0	0	0	0	0	0	/
2:00 - 3:00	0	0	0	0	0	0	/
3:00 - 4:00	0	0	0	0	0	0	/
4:00 - 5:00	0	0	0	0	0	0	/
5:00 - 6:00	0	0	0	0	0	0	/
6:00 - 7:00	24	29	0	12	53	12	/
7:00 - 8:00	71	81	0	47	152	47	/
8:00 - 9:00	59	95	0	39	154	39	/
9:00 - 10:00	48	56	0	35	104	35	/
10:00 - 11:00	43	48	0	28	91	28	/
11:00 - 12:00	51	63	0	29	114	29	/
12:00 - 13:00	59	64	0	19	123	19	/
13:00 - 14:00	56	59	0	20	115	20	/
14:00 - 15:00	68	69	0	31	137	31	/
15:00 - 16:00	94	78	0	39	172	39	/
16:00 - 17:00	84	94	0	34	178	34	/
17:00 - 18:00	102	93	0	29	195	29	/
18:00 - 19:00	73	80	0	33	153	33	/
19:00 - 20:00	0	0	0	0	0	0	/
20:00 - 21:00	0	0	0	0	0	0	/
21:00 - 22:00	0	0	0	0	0	0	/
22:00 - 23:00	0	0	0	0	0	0	/
23:00 - 24:00	0	0	0	0	0	0	/

	Met (Hr)	Required (Hr)	
Allway Stop Warrant:	0	8	Not satisfied

REMARKS: