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Transportation Design
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Technical Memorandum

Date: November 28, 2023

To: Abby Wilgreen, P.E., CFM
City of Crystal Lake

From: Steven A. Pautsch, P.E., PTOE
Mark Shorey
Civiltech Engineering, Inc.

Re: NVA Trucking Facility Expansion Traffic Impact Study
Sands Road North of Smitana Road

Civiltech Engineering, Inc. is retained by the City of Crystal Lake to perform a traffic impact study (TIS) for the development of a 21.48-acre property located on Sands Road north of Smitana Avenue, in the City of Crystal Lake.

Exhibit 1 is a map showing the location of the proposed site in relation to the area roadway system. **Exhibit 2** is an aerial photograph showing the existing conditions at and adjacent to the proposed site. See **Exhibit 3** for a proposed site plan.

The purpose of this study is to examine existing traffic conditions adjacent to the proposed site, assess any impacts that the proposed development will have on traffic conditions, and determine if any roadway improvements are necessary to accommodate traffic generated by the proposed redevelopment. This memorandum contains the following:

- A description of the study area and proposed development
- A trip generation, distribution and assignment analysis
- A determination of existing traffic conditions
- An analysis of traffic conditions on the adjacent roadway network with site-generated traffic
- An analysis of the proposed site access intersections
- Conclusions and recommendations

I. EXISTING CONDITIONS

The proposed site currently consists of vacant land. The site is bounded by Illinois Route 31 to the west and Sands Road to the east. Existing land use near the site include:

- Outdoor storage facility and a mixed use industrial building north of the project to the northwest of the Sands/Smitana intersection

- Industrial development including truck rental, a flooring store, and car repair shops in the southwest quadrant of the Sands/Smitana intersection
- Vacant land on the east side of Sands Road across from the project
- Single family residential homes in an unincorporated area north of the site
- A Casey's General Store and Gas Station with outlots is under construction at the northeast corner of the US-14/Sands Road intersection.

A. Existing Roadway System Characteristics

Sands Road is a local roadway with a north/south orientation under the jurisdiction of Crystal Lake immediately adjacent to the site. To the north of the proposed site, Sands Road becomes township jurisdiction and prohibits vehicles with axle weights of greater than six tons. The road provides one lane of travel in each direction and has a rural cross section with unenclosed drainage. Per 2021 Illinois Department of Transportation (IDOT) data, it carries an Average Annual Daily Traffic (AADT) of 2,900 veh/day within the project area. The roadway has a posted speed limit of 30 mph. Union Pacific Railroad/Metra UP-Northwest tracks cross Sands Road approximately 75 feet south of Smitana Road. The crossing is protected by dual-quadrant crossing arms and flashing light signals. Sands Road has no designated turn lanes on the north or south approach at the T-intersection with Smitana Road. At the signalized intersection of Sands Road and Northwest Highway (US-14), both approaches of Sands Road provide one exclusive left turn lane and one shared through/right lane.

Smitana Road is a local roadway with a northwest/southeast orientation near the development primarily used to access minor industrial uses east of Sands Road. The roadway is under the jurisdiction of Crystal Lake. It is a low-volume roadway, and IDOT does not provide an AADT estimate. It intersects Sands Road on the east side in a T-shaped intersection with no designated right or left turn lanes.

Northwest Highway (US-14) is a principal arterial with an east/west orientation. The roadway is under the jurisdiction of IDOT. According to 2021 IDOT data, it carries an Average Annual Daily Volume (AADT) of 20,600 veh/day near the project area. The east approach of Northwest Highway at Sands Road provides one designated left turn lane, one designated through lane, and one shared through/right turn lane while the west approach provides a designated left turn lane, two through lanes, and one designated right turn lane. The signalized intersection of US-14 with Sands Road is approximately 1,100 feet east of the IL Route 31 interchange with US-14. The signal at the Sands Road intersection is interconnected with the signals at that interchange.

The existing roadway network and traffic control in the vicinity of the proposed site are shown on **Exhibit 4**.

B. Existing Traffic Conditions

In order to quantify current traffic conditions in the vicinity of the site, 24-hour traffic counts were conducted using Miovision Video Collection Units (VCUs) at the following intersections:

- Sands Road and Smitana Road
- Sands Road and Northwest Highway (US-14)

The traffic counts were conducted over the entire day (midnight to midnight) on Thursday, September 7, 2023 and Saturday, September 9, 2021. The results of the traffic counts show that the weekday morning peak hour of traffic occurs from 7:00 A.M. to 8:00 A.M., the weekday evening peak hour of traffic occurs from 4:30 P.M. to 5:30 P.M., and the Saturday midday peak hour occurs from 11:45 A.M. to 12:45 P.M. The existing peak hour traffic volumes are summarized on **Exhibit 5**. The raw traffic count data for the Crystal Lake Avenue and Main Street intersection are contained in **Appendix A**. Existing traffic signal timings for the intersection were obtained from IDOT and showed that the traffic signal at this intersection has a cycle length of 130 seconds during the A.M. peak hour and mid-day, and has a cycle length of 145 seconds during the P.M. peak hour.

II. TRAFFIC CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

In order to evaluate future traffic conditions in the surrounding area, it is necessary to determine the traffic characteristics of the proposed development, including estimating the directional distribution and volumes of traffic that it will generate.

A. Proposed Development Plan

See **Exhibit 3** for the proposed site plan, dated August 3, 2023. The proposed site consists of an approximately 33,000 square foot office and maintenance building, and a large surface lot for parking semi-trailers. This surface lot provides 325 trailer parking spots, of which about 200-220 are expected to be used for high-turnover operations, 50-70 would be for long-term trailer parking, and the remaining 50-70 spots for medium-term parking. High turnover spaces are anticipated to be accessed regularly, on a daily basis to every several days. Medium turnover spaces would be accessed less often, between a weekly to monthly basis. Turnover in the long-term truck spaces would be very low, with truck parked for longer than one month at a time. Sixty-four car parking spaces are proposed, with three of them being handicap accessible. Access to the site is recommended to be provided via a three-quarter access driveway located on Sands Road approximately 450 feet north of the Smitana Road intersection and 200 feet north of the existing NVA Transportation access driveway. This driveway would allow left and right turns in, and right turns out. The left turn onto northbound Sands Road would be prohibited by installation of signage, pavement markings, and an angled, concrete "pork chop" island within the driveway. The north edge of the driveway would have a small radius so southbound trucks would not be able to turn right into the site.

B. Background Traffic Estimate

It is anticipated that the traffic volumes currently on the roadway network will increase while the proposed development is being constructed. Based on 2050 traffic projections obtained from the Chicago Metropolitan Agency for Planning (CMAP), the ambient traffic growth rate within the study area is projected to be 1.5 percent per year. Copies of the correspondence with CMAP are provided in **Appendix B.** This projected growth was applied based on a design year in the time of construction plus five years per current IDOT policy for traffic impact studies. Assuming construction on the site is complete in 2025, the resulting analysis year for the TIS is 2030. The yearly growth rate was compounded over seven years. In addition, traffic will be generated by the Casey's General Store and Gas Station and outlots, which will open at the northeast corner of the US-14 and Sands Road intersection. Traffic volumes for the full build-out of the site, as presented in the 2021 traffic study prepared by Civiltech Engineering were incorporated into the traffic study along with the compounded 1.5% per year increase to obtain 2030 background traffic volumes. These are shown in **Exhibit 6.**

C. Estimate of Site-Generated Trip Distribution

The distribution of development-generated trips on the roadway system is a function of several variables. For the proposed development, truck trips generated by the proposed site will travel to and from the site from US-14 because large trucks are prohibited on Sands Road north of the proposed development. Passenger cars exiting the site would be prohibited from turning left to the north on Sands Road but could arrive via Sands Road from the north. At the US-14/Sands intersection, it is assumed that more traffic will travel to and from the west, due to the proximity of IL-31, which provides access to I-90. **Exhibit 7a** shows the estimated trip distribution percentages for passenger cars destined to and from the site, and **Exhibit 7b** shows the estimated trip distribution percentages for trucks destined to and from the site.

D. Estimated Site Traffic Generation

A Traffic Impact Study projects future traffic conditions and recommends methods to offset the impacts of the anticipated increase in traffic volumes due to land development. The volume of traffic generated by a development is based on the type of land use and the size of the development.

One of the most accurate ways to project the volume of future traffic that would be generated by a development is to sample traffic at a similar nearby site. Trip generation for this project is based on the existing NVA facility just south of the proposed project area. Gate data between Monday, October 2nd, 2023 and Saturday, October 7th was analyzed to determine the average number of entering and exiting passenger cars and trucks from the existing facility. Data from the five weekdays was averaged to develop an average weekday trip generation rate. The temporal pattern and purpose of trips at the existing facility is expected to be identical for the proposed larger facility.

To scale the number of existing trips to the number of expected trips, the average passenger car trips are multiplied by the ratio of floor space in the new facility and the floor space of the existing facility. The existing facility has a building floor area of 14,000 SF while the proposed building has a floor area of 33,000 SF. The ratio of the new floor area to the existing floor area is 2.35. The factor for truck trips is determined by using the ratio of trailer parking spots in the proposed facility and the existing facility. The existing facility has 60 trailer parking spots while the proposed facility has 325, resulting in a ratio equal to 5.41. Projected volumes based on these factors were rounded to the nearest five and shown in **Table 1** below. A copy of the data as well as the trip generation calculations are provided in **Appendix C.**

Table 1: Projected Site-Generated Traffic Volumes

Type of Vehicle	Weekday Total		Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Mid-day Peak Hour	
	In	Out	In	Out	In	Out	In	Out
	Total		Total		Total		Total	
Passenger Car	135	135	55	5	5	20	15	15
	270		60		25		30	
Truck	45	50	0	10	5	0	10	5
	95		10		5		15	
Total	**180**	**185**	**55**	**15**	**10**	**20**	**25**	**20**
	365		**70**		**30**		**45**	

As shown in the above tables, the development is predicted to add between 30 and 70 new trips to the roadway network during the three peak hours analyzed. Trucks trips range from 5 to 15 per hour during the peaks, which is about one vehicle every four to twelve minutes.

The additional trips anticipated to be generated by the proposed development as shown in **Table 1** were distributed on the roadway network based on the percentages shown on **Exhibit 7a** for passenger cars and **Exhibit 7b** for trucks. **Exhibit 8a** shows the site-generated passenger car trips, **Exhibit 8b** shows the site-generated truck trips, and **Exhibit 8c** shows the total site-generated trips.

E. Alternative Land Use Trip Generation Comparison

An analysis of a warehouse development on the same site has been requested to compare the trip generation based on NVA data to industry standard trip generation techniques. This trip generation calculation was completed to determine the amount of traffic that would be generated by a 206,000 square foot warehousing/shipping & receiving development which is feasible on the same site.

The trip generation estimate for this alternative site was completed with the aid of the publication *Trip Generation, 10th Edition,* published by the Institute of Transportation Engineers (ITE). *Trip Generation* provides average trip generation rates representing weighted averages of traffic counts and studies collected from various land uses throughout the United States and Canada since the 1980's. **Table 2** summarizes the peak hour traffic estimated to be generated by the development based on the rates contained in the ITE *Trip Generation* Manual. For the purposes of this estimate, the land use type is assumed to be 150 – Warehousing.

For this study, the peak hour of the land use (generator) was used to determine the number of trips generated by the proposed development for the weekday morning and evening peak hours. Based on a comparison of the two types of land uses, trip generation rates would be similar for each type of development. Copies of the relevant *Trip Generation* pages are provided for reference in **Appendix D**.

Table 2: Projected Site-Generated Traffic Volumes, per ITE *Trip Generation, 10th Edition*

ITE Land Use Code	Land Use	1000 Sq. Ft. Gross Floor Area (GFA)	Weekday Total		Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour*	
			In	Out	In	Out	In	Out	In	Out
			Total		Total		Total		Total	
150	Warehousing	206	180	180	35	20	15	40	10*	0*
			360		55		55		10*	

* ITE *Trip Generation, 10th Edition* has a small sample size warning for the Saturday Midday Peak Hour Data for this land use

F. Total Traffic

The site-generated trips shown in **Exhibit 8c** were then added to the 2030 background traffic shown in **Exhibit 6**. The resulting existing plus site-generated (i.e., total) traffic volumes are shown in **Exhibit 9**. The total traffic volumes were then used in the traffic analyses for the proposed development.

II. TRAFFIC ANALYSIS

A. Auxiliary Turn Lane Evaluation

The proposed access to the development from Sands Road was evaluated for the need to install an exclusive northbound left-turn lane from Sands Road. The evaluation is based on a variety of factors including traffic volumes, roadway characteristics, and vehicle operations. While the proposed development will not generate a large amount of turning traffic on Sands Road, the operating characteristics of this traffic, i.e. large tractor-trailer trucks and the proximity to adjacent intersections, support the recommendation to provide an exclusive left-turn lane for northbound Sands Road. As such, it is recommended to install a northbound left turn lane to serve the site driveway. Due to low volumes expected in the northbound left turn lane, the minimum storage length of 115 feet should be used per BLRS Section 34-3.02(b). A northbound left turn lane will facilitate traffic flow and safety by allowing vehicles turning left into the site to pull out of traffic, eliminating the need for any northbound through vehicles to stop for traffic turning left.

B. Intersection Capacity Analyses

Traffic analyses were performed for the US-14/Sands Road signalized intersection to evaluate existing traffic operations and to help evaluate the extent of the impacts of the proposed site development on existing traffic operations. A traffic analysis was also performed at the stop-controlled intersection of Sands Road and Smitana Road south of the proposed site. Finally, an analysis was performed at the site driveway to evaluate the ease with which motorists will be able to enter and exit the site during peak hours of adjacent street traffic. Analyses were performed for the 2023 Existing, 2030 Background, and the Total traffic volumes during peak traffic hours. For all traffic analyses, the existing signal timings described previously were used to analyze the intersection operations.

Traffic analyses in this study were performed using the methodologies in the Transportation Research Board's (TRB) *Highway Capacity Manual* (HCM) as implemented in the Highway Capacity Software (HCS 7) capacity analysis software package. This is the industry-standard method for evaluating the capacity of signalized and unsignalized intersections.

Level-of-Service (LOS) is the most commonly used measure to describe the ability of an intersection to accommodate traffic flow and is characterized by the amount of control delay that the average motorist experiences for each traffic movement. Control delay is that portion of the total delay attributed to the traffic signal or stop sign control operation, and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. LOS is assigned a letter grade from A to F based on the average control delay experienced by vehicles passing through the intersection. LOS A is the highest grade (best traffic flow and least delay), LOS E represents saturated or at-capacity conditions, and LOS F is the lowest grade (oversaturated conditions, extensive delays). The Highway Capacity Manual definitions for Levels-of-Service and the corresponding control delay for both unsignalized and signalized intersections are shown in **Table 4.** Level of Service "D" is typically the minimum LOS accepted by agencies in the Chicago region at signalized intersections. However, LOS E is often acceptable on side-street signalized approaches at major roadway due to signal timings plans which require drivers have to wait a long time for the light to turn green. Furthermore, Levels of Service below LOS D are not uncommon at unsignalized intersections or driveways during peak hours along urban and suburban arterials, and are sometimes unavoidable given the need to balance access to land with mobility on the major street network in urban and suburban areas.

Table 4: Level-of-Service Criteria

Unsignalized Intersections		
Level of Service	Average Control Delay (seconds per vehicle)	
A	0 - 10	
B	> 10 – 15	
C	> 15 – 25	
D	> 25 – 35	
E	> 35 – 50	
F	> 50 **or** volume to capacity (v/c) ratio ≥ 1.0	
Signalized Intersections		
Level of Service	Description	Avg. Control
A	Very good progression. Most vehicles arrive on green and proceed without stopping.	≤ 10
B	Good progression. Increased number of vehicles stopping.	> 10 – 20
C	At times, one or more vehicles may have to wait more than one signal cycle (cycle failure). Significant number of vehicles stopping, although many still pass through without stopping.	> 20 – 35
D	Volumes approaching capacity and either progression is not effective or cycle length is too long. Many vehicles stop and cycle failures are noticeable.	> 35 – 55
E	Poor Progression. High v/c ratio and long cycle length. Frequent cycle failures.	> 55 – 80
F	Very poor progression. Very high v/c ratio and long cycle lengths. Most signal cycles fail to clear vehicle queues.	≥ 80 **or** v/c ≥ 1.0

Source: Adapted from 2010 *Highway Capacity Manual*.

The capacity analysis results are summarized in **Table 5** for 2023 existing traffic conditions, **Table 6** for 2023 background traffic conditions, and **Table 7** for total traffic conditions. Summary reports from the HCS analyses are provided in **Appendix E**.

Table 5: Capacity Analysis Results – 2023 Existing Traffic Conditions

Intersection	Weekday AM Peak		Weekday PM Peak		Saturday Midday	
	LOS	Delay	LOS	Delay	LOS	Delay
U.S. Route 14 and Sands Road						
Overall	B	11.0	B	18.1	C	20.7
Eastbound Approach	A	6.0	A	8.9	B	10.0
Westbound Approach	A	6.3	B	12.1	B	10.9
Northbound Approach	E	56.2	E	62.6	E	70.4
Southbound Approach	E	64.1	E	69.2	E	61.2
Smitana Road and Sands Road						
Westbound Approach	A	9.3	A	9.6	A	9.3

LOS = Level-of-Service. Delay reported in seconds per vehicle.

Table 6: Capacity Analysis Results – 2030 Background Traffic Conditions

Intersection	Weekday AM Peak		Weekday PM Peak		Saturday Midday	
	LOS	Delay	LOS	Delay	LOS	Delay
U.S. Route 14 and Sands Road						
Overall	B	15.0	C	23.5	C	26.3
Eastbound Approach	A	8.5	B	12.6	B	13.2
Westbound Approach	A	9.6	B	17.7	B	15.8
Northbound Approach	D	54.6	E	64.6	F	83.7
Southbound Approach	E	60.4	E	68.5	E	58.2
Smitana Road and Sands Road						
Westbound Approach	A	9.4	A	9.8	A	9.4

LOS = Level-of-Service. Delay reported in seconds per vehicle.

Table 7: Capacity Analysis Results – Total Traffic Conditions

Intersection	Weekday AM Peak		Weekday PM Peak		Saturday Midday	
	LOS	Delay	LOS	Delay	LOS	Delay
U.S. Route 14 and Sands Road						
Overall	B	15.4	C	24.3	C	26.9
Eastbound Approach	A	8.7	B	13.0	B	13.6
Westbound Approach	B	10.1	B	18.2	B	16.4
Northbound Approach	E	55.0	E	65.1	F	84.4
Southbound Approach	E	59.9	E	69.3	E	58.2
Smitana Road and Sands Road						
Westbound Approach	A	9.7	A	9.9	A	9.6
Project Driveway and Sands Road						
Eastbound Approach	A	9.6	A	9.0	A	9.3

LOS = Level-of-Service. Delay reported in seconds per vehicle.

C. Queue Analysis

Peak hour queue lengths were analyzed and are reported below in **Table 8** for 2023 Existing traffic conditions, **Table 9** for 2030 background traffic conditions, and **Table 10** for total traffic conditions. At signalized intersections, 95th percentile queues are only anticipated to be experienced during five percent of signal cycles during a peak hour. At a typical IDOT signal such as US-14/Sands, the queues of the stated lengths would only be expected during one or two signal cycles during each peak hour.

Table 8: Queuing Results – 2023 Existing Traffic Conditions

Intersection	Existing Storage Bay (Ft.)	95th Percentile Queue		
		Weekday AM Peak (Ft.)	Weekday PM Peak (Ft.)	Saturday Midday (Ft.)
US-14 and Sands Road				
Eastbound Left	220	20	50	35
Eastbound Right	150	20	55	110
Westbound Left	250	5	20	30
Northbound Left	80	70	230	185
Southbound Left	80	30	60	20
Eastbound Through	N/A	185	220	230
Westbound Through	N/A	135	370	260
Northbound Through/Right	N/A	60	190	215
Southbound Through/Right	N/A	105	150	125

Table 9: Queuing Results – 2030 Background Traffic Conditions

Intersection	Existing Storage Bay (Ft.)	95th Percentile Queue		
		Weekday AM Peak (Ft.)	Weekday PM Peak (Ft.)	Saturday Midday (Ft.)
US-14 and Sands Road				
Eastbound Left	220	50	125	85
Eastbound Right	150	30	75	150
Westbound Left	250	10	30	50
Northbound Left	80	80	255	275
Southbound Left	275*	80	120	70
Eastbound Through	N/A	255	275	290
Westbound Through	N/A	210	520	360
Northbound Through/Right	N/A	85	225	250
Southbound Through/Right	N/A	200	245	210

*This turn lane extension was completed in October 2023 as part of the Casey's Development project per their requirements.

Table 10: Queuing Results – Total Traffic Conditions

Intersection	Existing Storage Bay (Ft.)	95th Percentile Queue		
		Weekday AM Peak (Ft.)	Weekday PM Peak (Ft.)	Saturday Midday (Ft.)
US-14 and Sands Road				
Eastbound Left	220	60	130	90
Eastbound Right	150	30	75	155
Westbound Left	250	10	35	50
Northbound Left	80	80	260	280
Southbound Left	275	95	140	80
Eastbound Through	N/A	260	280	295
Westbound Through	N/A	220	525	370
Northbound Through/Right	N/A	85	225	250
Southbound Through/Right	N/A	205	265	225

III. TRAFFIC EVALUATION

The results of the capacity analyses and the queue analysis at the roadway network intersections and site access driveways are discussed below.

A. US-14 and Sands Road

Existing Traffic

The results of the existing capacity analysis indicate that the signalized intersection of US-14 and Sands Road currently operates at an acceptable Level-of-Service (LOS) B overall during the weekday morning and evening peak hours and LOS C overall during the Saturday midday peak hour. The major (eastbound and westbound) approaches operate under LOS of A or B. It is noted that the northbound and southbound approaches currently operate at LOS E under all three peak hours analyzed. LOS E is not uncommon on side streets at major signalized intersections because of the long signal cycle lengths and because the signal is timed to allocate most of the green time to the busy route. The results of the queue analysis indicate that the existing storage bay lengths for the turn lanes are adequate for the eastbound left, westbound, and southbound left turning lanes but insufficient for the northbound left turn movement during the PM and Saturday peaks. This is likely due to the high volume of traffic originating from the commercial area south of US-14.

2030 Background Traffic

Delays and queues increase slightly in the 2030 Background (No-Build) condition. The overall intersection LOS remains at a B or C while the eastbound and westbound approaches are projected to operate at A or B. The northbound approach degrades to LOS F while the southbound approach remains at LOS E. While some of the increase in delay at the US-14/Sands intersection is due to expected growth in traffic volumes, most of the increased delay can be attributed to Casey's development.

In the 2030 Background condition, the most notable increase in 95th percentile queueing is on the north leg of the intersection. The increase in queue length will be mitigated by the recently-completed widening of the north leg to extend the left turn lane to 275 feet of storage as part of Phase I construction on the Casey's site.

2030 Total Traffic

Under 2030 Total (Build) conditions, vehicle delays increase very slightly compared to the 2030 Background condition. The difference in delay between the 2030 Background and Total traffic conditions is generally around one second or less for the various movements, which would be imperceptible to motorists. This shows that the traffic generated by the proposed NVA development will not substantially impact operations at this intersection. Most notably, the delay for the southbound approach would increase a maximum of 0.8 seconds during the PM peak period.

With the exception of the northbound Sands Road left turn lane and the eastbound right turn lane, the 95th percentile queues will all be accommodated within their respective storage bays. The northbound left turn and eastbound right turn deficiencies are attributable to existing traffic and vehicles heading to and from the NVA development will not utilize these movements. Analysis shows that the eastbound left turn lane 95th percentile queue length would be 130 feet which is easily accommodated by the existing 220-foot-long turn lane. The southbound left turn queue would

increase from 120 feet to 140 feet, which will be contained within the 275-foot left turn bay constructed as part of the Casey's project.

It was also requested to review queuing with respect to the Union Pacific Railroad tracks, which lie approximately 700 feet north of the intersection. The maximum 95th percentile through/right queue anticipated for this movement is 265 feet during the PM rush hour, which will not come close to approaching the tracks. Stopping sight distance was analyzed to ensure that drivers traversing the tracks will be able to see the back of the queue. Per AASHTO *Policy on Geometric Design of Streets and Highways,* stopping sight distance is 250 feet for roadway with a 35 mph design speed. The sum of the maximum 95th percentile queue and the 250 foot stopping sight distance is 515 feet, which less than the 700 foot distance between the tracks and Sands Road. This means that drivers will easily have adequate time to stop before reaching the back of the queue when crossing the railroad tracks north of the intersection.

Based on the capacity and queuing analysis results no additional improvements are recommended at the US-14 and Sands Road intersection.

B. Sands Road and Smitana Road

The results of the capacity analysis for the Existing, 2030 No-Build, and 2030 Total traffic conditions indicate that the stop-controlled westbound approach of Smitana Road at the Sands Road intersection operates at a Level-of-Service (LOS) A during all analyzed peak hours. Trips generated to and from the proposed site will have negligible impact on traffic turning to or from Smitana Road. Therefore, no improvements are recommended at the intersection of Sands Road and Smitana Road.

C. Proposed Sands Road Three-Quarter Access Drive

The results of the capacity analysis for Total traffic conditions indicate that the movements at the unsignalized intersection of Sands Road at the three-quarter access driveway will operate at a Level-of-Service (LOS) A during all analyzed peak hours. The 95th percentile queue is less than one vehicle during all peak hours for the eastbound approach. Therefore, the proposed site driveway will operate efficiently at all times of day.

Although turning volumes are expected to be low at the site access driveway, a northbound left turn lane should be installed at the site driveway on Sands Road. The addition of this left turn lane will facilitate northbound traffic flow at the site driveway, eliminating any potential for delays on the northbound approach at the access driveway.

D. US-14/IL-31 Interchange

The interchange of US-14 and IL-31 is approximately 1,000 feet west of the US-14 and Sands Road intersection. Only 35% of the site-generated passenger car trips and 65% of truck trips are expected to pass through the interchange, which means that fewer than 200 new vehicles would be using the interchange daily. These 200 new daily trips comprise less than 1% of the existing average of 20,600 vehicles per day east of the interchange. This difference of less than 1% will not result in a quantifiable difference to interchange operations. Based on a review of the daily traffic volumes and in accordance with standard industry practices for scoping traffic studies, it was determined that turning movement counts and traffic analyses were not required at this intersection. No traffic impacts are expected to the interchange as a result of the NVA project.

IV. CONCLUSIONS AND RECOMMENDATIONS

Based on the proposed development plans and the preceding traffic impact study, the following conclusions and recommendations are presented:

- The roadway system surrounding the proposed site will have sufficient reserve capacity to accommodate the development of the site.

- Future NVA development traffic will increase delays at the intersection of US-14 and Sands Road by less than one second. Intersection queues attributable to development traffic will increase by 20 feet or less.

- A northbound left turn lane is recommended on Sands Road at the proposed development access driveway. This turn lane should be designed with 115 feet of storage and taper rates as detailed in IDOT's *Bureau of Local Roads and Streets Manual*. This turn lane will facilitate northbound traffic flow, eliminating the potential for turning vehicles to delay northbound roadway users.

- Outbound left turns should be restricted at the proposed site driveway on Sands Road through pavement markings, signage and a concrete pork chop median. The radius on the north edge of the driveway will be such to discourage large southbound trucks from turning right into the site. This three-quarter access drive will operate satisfactorily and will limit the volume of traffic heading to and from the north.

- Trucks are not expected to utilize Sands Road north of the proposed site due to the six ton per axle weight limit. Furthermore, the north edge of the site driveway will be designed with a small radius which will discourage trucks from entering the site from the north.

- US-14/IL-31 interchange will experience negligible change in operations due to the project's generated traffic.



City of Crystal Lake

NVA Trucking Facility Expansion TIS

Location Map

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Not to Scale

Exhibit 1



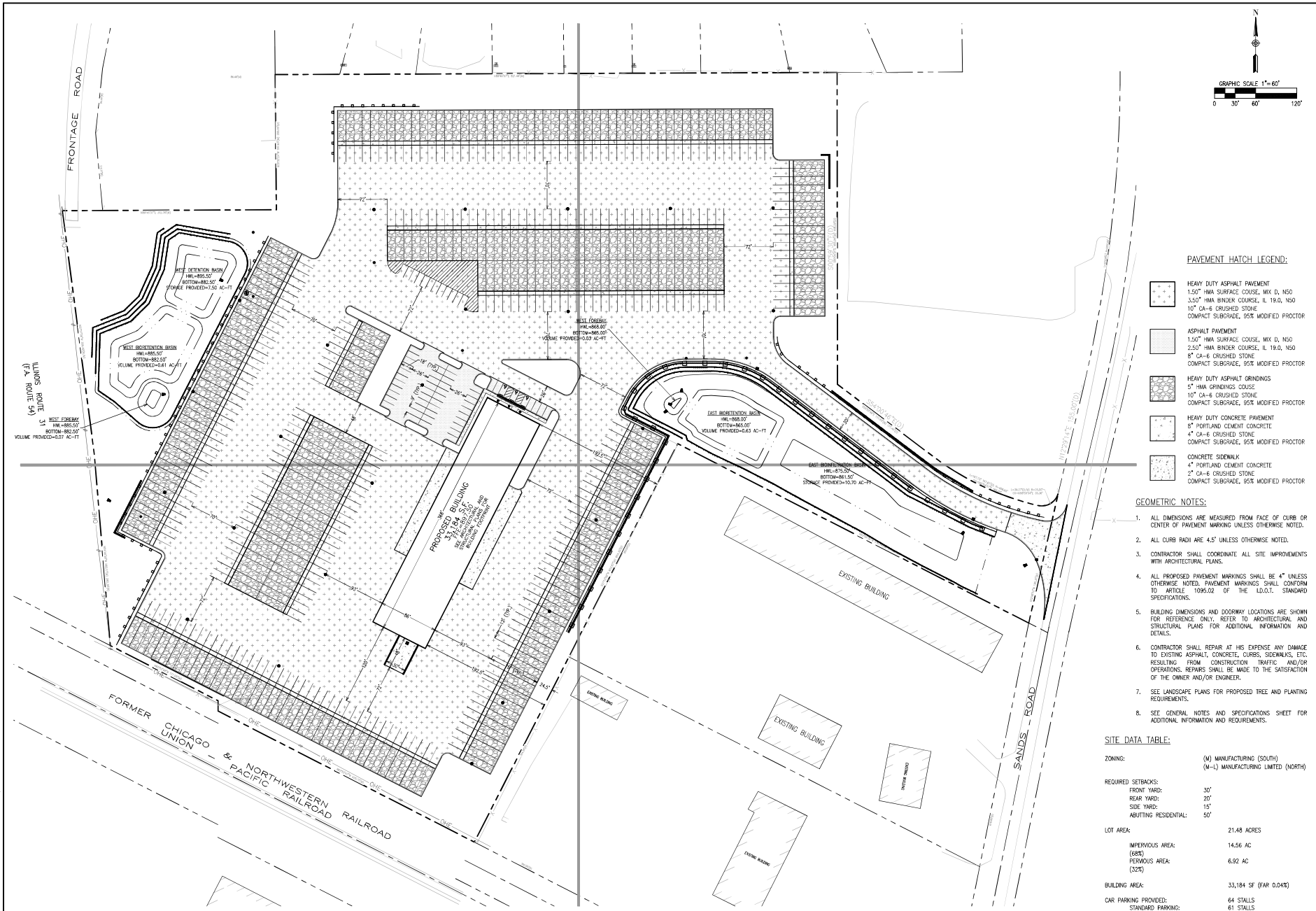
City of Crystal Lake

NNVA Trucking Facility Expansion TIS

Existing Conditions Aerial

Not to Scale

Exhibit 2



PAVEMENT HATCH LEGEND:

- HEAVY DUTY ASPHALT PAVEMENT
  1.50" HMA SURFACE COUSE, MIX D, N50
  3.50" HMA BINDER COURSE, IL 19.0, N50
  10" CA-6 CRUSHED STONE
  COMPACT SUBGRADE, 95% MODIFIED PROCTOR
- ASPHALT PAVEMENT
  1.50" HMA SURFACE COUSE, MIX D, N50
  2.50" HMA BINDER COURSE, IL 19.0, N50
  8" CA-6 CRUSHED STONE
  COMPACT SUBGRADE, 95% MODIFIED PROCTOR
- HEAVY DUTY ASPHALT GRINDINGS
  5" HMA GRINDINGS COUSE
  10" CA-6 CRUSHED STONE
  COMPACT SUBGRADE, 95% MODIFIED PROCTOR
- HEAVY DUTY CONCRETE PAVEMENT
  8" PORTLAND CEMENT CONCRETE
  4" CA-6 CRUSHED STONE
  COMPACT SUBGRADE, 95% MODIFIED PROCTOR
- CONCRETE SIDEWALK
  4" PORTLAND CEMENT CONCRETE
  2" CA-6 CRUSHED STONE
  COMPACT SUBGRADE, 95% MODIFIED PROCTOR

GEOMETRIC NOTES:

1. ALL DIMENSIONS ARE MEASURED FROM FACE OF CURB OR CENTER OF PAVEMENT MARKING UNLESS OTHERWISE NOTED.
2. ALL CURB RADII ARE 4.5' UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL COORDINATE ALL SITE IMPROVEMENTS WITH ARCHITECTURAL PLANS.
4. ALL PROPOSED PAVEMENT MARKINGS SHALL BE 4" UNLESS OTHERWISE NOTED. PAVEMENT MARKINGS SHALL CONFORM TO ARTICLE 1095.02 OF THE I.D.O.T. STANDARD SPECIFICATIONS.
5. BUILDING DIMENSIONS AND DOORWAY LOCATIONS ARE SHOWN FOR REFERENCE ONLY. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ADDITIONAL INFORMATION AND DETAILS.
6. CONTRACTOR SHALL REPAIR AT HIS EXPENSE ANY DAMAGE TO EXISTING ASPHALT, CONCRETE, CURBS, SIDEWALKS, ETC. RESULTING FROM CONSTRUCTION TRAFFIC AND/OR OPERATIONS. REPAIRS SHALL BE MADE TO THE SATISFACTION OF THE OWNER AND/OR ENGINEER.
7. SEE LANDSCAPE PLANS FOR PROPOSED TREE AND PLANTING REQUIREMENTS.
8. SEE GENERAL NOTES AND SPECIFICATIONS SHEET FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SITE DATA TABLE:

ZONING:		(M) MANUFACTURING (SOUTH) (M-L) MANUFACTURING LIMITED (NORTH)
REQUIRED SETBACKS:		
FRONT YARD:	30'	
REAR YARD:	20'	
SIDE YARD:	15'	
ABUTTING RESIDENTIAL:	50'	
LOT AREA:		21.48 ACRES
IMPERVIOUS AREA: (68%)		14.56 AC
PERVIOUS AREA: (32%)		6.92 AC
BUILDING AREA:		33,184 SF (FAR 0.04%)
CAR PARKING PROVIDED:		64 STALLS
STANDARD PARKING:		61 STALLS
HANDICAP ACCESSIBLE PARKING:		3
TRAILER PARKING PROVIDED:		325

No.	Description	Date
1	CLIENT REVIEW	8/3/23

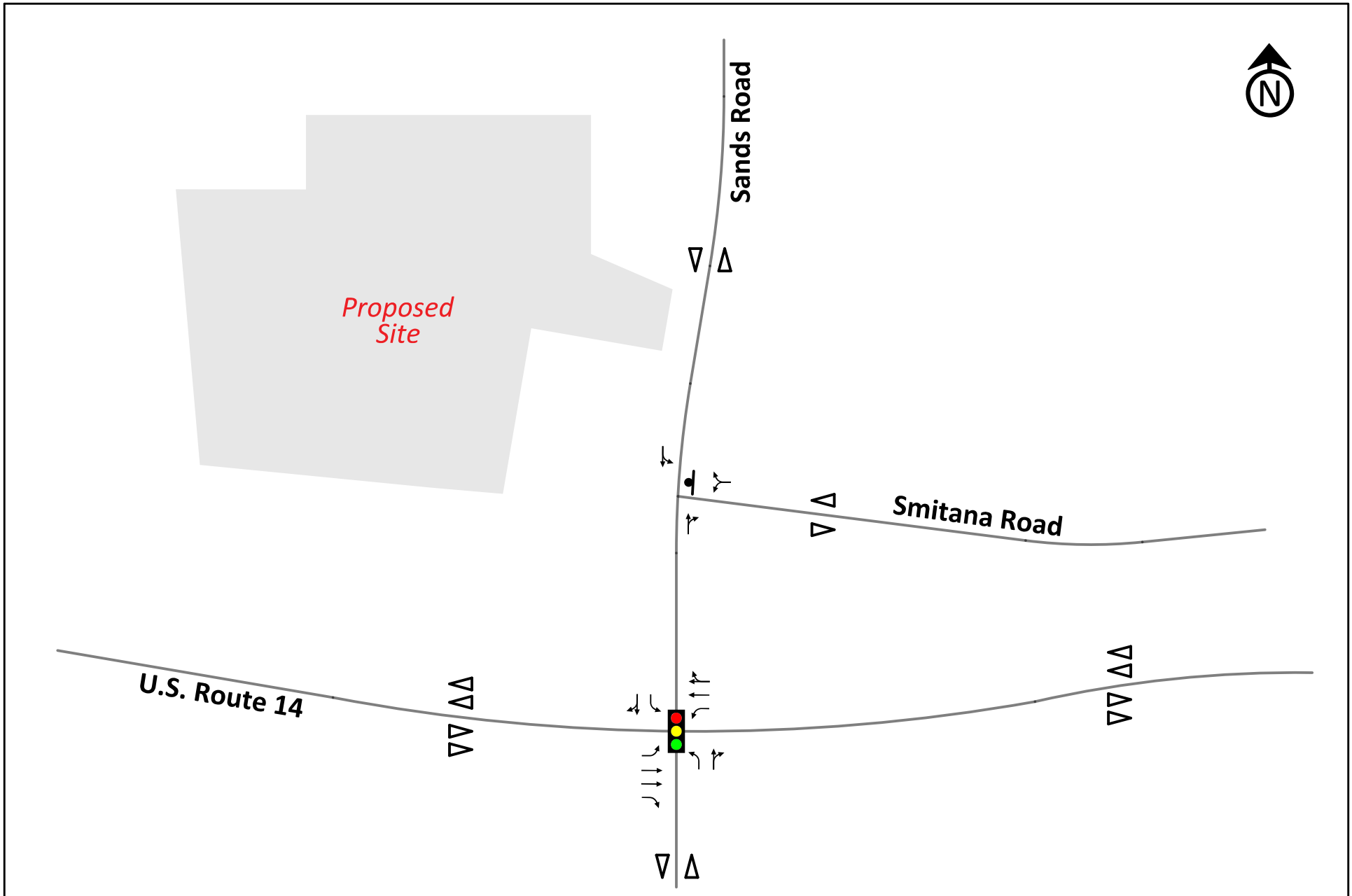
DIMENSIONAL CONTROL AND PAVING PLAN
NVA TRUCKING FACILITY EXPANSION
NVA PROP IL LLC
CRYSTAL LAKE, IL

JACOB & HEFNER ASSOCIATES
1333 Butterfield Rd, Suite 300, Downers Grove, IL 60515
PHONE: (630) 652-6600, FAX: (630) 652-6601
www.jacobandhefner.com

G985
1" = 60'
C3.0

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Exhibit 3



CIVILTECH

Legend

Existing Lane Configuration

Number of Existing Through Lanes

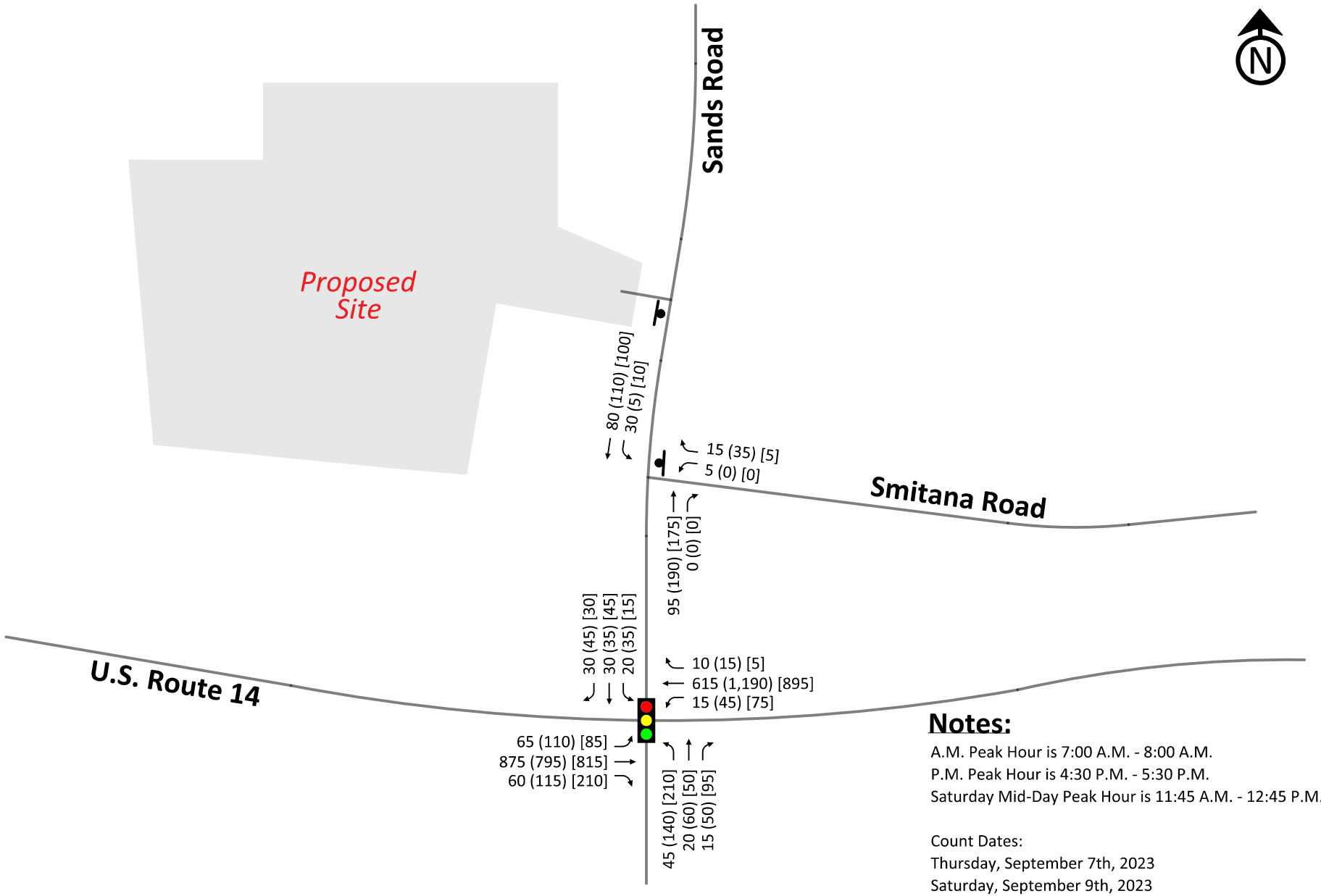
Stop Sign

Traffic Signal

NVA Trucking Facility Expansion TIS

Existing Lane Configuration and Traffic Control

Exhibit 4



Notes:

A.M. Peak Hour is 7:00 A.M. - 8:00 A.M.
P.M. Peak Hour is 4:30 P.M. - 5:30 P.M.
Saturday Mid-Day Peak Hour is 11:45 A.M. - 12:45 P.M.

Count Dates:
Thursday, September 7th, 2023
Saturday, September 9th, 2023

CIVILTECH

Legend

000 (000) [000] - A.M. (P.M.) [Sat.] Peak Hour Volumes (veh/hr)

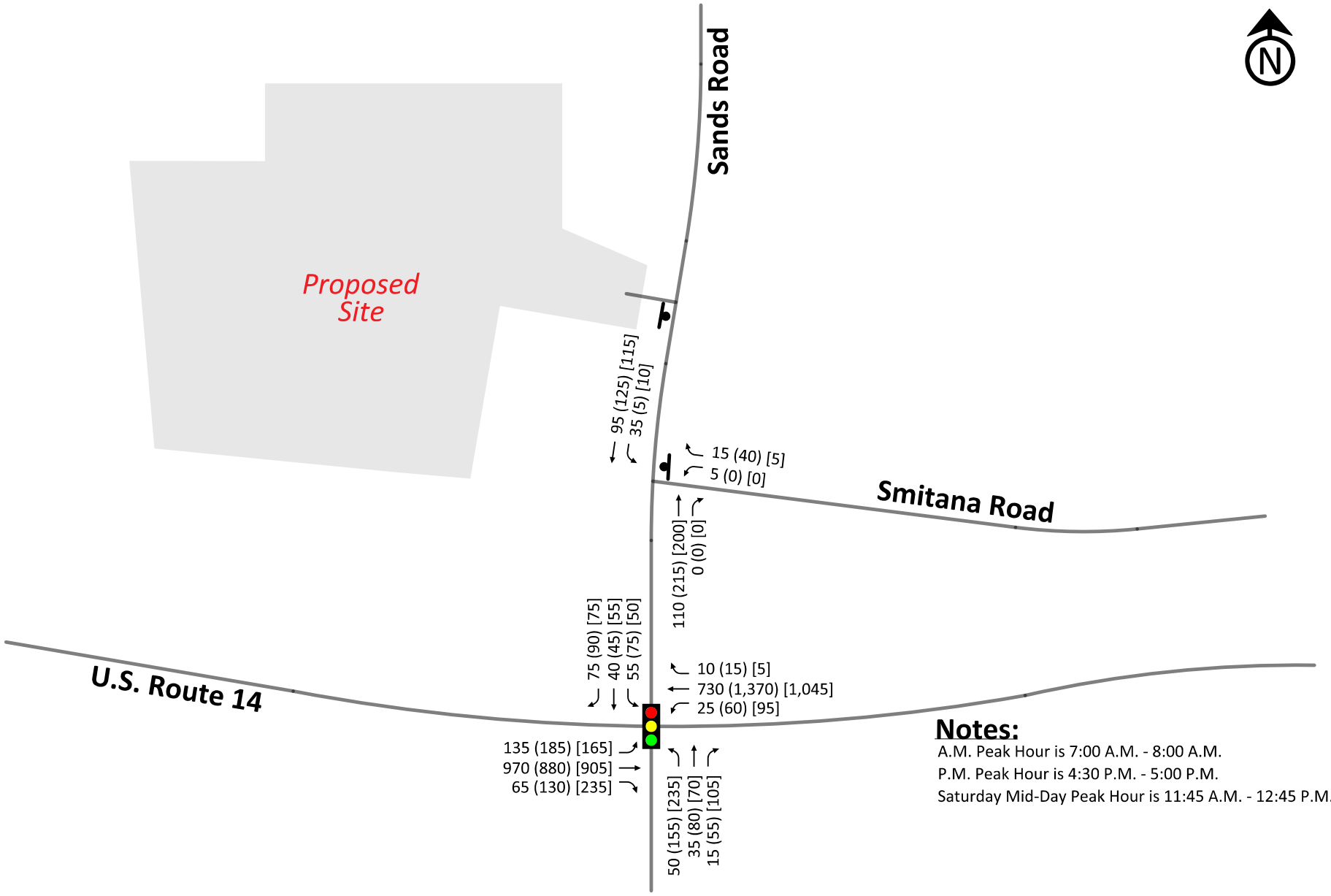
Stop Sign

Traffic Signal

NVA Trucking Facility Expansion TIS

2023 Existing A.M. (P.M.) [Saturday] Peak Hour Traffic Volumes

Exhibit 5



CIVILTECH

Legend

000 (000) [000] - A.M. (P.M.) [Sat.] Peak Hour Volumes (veh/hr)

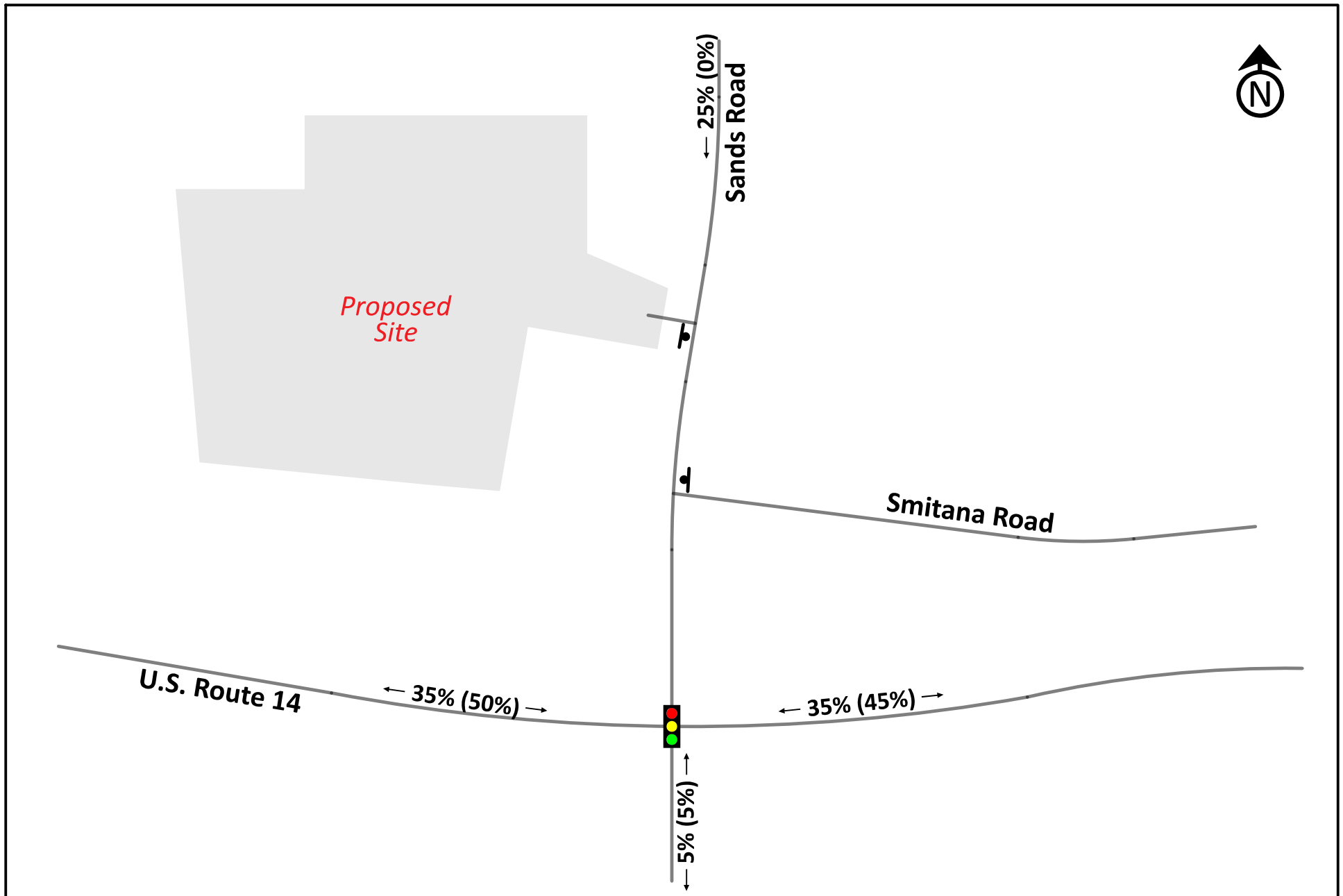
Stop Sign

Traffic Signal

NVA Trucking Facility Expansion TIS

2030 No Build A.M. (P.M.) [Saturday] Peak Hour Traffic Volumes

Exhibit 6



CIVILTECH

Legend

00% (00%) Percent Distribution Inbound (Outbound)

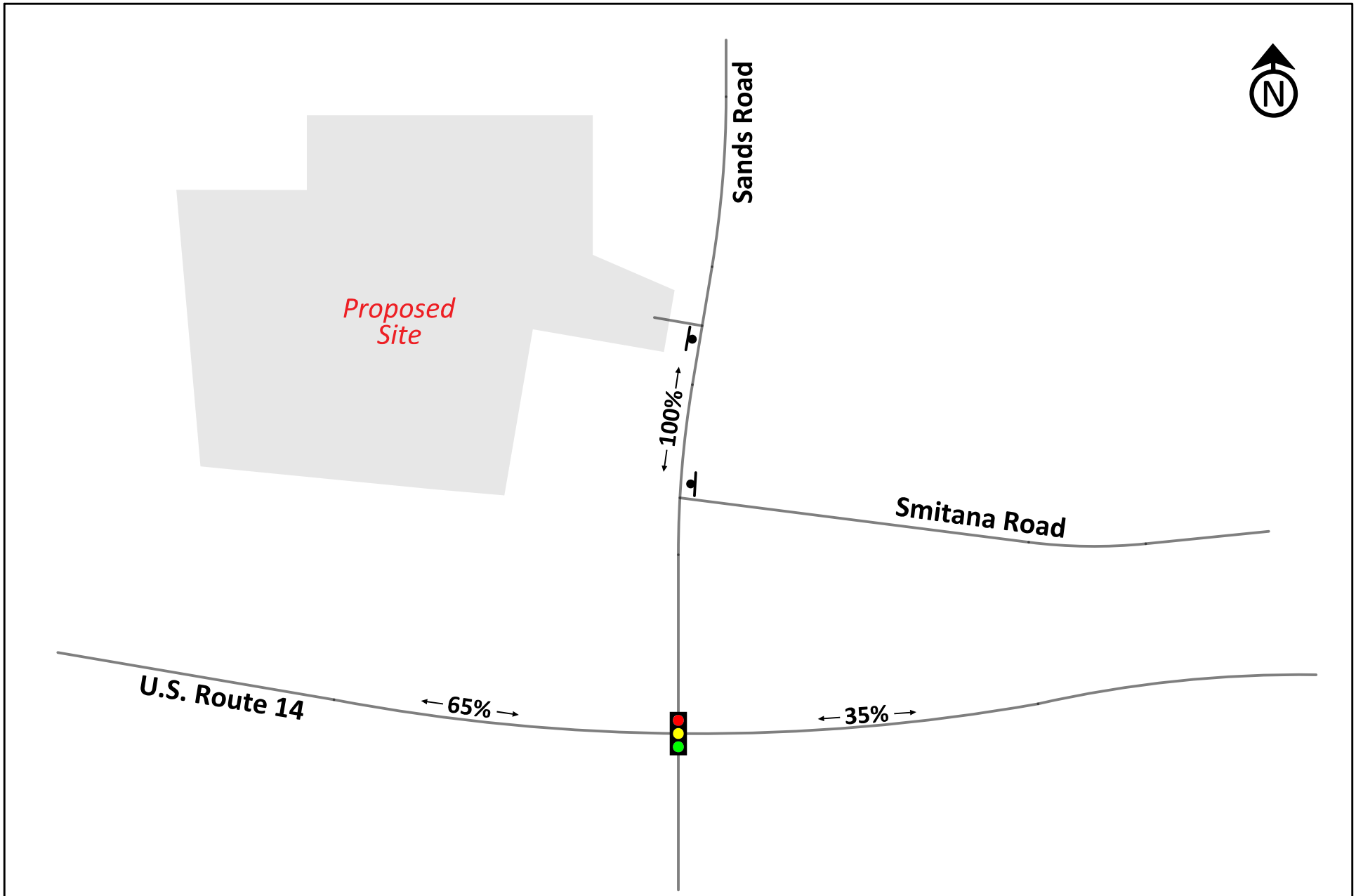
Stop Sign

Traffic Signal

NVA Trucking Facility Expansion TIS

Directional Distribution of Site-Generated Passenger Car Trips

Exhibit 7a



CIVILTECH

Legend

00% Percent Distribution

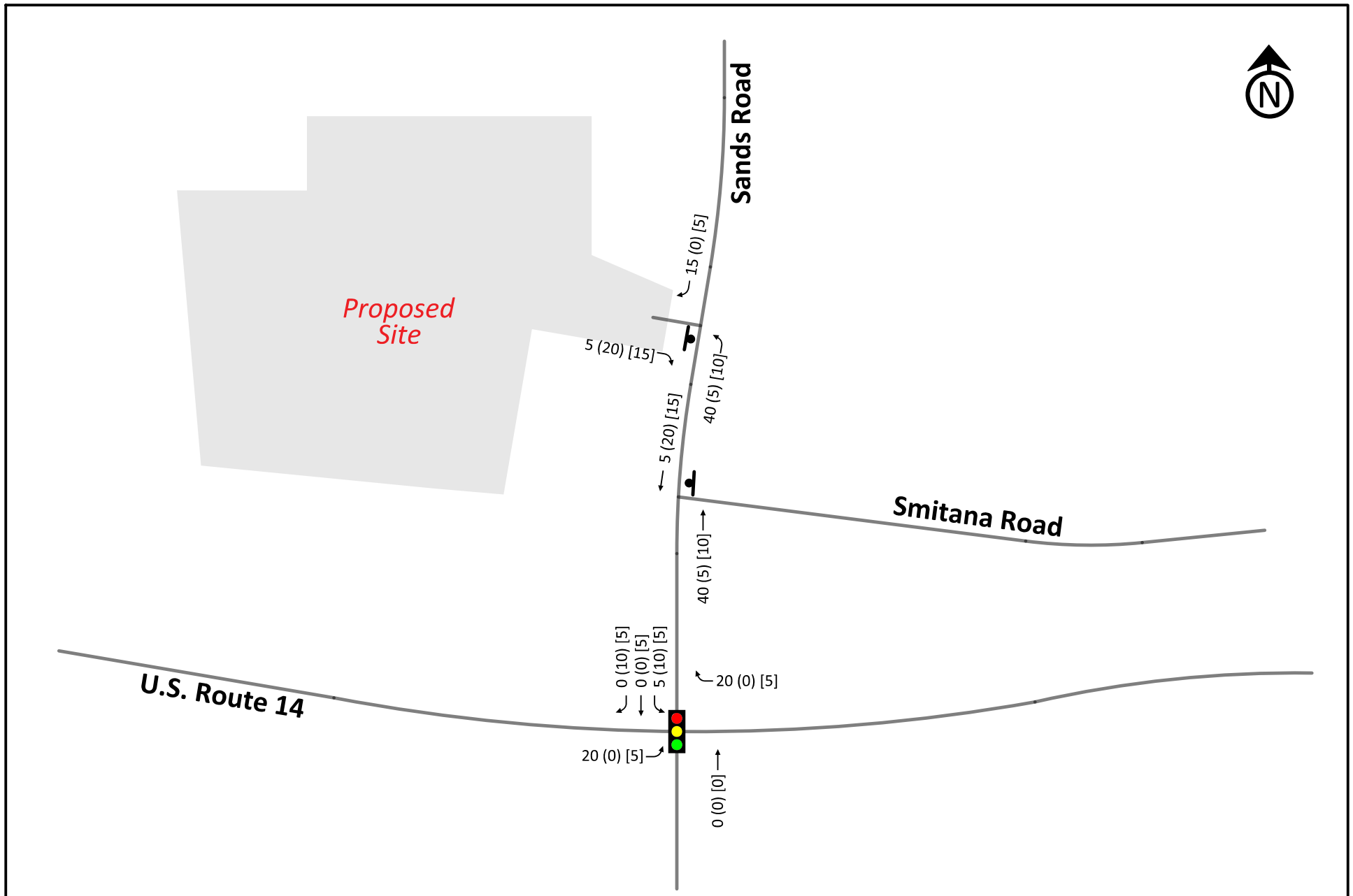
Stop Sign

Traffic Signal

NVA Trucking Facility Expansion TIS

Directional Distribution of Site-Generated Truck Trips

Exhibit 7b



CIVILTECH

Legend

000 (000) [000] - A.M. (P.M.) [Sat.] Peak Hour Volumes (veh/hr)

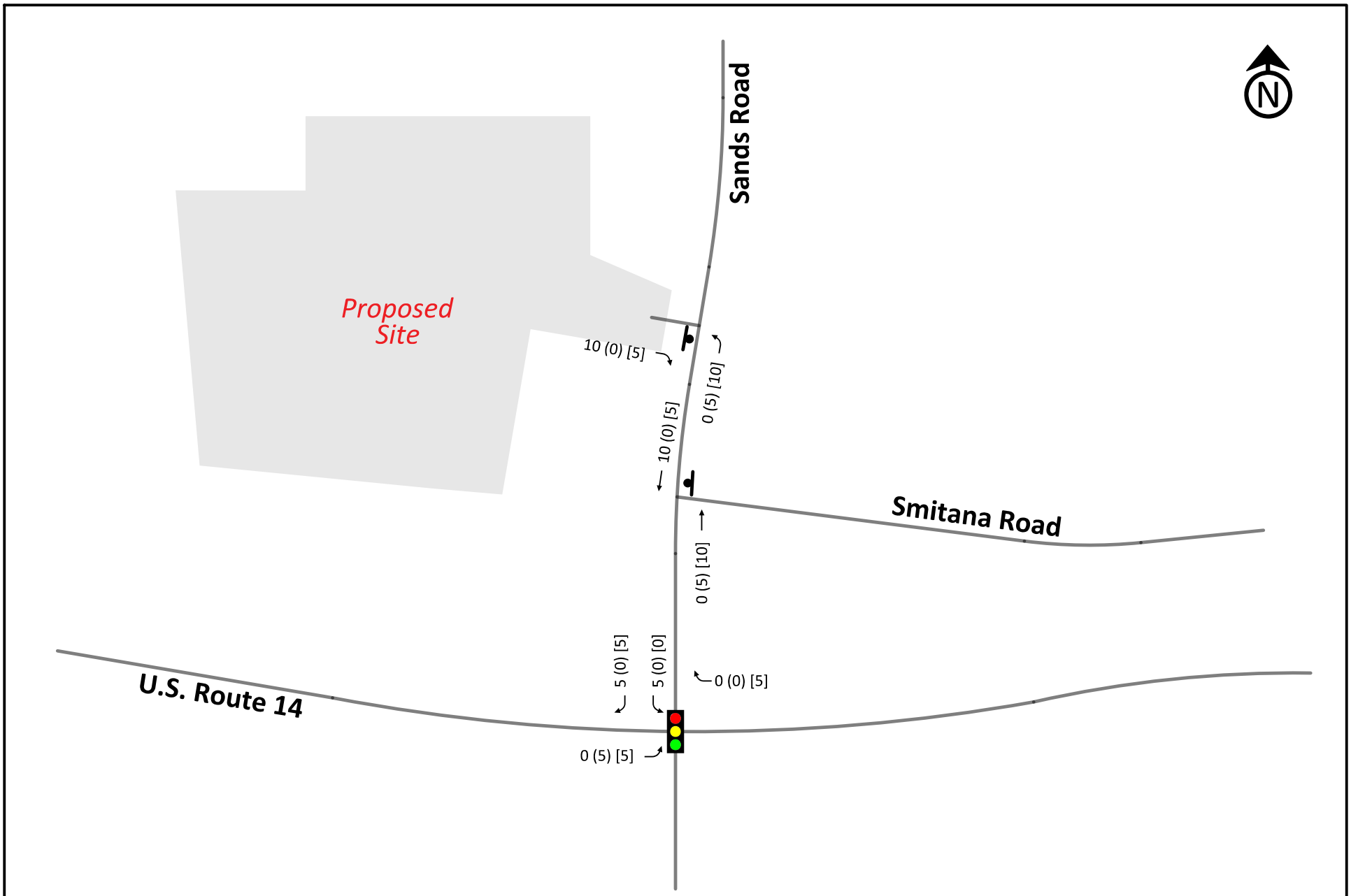
Stop Sign

Traffic Signal

NVA Trucking Facility Expansion TIS

Projected Site-Generated Passenger Car Trips

Exhibit 8a



CIVILTECH

Legend

000 (000) [000] - A.M. (P.M.) [Sat.] Peak Hour Volumes (veh/hr)

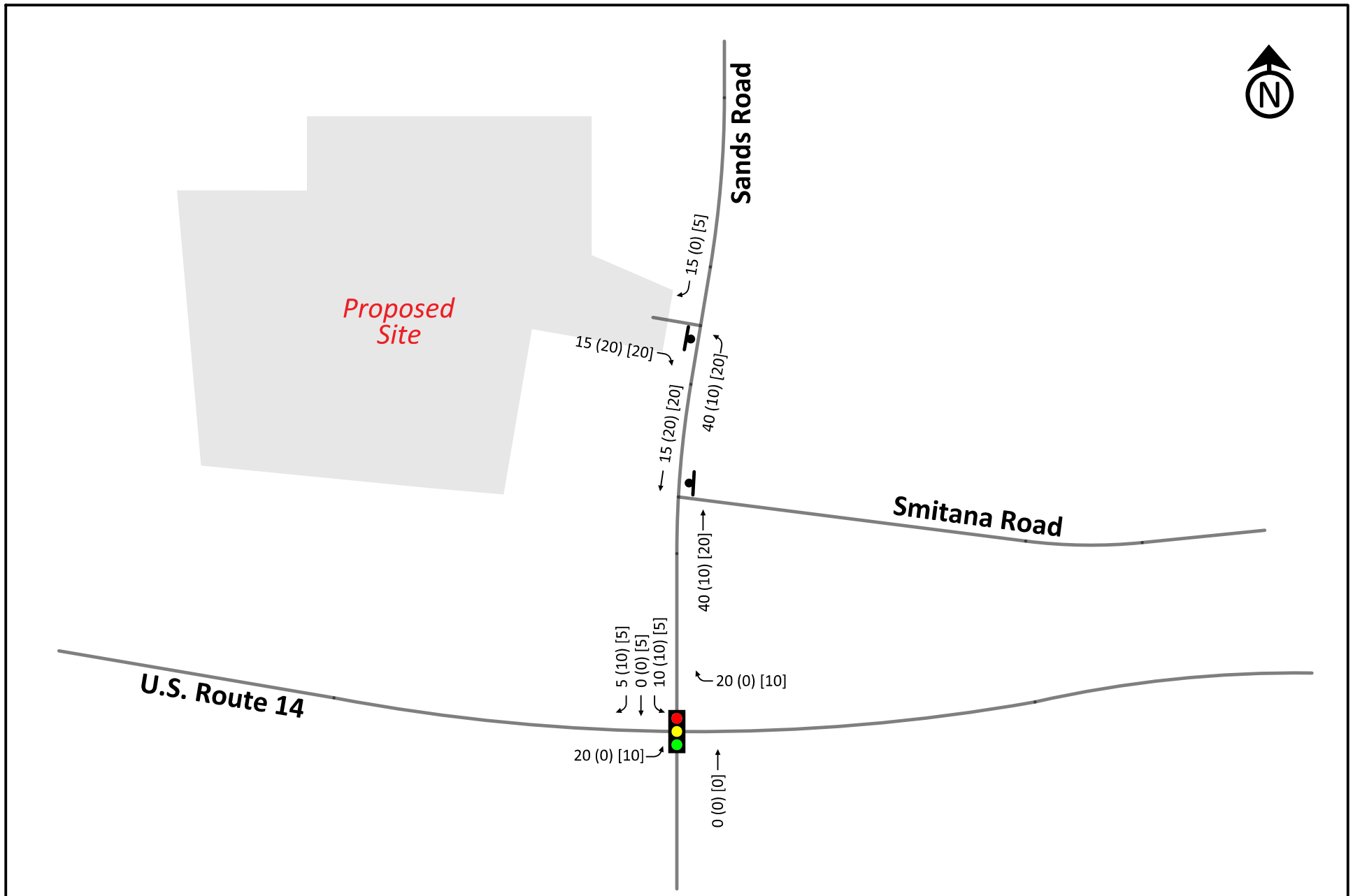
Stop Sign

Traffic Signal

NVA Trucking Facility Expansion TIS

Projected Site-Generated Truck Trips

Exhibit 8b



CIVILTECH

Legend

000 (000) [000] - A.M. (P.M.) [Sat.] Peak Hour Volumes (veh/hr)

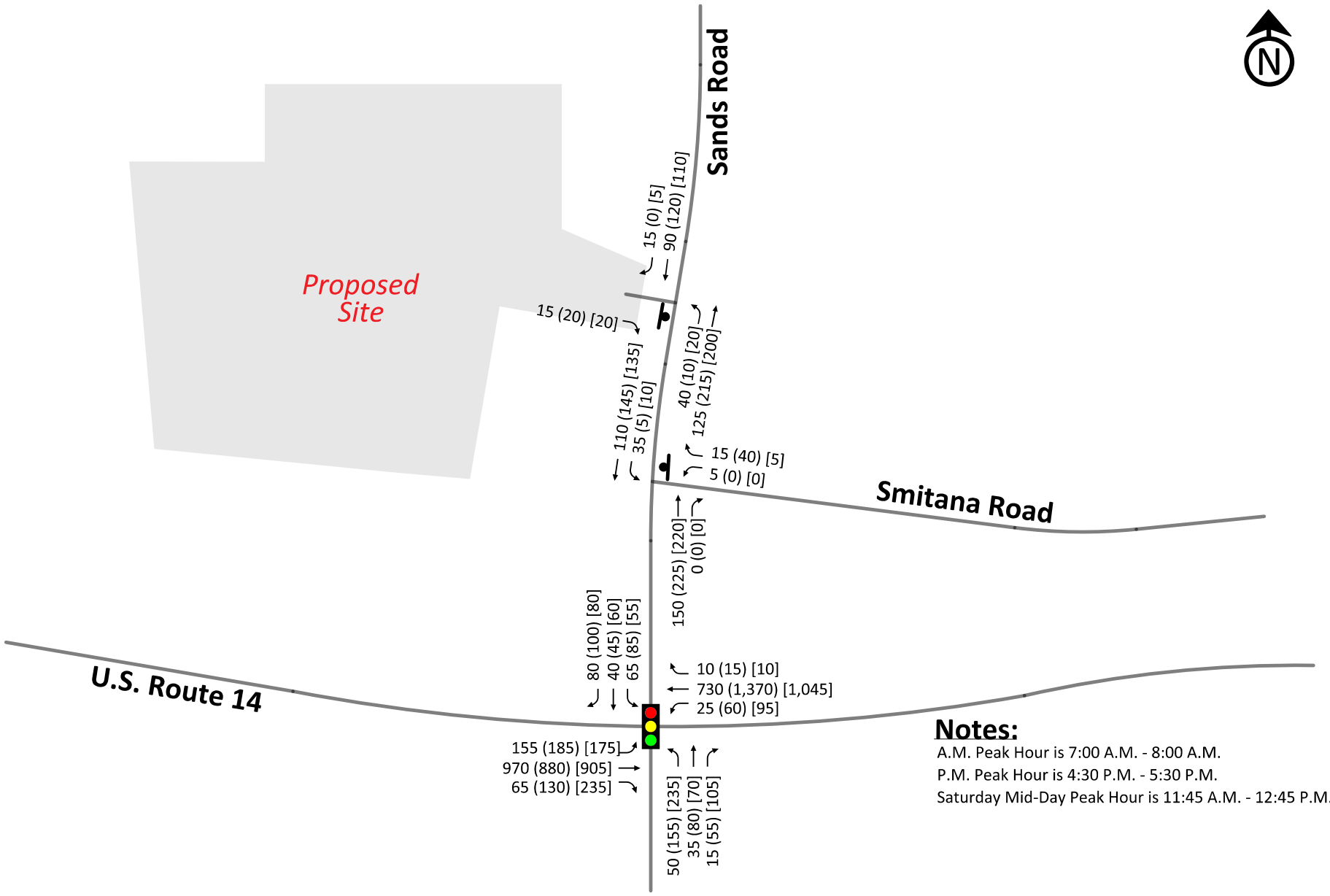
Stop Sign

Traffic Signal

NVA Trucking Facility Expansion TIS

Total Projected Site-Generated Trips

Exhibit 8c



Notes:

A.M. Peak Hour is 7:00 A.M. - 8:00 A.M.
P.M. Peak Hour is 4:30 P.M. - 5:30 P.M.
Saturday Mid-Day Peak Hour is 11:45 A.M. - 12:45 P.M.

CIVILTECH

Legend

000 (000) [000] - A.M. (P.M.) [Sat.] Peak Hour Volumes (veh/hr)

Stop Sign

Traffic Signal

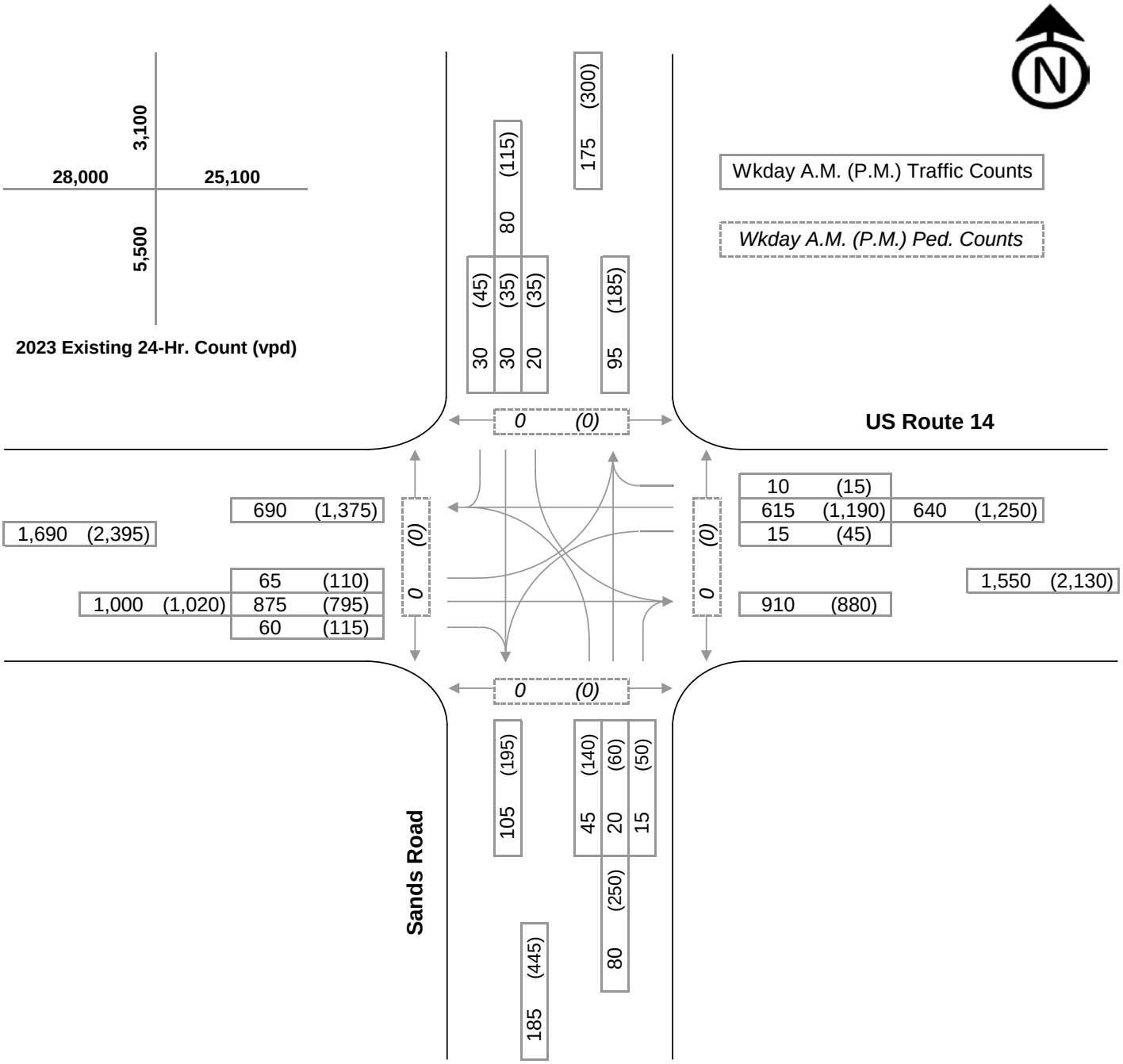
NVA Trucking Facility Expansion TIS

Total Projected A.M. (P.M.) [Saturday] Peak Hour Traffic Volumes

Exhibit 9

APPENDIX A

Traffic Count Data



Vehicle Traffic Peak Hours:

7:00 A.M. to 8:00 A.M.

4:30 P.M. to 5:30 P.M.

Count Date(s):

Thursday, September 7, 2023

Prepared: 10/13/2023

Village of Crystal Lake

Crystal Lake Engineering Services

2023 Existing Peak Hour Traffic

US Route 14 & Sands Road

CIVILTECH

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Vehicles (1-hour intervals)

	Sands Road									US Route 14									
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
12:00 AM	1	1	3	5	4	0	2	6	11	1	58	0	59	0	38	5	43	102	113
1:00 AM	0	0	0	0	0	0	0	0	0	1	32	1	34	1	22	0	23	57	57
2:00 AM	0	0	0	0	1	2	0	3	3	0	21	0	21	2	33	0	35	56	59
3:00 AM	0	0	1	1	1	0	0	1	2	0	22	0	22	2	45	0	47	69	71
4:00 AM	1	0	0	1	1	0	2	3	4	0	62	0	62	9	120	0	129	191	195
5:00 AM	7	6	2	15	3	1	7	11	26	1	138	6	145	17	349	5	371	516	542
6:00 AM	16	11	11	38	17	12	26	55	93	1	353	10	364	39	711	26	776	1140	1233
7:00 AM	32	30	22	84	17	22	44	83	167	11	617	16	644	61	874	64	999	1643	1810
8:00 AM	36	34	29	99	28	18	68	114	213	10	722	35	767	52	659	32	743	1510	1723
9:00 AM	33	42	17	92	43	25	86	154	246	9	664	47	720	78	584	39	701	1421	1667
10:00 AM	23	32	19	74	55	31	131	217	291	10	711	54	775	116	583	53	752	1527	1818
11:00 AM	25	40	23	88	59	44	146	249	337	8	731	66	805	133	641	51	825	1630	1967
12:00 PM	39	38	12	89	77	39	141	257	346	15	799	65	879	128	705	80	913	1792	2138
1:00 PM	28	30	22	80	64	48	145	257	337	14	735	64	813	141	680	82	903	1716	2053
2:00 PM	23	32	25	80	61	44	167	272	352	15	853	45	913	139	706	88	933	1846	2198
3:00 PM	43	41	20	104	51	41	119	211	315	14	1046	43	1103	119	739	106	964	2067	2382
4:00 PM	38	36	26	100	49	50	153	252	352	9	1127	54	1190	113	790	92	995	2185	2537
5:00 PM	52	29	34	115	71	59	132	262	377	16	1162	44	1222	102	766	119	987	2209	2586
6:00 PM	33	33	9	75	39	36	85	160	235	16	906	44	966	72	662	110	844	1810	2045
7:00 PM	24	22	8	54	27	26	68	121	175	12	573	28	613	87	534	91	712	1325	1500
8:00 PM	9	11	6	26	20	17	54	91	117	7	370	8	385	47	395	73	515	900	1017
9:00 PM	2	7	2	11	13	10	28	51	62	3	222	7	232	20	262	27	309	541	603
10:00 PM	3	1	3	7	1	5	16	22	29	1	153	5	159	14	140	8	162	321	350
11:00 PM	0	0	0	0	1	3	4	8	8	1	97	1	99	5	49	3	57	156	164
TOTAL	**468**	**476**	**294**	**1238**	**703**	**533**	**1624**	**2860**	**4098**	**175**	**12174**	**643**	**12992**	**1497**	**11087**	**1154**	**13738**	**26730**	**30828**

24-Hour Vehicle Traffic Count

North Leg	3,100
South Leg	5,500
East Leg	25,100
West Leg	28,000

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Vehicles (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	1	1	2	1	0	1	2	4	1	15	0	16	0	8	0	8	24	28	113
12:15 AM	1	0	2	3	0	0	0	0	3	0	15	0	15	0	11	1	12	27	30	100
12:30 AM	0	0	0	0	1	0	1	2	2	0	13	0	13	0	8	4	12	25	27	87
12:45 AM	0	0	0	0	2	0	0	2	2	0	15	0	15	0	11	0	11	26	28	73
1:00 AM	0	0	0	0	0	0	0	0	0	0	10	0	10	0	5	0	5	15	15	57
1:15 AM	0	0	0	0	0	0	0	0	0	0	10	0	10	0	7	0	7	17	17	54
1:30 AM	0	0	0	0	0	0	0	0	0	1	8	0	9	0	4	0	4	13	13	45
1:45 AM	0	0	0	0	0	0	0	0	0	0	4	1	5	1	6	0	7	12	12	53
2:00 AM	0	0	0	0	0	0	0	0	0	0	7	0	7	0	5	0	5	12	12	59
2:15 AM	0	0	0	0	0	0	0	0	0	0	4	0	4	0	4	0	4	8	8	70
2:30 AM	0	0	0	0	0	0	0	0	0	0	7	0	7	0	14	0	14	21	21	75
2:45 AM	0	0	0	0	1	2	0	3	3	0	3	0	3	2	10	0	12	15	18	67
3:00 AM	0	0	1	1	1	0	0	1	2	0	4	0	4	0	17	0	17	21	23	71
3:15 AM	0	0	0	0	0	0	0	0	0	0	5	0	5	0	8	0	8	13	13	76
3:30 AM	0	0	0	0	0	0	0	0	0	0	6	0	6	1	6	0	7	13	13	91
3:45 AM	0	0	0	0	0	0	0	0	0	0	7	0	7	1	14	0	15	22	22	142
4:00 AM	0	0	0	0	1	0	0	1	1	0	12	0	12	1	14	0	15	27	28	195
4:15 AM	0	0	0	0	0	0	0	0	0	0	9	0	9	0	19	0	19	28	28	240
4:30 AM	0	0	0	0	0	0	1	1	1	0	19	0	19	3	41	0	44	63	64	343
4:45 AM	1	0	0	1	0	0	1	1	2	0	22	0	22	5	46	0	51	73	75	434
5:00 AM	0	0	1	1	0	0	4	4	5	0	22	1	23	0	45	0	45	68	73	542
5:15 AM	3	2	1	6	0	0	2	2	8	0	37	2	39	1	83	0	84	123	131	675
5:30 AM	2	2	0	4	1	1	0	2	6	0	37	2	39	4	103	3	110	149	155	814
5:45 AM	2	2	0	4	2	0	1	3	7	1	42	1	44	12	118	2	132	176	183	1006
6:00 AM	1	1	1	3	3	0	5	8	11	0	56	3	59	11	124	1	136	195	206	1233
6:15 AM	5	3	3	11	5	2	5	12	23	1	53	2	56	8	181	2	191	247	270	1442
6:30 AM	6	4	3	13	5	6	9	20	33	0	102	3	105	8	194	7	209	314	347	1606
6:45 AM	4	3	4	11	4	4	7	15	26	0	142	2	144	12	212	16	240	384	410	1745
7:00 AM	10	3	7	20	4	7	8	19	39	0	134	5	139	15	204	18	237	376	415	1810
7:15 AM	10	11	4	25	4	5	8	17	42	2	133	3	138	17	220	17	254	392	434	1798
7:30 AM	9	6	4	19	3	4	16	23	42	3	179	4	186	12	229	17	258	444	486	1805
7:45 AM	3	10	7	20	6	6	12	24	44	6	171	4	181	17	221	12	250	431	475	1717

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Vehicles (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	9	6	6	21	3	4	15	22	43	2	150	9	161	8	182	9	199	360	403	1723
8:15 AM	14	5	12	31	6	5	17	28	59	3	197	7	207	10	159	6	175	382	441	1689
8:30 AM	10	8	3	21	10	3	17	30	51	0	180	5	185	12	144	6	162	347	398	1644
8:45 AM	3	15	8	26	9	6	19	34	60	5	195	14	214	22	174	11	207	421	481	1708
9:00 AM	11	15	3	29	10	7	15	32	61	1	134	10	145	23	131	9	163	308	369	1667
9:15 AM	8	11	5	24	9	7	22	38	62	2	152	13	167	13	140	14	167	334	396	1731
9:30 AM	7	6	5	18	11	6	23	40	58	3	199	10	212	20	164	8	192	404	462	1780
9:45 AM	7	10	4	21	13	5	26	44	65	3	179	14	196	22	149	8	179	375	440	1751
10:00 AM	3	9	7	19	10	4	35	49	68	3	175	8	186	27	142	10	179	365	433	1818
10:15 AM	5	7	2	14	14	8	36	58	72	2	163	14	179	24	155	15	194	373	445	1871
10:30 AM	9	10	4	23	8	12	26	46	69	4	165	12	181	36	141	6	183	364	433	1878
10:45 AM	6	6	6	18	23	7	34	64	82	1	208	20	229	29	145	22	196	425	507	1979
11:00 AM	1	11	5	17	18	15	33	66	83	4	186	15	205	35	153	10	198	403	486	1967
11:15 AM	8	10	6	24	13	11	36	60	84	0	161	17	178	31	150	9	190	368	452	2006
11:30 AM	7	11	5	23	14	8	37	59	82	3	213	16	232	42	163	15	220	452	534	2085
11:45 AM	9	8	7	24	14	10	40	64	88	1	171	18	190	25	175	17	217	407	495	2112
12:00 PM	10	14	4	28	22	11	33	66	94	3	193	16	212	33	171	15	219	431	525	2138
12:15 PM	11	10	3	24	18	8	40	66	90	7	186	15	208	29	175	29	233	441	531	2106
12:30 PM	13	7	4	24	18	11	38	67	91	2	219	16	237	31	182	20	233	470	561	2067
12:45 PM	5	7	1	13	19	9	30	58	71	3	201	18	222	35	177	16	228	450	521	2045
1:00 PM	9	6	7	22	14	8	32	54	76	2	179	18	199	38	159	21	218	417	493	2053
1:15 PM	7	10	3	20	18	11	26	55	75	3	182	19	204	36	154	23	213	417	492	2081
1:30 PM	6	6	5	17	19	14	36	69	86	3	202	13	218	32	178	25	235	453	539	2124
1:45 PM	6	8	7	21	13	15	51	79	100	6	172	14	192	35	189	13	237	429	529	2166
2:00 PM	6	8	6	20	12	10	46	68	88	5	191	14	210	30	175	18	223	433	521	2198
2:15 PM	4	5	8	17	14	11	35	60	77	2	219	10	231	36	168	23	227	458	535	2261
2:30 PM	6	7	2	15	15	11	45	71	86	3	215	11	229	43	202	21	266	495	581	2306
2:45 PM	7	12	9	28	20	12	41	73	101	5	228	10	243	30	161	26	217	460	561	2349
3:00 PM	16	8	1	25	11	13	40	64	89	2	235	10	247	34	190	24	248	495	584	2382
3:15 PM	3	6	5	14	15	7	30	52	66	7	262	15	284	26	176	28	230	514	580	2405
3:30 PM	13	14	11	38	19	12	30	61	99	0	275	10	285	32	182	26	240	525	624	2464
3:45 PM	11	13	3	27	6	9	19	34	61	5	274	8	287	27	191	28	246	533	594	2457

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Vehicles (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	6	10	5	21	15	11	34	60	81	2	243	16	261	33	208	24	265	526	607	2537
4:15 PM	9	9	6	24	11	5	49	65	89	2	295	13	310	25	194	21	240	550	639	2580
4:30 PM	10	11	3	24	13	15	33	61	85	3	267	9	279	26	204	23	253	532	617	2633
4:45 PM	13	6	12	31	10	19	37	66	97	2	322	16	340	29	184	24	237	577	674	2630
5:00 PM	14	4	5	23	15	14	38	67	90	3	289	15	307	28	193	32	253	560	650	2586
5:15 PM	9	13	13	35	14	10	32	56	91	6	310	7	323	34	213	31	278	601	692	2481
5:30 PM	12	8	4	24	22	18	31	71	95	4	276	12	292	20	179	28	227	519	614	2305
5:45 PM	17	4	12	33	20	17	31	68	101	3	287	10	300	20	181	28	229	529	630	2193
6:00 PM	6	5	1	12	9	10	17	36	48	6	276	10	292	17	165	23	205	497	545	2045
6:15 PM	8	7	4	19	7	10	21	38	57	3	204	12	219	27	181	32	240	459	516	1902
6:30 PM	13	10	2	25	11	12	28	51	76	3	200	10	213	12	172	29	213	426	502	1771
6:45 PM	6	11	2	19	12	4	19	35	54	4	226	12	242	16	144	26	186	428	482	1641
7:00 PM	6	8	3	17	7	5	20	32	49	3	170	2	175	23	135	20	178	353	402	1500
7:15 PM	6	2	3	11	4	8	17	29	40	3	136	12	151	21	153	20	194	345	385	1400
7:30 PM	5	6	1	12	8	6	14	28	40	4	142	11	157	15	130	30	175	332	372	1292
7:45 PM	7	6	1	14	8	7	17	32	46	2	125	3	130	28	116	21	165	295	341	1169
8:00 PM	5	2	0	7	6	5	19	30	37	3	107	3	113	19	105	28	152	265	302	1017
8:15 PM	3	6	1	10	5	2	14	21	31	0	105	3	108	8	114	16	138	246	277	920
8:30 PM	1	1	2	4	7	5	14	26	30	3	86	2	91	13	100	15	128	219	249	803
8:45 PM	0	2	3	5	2	5	7	14	19	1	72	0	73	7	76	14	97	170	189	691
9:00 PM	1	1	2	4	3	4	11	18	22	2	71	4	77	7	89	10	106	183	205	603
9:15 PM	0	4	0	4	4	2	5	11	15	0	63	1	64	6	70	5	81	145	160	511
9:30 PM	0	0	0	0	3	2	9	14	14	1	49	1	51	4	63	5	72	123	137	451
9:45 PM	1	2	0	3	3	2	3	8	11	0	39	1	40	3	40	7	50	90	101	387
10:00 PM	0	0	1	1	1	1	14	16	17	1	40	2	43	4	46	3	53	96	113	350
10:15 PM	2	0	0	2	0	0	1	1	3	0	50	0	50	3	42	2	47	97	100	273
10:30 PM	1	1	0	2	0	3	1	4	6	0	29	1	30	6	29	2	37	67	73	215
10:45 PM	0	0	2	2	0	1	0	1	3	0	34	2	36	1	23	1	25	61	64	187
11:00 PM	0	0	0	0	0	2	0	2	2	0	24	1	25	1	6	2	9	34	36	164
11:15 PM	0	0	0	0	0	0	1	1	1	0	23	0	23	2	16	0	18	41	42	
11:30 PM	0	0	0	0	1	1	1	3	3	1	24	0	25	1	15	1	17	42	45	
11:45 PM	0	0	0	0	0	0	2	2	2	0	26	0	26	1	12	0	13	39	41	
TOTAL	**468**	**476**	**294**	**1238**	**703**	**533**	**1624**	**2860**	**4098**	**175**	**12174**	**643**	**12992**	**1497**	**11087**	**1154**	**13738**	**26730**	**30828**	

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Vehicles (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums

Morning Peak Hour

	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
7:00 AM	32	30	22	84	17	22	44	83	167	11	617	16	644	61	874	64	999	1643	1810
Percent Trucks	6.3%	0.0%	0.0%	2.4%	17.6%	4.5%	6.8%	8.4%	5.4%	0.0%	6.5%	6.3%	6.4%	8.2%	6.2%	1.6%	6.0%	6.1%	6.1%

Intersection Peak Hour Factor = 0.93

Evening Peak Hour

	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
4:30 PM	46	34	33	113	52	58	140	250	363	14	1188	47	1249	117	794	110	1021	2270	2633
Percent Trucks	2.2%	0.0%	3.0%	1.8%	3.8%	0.0%	0.7%	1.2%	1.4%	14.3%	1.5%	0.0%	1.6%	0.0%	1.6%	2.7%	1.6%	1.6%	1.6%

Intersection Peak Hour Factor = 0.95

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Trucks (1-hour intervals)

	Sands Road									US Route 14									
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3	3
1:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3	3
2:00 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	2	0	2	5	5
3:00 AM	0	0	0	0	0	0	0	0	0	0	5	0	5	0	4	0	4	9	9
4:00 AM	0	0	0	0	0	0	1	1	1	0	7	0	7	1	2	0	3	10	11
5:00 AM	0	0	0	0	0	0	0	0	0	0	5	0	5	0	10	0	10	15	15
6:00 AM	1	0	0	1	1	0	2	3	4	0	29	0	29	1	51	0	52	81	85
7:00 AM	2	0	0	2	3	1	3	7	9	0	40	1	41	5	54	1	60	101	110
8:00 AM	4	0	1	5	0	1	3	4	9	0	31	2	33	5	37	1	43	76	85
9:00 AM	1	1	0	2	1	1	5	7	9	0	57	5	62	5	41	2	48	110	119
10:00 AM	2	2	1	5	2	1	5	8	13	0	51	2	53	4	46	2	52	105	118
11:00 AM	0	0	3	3	1	0	2	3	6	0	41	2	43	2	45	4	51	94	100
12:00 PM	5	0	0	5	4	2	7	13	18	0	57	1	58	7	32	3	42	100	118
1:00 PM	2	1	0	3	1	1	3	5	8	1	41	4	46	2	38	1	41	87	95
2:00 PM	1	1	3	5	3	1	0	4	9	1	39	2	42	2	33	1	36	78	87
3:00 PM	0	1	0	1	1	2	0	3	4	1	27	0	28	2	24	1	27	55	59
4:00 PM	1	0	2	3	3	0	3	6	9	1	22	2	25	1	21	6	28	53	62
5:00 PM	1	0	0	1	0	0	1	1	2	1	15	0	16	0	14	1	15	31	33
6:00 PM	1	0	0	1	0	0	1	1	2	0	7	0	7	2	8	0	10	17	19
7:00 PM	1	0	1	2	0	0	0	0	2	1	5	0	6	0	10	0	10	16	18
8:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	3	0	3	5	5
9:00 PM	0	0	0	0	0	1	0	1	1	0	3	1	4	0	0	0	0	4	5
10:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	2	3	3
11:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2
TOTAL	**22**	**6**	**11**	**39**	**20**	**11**	**36**	**67**	**106**	**6**	**492**	**22**	**520**	**39**	**480**	**24**	**543**	**1063**	**1169**

24-Hour Truck Traffic Count

North Leg	100
South Leg	100
East Leg	1,000
West Leg	1,100

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Trucks (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
12:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3	3	4
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	5
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
1:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	7
2:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	5
2:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	6
2:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	5
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
3:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3	3	9
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
3:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	7
3:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	3	0	3	5	5	13
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	11
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
4:30 AM	0	0	0	0	0	0	1	1	1	0	4	0	4	1	1	0	2	6	7	15
4:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3	3	16
5:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3	3	15
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	30
5:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	5	0	5	8	8	47
5:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	65
6:00 AM	0	0	0	0	0	0	1	1	1	0	4	0	4	1	12	0	13	17	18	85
6:15 AM	0	0	0	0	1	0	0	1	1	0	4	0	4	0	14	0	14	18	19	101
6:30 AM	1	0	0	1	0	0	1	1	2	0	9	0	9	0	15	0	15	24	26	108
6:45 AM	0	0	0	0	0	0	0	0	0	0	12	0	12	0	10	0	10	22	22	110
7:00 AM	0	0	0	0	0	0	2	2	2	0	11	0	11	2	19	0	21	32	34	110
7:15 AM	1	0	0	1	1	0	0	1	2	0	10	1	11	2	10	1	13	24	26	94
7:30 AM	1	0	0	1	1	0	1	2	3	0	12	0	12	0	13	0	13	25	28	87
7:45 AM	0	0	0	0	1	1	0	2	2	0	7	0	7	1	12	0	13	20	22	79

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Trucks (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	2	0	0	2	0	0	0	0	2	0	5	0	5	2	9	0	11	16	18	85
8:15 AM	2	0	0	2	0	0	1	1	3	0	12	0	12	0	4	0	4	16	19	90
8:30 AM	0	0	0	0	0	1	2	3	3	0	4	1	5	1	11	0	12	17	20	108
8:45 AM	0	0	1	1	0	0	0	0	1	0	10	1	11	2	13	1	16	27	28	127
9:00 AM	0	1	0	1	0	0	1	1	2	0	10	1	11	1	9	0	10	21	23	119
9:15 AM	0	0	0	0	0	0	1	1	1	0	23	1	24	0	10	2	12	36	37	125
9:30 AM	1	0	0	1	0	1	1	2	3	0	18	2	20	2	14	0	16	36	39	118
9:45 AM	0	0	0	0	1	0	2	3	3	0	6	1	7	2	8	0	10	17	20	108
10:00 AM	0	1	0	1	0	1	1	2	3	0	14	0	14	2	10	0	12	26	29	118
10:15 AM	0	0	0	0	0	0	2	2	2	0	11	2	13	0	14	1	15	28	30	115
10:30 AM	0	0	0	0	2	0	0	2	2	0	15	0	15	1	10	1	12	27	29	107
10:45 AM	2	1	1	4	0	0	2	2	6	0	11	0	11	1	12	0	13	24	30	94
11:00 AM	0	0	0	0	0	0	0	0	0	0	15	2	17	1	7	1	9	26	26	100
11:15 AM	0	0	1	1	0	0	1	1	2	0	9	0	9	0	9	2	11	20	22	99
11:30 AM	0	0	1	1	1	0	0	1	2	0	5	0	5	0	8	1	9	14	16	105
11:45 AM	0	0	1	1	0	0	1	1	2	0	12	0	12	1	21	0	22	34	36	120
12:00 PM	1	0	0	1	2	0	0	2	3	0	14	0	14	2	6	0	8	22	25	118
12:15 PM	2	0	0	2	1	0	1	2	4	0	15	0	15	2	6	1	9	24	28	110
12:30 PM	2	0	0	2	0	1	2	3	5	0	15	1	16	1	8	1	10	26	31	115
12:45 PM	0	0	0	0	1	1	4	6	6	0	13	0	13	2	12	1	15	28	34	101
1:00 PM	0	0	0	0	0	0	0	0	0	0	6	1	7	0	9	1	10	17	17	95
1:15 PM	1	0	0	1	0	1	1	2	3	1	16	1	18	0	12	0	12	30	33	99
1:30 PM	0	0	0	0	0	0	0	0	0	0	9	0	9	2	6	0	8	17	17	85
1:45 PM	1	1	0	2	1	0	2	3	5	0	10	2	12	0	11	0	11	23	28	82
2:00 PM	0	0	1	1	0	0	0	0	1	1	11	1	13	0	6	1	7	20	21	87
2:15 PM	0	0	1	1	0	1	0	1	2	0	10	1	11	1	5	0	6	17	19	78
2:30 PM	0	0	0	0	0	0	0	0	0	0	5	0	5	0	9	0	9	14	14	80
2:45 PM	1	1	1	3	3	0	0	3	6	0	13	0	13	1	13	0	14	27	33	81
3:00 PM	0	1	0	1	1	0	0	1	2	0	3	0	3	1	6	0	7	10	12	59
3:15 PM	0	0	0	0	0	1	0	1	1	0	12	0	12	0	8	0	8	20	21	61
3:30 PM	0	0	0	0	0	0	0	0	0	0	9	0	9	0	6	0	6	15	15	63
3:45 PM	0	0	0	0	0	1	0	1	1	1	3	0	4	1	4	1	6	10	11	59

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Trucks (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	0	0	0	0	0	1	1	1	0	4	1	5	0	6	2	8	13	14	62
4:15 PM	0	0	1	1	1	0	1	2	3	0	7	1	8	1	9	2	12	20	23	53
4:30 PM	0	0	1	1	2	0	1	3	4	0	4	0	4	0	2	1	3	7	11	41
4:45 PM	1	0	0	1	0	0	0	0	1	1	7	0	8	0	4	1	5	13	14	40
5:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	2	0	2	5	5	33
5:15 PM	0	0	0	0	0	0	0	0	0	1	4	0	5	0	5	1	6	11	11	35
5:30 PM	0	0	0	0	0	0	0	0	0	0	4	0	4	0	6	0	6	10	10	30
5:45 PM	1	0	0	1	0	0	1	1	2	0	4	0	4	0	1	0	1	5	7	23
6:00 PM	1	0	0	1	0	0	0	0	1	0	5	0	5	0	1	0	1	6	7	19
6:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	2	3	0	5	6	6	19
6:30 PM	0	0	0	0	0	0	1	1	1	0	0	0	0	0	2	0	2	2	3	16
6:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3	3	18
7:00 PM	0	0	1	1	0	0	0	0	1	0	4	0	4	0	2	0	2	6	7	18
7:15 PM	1	0	0	1	0	0	0	0	1	0	0	0	0	0	2	0	2	2	3	11
7:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	4	0	4	5	5	10
7:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	2	3	3	7
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	7
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	6
8:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	5
9:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	2	2	5
9:15 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	4
9:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	4
9:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	3
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	3
10:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	2
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	2
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	
TOTAL	**22**	**6**	**11**	**39**	**20**	**11**	**36**	**67**	**106**	**6**	**492**	**22**	**520**	**39**	**480**	**24**	**543**	**1063**	**1169**	

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Trucks (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums

Morning Peak Hour

	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
7:00 AM	2	0	0	2	3	1	3	7	9	0	40	1	41	5	54	1	60	101	110

Evening Peak Hour

	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
4:30 PM	1	0	1	2	2	0	1	3	5	2	18	0	20	0	13	3	16	36	41

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Peds + Bikes in Crosswalks (1-hour intervals)

	Sands Road						US Route 14						
	Across North Leg			Across South Leg			Across East Leg			Across West Leg			Intersection
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0

Project	Crystal Lake Engineering Services	**Peds + Bikes in Crosswalks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/7/2023			Project #:	3045 - 01.09

	Sands Road						**US Route 14**							
	Across North Leg			**Across South Leg**			**Across East Leg**			**Across West Leg**			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Peds + Bikes in Crosswalks

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road						US Route 14							
	Across North Leg			Across South Leg			Across East Leg			Across West Leg			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project	Crystal Lake Engineering Services	**Peds + Bikes in Crosswalks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/7/2023			Project #:	3045 - 01.09

	Sands Road						**US Route 14**							
	Across North Leg			**Across South Leg**			**Across East Leg**			**Across West Leg**			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project	Crystal Lake Engineering Services	**Peds + Bikes in Crosswalks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/7/2023			Project #:	3045 - 01.09

	Sands Road						US Route 14							
	Across North Leg			Across South Leg			Across East Leg			Across West Leg			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

Totals for Traffic Peak Hour

A.M. Peak	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
P.M. Peak													
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Passenger Cars

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	1	1	2	1	0	1	2	4	1	15	0	16	0	8	0	8	24	28	110
12:15 AM	1	0	2	3	0	0	0	0	3	0	15	0	15	0	11	1	12	27	30	97
12:30 AM	0	0	0	0	1	0	1	2	2	0	13	0	13	0	8	4	12	25	27	83
12:45 AM	0	0	0	0	2	0	0	2	2	0	14	0	14	0	9	0	9	23	25	69
1:00 AM	0	0	0	0	0	0	0	0	0	0	10	0	10	0	5	0	5	15	15	54
1:15 AM	0	0	0	0	0	0	0	0	0	0	9	0	9	0	7	0	7	16	16	49
1:30 AM	0	0	0	0	0	0	0	0	0	1	8	0	9	0	4	0	4	13	13	40
1:45 AM	0	0	0	0	0	0	0	0	0	0	3	1	4	1	5	0	6	10	10	46
2:00 AM	0	0	0	0	0	0	0	0	0	0	6	0	6	0	4	0	4	10	10	54
2:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	4	0	4	7	7	64
2:30 AM	0	0	0	0	0	0	0	0	0	0	6	0	6	0	13	0	13	19	19	70
2:45 AM	0	0	0	0	1	2	0	3	3	0	3	0	3	2	10	0	12	15	18	63
3:00 AM	0	0	1	1	1	0	0	1	2	0	2	0	2	0	16	0	16	18	20	62
3:15 AM	0	0	0	0	0	0	0	0	0	0	5	0	5	0	8	0	8	13	13	69
3:30 AM	0	0	0	0	0	0	0	0	0	0	5	0	5	1	6	0	7	12	12	84
3:45 AM	0	0	0	0	0	0	0	0	0	0	5	0	5	1	11	0	12	17	17	129
4:00 AM	0	0	0	0	1	0	0	1	1	0	12	0	12	1	13	0	14	26	27	184
4:15 AM	0	0	0	0	0	0	0	0	0	0	9	0	9	0	19	0	19	28	28	227
4:30 AM	0	0	0	0	0	0	0	0	0	0	15	0	15	2	40	0	42	57	57	328
4:45 AM	1	0	0	1	0	0	1	1	2	0	19	0	19	5	46	0	51	70	72	418
5:00 AM	0	0	1	1	0	0	4	4	5	0	21	1	22	0	43	0	43	65	70	527
5:15 AM	3	2	1	6	0	0	2	2	8	0	37	2	39	1	81	0	82	121	129	645
5:30 AM	2	2	0	4	1	1	0	2	6	0	34	2	36	4	98	3	105	141	147	767
5:45 AM	2	2	0	4	2	0	1	3	7	1	41	1	43	12	117	2	131	174	181	941
6:00 AM	1	1	1	3	3	0	4	7	10	0	52	3	55	10	112	1	123	178	188	1148
6:15 AM	5	3	3	11	4	2	5	11	22	1	49	2	52	8	167	2	177	229	251	1341
6:30 AM	5	4	3	12	5	6	8	19	31	0	93	3	96	8	179	7	194	290	321	1498
6:45 AM	4	3	4	11	4	4	7	15	26	0	130	2	132	12	202	16	230	362	388	1635
7:00 AM	10	3	7	20	4	7	6	17	37	0	123	5	128	13	185	18	216	344	381	1700
7:15 AM	9	11	4	24	3	5	8	16	40	2	123	2	127	15	210	16	241	368	408	1704
7:30 AM	8	6	4	18	2	4	15	21	39	3	167	4	174	12	216	17	245	419	458	1718
7:45 AM	3	10	7	20	5	5	12	22	42	6	164	4	174	16	209	12	237	411	453	1638

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Passenger Cars

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	7	6	6	19	3	4	15	22	41	2	145	9	156	6	173	9	188	344	385	1638
8:15 AM	12	5	12	29	6	5	16	27	56	3	185	7	195	10	155	6	171	366	422	1599
8:30 AM	10	8	3	21	10	2	15	27	48	0	176	4	180	11	133	6	150	330	378	1536
8:45 AM	3	15	7	25	9	6	19	34	59	5	185	13	203	20	161	10	191	394	453	1581
9:00 AM	11	14	3	28	10	7	14	31	59	1	124	9	134	22	122	9	153	287	346	1548
9:15 AM	8	11	5	24	9	7	21	37	61	2	129	12	143	13	130	12	155	298	359	1606
9:30 AM	6	6	5	17	11	5	22	38	55	3	181	8	192	18	150	8	176	368	423	1662
9:45 AM	7	10	4	21	12	5	24	41	62	3	173	13	189	20	141	8	169	358	420	1643
10:00 AM	3	8	7	18	10	3	34	47	65	3	161	8	172	25	132	10	167	339	404	1700
10:15 AM	5	7	2	14	14	8	34	56	70	2	152	12	166	24	141	14	179	345	415	1756
10:30 AM	9	10	4	23	6	12	26	44	67	4	150	12	166	35	131	5	171	337	404	1771
10:45 AM	4	5	5	14	23	7	32	62	76	1	197	20	218	28	133	22	183	401	477	1885
11:00 AM	1	11	5	17	18	15	33	66	83	4	171	13	188	34	146	9	189	377	460	1867
11:15 AM	8	10	5	23	13	11	35	59	82	0	152	17	169	31	141	7	179	348	430	1907
11:30 AM	7	11	4	22	13	8	37	58	80	3	208	16	227	42	155	14	211	438	518	1980
11:45 AM	9	8	6	23	14	10	39	63	86	1	159	18	178	24	154	17	195	373	459	1992
12:00 PM	9	14	4	27	20	11	33	64	91	3	179	16	198	31	165	15	211	409	500	2020
12:15 PM	9	10	3	22	17	8	39	64	86	7	171	15	193	27	169	28	224	417	503	1996
12:30 PM	11	7	4	22	18	10	36	64	86	2	204	15	221	30	174	19	223	444	530	1952
12:45 PM	5	7	1	13	18	8	26	52	65	3	188	18	209	33	165	15	213	422	487	1944
1:00 PM	9	6	7	22	14	8	32	54	76	2	173	17	192	38	150	20	208	400	476	1958
1:15 PM	6	10	3	19	18	10	25	53	72	2	166	18	186	36	142	23	201	387	459	1982
1:30 PM	6	6	5	17	19	14	36	69	86	3	193	13	209	30	172	25	227	436	522	2039
1:45 PM	5	7	7	19	12	15	49	76	95	6	162	12	180	35	178	13	226	406	501	2084
2:00 PM	6	8	5	19	12	10	46	68	87	4	180	13	197	30	169	17	216	413	500	2111
2:15 PM	4	5	7	16	14	10	35	59	75	2	209	9	220	35	163	23	221	441	516	2183
2:30 PM	6	7	2	15	15	11	45	71	86	3	210	11	224	43	193	21	257	481	567	2226
2:45 PM	6	11	8	25	17	12	41	70	95	5	215	10	230	29	148	26	203	433	528	2268
3:00 PM	16	7	1	24	10	13	40	63	87	2	232	10	244	33	184	24	241	485	572	2323
3:15 PM	3	6	5	14	15	6	30	51	65	7	250	15	272	26	168	28	222	494	559	2344
3:30 PM	13	14	11	38	19	12	30	61	99	0	266	10	276	32	176	26	234	510	609	2401
3:45 PM	11	13	3	27	6	8	19	33	60	4	271	8	283	26	187	27	240	523	583	2398

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Passenger Cars

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	6	10	5	21	15	11	33	59	80	2	239	15	256	33	202	22	257	513	593	2475
4:15 PM	9	9	5	23	10	5	48	63	86	2	288	12	302	24	185	19	228	530	616	2527
4:30 PM	10	11	2	23	11	15	32	58	81	3	263	9	275	26	202	22	250	525	606	2592
4:45 PM	12	6	12	30	10	19	37	66	96	1	315	16	332	29	180	23	232	564	660	2590
5:00 PM	14	4	5	23	15	14	38	67	90	3	286	15	304	28	191	32	251	555	645	2553
5:15 PM	9	13	13	35	14	10	32	56	91	5	306	7	318	34	208	30	272	590	681	2446
5:30 PM	12	8	4	24	22	18	31	71	95	4	272	12	288	20	173	28	221	509	604	2275
5:45 PM	16	4	12	32	20	17	30	67	99	3	283	10	296	20	180	28	228	524	623	2170
6:00 PM	5	5	1	11	9	10	17	36	47	6	271	10	287	17	164	23	204	491	538	2026
6:15 PM	8	7	4	19	7	10	21	38	57	3	203	12	218	25	178	32	235	453	510	1883
6:30 PM	13	10	2	25	11	12	27	50	75	3	200	10	213	12	170	29	211	424	499	1755
6:45 PM	6	11	2	19	12	4	19	35	54	4	225	12	241	16	142	26	184	425	479	1623
7:00 PM	6	8	2	16	7	5	20	32	48	3	166	2	171	23	133	20	176	347	395	1482
7:15 PM	5	2	3	10	4	8	17	29	39	3	136	12	151	21	151	20	192	343	382	1389
7:30 PM	5	6	1	12	8	6	14	28	40	4	141	11	156	15	126	30	171	327	367	1282
7:45 PM	7	6	1	14	8	7	17	32	46	1	125	3	129	28	114	21	163	292	338	1162
8:00 PM	5	2	0	7	6	5	19	30	37	3	107	3	113	19	105	28	152	265	302	1012
8:15 PM	3	6	1	10	5	2	14	21	31	0	104	3	107	8	113	16	137	244	275	913
8:30 PM	1	1	2	4	7	5	14	26	30	3	86	2	91	13	98	15	126	217	247	797
8:45 PM	0	2	3	5	2	5	7	14	19	1	71	0	72	7	76	14	97	169	188	686
9:00 PM	1	1	2	4	3	4	11	18	22	2	70	3	75	7	89	10	106	181	203	598
9:15 PM	0	4	0	4	4	1	5	10	14	0	63	1	64	6	70	5	81	145	159	507
9:30 PM	0	0	0	0	3	2	9	14	14	1	48	1	50	4	63	5	72	122	136	447
9:45 PM	1	2	0	3	3	2	3	8	11	0	38	1	39	3	40	7	50	89	100	384
10:00 PM	0	0	1	1	1	1	14	16	17	1	40	2	43	4	46	2	52	95	112	347
10:15 PM	2	0	0	2	0	0	1	1	3	0	49	0	49	3	42	2	47	96	99	271
10:30 PM	1	1	0	2	0	3	1	4	6	0	29	1	30	6	29	2	37	67	73	213
10:45 PM	0	0	2	2	0	1	0	1	3	0	34	2	36	1	22	1	24	60	63	185
11:00 PM	0	0	0	0	0	2	0	2	2	0	24	1	25	1	6	2	9	34	36	162
11:15 PM	0	0	0	0	0	0	1	1	1	0	22	0	22	2	16	0	18	40	41	
11:30 PM	0	0	0	0	1	1	1	3	3	1	24	0	25	1	15	1	17	42	45	
11:45 PM	0	0	0	0	0	0	2	2	2	0	26	0	26	1	11	0	12	38	40	
TOTAL	**446**	**470**	**283**	**1199**	**683**	**522**	**1588**	**2793**	**3992**	**169**	**11682**	**621**	**12472**	**1458**	**10607**	**1130**	**13195**	**25667**	**29659**	

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Single-Unit Trucks/Buses

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	3
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	1
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
4:30 AM	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	1	1	2	5
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	5
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	14
5:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	22
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37
6:00 AM	0	0	0	0	0	0	1	1	1	0	2	0	2	1	7	0	8	10	11	55
6:15 AM	0	0	0	0	1	0	0	1	1	0	2	0	2	0	6	0	6	8	9	68
6:30 AM	0	0	0	0	0	0	1	1	1	0	4	0	4	0	12	0	12	16	17	77
6:45 AM	0	0	0	0	0	0	0	0	0	0	9	0	9	0	9	0	9	18	18	79
7:00 AM	0	0	0	0	0	0	2	2	2	0	7	0	7	2	13	0	15	22	24	74
7:15 AM	0	0	0	0	1	0	0	1	1	0	5	1	6	2	8	1	11	17	18	61
7:30 AM	1	0	0	1	1	0	1	2	3	0	9	0	9	0	7	0	7	16	19	55
7:45 AM	0	0	0	0	1	1	0	2	2	0	2	0	2	1	8	0	9	11	13	50

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Single-Unit Trucks/Buses

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	2	0	0	2	0	0	0	0	2	0	3	0	3	2	4	0	6	9	11	52
8:15 AM	2	0	0	2	0	0	1	1	3	0	7	0	7	0	2	0	2	9	12	58
8:30 AM	0	0	0	0	0	1	2	3	3	0	3	1	4	1	6	0	7	11	14	72
8:45 AM	0	0	1	1	0	0	0	0	1	0	3	0	3	2	9	0	11	14	15	82
9:00 AM	0	1	0	1	0	0	0	0	1	0	7	1	8	1	7	0	8	16	17	77
9:15 AM	0	0	0	0	0	0	1	1	1	0	18	1	19	0	6	0	6	25	26	78
9:30 AM	0	0	0	0	0	1	1	2	2	0	13	1	14	0	8	0	8	22	24	68
9:45 AM	0	0	0	0	1	0	0	1	1	0	2	0	2	2	5	0	7	9	10	63
10:00 AM	0	1	0	1	0	1	0	1	2	0	9	0	9	1	6	0	7	16	18	67
10:15 AM	0	0	0	0	0	0	2	2	2	0	6	1	7	0	7	0	7	14	16	63
10:30 AM	0	0	0	0	1	0	0	1	1	0	9	0	9	0	8	1	9	18	19	59
10:45 AM	1	1	1	3	0	0	0	0	3	0	5	0	5	1	5	0	6	11	14	49
11:00 AM	0	0	0	0	0	0	0	0	0	0	8	2	10	0	3	1	4	14	14	56
11:15 AM	0	0	1	1	0	0	0	0	1	0	4	0	4	0	6	1	7	11	12	53
11:30 AM	0	0	0	0	1	0	0	1	1	0	4	0	4	0	4	0	4	8	9	59
11:45 AM	0	0	1	1	0	0	1	1	2	0	6	0	6	0	13	0	13	19	21	72
12:00 PM	0	0	0	0	1	0	0	1	1	0	7	0	7	1	2	0	3	10	11	76
12:15 PM	1	0	0	1	1	0	0	1	2	0	10	0	10	0	5	1	6	16	18	75
12:30 PM	2	0	0	2	0	1	1	2	4	0	11	1	12	0	5	1	6	18	22	74
12:45 PM	0	0	0	0	1	1	2	4	4	0	11	0	11	2	7	1	10	21	25	64
1:00 PM	0	0	0	0	0	0	0	0	0	0	3	1	4	0	6	0	6	10	10	62
1:15 PM	1	0	0	1	0	1	0	1	2	1	7	0	8	0	7	0	7	15	17	68
1:30 PM	0	0	0	0	0	0	0	0	0	0	7	0	7	2	3	0	5	12	12	62
1:45 PM	0	1	0	1	1	0	2	3	4	0	10	1	11	0	8	0	8	19	23	63
2:00 PM	0	0	1	1	0	0	0	0	1	1	8	1	10	0	4	1	5	15	16	66
2:15 PM	0	0	1	1	0	1	0	1	2	0	6	1	7	1	1	0	2	9	11	59
2:30 PM	0	0	0	0	0	0	0	0	0	0	5	0	5	0	8	0	8	13	13	62
2:45 PM	1	0	1	2	3	0	0	3	5	0	11	0	11	1	9	0	10	21	26	58
3:00 PM	0	1	0	1	1	0	0	1	2	0	2	0	2	0	5	0	5	7	9	39
3:15 PM	0	0	0	0	0	1	0	1	1	0	9	0	9	0	4	0	4	13	14	39
3:30 PM	0	0	0	0	0	0	0	0	0	0	7	0	7	0	2	0	2	9	9	39
3:45 PM	0	0	0	0	0	1	0	1	1	1	1	0	2	1	3	0	4	6	7	36

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Single-Unit Trucks/Buses

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	0	0	0	0	0	1	1	1	0	3	1	4	0	3	1	4	8	9	38
4:15 PM	0	0	1	1	1	0	0	1	2	0	6	1	7	0	3	2	5	12	14	33
4:30 PM	0	0	1	1	1	0	0	1	2	0	3	0	3	0	0	1	1	4	6	25
4:45 PM	0	0	0	0	0	0	0	0	0	1	6	0	7	0	2	0	2	9	9	26
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	2	0	2	4	4	23
5:15 PM	0	0	0	0	0	0	0	0	0	1	1	0	2	0	3	1	4	6	6	22
5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	5	0	5	7	7	21
5:45 PM	1	0	0	1	0	0	1	1	2	0	3	0	3	0	1	0	1	4	6	16
6:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3	3	12
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	5	5	5	13
6:30 PM	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	0	1	1	2	11
6:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	14
7:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	1	0	1	4	4	15
7:15 PM	1	0	0	1	0	0	0	0	1	0	0	0	0	0	2	0	2	2	3	11
7:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	4	0	4	5	5	10
7:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	2	3	3	7
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	7
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	6
8:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	5
9:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	2	2	5
9:15 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	3
9:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	3
9:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	2
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
10:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	2
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**13**	**5**	**9**	**27**	**17**	**11**	**22**	**50**	**77**	**6**	**305**	**16**	**327**	**27**	**292**	**13**	**332**	**659**	**736**	

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Multi-Unit Trucks

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	3
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	2
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
2:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	4
2:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	5
2:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	4
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
3:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	8
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
3:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	7
3:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	3	0	3	5	5	11
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	9
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
4:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	4	0	1	0	1	5	5	10
4:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3	3	11
5:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	10
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	16
5:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	4	0	4	6	6	25
5:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	28
6:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	5	0	5	7	7	30
6:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	8	0	8	10	10	33
6:30 AM	1	0	0	1	0	0	0	0	1	0	5	0	5	0	3	0	3	8	9	31
6:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	1	0	1	4	4	31
7:00 AM	0	0	0	0	0	0	0	0	0	0	4	0	4	0	6	0	6	10	10	36
7:15 AM	1	0	0	1	0	0	0	0	1	0	5	0	5	0	2	0	2	7	8	33
7:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	6	0	6	9	9	32
7:45 AM	0	0	0	0	0	0	0	0	0	0	5	0	5	0	4	0	4	9	9	29

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Multi-Unit Trucks

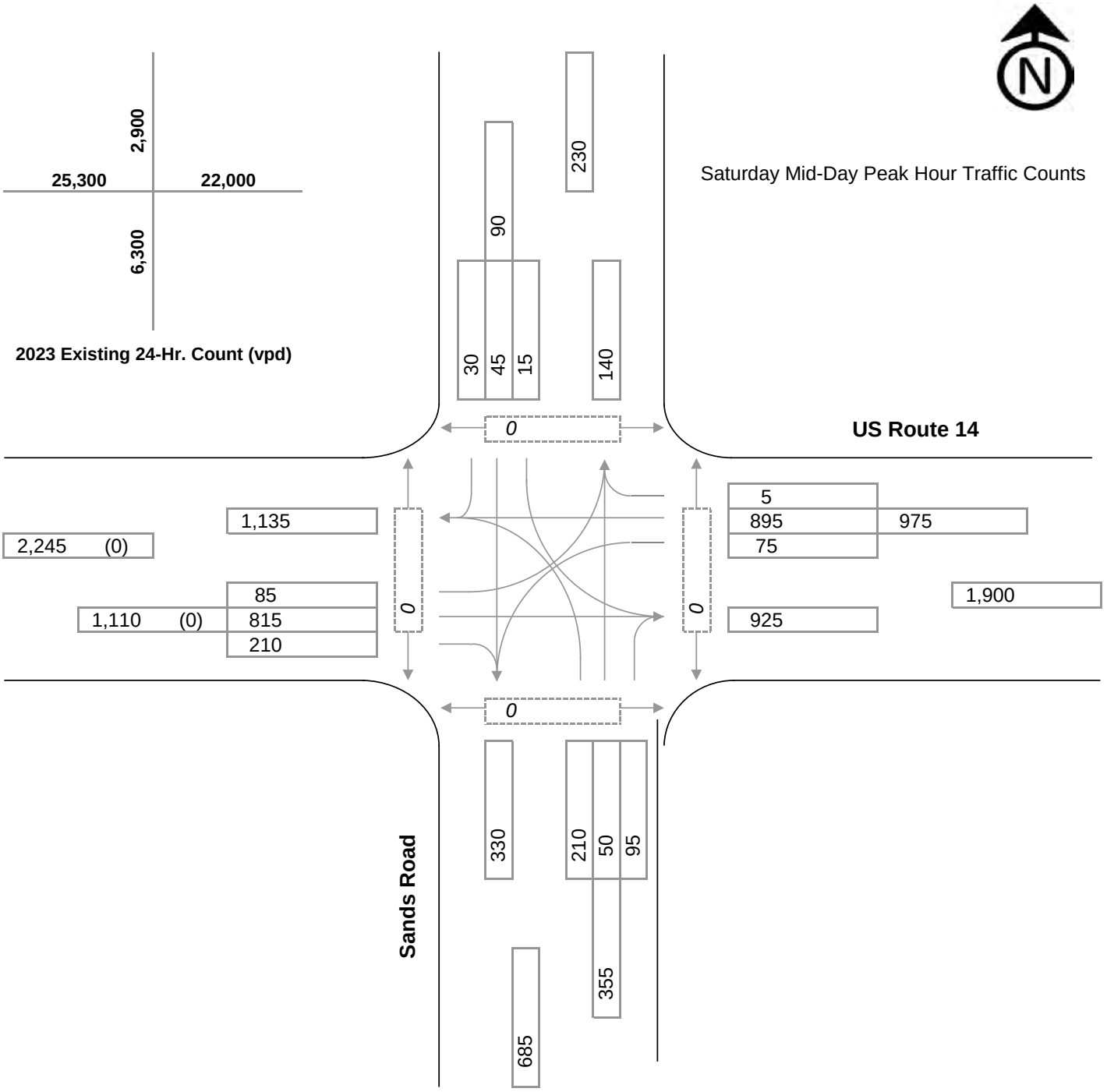
Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	5	0	5	7	7	33
8:15 AM	0	0	0	0	0	0	0	0	0	0	5	0	5	0	2	0	2	7	7	32
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	5	0	5	6	6	36
8:45 AM	0	0	0	0	0	0	0	0	0	0	7	1	8	0	4	1	5	13	13	45
9:00 AM	0	0	0	0	0	0	1	1	1	0	3	0	3	0	2	0	2	5	6	42
9:15 AM	0	0	0	0	0	0	0	0	0	0	5	0	5	0	4	2	6	11	11	47
9:30 AM	1	0	0	1	0	0	0	0	1	0	5	1	6	2	6	0	8	14	15	50
9:45 AM	0	0	0	0	0	0	2	2	2	0	4	1	5	0	3	0	3	8	10	45
10:00 AM	0	0	0	0	0	0	1	1	1	0	5	0	5	1	4	0	5	10	11	51
10:15 AM	0	0	0	0	0	0	0	0	0	0	5	1	6	0	7	1	8	14	14	52
10:30 AM	0	0	0	0	1	0	0	1	1	0	6	0	6	1	2	0	3	9	10	48
10:45 AM	1	0	0	1	0	0	2	2	3	0	6	0	6	0	7	0	7	13	16	45
11:00 AM	0	0	0	0	0	0	0	0	0	0	7	0	7	1	4	0	5	12	12	44
11:15 AM	0	0	0	0	0	0	1	1	1	0	5	0	5	0	3	1	4	9	10	46
11:30 AM	0	0	1	1	0	0	0	0	1	0	1	0	1	0	4	1	5	6	7	46
11:45 AM	0	0	0	0	0	0	0	0	0	0	6	0	6	1	8	0	9	15	15	48
12:00 PM	1	0	0	1	1	0	0	1	2	0	7	0	7	1	4	0	5	12	14	42
12:15 PM	1	0	0	1	0	0	1	1	2	0	5	0	5	2	1	0	3	8	10	35
12:30 PM	0	0	0	0	0	0	1	1	1	0	4	0	4	1	3	0	4	8	9	41
12:45 PM	0	0	0	0	0	0	2	2	2	0	2	0	2	0	5	0	5	7	9	37
1:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	3	1	4	7	7	33
1:15 PM	0	0	0	0	0	0	1	1	1	0	9	1	10	0	5	0	5	15	16	31
1:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	3	0	3	5	5	23
1:45 PM	1	0	0	1	0	0	0	0	1	0	0	1	1	0	3	0	3	4	5	19
2:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	2	0	2	5	5	21
2:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	4	0	4	0	4	8	8	19
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	18
2:45 PM	0	1	0	1	0	0	0	0	1	0	2	0	2	0	4	0	4	6	7	23
3:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	2	3	3	20
3:15 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	4	0	4	7	7	22
3:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	4	0	4	6	6	24
3:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	1	2	4	4	23

Project	Crystal Lake Engineering Services					**Multi-Unit Trucks**			Subtitle or Limits:					Client:	Village of Crystal Lake		
Count Date	9/7/2023													Project #:	3045 - 01.09		

	Sands Road									**US Route 14**										
	North Approach				**South Approach**				Both	**East Approach**				**West Approach**				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	3	1	4	5	5	24
4:15 PM	0	0	0	0	0	0	1	1	1	0	1	0	1	1	6	0	7	8	9	20
4:30 PM	0	0	0	0	1	0	1	2	2	0	1	0	1	0	2	0	2	3	5	16
4:45 PM	1	0	0	1	0	0	0	0	1	0	1	0	1	0	2	1	3	4	5	14
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	10
5:15 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	2	0	2	5	5	13
5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3	3	9
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	7
6:00 PM	1	0	0	1	0	0	0	0	1	0	2	0	2	0	1	0	1	3	4	7
6:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	6
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	5
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	4
7:00 PM	0	0	1	1	0	0	0	0	1	0	1	0	1	0	1	0	1	2	3	3
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	
TOTAL	**9**	**1**	**2**	**12**	**3**	**0**	**14**	**17**	**29**	**0**	**187**	**6**	**193**	**12**	**188**	**11**	**211**	**404**	**433**	



Vehicle Traffic Peak Hours:

11:45 A.M. to 12:45 P.M.

Count Date(s):

Saturday, September 9, 2023

Prepared: 10/13/2023

Village of Crystal Lake

Crystal Lake Engineering Services

2023 Existing Peak Hour Traffic

US Route 14 & Sands Road

CIVILTECH

File: 02_US Route 14-Sands Count Data Reduction and Peak Hour Diagram 09-09-23.xlsx

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Vehicles (1-hour intervals)

	Sands Road									US Route 14									
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
12:00 AM	1	0	0	1	0	1	2	3	4	2	77	3	82	1	54	3	58	140	144
1:00 AM	2	0	1	3	1	0	3	4	7	1	45	1	47	1	30	4	35	82	89
2:00 AM	0	1	1	2	0	0	1	1	3	0	38	0	38	1	31	2	34	72	75
3:00 AM	0	0	1	1	2	3	2	7	8	0	28	0	28	2	28	2	32	60	68
4:00 AM	0	0	2	2	0	0	1	1	3	1	37	2	40	5	50	1	56	96	99
5:00 AM	3	4	2	9	0	0	1	1	10	0	58	2	60	9	90	2	101	161	171
6:00 AM	6	10	4	20	4	2	14	20	40	1	162	6	169	13	173	3	189	358	398
7:00 AM	20	10	6	36	20	10	26	56	92	7	364	21	392	42	306	28	376	768	860
8:00 AM	14	24	15	53	32	13	71	116	169	11	569	35	615	56	417	32	505	1120	1289
9:00 AM	40	41	20	101	54	19	114	187	288	6	696	58	760	125	480	47	652	1412	1700
10:00 AM	31	49	26	106	54	47	159	260	366	14	885	68	967	149	625	88	862	1829	2195
11:00 AM	31	48	15	94	67	39	177	283	377	7	854	62	923	207	798	90	1095	2018	2395
12:00 PM	30	35	17	82	93	48	209	350	432	7	885	81	973	204	787	89	1080	2053	2485
1:00 PM	28	39	22	89	85	47	202	334	423	10	875	58	943	183	723	84	990	1933	2356
2:00 PM	36	50	21	107	81	76	202	359	466	15	796	62	873	163	705	95	963	1836	2302
3:00 PM	28	37	19	84	74	60	179	313	397	11	739	48	798	162	727	77	966	1764	2161
4:00 PM	25	41	23	89	80	45	170	295	384	8	722	42	772	135	680	95	910	1682	2066
5:00 PM	19	36	14	69	46	44	148	238	307	18	672	43	733	109	681	71	861	1594	1901
6:00 PM	23	25	11	59	40	26	109	175	234	8	618	41	667	103	566	85	754	1421	1655
7:00 PM	17	19	10	46	31	23	98	152	198	5	525	40	570	66	496	62	624	1194	1392
8:00 PM	10	11	2	23	25	12	43	80	103	4	344	11	359	30	378	57	465	824	927
9:00 PM	8	3	3	14	6	6	27	39	53	4	242	8	254	21	383	36	440	694	747
10:00 PM	0	5	4	9	2	3	12	17	26	4	179	2	185	8	212	18	238	423	449
11:00 PM	4	1	4	9	0	3	3	6	15	0	140	2	142	6	125	20	151	293	308
TOTAL	**376**	**489**	**243**	**1108**	**797**	**527**	**1973**	**3297**	**4405**	**144**	**10550**	**696**	**11390**	**1801**	**9545**	**1091**	**12437**	**23827**	**28232**

24-Hour Vehicle Traffic Count

North Leg	2,900
South Leg	6,300
East Leg	22,000
West Leg	25,300

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Vehicles (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	0	2	2	2	0	21	1	22	0	16	2	18	40	42	144
12:15 AM	0	0	0	0	0	1	0	1	1	1	17	0	18	1	14	0	15	33	34	128
12:30 AM	0	0	0	0	0	0	0	0	0	1	23	1	25	0	12	1	13	38	38	115
12:45 AM	1	0	0	1	0	0	0	0	1	0	16	1	17	0	12	0	12	29	30	97
1:00 AM	0	0	1	1	1	0	0	1	2	0	15	0	15	0	8	1	9	24	26	89
1:15 AM	0	0	0	0	0	0	0	0	0	0	7	0	7	0	11	3	14	21	21	86
1:30 AM	0	0	0	0	0	0	1	1	1	1	9	0	10	1	8	0	9	19	20	80
1:45 AM	2	0	0	2	0	0	2	2	4	0	14	1	15	0	3	0	3	18	22	77
2:00 AM	0	0	0	0	0	0	0	0	0	0	15	0	15	0	8	0	8	23	23	75
2:15 AM	0	0	1	1	0	0	0	0	1	0	9	0	9	1	4	0	5	14	15	65
2:30 AM	0	1	0	1	0	0	0	0	1	0	7	0	7	0	9	0	9	16	17	63
2:45 AM	0	0	0	0	0	0	1	1	1	0	7	0	7	0	10	2	12	19	20	64
3:00 AM	0	0	0	0	1	2	0	3	3	0	5	0	5	0	5	0	5	10	13	68
3:15 AM	0	0	0	0	0	0	0	0	0	0	6	0	6	0	6	1	7	13	13	77
3:30 AM	0	0	0	0	0	0	0	0	0	0	8	0	8	1	9	0	10	18	18	84
3:45 AM	0	0	1	1	1	1	2	4	5	0	9	0	9	1	8	1	10	19	24	91
4:00 AM	0	0	1	1	0	0	0	0	1	0	5	0	5	2	14	0	16	21	22	99
4:15 AM	0	0	1	1	0	0	0	0	1	0	9	0	9	1	9	0	10	19	20	101
4:30 AM	0	0	0	0	0	0	1	1	1	0	11	0	11	0	12	1	13	24	25	125
4:45 AM	0	0	0	0	0	0	0	0	0	1	12	2	15	2	15	0	17	32	32	146
5:00 AM	0	0	1	1	0	0	0	0	1	0	9	1	10	0	13	0	13	23	24	171
5:15 AM	1	1	1	3	0	0	0	0	3	0	19	1	20	1	19	1	21	41	44	204
5:30 AM	1	1	0	2	0	0	0	0	2	0	11	0	11	1	32	0	33	44	46	261
5:45 AM	1	2	0	3	0	0	1	1	4	0	19	0	19	7	26	1	34	53	57	331
6:00 AM	2	2	0	4	1	0	2	3	7	0	22	1	23	3	24	0	27	50	57	398
6:15 AM	2	3	0	5	0	1	3	4	9	1	44	0	45	4	43	0	47	92	101	508
6:30 AM	1	5	0	6	0	1	3	4	10	0	44	4	48	1	55	2	58	106	116	584
6:45 AM	1	0	4	5	3	0	6	9	14	0	52	1	53	5	51	1	57	110	124	727
7:00 AM	2	2	2	6	3	4	5	12	18	0	66	8	74	4	62	9	75	149	167	860
7:15 AM	3	3	1	7	3	2	2	7	14	2	74	4	80	10	69	4	83	163	177	968
7:30 AM	8	3	0	11	6	3	9	18	29	3	116	5	124	12	86	8	106	230	259	1089
7:45 AM	7	2	3	12	8	1	10	19	31	2	108	4	114	16	89	7	112	226	257	1173

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Vehicles (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	2	2	5	9	4	4	17	25	34	1	128	10	139	8	92	2	102	241	275	1289
8:15 AM	2	2	5	9	2	3	11	16	25	3	147	5	155	17	94	7	118	273	298	1390
8:30 AM	6	6	1	13	12	3	23	38	51	3	149	6	158	14	107	13	134	292	343	1506
8:45 AM	4	14	4	22	14	3	20	37	59	4	145	14	163	17	124	10	151	314	373	1623
9:00 AM	10	12	3	25	12	2	20	34	59	1	166	11	178	22	109	8	139	317	376	1700
9:15 AM	10	10	6	26	8	5	26	39	65	1	173	17	191	32	117	9	158	349	414	1850
9:30 AM	12	11	1	24	22	9	32	63	87	2	178	19	199	36	124	14	174	373	460	1979
9:45 AM	8	8	10	26	12	3	36	51	77	2	179	11	192	35	130	16	181	373	450	2108
10:00 AM	11	9	8	28	10	11	36	57	85	3	222	11	236	35	150	20	205	441	526	2195
10:15 AM	4	12	7	23	18	15	40	73	96	5	226	19	250	39	136	22	197	447	543	2233
10:30 AM	7	12	4	23	15	11	43	69	92	2	231	17	250	36	181	30	247	497	589	2264
10:45 AM	9	16	7	32	11	10	40	61	93	4	206	21	231	39	158	16	213	444	537	2304
11:00 AM	9	12	4	25	21	10	44	75	100	1	206	13	220	46	175	23	244	464	564	2395
11:15 AM	6	10	3	19	13	14	42	69	88	4	216	10	230	44	190	22	256	486	574	2459
11:30 AM	12	11	3	26	11	4	41	56	82	1	225	29	255	64	203	25	292	547	629	2488
11:45 AM	4	15	5	24	22	11	50	83	107	1	207	10	218	53	230	20	303	521	628	2528
12:00 PM	11	9	3	23	24	10	53	87	110	3	240	20	263	45	188	22	255	518	628	2485
12:15 PM	8	12	5	25	25	11	50	86	111	1	203	25	229	48	198	17	263	492	603	2456
12:30 PM	5	9	4	18	24	17	57	98	116	1	244	18	263	64	201	25	290	553	669	2449
12:45 PM	6	5	5	16	20	10	49	79	95	2	198	18	218	47	200	25	272	490	585	2359
1:00 PM	8	13	4	25	19	10	52	81	106	2	235	17	254	41	174	24	239	493	599	2356
1:15 PM	7	7	8	22	22	7	42	71	93	4	218	12	234	51	203	15	269	503	596	2354
1:30 PM	6	6	7	19	26	16	44	86	105	3	224	12	239	41	172	22	235	474	579	2322
1:45 PM	7	13	3	23	18	14	64	96	119	1	198	17	216	50	174	23	247	463	582	2329
2:00 PM	8	18	7	33	24	17	56	97	130	6	200	17	223	37	175	32	244	467	597	2302
2:15 PM	7	8	4	19	23	13	51	87	106	4	176	17	197	47	190	24	261	458	564	2226
2:30 PM	9	12	3	24	17	23	48	88	112	4	245	15	264	35	161	14	210	474	586	2216
2:45 PM	12	12	7	31	17	23	47	87	118	1	175	13	189	44	179	25	248	437	555	2188
3:00 PM	5	11	6	22	23	21	31	75	97	3	160	14	177	46	183	18	247	424	521	2161
3:15 PM	10	7	4	21	17	12	59	88	109	2	177	10	189	46	191	19	256	445	554	2165
3:30 PM	6	13	4	23	23	18	56	97	120	3	200	9	212	34	169	23	226	438	558	2134
3:45 PM	7	6	5	18	11	9	33	53	71	3	202	15	220	36	184	17	237	457	528	2065

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Vehicles (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	11	9	6	26	21	10	46	77	103	4	170	4	178	32	187	25	244	422	525	2066
4:15 PM	6	7	8	21	15	15	38	68	89	1	181	17	199	32	178	25	235	434	523	2048
4:30 PM	5	10	4	19	20	9	37	66	85	2	173	12	187	35	157	25	217	404	489	1979
4:45 PM	3	15	5	23	24	11	49	84	107	1	198	9	208	36	158	20	214	422	529	1954
5:00 PM	7	15	5	27	12	18	34	64	91	2	173	10	185	32	184	15	231	416	507	1901
5:15 PM	4	7	4	15	14	10	39	63	78	2	155	12	169	28	157	22	207	376	454	1842
5:30 PM	2	9	3	14	14	4	42	60	74	5	182	12	199	23	150	18	191	390	464	1835
5:45 PM	6	5	2	13	6	12	33	51	64	9	162	9	180	26	190	16	232	412	476	1778
6:00 PM	5	11	3	19	8	4	34	46	65	3	175	12	190	21	147	25	193	383	448	1655
6:15 PM	10	3	4	17	10	10	28	48	65	1	164	12	177	30	152	23	205	382	447	1561
6:30 PM	2	6	3	11	6	7	31	44	55	1	157	7	165	25	144	18	187	352	407	1456
6:45 PM	6	5	1	12	16	5	16	37	49	3	122	10	135	27	123	19	169	304	353	1423
7:00 PM	3	9	3	15	7	5	32	44	59	1	136	14	151	16	115	13	144	295	354	1392
7:15 PM	6	1	2	9	11	9	24	44	53	3	130	9	142	19	115	13	147	289	342	1294
7:30 PM	3	4	4	11	10	5	19	34	45	1	157	7	165	13	133	18	164	329	374	1200
7:45 PM	5	5	1	11	3	4	23	30	41	0	102	10	112	18	133	18	169	281	322	1059
8:00 PM	2	4	0	6	6	4	12	22	28	1	98	4	103	12	100	13	125	228	256	927
8:15 PM	4	4	2	10	8	3	11	22	32	0	87	1	88	5	107	16	128	216	248	887
8:30 PM	1	2	0	3	7	3	12	22	25	1	91	3	95	8	86	19	113	208	233	824
8:45 PM	3	1	0	4	4	2	8	14	18	2	68	3	73	5	85	9	99	172	190	769
9:00 PM	2	0	1	3	3	3	9	15	18	2	65	2	69	4	109	16	129	198	216	747
9:15 PM	1	1	2	4	2	2	11	15	19	0	61	2	63	5	92	6	103	166	185	674
9:30 PM	2	1	0	3	1	0	3	4	7	0	61	1	62	6	96	7	109	171	178	627
9:45 PM	3	1	0	4	0	1	4	5	9	2	55	3	60	6	86	7	99	159	168	538
10:00 PM	0	0	0	0	1	1	4	6	6	0	54	1	55	3	72	7	82	137	143	449
10:15 PM	0	0	2	2	0	1	4	5	7	1	62	0	63	1	66	1	68	131	138	400
10:30 PM	0	2	1	3	0	1	2	3	6	1	30	1	32	3	40	8	51	83	89	339
10:45 PM	0	3	1	4	1	0	2	3	7	2	33	0	35	1	34	2	37	72	79	319
11:00 PM	2	0	2	4	0	0	1	1	5	0	42	0	42	1	40	6	47	89	94	308
11:15 PM	0	1	0	1	0	0	0	0	1	0	38	1	39	0	36	1	37	76	77	
11:30 PM	1	0	0	1	0	3	1	4	5	0	27	1	28	1	25	10	36	64	69	
11:45 PM	1	0	2	3	0	0	1	1	4	0	33	0	33	4	24	3	31	64	68	
TOTAL	**376**	**489**	**243**	**1108**	**797**	**527**	**1973**	**3297**	**4405**	**144**	**10550**	**696**	**11390**	**1801**	**9545**	**1091**	**12437**	**23827**	**28232**	

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Vehicles (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums

Mid-Day Peak Hour

	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
11:45 AM	28	45	17	90	95	49	210	354	444	6	894	73	973	210	817	84	1111	2084	2528
Percent Trucks	3.6%	0.0%	0.0%	1.1%	0.0%	2.0%	0.5%	0.6%	0.7%	0.0%	2.3%	0.0%	2.2%	0.0%	1.8%	0.0%	1.4%	1.7%	1.5%

Intersection Peak Hour Factor = 0.94

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Trucks (1-hour intervals)

	Sands Road									US Route 14									
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
1:00 AM	0	0	0	0	0	0	0	0	0	0	5	0	5	0	3	2	5	10	10
2:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2
3:00 AM	0	0	0	0	0	0	0	0	0	0	5	0	5	0	1	1	2	7	7
4:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	1	2	0	3	5	5
5:00 AM	0	0	0	0	0	0	0	0	0	0	4	0	4	0	3	0	3	7	7
6:00 AM	0	0	0	0	0	0	1	1	1	0	11	0	11	1	9	0	10	21	22
7:00 AM	1	0	0	1	1	1	0	2	3	0	7	1	8	1	10	5	16	24	27
8:00 AM	0	0	1	1	0	0	1	1	2	0	10	1	11	1	11	1	13	24	26
9:00 AM	0	0	1	1	0	0	0	0	1	0	15	0	15	2	12	0	14	29	30
10:00 AM	1	2	0	3	1	1	1	3	6	1	7	0	8	1	10	2	13	21	27
11:00 AM	2	0	0	2	0	1	0	1	3	0	8	0	8	0	11	2	13	21	24
12:00 PM	2	0	0	2	0	0	1	1	3	0	25	0	25	0	14	0	14	39	42
1:00 PM	0	0	0	0	0	0	1	1	1	0	5	0	5	1	9	2	12	17	18
2:00 PM	0	0	0	0	0	0	2	2	2	0	7	1	8	0	3	0	3	11	13
3:00 PM	0	0	0	0	1	0	0	1	1	0	13	0	13	1	6	0	7	20	21
4:00 PM	0	0	0	0	0	0	0	0	0	0	5	0	5	0	6	0	6	11	11
5:00 PM	0	1	0	1	0	0	0	0	1	0	2	0	2	0	3	0	3	5	6
6:00 PM	3	1	0	4	0	0	0	0	4	0	2	0	2	0	8	1	9	11	15
7:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	4	0	4	5	5
8:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	3	1	4	5	5
9:00 PM	0	0	0	0	0	0	1	1	1	0	1	0	1	0	0	0	0	1	2
10:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	2	3	3
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**9**	**4**	**2**	**15**	**3**	**3**	**8**	**14**	**29**	**1**	**138**	**3**	**142**	**9**	**131**	**18**	**158**	**300**	**329**

24-Hour Truck Traffic Count

North Leg	-
South Leg	-
East Leg	300
West Leg	300

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Trucks (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
1:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	10
1:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	2	4	5	5	9
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	4
1:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3	3	4
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
2:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	5
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	7
3:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2	2	7
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	7
3:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3	3	8
3:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	5
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	5
4:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	2	2	4
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
4:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	7
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	7
5:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3	3	9
5:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	15
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	16
6:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3	3	22
6:15 AM	0	0	0	0	0	0	1	1	1	0	6	0	6	0	2	0	2	8	9	29
6:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3	3	28
6:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	1	3	0	4	7	7	29
7:00 AM	0	0	0	0	0	1	0	1	1	0	1	0	1	0	4	4	8	9	10	27
7:15 AM	1	0	0	1	0	0	0	0	1	0	2	0	2	1	3	1	5	7	8	20
7:30 AM	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	4	4	20
7:45 AM	0	0	0	0	1	0	0	1	1	0	1	0	1	0	3	0	3	4	5	26

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Trucks (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3	3	26
8:15 AM	0	0	1	1	0	0	0	0	1	0	2	1	3	1	3	0	4	7	8	30
8:30 AM	0	0	0	0	0	0	1	1	1	0	6	0	6	0	3	0	3	9	10	31
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	5	5	5	27
9:00 AM	0	0	0	0	0	0	0	0	0	0	4	0	4	0	3	0	3	7	7	30
9:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	1	5	0	6	9	9	30
9:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	3	0	3	6	6	27
9:45 AM	0	0	1	1	0	0	0	0	1	0	5	0	5	1	1	0	2	7	8	26
10:00 AM	1	0	0	1	1	0	0	1	2	0	1	0	1	0	4	0	4	5	7	27
10:15 AM	0	1	0	1	0	1	1	2	3	0	1	0	1	1	0	1	2	3	6	23
10:30 AM	0	1	0	1	0	0	0	0	1	0	1	0	1	0	3	0	3	4	5	23
10:45 AM	0	0	0	0	0	0	0	0	0	1	4	0	5	0	3	1	4	9	9	26
11:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	2	3	3	24
11:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	4	0	4	6	6	36
11:30 AM	1	0	0	1	0	0	0	0	1	0	4	0	4	0	2	1	3	7	8	40
11:45 AM	1	0	0	1	0	1	0	1	2	0	1	0	1	0	4	0	4	5	7	39
12:00 PM	0	0	0	0	0	0	0	0	0	0	9	0	9	0	6	0	6	15	15	42
12:15 PM	0	0	0	0	0	0	1	1	1	0	8	0	8	0	1	0	1	9	10	34
12:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	4	0	4	7	7	26
12:45 PM	2	0	0	2	0	0	0	0	2	0	5	0	5	0	3	0	3	8	10	22
1:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	3	1	4	7	7	18
1:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	15
1:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	2	3	3	15
1:45 PM	0	0	0	0	0	0	1	1	1	0	0	0	0	0	4	1	5	5	6	15
2:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	1	0	1	4	4	13
2:15 PM	0	0	0	0	0	0	1	1	1	0	1	0	1	0	0	0	0	1	2	12
2:30 PM	0	0	0	0	0	0	1	1	1	0	1	0	1	0	1	0	1	2	3	14
2:45 PM	0	0	0	0	0	0	0	0	0	0	2	1	3	0	1	0	1	4	4	17
3:00 PM	0	0	0	0	1	0	0	1	1	0	1	0	1	0	1	0	1	2	3	21
3:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	1	1	0	2	4	4	22
3:30 PM	0	0	0	0	0	0	0	0	0	0	5	0	5	0	1	0	1	6	6	19
3:45 PM	0	0	0	0	0	0	0	0	0	0	5	0	5	0	3	0	3	8	8	16

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Trucks (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	2	0	2	4	4	11
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	7
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3	3	8
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3	3	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2	2	11
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	14
5:45 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	2	0	2	2	3	15
6:00 PM	1	0	0	1	0	0	0	0	1	0	1	0	1	0	3	0	3	4	5	15
6:15 PM	1	0	0	1	0	0	0	0	1	0	1	0	1	0	3	0	3	4	5	11
6:30 PM	1	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	1	1	2	6
6:45 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	1	1	2	2	3	6
7:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	5
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	6
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	5
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	5
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	4
8:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	4
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	3
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
9:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	3
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
9:45 PM	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	4
10:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	3
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**9**	**4**	**2**	**15**	**3**	**3**	**8**	**14**	**29**	**1**	**138**	**3**	**142**	**9**	**131**	**18**	**158**	**300**	**329**	

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Trucks (15-minute intervals)

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums

Mid-Day Peak Hour

	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
11:45 AM	1	0	0	1	0	1	1	2	3	0	21	0	21	0	15	0	15	36	39

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Peds + Bikes in Crosswalks (1-hour intervals)

	Sands Road						US Route 14						
	Across North Leg			Across South Leg			Across East Leg			Across West Leg			Intersection
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0

Project	Crystal Lake Engineering Services	**Peds + Bikes in Crosswalks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/9/2023			Project #:	3045 - 01.09

	Sands Road						**US Route 14**							
	Across North Leg			**Across South Leg**			**Across East Leg**			**Across West Leg**			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project	Crystal Lake Engineering Services	**Peds + Bikes in Crosswalks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/9/2023			Project #:	3045 - 01.09

	Sands Road						US Route 14							
	Across North Leg			Across South Leg			Across East Leg			Across West Leg			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project	Crystal Lake Engineering Services	**Peds + Bikes in Crosswalks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/9/2023			Project #:	3045 - 01.09

	Sands Road						**US Route 14**							
	Across North Leg			**Across South Leg**			**Across East Leg**			**Across West Leg**			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project: Crystal Lake Engineering Services | **Peds + Bikes in Crosswalks** | Subtitle or Limits: | Client: Village of Crystal Lake
Count Date: 9/9/2023 | Project #: 3045 - 01.09

	Sands Road						US Route 14							
	Across North Leg			Across South Leg			Across East Leg			Across West Leg			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

Totals for Traffic Peak Hour

Mid-Day Peak	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

Project: Crystal Lake Engineering Services
Count Date: 9/9/2023

Passenger Cars

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	0	2	2	2	0	21	1	22	0	15	2	17	39	41	143
12:15 AM	0	0	0	0	0	1	0	1	1	1	17	0	18	1	14	0	15	33	34	127
12:30 AM	0	0	0	0	0	0	0	0	0	1	23	1	25	0	12	1	13	38	38	109
12:45 AM	1	0	0	1	0	0	0	0	1	0	16	1	17	0	12	0	12	29	30	90
1:00 AM	0	0	1	1	1	0	0	1	2	0	14	0	14	0	8	1	9	23	25	79
1:15 AM	0	0	0	0	0	0	0	0	0	0	6	0	6	0	9	1	10	16	16	77
1:30 AM	0	0	0	0	0	0	1	1	1	1	9	0	10	1	7	0	8	18	19	76
1:45 AM	2	0	0	2	0	0	2	2	4	0	11	1	12	0	3	0	3	15	19	73
2:00 AM	0	0	0	0	0	0	0	0	0	0	15	0	15	0	8	0	8	23	23	73
2:15 AM	0	0	1	1	0	0	0	0	1	0	9	0	9	1	4	0	5	14	15	61
2:30 AM	0	1	0	1	0	0	0	0	1	0	6	0	6	0	9	0	9	15	16	58
2:45 AM	0	0	0	0	0	0	1	1	1	0	7	0	7	0	9	2	11	18	19	57
3:00 AM	0	0	0	0	1	2	0	3	3	0	3	0	3	0	5	0	5	8	11	61
3:15 AM	0	0	0	0	0	0	0	0	0	0	6	0	6	0	6	0	6	12	12	70
3:30 AM	0	0	0	0	0	0	0	0	0	0	6	0	6	1	8	0	9	15	15	76
3:45 AM	0	0	1	1	1	1	2	4	5	0	8	0	8	1	8	1	10	18	23	86
4:00 AM	0	0	1	1	0	0	0	0	1	0	5	0	5	2	12	0	14	19	20	94
4:15 AM	0	0	1	1	0	0	0	0	1	0	8	0	8	0	9	0	9	17	18	97
4:30 AM	0	0	0	0	0	0	1	1	1	0	11	0	11	0	12	1	13	24	25	120
4:45 AM	0	0	0	0	0	0	0	0	0	1	11	2	14	2	15	0	17	31	31	139
5:00 AM	0	0	1	1	0	0	0	0	1	0	9	1	10	0	12	0	12	22	23	164
5:15 AM	1	1	1	3	0	0	0	0	3	0	16	1	17	1	19	1	21	38	41	195
5:30 AM	1	1	0	2	0	0	0	0	2	0	10	0	10	1	31	0	32	42	44	246
5:45 AM	1	2	0	3	0	0	1	1	4	0	19	0	19	7	25	1	33	52	56	315
6:00 AM	2	2	0	4	1	0	2	3	7	0	21	1	22	3	22	0	25	47	54	376
6:15 AM	2	3	0	5	0	1	2	3	8	1	38	0	39	4	41	0	45	84	92	479
6:30 AM	1	5	0	6	0	1	3	4	10	0	43	4	47	1	53	2	56	103	113	556
6:45 AM	1	0	4	5	3	0	6	9	14	0	49	1	50	4	48	1	53	103	117	698
7:00 AM	2	2	2	6	3	3	5	11	17	0	65	8	73	4	58	5	67	140	157	833
7:15 AM	2	3	1	6	3	2	2	7	13	2	72	4	78	9	66	3	78	156	169	948
7:30 AM	8	3	0	11	6	3	9	18	29	3	113	4	120	12	86	8	106	226	255	1069
7:45 AM	7	2	3	12	7	1	10	18	30	2	107	4	113	16	86	7	109	222	252	1147

Project: Crystal Lake Engineering Services | **Passenger Cars** | Subtitle or Limits: | Client: Village of Crystal Lake
Count Date: 9/9/2023 | Project #: 3045 - 01.09

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	2	2	5	9	4	4	17	25	34	1	126	10	137	8	91	2	101	238	272	1263
8:15 AM	2	2	4	8	2	3	11	16	24	3	145	4	152	16	91	7	114	266	290	1360
8:30 AM	6	6	1	13	12	3	22	37	50	3	143	6	152	14	104	13	131	283	333	1475
8:45 AM	4	14	4	22	14	3	20	37	59	4	145	14	163	17	120	9	146	309	368	1596
9:00 AM	10	12	3	25	12	2	20	34	59	1	162	11	174	22	106	8	136	310	369	1670
9:15 AM	10	10	6	26	8	5	26	39	65	1	170	17	188	31	112	9	152	340	405	1820
9:30 AM	12	11	1	24	22	9	32	63	87	2	175	19	196	36	121	14	171	367	454	1952
9:45 AM	8	8	9	25	12	3	36	51	76	2	174	11	187	34	129	16	179	366	442	2082
10:00 AM	10	9	8	27	9	11	36	56	83	3	221	11	235	35	146	20	201	436	519	2168
10:15 AM	4	11	7	22	18	14	39	71	93	5	225	19	249	38	136	21	195	444	537	2210
10:30 AM	7	11	4	22	15	11	43	69	91	2	230	17	249	36	178	30	244	493	584	2241
10:45 AM	9	16	7	32	11	10	40	61	93	3	202	21	226	39	155	15	209	435	528	2278
11:00 AM	9	12	4	25	21	10	44	75	100	1	205	13	219	46	174	22	242	461	561	2371
11:15 AM	6	10	3	19	13	14	42	69	88	4	214	10	228	44	186	22	252	480	568	2423
11:30 AM	11	11	3	25	11	4	41	56	81	1	221	29	251	64	201	24	289	540	621	2448
11:45 AM	3	15	5	23	22	10	50	82	105	1	206	10	217	53	226	20	299	516	621	2489
12:00 PM	11	9	3	23	24	10	53	87	110	3	231	20	254	45	182	22	249	503	613	2443
12:15 PM	8	12	5	25	25	11	49	85	110	1	195	25	221	48	197	17	262	483	593	2422
12:30 PM	5	9	4	18	24	17	57	98	116	1	241	18	260	64	197	25	286	546	662	2423
12:45 PM	4	5	5	14	20	10	49	79	93	2	193	18	213	47	197	25	269	482	575	2337
1:00 PM	8	13	4	25	19	10	52	81	106	2	232	17	251	41	171	23	235	486	592	2338
1:15 PM	7	7	8	22	22	7	42	71	93	4	217	12	233	51	202	15	268	501	594	2339
1:30 PM	6	6	7	19	26	16	44	86	105	3	223	12	238	40	171	22	233	471	576	2307
1:45 PM	7	13	3	23	18	14	63	95	118	1	198	17	216	50	170	22	242	458	576	2314
2:00 PM	8	18	7	33	24	17	56	97	130	6	197	17	220	37	174	32	243	463	593	2289
2:15 PM	7	8	4	19	23	13	50	86	105	4	175	17	196	47	190	24	261	457	562	2214
2:30 PM	9	12	3	24	17	23	47	87	111	4	244	15	263	35	160	14	209	472	583	2202
2:45 PM	12	12	7	31	17	23	47	87	118	1	173	12	186	44	178	25	247	433	551	2171
3:00 PM	5	11	6	22	22	21	31	74	96	3	159	14	176	46	182	18	246	422	518	2140
3:15 PM	10	7	4	21	17	12	59	88	109	2	175	10	187	45	190	19	254	441	550	2143
3:30 PM	6	13	4	23	23	18	56	97	120	3	195	9	207	34	168	23	225	432	552	2115
3:45 PM	7	6	5	18	11	9	33	53	71	3	197	15	215	36	181	17	234	449	520	2049

Project: Crystal Lake Engineering Services
Count Date: 9/9/2023

Passenger Cars

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	11	9	6	26	21	10	46	77	103	4	168	4	176	32	185	25	242	418	521	2055
4:15 PM	6	7	8	21	15	15	38	68	89	1	180	17	198	32	178	25	235	433	522	2041
4:30 PM	5	10	4	19	20	9	37	66	85	2	173	12	187	35	154	25	214	401	486	1971
4:45 PM	3	15	5	23	24	11	49	84	107	1	196	9	206	36	157	20	213	419	526	1948
5:00 PM	7	15	5	27	12	18	34	64	91	2	173	10	185	32	184	15	231	416	507	1895
5:15 PM	4	7	4	15	14	10	39	63	78	2	153	12	167	28	157	22	207	374	452	1831
5:30 PM	2	9	3	14	14	4	42	60	74	5	182	12	199	23	149	18	190	389	463	1821
5:45 PM	6	4	2	12	6	12	33	51	63	9	162	9	180	26	188	16	230	410	473	1763
6:00 PM	4	11	3	18	8	4	34	46	64	3	174	12	189	21	144	25	190	379	443	1640
6:15 PM	9	3	4	16	10	10	28	48	64	1	163	12	176	30	149	23	202	378	442	1550
6:30 PM	1	6	3	10	6	7	31	44	54	1	157	7	165	25	143	18	186	351	405	1450
6:45 PM	6	4	1	11	16	5	16	37	48	3	122	10	135	27	122	18	167	302	350	1417
7:00 PM	3	9	3	15	7	5	32	44	59	1	135	14	150	16	115	13	144	294	353	1387
7:15 PM	6	1	2	9	11	9	24	44	53	3	130	9	142	19	115	13	147	289	342	1289
7:30 PM	3	4	4	11	10	5	19	34	45	1	157	7	165	13	131	18	162	327	372	1194
7:45 PM	5	5	1	11	3	4	23	30	41	0	102	10	112	18	131	18	167	279	320	1054
8:00 PM	2	4	0	6	6	4	12	22	28	1	98	4	103	12	99	13	124	227	255	922
8:15 PM	4	4	2	10	8	3	11	22	32	0	87	1	88	5	106	16	127	215	247	883
8:30 PM	1	2	0	3	7	3	12	22	25	1	90	3	94	8	86	19	113	207	232	820
8:45 PM	3	1	0	4	4	2	8	14	18	2	68	3	73	5	84	8	97	170	188	766
9:00 PM	2	0	1	3	3	3	9	15	18	2	65	2	69	4	109	16	129	198	216	745
9:15 PM	1	1	2	4	2	2	11	15	19	0	60	2	62	5	92	6	103	165	184	671
9:30 PM	2	1	0	3	1	0	3	4	7	0	61	1	62	6	96	7	109	171	178	625
9:45 PM	3	1	0	4	0	1	3	4	8	2	55	3	60	6	86	7	99	159	167	534
10:00 PM	0	0	0	0	1	1	4	6	6	0	53	1	54	3	72	7	82	136	142	446
10:15 PM	0	0	2	2	0	1	4	5	7	1	62	0	63	1	66	1	68	131	138	398
10:30 PM	0	2	1	3	0	1	2	3	6	1	30	1	32	3	39	7	49	81	87	337
10:45 PM	0	3	1	4	1	0	2	3	7	2	33	0	35	1	34	2	37	72	79	319
11:00 PM	2	0	2	4	0	0	1	1	5	0	42	0	42	1	40	6	47	89	94	308
11:15 PM	0	1	0	1	0	0	0	0	1	0	38	1	39	0	36	1	37	76	77	
11:30 PM	1	0	0	1	0	3	1	4	5	0	27	1	28	1	25	10	36	64	69	
11:45 PM	1	0	2	3	0	0	1	1	4	0	33	0	33	4	24	3	31	64	68	
TOTAL	**367**	**485**	**241**	**1093**	**794**	**524**	**1965**	**3283**	**4376**	**143**	**10412**	**693**	**11248**	**1792**	**9414**	**1073**	**12279**	**23527**	**27903**	

Project: Crystal Lake Engineering Services
Count Date: 9/9/2023

Single-Unit Trucks/Buses

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	3
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	2
1:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	1
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	3
3:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2	2	3
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	2
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3	3	6
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	9
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	10
6:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	15
6:15 AM	0	0	0	0	0	0	1	1	1	0	4	0	4	0	1	0	1	5	6	18
6:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	18
6:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	1	2	0	3	6	6	18
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	3	3	4	4	16
7:15 AM	1	0	0	1	0	0	0	0	1	0	2	0	2	1	1	1	3	5	6	15
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	2	2	16
7:45 AM	0	0	0	0	1	0	0	1	1	0	1	0	1	0	2	0	2	3	4	22

Project: Crystal Lake Engineering Services
Count Date: 9/9/2023

Single-Unit Trucks/Buses

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3	3	21
8:15 AM	0	0	1	1	0	0	0	0	1	0	1	1	2	1	3	0	4	6	7	24
8:30 AM	0	0	0	0	0	0	1	1	1	0	4	0	4	0	3	0	3	7	8	26
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3	3	24
9:00 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	3	0	3	6	6	28
9:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	1	5	0	6	9	9	27
9:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	3	0	3	6	6	22
9:45 AM	0	0	1	1	0	0	0	0	1	0	4	0	4	1	1	0	2	6	7	20
10:00 AM	1	0	0	1	1	0	0	1	2	0	1	0	1	0	2	0	2	3	5	20
10:15 AM	0	1	0	1	0	1	1	2	3	0	0	0	0	1	0	0	1	1	4	15
10:30 AM	0	1	0	1	0	0	0	0	1	0	1	0	1	0	2	0	2	3	4	15
10:45 AM	0	0	0	0	0	0	0	0	0	1	3	0	4	0	2	1	3	7	7	15
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
11:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	2	0	2	4	4	21
11:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	1	0	1	4	4	26
11:45 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	2	0	2	2	3	27
12:00 PM	0	0	0	0	0	0	0	0	0	0	9	0	9	0	1	0	1	10	10	29
12:15 PM	0	0	0	0	0	0	1	1	1	0	7	0	7	0	1	0	1	8	9	23
12:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	3	0	3	5	5	15
12:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	2	0	2	5	5	12
1:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	1	2	4	4	12
1:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	12
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	2	13
1:45 PM	0	0	0	0	0	0	1	1	1	0	0	0	0	0	3	1	4	4	5	14
2:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	1	0	1	4	4	13
2:15 PM	0	0	0	0	0	0	1	1	1	0	1	0	1	0	0	0	0	1	2	11
2:30 PM	0	0	0	0	0	0	1	1	1	0	1	0	1	0	1	0	1	2	3	12
2:45 PM	0	0	0	0	0	0	0	0	0	0	2	1	3	0	1	0	1	4	4	15
3:00 PM	0	0	0	0	1	0	0	1	1	0	1	0	1	0	0	0	0	1	2	16
3:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	2	3	3	16
3:30 PM	0	0	0	0	0	0	0	0	0	0	5	0	5	0	1	0	1	6	6	14
3:45 PM	0	0	0	0	0	0	0	0	0	0	4	0	4	0	1	0	1	5	5	11

Project: Crystal Lake Engineering Services
Count Date: 9/9/2023

Single-Unit Trucks/Buses

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									US Route 14										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	9
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	7
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3	3	6
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3	3	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	11
5:45 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	1	0	1	1	2	11
6:00 PM	1	0	0	1	0	0	0	0	1	0	1	0	1	0	3	0	3	4	5	11
6:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3	3	7
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	4
6:45 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	1	0	1	1	2	5
7:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	5
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	4
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	2
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
9:45 PM	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	2
10:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	1
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**3**	**4**	**2**	**9**	**3**	**2**	**8**	**13**	**22**	**1**	**100**	**3**	**104**	**9**	**83**	**8**	**100**	**204**	**226**	

Project	Crystal Lake Engineering Services	**Multi-Unit Trucks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/9/2023			Project #:	3045 - 01.09

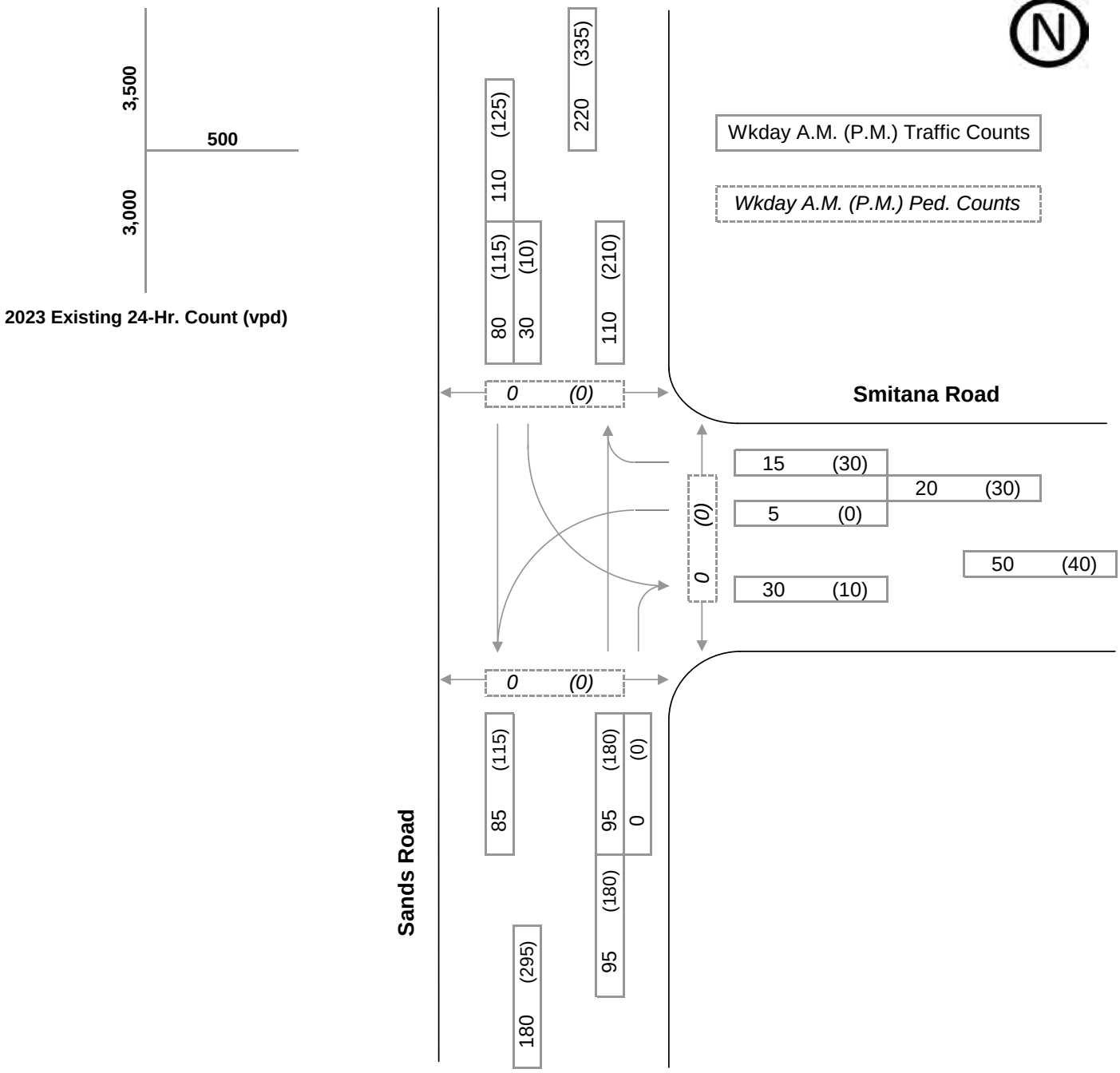
	Sands Road									**US Route 14**										
	North Approach				**South Approach**				Both	**East Approach**				**West Approach**				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
1:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	7
1:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	2	3	4	4	6
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2	2	3
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	2
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	6
3:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3	3	6
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	4
4:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	3
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	3
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	2
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	6
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	7
6:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3	3	11
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	10
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	11
7:00 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	4	1	5	5	6	11
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	5
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2	2	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	4

Project	Crystal Lake Engineering Services	**Multi-Unit Trucks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/9/2023			Project #:	3045 - 01.09

	Sands Road									**US Route 14**										
	North Approach				**South Approach**				Both	**East Approach**				**West Approach**				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	6
8:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2	2	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	3
9:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	2
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
9:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	6
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	7
10:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2	2	8
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	8
10:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	11
11:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	2	3	3	13
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	15
11:30 AM	1	0	0	1	0	0	0	0	1	0	1	0	1	0	1	1	2	3	4	14
11:45 AM	1	0	0	1	0	0	0	0	1	0	1	0	1	0	2	0	2	3	4	12
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	5	5	13
12:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	11
12:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2	11
12:45 PM	2	0	0	2	0	0	0	0	2	0	2	0	2	0	1	0	1	3	5	10
1:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3	3	6
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	3
1:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	2
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	5
3:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	6
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
3:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3	3	5

Project	Crystal Lake Engineering Services	**Multi-Unit Trucks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/9/2023			Project #:	3045 - 01.09

	Sands Road									**US Route 14**										
	North Approach				**South Approach**				Both	**East Approach**				**West Approach**				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2	2	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2	2	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	4
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
6:15 PM	1	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	1	1	2	4
6:30 PM	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	3
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	2
8:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	2
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	1
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**6**	**0**	**0**	**6**	**0**	**1**	**0**	**1**	**7**	**0**	**38**	**0**	**38**	**0**	**48**	**10**	**58**	**96**	**103**	



Vehicle Traffic Peak Hours:

7:00 A.M. to 8:00 A.M.
4:30 P.M. to 5:30 P.M.

Count Date(s):

Thursday, September 7, 2023

Prepared: 10/13/2023

Village of Crystal Lake

Crystal Lake Engineering Services

2023 Existing Peak Hour Traffic

Sands Road & Smitana Road

CIVILTECH

File: 03_Sands-Smitana Count Data Reduction and Peak Hour Diagram 9-07-23.xlsx

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Vehicles (1-hour intervals)

	Sands Road									Smitana Road									
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
12:00 AM	0	5	3	8	0	6	0	6	14	2	0	0	2	0	0	0	0	2	16
1:00 AM	0	0	1	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2
2:00 AM	0	0	4	4	0	2	0	2	6	1	0	0	1	0	0	0	0	1	7
3:00 AM	0	1	1	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
4:00 AM	0	1	5	6	0	0	0	0	6	1	0	0	1	0	0	0	0	1	7
5:00 AM	0	15	28	43	0	6	0	6	49	1	0	0	1	0	0	0	0	1	50
6:00 AM	0	40	31	71	0	34	0	34	105	7	0	0	7	0	0	0	0	7	112
7:00 AM	0	82	29	111	0	97	0	97	208	15	0	1	16	0	0	0	0	16	224
8:00 AM	0	101	13	114	2	56	0	58	172	18	0	0	18	0	0	0	0	18	190
9:00 AM	0	90	12	102	0	74	0	74	176	9	0	0	9	0	0	0	0	9	185
10:00 AM	0	70	14	84	0	90	1	91	175	14	0	0	14	0	0	0	0	14	189
11:00 AM	0	79	15	94	1	102	0	103	197	18	0	1	19	0	0	0	0	19	216
12:00 PM	0	87	8	95	0	123	0	123	218	10	0	0	10	0	0	0	0	10	228
1:00 PM	0	70	4	74	4	137	0	141	215	9	0	1	10	0	0	0	0	10	225
2:00 PM	0	78	9	87	3	145	0	148	235	29	0	2	31	0	0	0	0	31	266
3:00 PM	0	98	6	104	0	157	0	157	261	29	0	1	30	0	0	0	0	30	291
4:00 PM	0	98	9	107	0	152	0	152	259	33	0	1	34	0	0	0	0	34	293
5:00 PM	0	114	10	124	0	189	0	189	313	31	0	0	31	0	0	0	0	31	344
6:00 PM	0	72	15	87	2	166	0	168	255	17	0	0	17	0	0	0	0	17	272
7:00 PM	0	52	5	57	0	127	0	127	184	18	0	2	20	0	0	0	0	20	204
8:00 PM	0	24	4	28	0	95	0	95	123	8	0	0	8	0	0	0	0	8	131
9:00 PM	0	11	1	12	0	39	0	39	51	8	0	0	8	0	0	0	0	8	59
10:00 PM	0	7	2	9	0	16	0	16	25	4	0	0	4	0	0	0	0	4	29
11:00 PM	0	0	4	4	0	7	0	7	11	2	0	0	2	0	0	0	0	2	13
TOTAL	**0**	**1195**	**233**	**1428**	**12**	**1821**	**1**	**1834**	**3262**	**284**	**0**	**9**	**293**	**0**	**0**	**0**	**0**	**293**	**3555**

24-Hour Vehicle Traffic Count

North Leg	3,500
South Leg	3,000
East Leg	500
West Leg	-

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Vehicles (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	2	0	2	0	1	0	1	3	0	0	0	0	0	0	0	0	0	3	16
12:15 AM	0	3	0	3	0	1	0	1	4	0	0	0	0	0	0	0	0	0	4	13
12:30 AM	0	0	2	2	0	3	0	3	5	1	0	0	1	0	0	0	0	1	6	10
12:45 AM	0	0	1	1	0	1	0	1	2	1	0	0	1	0	0	0	0	1	3	5
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:15 AM	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
1:30 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
2:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	8
2:45 AM	0	0	4	4	0	2	0	2	6	0	0	0	0	0	0	0	0	0	6	7
3:00 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:45 AM	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	4
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
4:15 AM	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	14
4:30 AM	0	0	2	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	23
4:45 AM	0	1	2	3	0	0	0	0	3	1	0	0	1	0	0	0	0	1	4	38
5:00 AM	0	1	6	7	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	50
5:15 AM	0	6	4	10	0	0	0	0	10	0	0	0	0	0	0	0	0	0	10	57
5:30 AM	0	4	9	13	0	4	0	4	17	0	0	0	0	0	0	0	0	0	17	65
5:45 AM	0	4	9	13	0	2	0	2	15	1	0	0	1	0	0	0	0	1	16	81
6:00 AM	0	3	7	10	0	2	0	2	12	2	0	0	2	0	0	0	0	2	14	112
6:15 AM	0	11	3	14	0	3	0	3	17	1	0	0	1	0	0	0	0	1	18	151
6:30 AM	0	14	8	22	0	10	0	10	32	1	0	0	1	0	0	0	0	1	33	194
6:45 AM	0	12	13	25	0	19	0	19	44	3	0	0	3	0	0	0	0	3	47	214
7:00 AM	0	18	12	30	0	20	0	20	50	2	0	1	3	0	0	0	0	3	53	224
7:15 AM	0	26	4	30	0	27	0	27	57	4	0	0	4	0	0	0	0	4	61	223
7:30 AM	0	18	5	23	0	23	0	23	46	7	0	0	7	0	0	0	0	7	53	211
7:45 AM	0	20	8	28	0	27	0	27	55	2	0	0	2	0	0	0	0	2	57	194

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Vehicles (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	0	23	4	27	0	16	0	16	43	9	0	0	9	0	0	0	0	9	52	190
8:15 AM	0	30	1	31	0	14	0	14	45	4	0	0	4	0	0	0	0	4	49	185
8:30 AM	0	21	4	25	2	9	0	11	36	0	0	0	0	0	0	0	0	0	36	185
8:45 AM	0	27	4	31	0	17	0	17	48	5	0	0	5	0	0	0	0	5	53	195
9:00 AM	0	26	0	26	0	20	0	20	46	1	0	0	1	0	0	0	0	1	47	185
9:15 AM	0	24	5	29	0	19	0	19	48	1	0	0	1	0	0	0	0	1	49	180
9:30 AM	0	18	4	22	0	20	0	20	42	4	0	0	4	0	0	0	0	4	46	172
9:45 AM	0	22	3	25	0	15	0	15	40	3	0	0	3	0	0	0	0	3	43	181
10:00 AM	0	18	4	22	0	16	0	16	38	4	0	0	4	0	0	0	0	4	42	189
10:15 AM	0	13	1	14	0	25	0	25	39	2	0	0	2	0	0	0	0	2	41	203
10:30 AM	0	22	6	28	0	21	0	21	49	6	0	0	6	0	0	0	0	6	55	207
10:45 AM	0	17	3	20	0	28	1	29	49	2	0	0	2	0	0	0	0	2	51	205
11:00 AM	0	15	6	21	0	30	0	30	51	5	0	0	5	0	0	0	0	5	56	216
11:15 AM	0	18	1	19	0	19	0	19	38	6	0	1	7	0	0	0	0	7	45	221
11:30 AM	0	22	3	25	0	23	0	23	48	5	0	0	5	0	0	0	0	5	53	246
11:45 AM	0	24	5	29	1	30	0	31	60	2	0	0	2	0	0	0	0	2	62	250
12:00 PM	0	28	5	33	0	24	0	24	57	4	0	0	4	0	0	0	0	4	61	228
12:15 PM	0	24	1	25	0	42	0	42	67	3	0	0	3	0	0	0	0	3	70	220
12:30 PM	0	21	2	23	0	33	0	33	56	1	0	0	1	0	0	0	0	1	57	210
12:45 PM	0	14	0	14	0	24	0	24	38	2	0	0	2	0	0	0	0	2	40	210
1:00 PM	0	21	1	22	1	28	0	29	51	2	0	0	2	0	0	0	0	2	53	225
1:15 PM	0	17	3	20	2	35	0	37	57	3	0	0	3	0	0	0	0	3	60	242
1:30 PM	0	15	0	15	1	39	0	40	55	1	0	1	2	0	0	0	0	2	57	240
1:45 PM	0	17	0	17	0	35	0	35	52	3	0	0	3	0	0	0	0	3	55	240
2:00 PM	0	18	2	20	1	35	0	36	56	12	0	2	14	0	0	0	0	14	70	266
2:15 PM	0	17	2	19	1	34	0	35	54	4	0	0	4	0	0	0	0	4	58	266
2:30 PM	0	15	3	18	0	33	0	33	51	6	0	0	6	0	0	0	0	6	57	269
2:45 PM	0	28	2	30	1	43	0	44	74	7	0	0	7	0	0	0	0	7	81	285
3:00 PM	0	25	2	27	0	37	0	37	64	6	0	0	6	0	0	0	0	6	70	291
3:15 PM	0	14	1	15	0	40	0	40	55	6	0	0	6	0	0	0	0	6	61	289
3:30 PM	0	32	1	33	0	34	0	34	67	5	0	1	6	0	0	0	0	6	73	294
3:45 PM	0	27	2	29	0	46	0	46	75	12	0	0	12	0	0	0	0	12	87	294

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Vehicles (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	20	3	23	0	34	0	34	57	11	0	0	11	0	0	0	0	11	68	293
4:15 PM	0	24	3	27	0	33	0	33	60	6	0	0	6	0	0	0	0	6	66	310
4:30 PM	0	24	2	26	0	39	0	39	65	7	0	1	8	0	0	0	0	8	73	335
4:45 PM	0	30	1	31	0	46	0	46	77	9	0	0	9	0	0	0	0	9	86	344
5:00 PM	0	25	1	26	0	50	0	50	76	9	0	0	9	0	0	0	0	9	85	344
5:15 PM	0	34	4	38	0	46	0	46	84	7	0	0	7	0	0	0	0	7	91	324
5:30 PM	0	22	0	22	0	50	0	50	72	10	0	0	10	0	0	0	0	10	82	306
5:45 PM	0	33	5	38	0	43	0	43	81	5	0	0	5	0	0	0	0	5	86	300
6:00 PM	0	12	4	16	0	45	0	45	61	4	0	0	4	0	0	0	0	4	65	272
6:15 PM	0	22	6	28	0	44	0	44	72	1	0	0	1	0	0	0	0	1	73	261
6:30 PM	0	23	2	25	1	43	0	44	69	7	0	0	7	0	0	0	0	7	76	231
6:45 PM	0	15	3	18	1	34	0	35	53	5	0	0	5	0	0	0	0	5	58	205
7:00 PM	0	15	2	17	0	29	0	29	46	6	0	2	8	0	0	0	0	8	54	204
7:15 PM	0	9	1	10	0	26	0	26	36	7	0	0	7	0	0	0	0	7	43	197
7:30 PM	0	12	0	12	0	37	0	37	49	1	0	0	1	0	0	0	0	1	50	181
7:45 PM	0	16	2	18	0	35	0	35	53	4	0	0	4	0	0	0	0	4	57	163
8:00 PM	0	7	0	7	0	37	0	37	44	3	0	0	3	0	0	0	0	3	47	131
8:15 PM	0	9	1	10	0	16	0	16	26	1	0	0	1	0	0	0	0	1	27	108
8:30 PM	0	4	2	6	0	23	0	23	29	3	0	0	3	0	0	0	0	3	32	93
8:45 PM	0	4	1	5	0	19	0	19	24	1	0	0	1	0	0	0	0	1	25	69
9:00 PM	0	4	0	4	0	17	0	17	21	3	0	0	3	0	0	0	0	3	24	59
9:15 PM	0	4	0	4	0	7	0	7	11	1	0	0	1	0	0	0	0	1	12	45
9:30 PM	0	0	0	0	0	8	0	8	8	0	0	0	0	0	0	0	0	0	8	36
9:45 PM	0	3	1	4	0	7	0	7	11	4	0	0	4	0	0	0	0	4	15	39
10:00 PM	0	1	0	1	0	7	0	7	8	2	0	0	2	0	0	0	0	2	10	29
10:15 PM	0	2	0	2	0	1	0	1	3	0	0	0	0	0	0	0	0	0	3	24
10:30 PM	0	2	2	4	0	5	0	5	9	2	0	0	2	0	0	0	0	2	11	24
10:45 PM	0	2	0	2	0	3	0	3	5	0	0	0	0	0	0	0	0	0	5	18
11:00 PM	0	0	0	0	0	4	0	4	4	1	0	0	1	0	0	0	0	1	5	13
11:15 PM	0	0	3	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	
11:30 PM	0	0	1	1	0	3	0	3	4	1	0	0	1	0	0	0	0	1	5	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**0**	**1195**	**233**	**1428**	**12**	**1821**	**1**	**1834**	**3262**	**284**	**0**	**9**	**293**	**0**	**0**	**0**	**0**	**293**	**3555**	

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Vehicles (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums

Morning Peak Hour

	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
7:00 AM	0	82	29	111	0	97	0	97	208	15	0	1	16	0	0	0	0	16	224
Percent Trucks	#DIV/0!	2.4%	0.0%	1.8%	#DIV/0!	1.0%	#DIV/0!	1.0%	1.4%	6.7%	#DIV/0!	0.0%	6.3%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	6.3%	1.8%

Intersection Peak Hour Factor = 0.92

Evening Peak Hour

	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
4:30 PM	0	113	8	121	0	181	0	181	302	32	0	1	33	0	0	0	0	33	335
Percent Trucks	#DIV/0!	1.8%	0.0%	1.7%	#DIV/0!	2.2%	#DIV/0!	2.2%	2.0%	0.0%	#DIV/0!	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	1.8%

Intersection Peak Hour Factor = 0.92

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Trucks (1-hour intervals)

	Sands Road									Smitana Road									
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
7:00 AM	0	2	0	2	0	1	0	1	3	1	0	0	1	0	0	0	0	1	4
8:00 AM	0	6	0	6	0	1	0	1	7	0	0	0	0	0	0	0	0	0	7
9:00 AM	0	2	0	2	0	5	0	5	7	1	0	0	1	0	0	0	0	1	8
10:00 AM	0	5	0	5	0	3	0	3	8	0	0	0	0	0	0	0	0	0	8
11:00 AM	0	1	1	2	0	3	0	3	5	1	0	0	1	0	0	0	0	1	6
12:00 PM	0	4	1	5	0	3	0	3	8	2	0	0	2	0	0	0	0	2	10
1:00 PM	0	0	0	0	1	2	0	3	3	0	0	0	0	0	0	0	0	0	3
2:00 PM	0	4	0	4	0	0	0	0	4	0	0	1	1	0	0	0	0	1	5
3:00 PM	0	0	0	0	0	3	0	3	3	0	0	0	0	0	0	0	0	0	3
4:00 PM	0	4	0	4	0	7	0	7	11	0	0	0	0	0	0	0	0	0	11
5:00 PM	0	1	0	1	0	4	0	4	5	0	0	0	0	0	0	0	0	0	5
6:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
7:00 PM	0	2	0	2	0	1	0	1	3	0	0	0	0	0	0	0	0	0	3
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**33**	**2**	**35**	**1**	**35**	**0**	**36**	**71**	**5**	**0**	**1**	**6**	**0**	**0**	**0**	**0**	**6**	**77**

24-Hour Truck Traffic Count

North Leg	100
South Leg	100
East Leg	-
West Leg	-

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Trucks (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6:30 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	4
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	4
7:15 AM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	5
7:30 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	5
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Trucks (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	7
8:15 AM	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	7
8:30 AM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	7
8:45 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	8
9:00 AM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	8
9:15 AM	0	0	0	0	0	1	0	1	1	1	0	0	1	0	0	0	0	1	2	8
9:30 AM	0	1	0	1	0	2	0	2	3	0	0	0	0	0	0	0	0	0	3	7
9:45 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	5
10:00 AM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	8
10:15 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	8
10:30 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	8
10:45 AM	0	4	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	9
11:00 AM	0	0	1	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	6
11:15 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	5
11:30 AM	0	0	0	0	0	1	0	1	1	1	0	0	1	0	0	0	0	1	2	9
11:45 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	9
12:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	10
12:15 PM	0	2	1	3	0	1	0	1	4	1	0	0	1	0	0	0	0	1	5	11
12:30 PM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	7
12:45 PM	0	0	0	0	0	1	0	1	1	1	0	0	1	0	0	0	0	1	2	5
1:00 PM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2	3
1:15 PM	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	1	2
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	5
2:15 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	4
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
2:45 PM	0	3	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	4
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
3:15 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	5
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
3:45 PM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2	11

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Trucks (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	11
4:15 PM	0	1	0	1	0	4	0	4	5	0	0	0	0	0	0	0	0	0	5	10
4:30 PM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	6
4:45 PM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	6
5:00 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	5
5:15 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	5
5:30 PM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2	4
5:45 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
6:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	3
7:15 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:15 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	2
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**0**	**33**	**2**	**35**	**1**	**35**	**0**	**36**	**71**	**5**	**0**	**1**	**6**	**0**	**0**	**0**	**0**	**6**	**77**	

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Total Trucks (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums

Morning Peak Hour

	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
7:00 AM	0	2	0	2	0	1	0	1	3	1	0	0	1	0	0	0	0	1	4

Evening Peak Hour

	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
4:30 PM	0	2	0	2	0	4	0	4	6	0	0	0	0	0	0	0	0	0	6

Project Crystal Lake Engineering Services

Count Date 9/7/2023

Peds + Bikes in Crosswalks (1-hour intervals)

	Sands Road						Smitana Road						
	Across North Leg			Across South Leg			Across East Leg			Across West Leg			Intersection
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0

Project	Crystal Lake Engineering Services	**Peds + Bikes in Crosswalks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/7/2023			Project #:	3045 - 01.09

	Sands Road						**Smitana Road**							
	Across North Leg			**Across South Leg**			**Across East Leg**			**Across West Leg**			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project	Crystal Lake Engineering Services	**Peds + Bikes in Crosswalks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/7/2023			Project #:	3045 - 01.09

	Sands Road						**Smitana Road**							
	Across North Leg			**Across South Leg**			**Across East Leg**			**Across West Leg**			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project	Crystal Lake Engineering Services	**Peds + Bikes in Crosswalks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/7/2023			Project #:	3045 - 01.09

	Sands Road						**Smitana Road**							
	Across North Leg			**Across South Leg**			**Across East Leg**			**Across West Leg**			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project	Crystal Lake Engineering Services	**Peds + Bikes in Crosswalks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/7/2023			Project #:	3045 - 01.09

	Sands Road						**Smitana Road**							
	Across North Leg			**Across South Leg**			**Across East Leg**			**Across West Leg**			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

Totals for Traffic Peak Hour

A.M. Peak	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
P.M. Peak													
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Passenger Cars

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	2	0	2	0	1	0	1	3	0	0	0	0	0	0	0	0	0	3	16
12:15 AM	0	3	0	3	0	1	0	1	4	0	0	0	0	0	0	0	0	0	4	13
12:30 AM	0	0	2	2	0	3	0	3	5	1	0	0	1	0	0	0	0	1	6	10
12:45 AM	0	0	1	1	0	1	0	1	2	1	0	0	1	0	0	0	0	1	3	5
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:15 AM	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
1:30 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
2:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	8
2:45 AM	0	0	4	4	0	2	0	2	6	0	0	0	0	0	0	0	0	0	6	7
3:00 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:45 AM	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	4
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
4:15 AM	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	14
4:30 AM	0	0	2	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	23
4:45 AM	0	1	2	3	0	0	0	0	3	1	0	0	1	0	0	0	0	1	4	38
5:00 AM	0	1	6	7	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	50
5:15 AM	0	6	4	10	0	0	0	0	10	0	0	0	0	0	0	0	0	0	10	57
5:30 AM	0	4	9	13	0	4	0	4	17	0	0	0	0	0	0	0	0	0	17	65
5:45 AM	0	4	9	13	0	2	0	2	15	1	0	0	1	0	0	0	0	1	16	80
6:00 AM	0	3	7	10	0	2	0	2	12	2	0	0	2	0	0	0	0	2	14	111
6:15 AM	0	11	3	14	0	3	0	3	17	1	0	0	1	0	0	0	0	1	18	149
6:30 AM	0	13	8	21	0	10	0	10	31	1	0	0	1	0	0	0	0	1	32	190
6:45 AM	0	12	13	25	0	19	0	19	44	3	0	0	3	0	0	0	0	3	47	210
7:00 AM	0	18	12	30	0	20	0	20	50	1	0	1	2	0	0	0	0	2	52	220
7:15 AM	0	25	4	29	0	26	0	26	55	4	0	0	4	0	0	0	0	4	59	218
7:30 AM	0	17	5	22	0	23	0	23	45	7	0	0	7	0	0	0	0	7	52	206
7:45 AM	0	20	8	28	0	27	0	27	55	2	0	0	2	0	0	0	0	2	57	188

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Passenger Cars

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	0	21	4	25	0	16	0	16	41	9	0	0	9	0	0	0	0	9	50	183
8:15 AM	0	28	1	29	0	14	0	14	43	4	0	0	4	0	0	0	0	4	47	178
8:30 AM	0	20	4	24	2	8	0	10	34	0	0	0	0	0	0	0	0	0	34	178
8:45 AM	0	26	4	30	0	17	0	17	47	5	0	0	5	0	0	0	0	5	52	187
9:00 AM	0	25	0	25	0	19	0	19	44	1	0	0	1	0	0	0	0	1	45	177
9:15 AM	0	24	5	29	0	18	0	18	47	0	0	0	0	0	0	0	0	0	47	172
9:30 AM	0	17	4	21	0	18	0	18	39	4	0	0	4	0	0	0	0	4	43	165
9:45 AM	0	22	3	25	0	14	0	14	39	3	0	0	3	0	0	0	0	3	42	176
10:00 AM	0	17	4	21	0	15	0	15	36	4	0	0	4	0	0	0	0	4	40	181
10:15 AM	0	13	1	14	0	24	0	24	38	2	0	0	2	0	0	0	0	2	40	195
10:30 AM	0	22	6	28	0	20	0	20	48	6	0	0	6	0	0	0	0	6	54	199
10:45 AM	0	13	3	16	0	28	1	29	45	2	0	0	2	0	0	0	0	2	47	196
11:00 AM	0	15	5	20	0	29	0	29	49	5	0	0	5	0	0	0	0	5	54	210
11:15 AM	0	18	1	19	0	18	0	18	37	6	0	1	7	0	0	0	0	7	44	216
11:30 AM	0	22	3	25	0	22	0	22	47	4	0	0	4	0	0	0	0	4	51	237
11:45 AM	0	23	5	28	1	30	0	31	59	2	0	0	2	0	0	0	0	2	61	241
12:00 PM	0	27	5	32	0	24	0	24	56	4	0	0	4	0	0	0	0	4	60	218
12:15 PM	0	22	0	22	0	41	0	41	63	2	0	0	2	0	0	0	0	2	65	209
12:30 PM	0	20	2	22	0	32	0	32	54	1	0	0	1	0	0	0	0	1	55	203
12:45 PM	0	14	0	14	0	23	0	23	37	1	0	0	1	0	0	0	0	1	38	205
1:00 PM	0	21	1	22	1	26	0	27	49	2	0	0	2	0	0	0	0	2	51	222
1:15 PM	0	17	3	20	1	35	0	36	56	3	0	0	3	0	0	0	0	3	59	240
1:30 PM	0	15	0	15	1	39	0	40	55	1	0	1	2	0	0	0	0	2	57	238
1:45 PM	0	17	0	17	0	35	0	35	52	3	0	0	3	0	0	0	0	3	55	238
2:00 PM	0	18	2	20	1	35	0	36	56	12	0	1	13	0	0	0	0	13	69	261
2:15 PM	0	16	2	18	1	34	0	35	53	4	0	0	4	0	0	0	0	4	57	262
2:30 PM	0	15	3	18	0	33	0	33	51	6	0	0	6	0	0	0	0	6	57	265
2:45 PM	0	25	2	27	1	43	0	44	71	7	0	0	7	0	0	0	0	7	78	281
3:00 PM	0	25	2	27	0	37	0	37	64	6	0	0	6	0	0	0	0	6	70	288
3:15 PM	0	14	1	15	0	39	0	39	54	6	0	0	6	0	0	0	0	6	60	284
3:30 PM	0	32	1	33	0	34	0	34	67	5	0	1	6	0	0	0	0	6	73	285
3:45 PM	0	27	2	29	0	44	0	44	73	12	0	0	12	0	0	0	0	12	85	283

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Passenger Cars

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	19	3	22	0	33	0	33	55	11	0	0	11	0	0	0	0	11	66	282
4:15 PM	0	23	3	26	0	29	0	29	55	6	0	0	6	0	0	0	0	6	61	300
4:30 PM	0	23	2	25	0	38	0	38	63	7	0	1	8	0	0	0	0	8	71	329
4:45 PM	0	29	1	30	0	45	0	45	75	9	0	0	9	0	0	0	0	9	84	338
5:00 PM	0	25	1	26	0	49	0	49	75	9	0	0	9	0	0	0	0	9	84	339
5:15 PM	0	34	4	38	0	45	0	45	83	7	0	0	7	0	0	0	0	7	90	319
5:30 PM	0	22	0	22	0	48	0	48	70	10	0	0	10	0	0	0	0	10	80	302
5:45 PM	0	32	5	37	0	43	0	43	80	5	0	0	5	0	0	0	0	5	85	298
6:00 PM	0	11	4	15	0	45	0	45	60	4	0	0	4	0	0	0	0	4	64	271
6:15 PM	0	22	6	28	0	44	0	44	72	1	0	0	1	0	0	0	0	1	73	260
6:30 PM	0	23	2	25	1	43	0	44	69	7	0	0	7	0	0	0	0	7	76	229
6:45 PM	0	15	3	18	1	34	0	35	53	5	0	0	5	0	0	0	0	5	58	203
7:00 PM	0	14	2	16	0	29	0	29	45	6	0	2	8	0	0	0	0	8	53	201
7:15 PM	0	8	1	9	0	26	0	26	35	7	0	0	7	0	0	0	0	7	42	195
7:30 PM	0	12	0	12	0	37	0	37	49	1	0	0	1	0	0	0	0	1	50	180
7:45 PM	0	16	2	18	0	34	0	34	52	4	0	0	4	0	0	0	0	4	56	162
8:00 PM	0	7	0	7	0	37	0	37	44	3	0	0	3	0	0	0	0	3	47	131
8:15 PM	0	9	1	10	0	16	0	16	26	1	0	0	1	0	0	0	0	1	27	108
8:30 PM	0	4	2	6	0	23	0	23	29	3	0	0	3	0	0	0	0	3	32	92
8:45 PM	0	4	1	5	0	19	0	19	24	1	0	0	1	0	0	0	0	1	25	68
9:00 PM	0	4	0	4	0	17	0	17	21	3	0	0	3	0	0	0	0	3	24	58
9:15 PM	0	4	0	4	0	6	0	6	10	1	0	0	1	0	0	0	0	1	11	43
9:30 PM	0	0	0	0	0	8	0	8	8	0	0	0	0	0	0	0	0	0	8	35
9:45 PM	0	3	1	4	0	7	0	7	11	4	0	0	4	0	0	0	0	4	15	38
10:00 PM	0	1	0	1	0	6	0	6	7	2	0	0	2	0	0	0	0	2	9	28
10:15 PM	0	2	0	2	0	1	0	1	3	0	0	0	0	0	0	0	0	0	3	24
10:30 PM	0	2	2	4	0	5	0	5	9	2	0	0	2	0	0	0	0	2	11	24
10:45 PM	0	2	0	2	0	3	0	3	5	0	0	0	0	0	0	0	0	0	5	18
11:00 PM	0	0	0	0	0	4	0	4	4	1	0	0	1	0	0	0	0	1	5	13
11:15 PM	0	0	3	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	
11:30 PM	0	0	1	1	0	3	0	3	4	1	0	0	1	0	0	0	0	1	5	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**0**	**1162**	**231**	**1393**	**11**	**1786**	**1**	**1798**	**3191**	**279**	**0**	**8**	**287**	**0**	**0**	**0**	**0**	**287**	**3478**	

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Single-Unit Trucks/Buses

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	3
7:15 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	4
7:30 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	5
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Single-Unit Trucks/Buses

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	7
8:15 AM	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	6
8:30 AM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	5
8:45 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	4
9:00 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	3
9:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	4
9:30 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	3
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
10:00 AM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	6
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
10:30 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	7
10:45 AM	0	3	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	7
11:00 AM	0	0	1	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	5
11:15 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	3
11:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	6
11:45 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	7
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
12:15 PM	0	1	1	2	0	1	0	1	3	1	0	0	1	0	0	0	0	1	4	9
12:30 PM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	6
12:45 PM	0	0	0	0	0	1	0	1	1	1	0	0	1	0	0	0	0	1	2	4
1:00 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	2
1:15 PM	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	1	2
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	4
2:15 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	3
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2:45 PM	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	3
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
3:15 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	3
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
3:45 PM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2	8

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Single-Unit Trucks/Buses

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
4:15 PM	0	1	0	1	0	3	0	3	4	0	0	0	0	0	0	0	0	0	4	7
4:30 PM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	4
4:45 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:15 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	4
5:30 PM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2	3
5:45 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:15 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:15 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**0**	**22**	**2**	**24**	**1**	**24**	**0**	**25**	**49**	**5**	**0**	**1**	**6**	**0**	**0**	**0**	**0**	**6**	**55**	

Project	Crystal Lake Engineering Services	**Multi-Unit Trucks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/7/2023			Project #:	3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project: Crystal Lake Engineering Services
Count Date: 9/7/2023

Multi-Unit Trucks

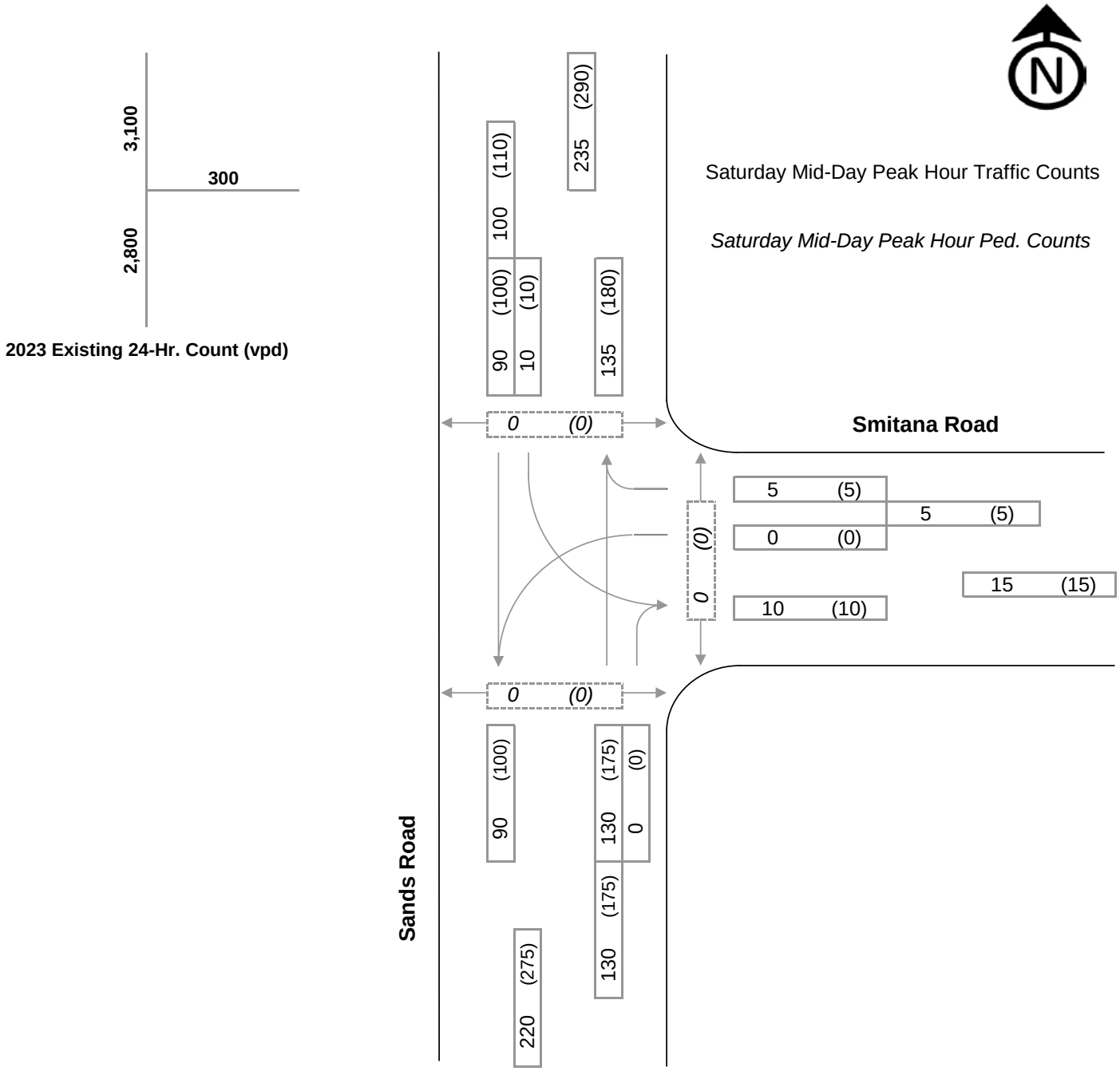
Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
9:00 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	5
9:15 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	4
9:30 AM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	4
9:45 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	2
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
10:15 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	2
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:45 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:30 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	3
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
12:15 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:45 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3

Project	Crystal Lake Engineering Services	**Multi-Unit Trucks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/7/2023			Project #:	3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	4
4:15 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
5:00 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**0**	**11**	**0**	**11**	**0**	**11**	**0**	**11**	**22**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**22**	



Vehicle Traffic Peak Hours:

11:45 A.M. to 12:45 P.M.

2:00 P.M. to 3:00 P.M.

Count Date(s):

Saturday, September 9, 2023

Prepared: 10/13/2023

Village of Crystal Lake

Crystal Lake Engineering Services

2023 Existing Peak Hour Traffic

Sands Road & Smitana Road

CIVILTECH

File: 04_Sands-Smitana Count Data Reduction and Peak Hour Diagram 9-09-23.xlsx

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Vehicles (1-hour intervals)

	Sands Road									Smitana Road									
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
12:00 AM	0	1	1	2	0	5	0	5	7	3	0	0	3	0	0	0	0	3	10
1:00 AM	0	2	0	2	0	5	0	5	7	2	0	0	2	0	0	0	0	2	9
2:00 AM	0	3	0	3	0	2	0	2	5	0	0	0	0	0	0	0	0	0	5
3:00 AM	0	1	2	3	0	5	0	5	8	1	0	0	1	0	0	0	0	1	9
4:00 AM	0	2	0	2	0	2	0	2	4	1	0	0	1	0	0	0	0	1	5
5:00 AM	0	9	1	10	0	2	0	2	12	1	0	0	1	0	0	0	0	1	13
6:00 AM	0	21	3	24	0	6	0	6	30	0	0	0	0	0	0	0	0	0	30
7:00 AM	0	36	12	48	5	38	0	43	91	5	0	0	5	0	0	0	0	5	96
8:00 AM	0	48	20	68	2	46	0	48	116	5	0	6	11	0	0	0	0	11	127
9:00 AM	0	101	2	103	4	71	1	76	179	9	0	2	11	0	0	0	0	11	190
10:00 AM	0	101	10	111	1	143	0	144	255	15	0	0	15	0	0	0	0	15	270
11:00 AM	0	91	10	101	1	135	0	136	237	7	0	0	7	0	0	0	0	7	244
12:00 PM	0	81	10	91	0	140	0	140	231	8	0	0	8	0	0	0	0	8	239
1:00 PM	0	90	8	98	2	142	0	144	242	15	0	0	15	0	0	0	0	15	257
2:00 PM	0	98	9	107	0	176	1	177	284	7	0	0	7	0	0	0	0	7	291
3:00 PM	0	81	10	91	0	151	0	151	242	8	0	0	8	0	0	0	0	8	250
4:00 PM	0	89	8	97	0	145	0	145	242	15	0	0	15	0	0	0	0	15	257
5:00 PM	0	68	10	78	0	131	0	131	209	12	0	0	12	0	0	0	0	12	221
6:00 PM	0	57	4	61	0	117	1	118	179	16	0	0	16	0	0	0	0	16	195
7:00 PM	0	41	6	47	0	83	1	84	131	6	0	0	6	0	0	0	0	6	137
8:00 PM	0	21	3	24	0	74	0	74	98	4	0	0	4	0	0	0	0	4	102
9:00 PM	0	12	1	13	0	45	0	45	58	5	0	0	5	0	0	0	0	5	63
10:00 PM	0	10	3	13	0	24	0	24	37	5	0	0	5	0	0	0	0	5	42
11:00 PM	0	9	3	12	0	24	0	24	36	4	0	0	4	0	0	0	0	4	40
TOTAL	**0**	**1073**	**136**	**1209**	**15**	**1712**	**4**	**1731**	**2940**	**154**	**0**	**8**	**162**	**0**	**0**	**0**	**0**	**162**	**3102**

24-Hour Vehicle Traffic Count

North Leg	3,100
South Leg	2,800
East Leg	300
West Leg	-

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Vehicles (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2	10
12:15 AM	0	0	0	0	0	2	0	2	2	1	0	0	1	0	0	0	0	1	3	10
12:30 AM	0	0	1	1	0	1	0	1	2	1	0	0	1	0	0	0	0	1	3	11
12:45 AM	0	1	0	1	0	0	0	0	1	1	0	0	1	0	0	0	0	1	2	10
1:00 AM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	9
1:15 AM	0	0	0	0	0	3	0	3	3	1	0	0	1	0	0	0	0	1	4	8
1:30 AM	0	0	0	0	0	1	0	1	1	1	0	0	1	0	0	0	0	1	2	5
1:45 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	4
2:00 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	5
2:15 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	6
2:30 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	7
2:45 AM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2	7
3:00 AM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2	9
3:15 AM	0	0	1	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	9
3:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	8
3:45 AM	0	1	1	2	0	2	0	2	4	0	0	0	0	0	0	0	0	0	4	7
4:00 AM	0	1	0	1	0	0	0	0	1	1	0	0	1	0	0	0	0	1	2	5
4:15 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	5
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
4:45 AM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2	11
5:00 AM	0	1	0	1	0	0	0	0	1	1	0	0	1	0	0	0	0	1	2	13
5:15 AM	0	3	1	4	0	1	0	1	5	0	0	0	0	0	0	0	0	0	5	15
5:30 AM	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	20
5:45 AM	0	3	0	3	0	1	0	1	4	0	0	0	0	0	0	0	0	0	4	27
6:00 AM	0	4	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	30
6:15 AM	0	6	2	8	0	2	0	2	10	0	0	0	0	0	0	0	0	0	10	44
6:30 AM	0	5	1	6	0	3	0	3	9	0	0	0	0	0	0	0	0	0	9	51
6:45 AM	0	6	0	6	0	1	0	1	7	0	0	0	0	0	0	0	0	0	7	74
7:00 AM	0	6	1	7	4	7	0	11	18	0	0	0	0	0	0	0	0	0	18	96
7:15 AM	0	7	3	10	0	7	0	7	17	0	0	0	0	0	0	0	0	0	17	105
7:30 AM	0	11	2	13	1	13	0	14	27	5	0	0	5	0	0	0	0	5	32	111
7:45 AM	0	12	6	18	0	11	0	11	29	0	0	0	0	0	0	0	0	0	29	115

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Vehicles (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	0	9	8	17	0	6	0	6	23	1	0	3	4	0	0	0	0	4	27	127
8:15 AM	0	7	4	11	0	11	0	11	22	1	0	0	1	0	0	0	0	1	23	142
8:30 AM	0	13	4	17	0	18	0	18	35	1	0	0	1	0	0	0	0	1	36	163
8:45 AM	0	19	4	23	2	11	0	13	36	2	0	3	5	0	0	0	0	5	41	181
9:00 AM	0	25	1	26	2	12	1	15	41	1	0	0	1	0	0	0	0	1	42	190
9:15 AM	0	26	0	26	0	15	0	15	41	1	0	2	3	0	0	0	0	3	44	209
9:30 AM	0	23	1	24	2	24	0	26	50	4	0	0	4	0	0	0	0	4	54	238
9:45 AM	0	27	0	27	0	20	0	20	47	3	0	0	3	0	0	0	0	3	50	247
10:00 AM	0	25	2	27	0	33	0	33	60	1	0	0	1	0	0	0	0	1	61	270
10:15 AM	0	24	5	29	0	39	0	39	68	5	0	0	5	0	0	0	0	5	73	271
10:30 AM	0	24	1	25	0	34	0	34	59	4	0	0	4	0	0	0	0	4	63	261
10:45 AM	0	28	2	30	1	37	0	38	68	5	0	0	5	0	0	0	0	5	73	261
11:00 AM	0	23	3	26	0	33	0	33	59	3	0	0	3	0	0	0	0	3	62	244
11:15 AM	0	18	6	24	1	37	0	38	62	1	0	0	1	0	0	0	0	1	63	241
11:30 AM	0	25	1	26	0	34	0	34	60	3	0	0	3	0	0	0	0	3	63	234
11:45 AM	0	25	0	25	0	31	0	31	56	0	0	0	0	0	0	0	0	0	56	232
12:00 PM	0	22	4	26	0	33	0	33	59	0	0	0	0	0	0	0	0	0	59	239
12:15 PM	0	25	2	27	0	27	0	27	54	2	0	0	2	0	0	0	0	2	56	248
12:30 PM	0	17	4	21	0	39	0	39	60	1	0	0	1	0	0	0	0	1	61	244
12:45 PM	0	17	0	17	0	41	0	41	58	5	0	0	5	0	0	0	0	5	63	249
1:00 PM	0	25	2	27	0	38	0	38	65	3	0	0	3	0	0	0	0	3	68	257
1:15 PM	0	21	0	21	0	25	0	25	46	6	0	0	6	0	0	0	0	6	52	275
1:30 PM	0	19	3	22	2	40	0	42	64	2	0	0	2	0	0	0	0	2	66	283
1:45 PM	0	25	3	28	0	39	0	39	67	4	0	0	4	0	0	0	0	4	71	286
2:00 PM	0	29	1	30	0	54	0	54	84	2	0	0	2	0	0	0	0	2	86	291
2:15 PM	0	18	2	20	0	39	0	39	59	1	0	0	1	0	0	0	0	1	60	279
2:30 PM	0	25	4	29	0	37	0	37	66	3	0	0	3	0	0	0	0	3	69	274
2:45 PM	0	26	2	28	0	46	1	47	75	1	0	0	1	0	0	0	0	1	76	268
3:00 PM	0	21	4	25	0	47	0	47	72	2	0	0	2	0	0	0	0	2	74	250
3:15 PM	0	21	0	21	0	32	0	32	53	2	0	0	2	0	0	0	0	2	55	244
3:30 PM	0	22	1	23	0	37	0	37	60	3	0	0	3	0	0	0	0	3	63	251
3:45 PM	0	17	5	22	0	35	0	35	57	1	0	0	1	0	0	0	0	1	58	258

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Vehicles (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	25	2	27	0	37	0	37	64	4	0	0	4	0	0	0	0	4	68	257
4:15 PM	0	19	2	21	0	38	0	38	59	3	0	0	3	0	0	0	0	3	62	253
4:30 PM	0	23	3	26	0	38	0	38	64	6	0	0	6	0	0	0	0	6	70	243
4:45 PM	0	22	1	23	0	32	0	32	55	2	0	0	2	0	0	0	0	2	57	222
5:00 PM	0	28	1	29	0	31	0	31	60	4	0	0	4	0	0	0	0	4	64	221
5:15 PM	0	12	5	17	0	32	0	32	49	3	0	0	3	0	0	0	0	3	52	212
5:30 PM	0	14	3	17	0	30	0	30	47	2	0	0	2	0	0	0	0	2	49	214
5:45 PM	0	14	1	15	0	38	0	38	53	3	0	0	3	0	0	0	0	3	56	205
6:00 PM	0	18	0	18	0	32	0	32	50	5	0	0	5	0	0	0	0	5	55	195
6:15 PM	0	16	2	18	0	33	1	34	52	2	0	0	2	0	0	0	0	2	54	172
6:30 PM	0	11	1	12	0	26	0	26	38	2	0	0	2	0	0	0	0	2	40	156
6:45 PM	0	12	1	13	0	26	0	26	39	7	0	0	7	0	0	0	0	7	46	154
7:00 PM	0	13	0	13	0	17	1	18	31	1	0	0	1	0	0	0	0	1	32	137
7:15 PM	0	8	0	8	0	28	0	28	36	2	0	0	2	0	0	0	0	2	38	135
7:30 PM	0	13	3	16	0	20	0	20	36	2	0	0	2	0	0	0	0	2	38	130
7:45 PM	0	7	3	10	0	18	0	18	28	1	0	0	1	0	0	0	0	1	29	116
8:00 PM	0	6	2	8	0	21	0	21	29	1	0	0	1	0	0	0	0	1	30	102
8:15 PM	0	11	1	12	0	20	0	20	32	1	0	0	1	0	0	0	0	1	33	100
8:30 PM	0	2	0	2	0	21	0	21	23	1	0	0	1	0	0	0	0	1	24	80
8:45 PM	0	2	0	2	0	12	0	12	14	1	0	0	1	0	0	0	0	1	15	64
9:00 PM	0	3	1	4	0	19	0	19	23	5	0	0	5	0	0	0	0	5	28	63
9:15 PM	0	4	0	4	0	9	0	9	13	0	0	0	0	0	0	0	0	0	13	44
9:30 PM	0	2	0	2	0	6	0	6	8	0	0	0	0	0	0	0	0	0	8	39
9:45 PM	0	3	0	3	0	11	0	11	14	0	0	0	0	0	0	0	0	0	14	47
10:00 PM	0	1	0	1	0	7	0	7	8	1	0	0	1	0	0	0	0	1	9	42
10:15 PM	0	2	1	3	0	4	0	4	7	1	0	0	1	0	0	0	0	1	8	48
10:30 PM	0	3	1	4	0	10	0	10	14	2	0	0	2	0	0	0	0	2	16	43
10:45 PM	0	4	1	5	0	3	0	3	8	1	0	0	1	0	0	0	0	1	9	42
11:00 PM	0	4	1	5	0	7	0	7	12	3	0	0	3	0	0	0	0	3	15	40
11:15 PM	0	1	1	2	0	1	0	1	3	0	0	0	0	0	0	0	0	0	3	
11:30 PM	0	1	1	2	0	12	0	12	14	1	0	0	1	0	0	0	0	1	15	
11:45 PM	0	3	0	3	0	4	0	4	7	0	0	0	0	0	0	0	0	0	7	
TOTAL	**0**	**1073**	**136**	**1209**	**15**	**1712**	**4**	**1731**	**2940**	**154**	**0**	**8**	**162**	**0**	**0**	**0**	**0**	**162**	**3102**	

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Vehicles (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums

Mid-Day Peak Hour

	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
11:45 AM	0	89	10	99	0	130	0	130	229	3	0	0	3	0	0	0	0	3	232
Percent Trucks	#DIV/0!	1.1%	0.0%	1.0%	#DIV/0!	0.8%	#DIV/0!	0.8%	0.9%	0.0%	#DIV/0!	#DIV/0!	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.9%

Intersection Peak Hour Factor = 0.95

Mid-Day Peak Hour

	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
2:00 PM	0	98	9	107	0	176	1	177	284	7	0	0	7	0	0	0	0	7	291
Percent Trucks	#DIV/0!	1.0%	0.0%	0.9%	#DIV/0!	0.0%	0.0%	0.0%	0.4%	0.0%	#DIV/0!	#DIV/0!	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.3%

Intersection Peak Hour Factor = 0.85

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Trucks (1-hour intervals)

	Sands Road									Smitana Road									
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	2	1	3	4	2	0	6	9	2	0	0	2	0	0	0	0	2	11
8:00 AM	0	0	2	2	2	3	0	5	7	2	0	6	8	0	0	0	0	8	15
9:00 AM	0	1	1	2	4	0	1	5	7	3	0	2	5	0	0	0	0	5	12
10:00 AM	0	3	3	6	1	4	0	5	11	4	0	0	4	0	0	0	0	4	15
11:00 AM	0	2	0	2	0	3	0	3	5	0	0	0	0	0	0	0	0	0	5
12:00 PM	0	2	0	2	0	1	0	1	3	0	0	0	0	0	0	0	0	0	3
1:00 PM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2
2:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
6:00 PM	0	5	0	5	0	1	0	1	6	0	0	0	0	0	0	0	0	0	6
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**19**	**7**	**26**	**11**	**20**	**1**	**32**	**58**	**11**	**0**	**8**	**19**	**0**	**0**	**0**	**0**	**19**	**77**

24-Hour Truck Traffic Count

North Leg	100
South Leg	100
East Leg	-
West Leg	-

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Trucks (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:15 AM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2	2
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:15 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
7:00 AM	0	0	0	0	3	1	0	4	4	0	0	0	0	0	0	0	0	0	4	11
7:15 AM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	13
7:30 AM	0	1	0	1	1	0	0	1	2	2	0	0	2	0	0	0	0	2	4	13
7:45 AM	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	9

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Trucks (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	0	0	1	1	0	1	0	1	2	1	0	3	4	0	0	0	0	4	6	15
8:15 AM	0	0	1	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	12
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
8:45 AM	0	0	0	0	2	1	0	3	3	1	0	3	4	0	0	0	0	4	7	18
9:00 AM	0	0	0	0	2	0	1	3	3	0	0	0	0	0	0	0	0	0	3	12
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2	2	12
9:30 AM	0	0	1	1	2	0	0	2	3	3	0	0	3	0	0	0	0	3	6	16
9:45 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	10
10:00 AM	0	1	2	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	15
10:15 AM	0	1	1	2	0	2	0	2	4	2	0	0	2	0	0	0	0	2	6	13
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
10:45 AM	0	1	0	1	1	2	0	3	4	2	0	0	2	0	0	0	0	2	6	10
11:00 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	5
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
11:30 AM	0	1	0	1	0	2	0	2	3	0	0	0	0	0	0	0	0	0	3	5
11:45 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
12:00 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	3
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:45 PM	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	3
1:00 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	2
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	2
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:30 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Trucks (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:45 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	5
6:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	6
6:15 PM	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	5
6:30 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	3
6:45 PM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	2
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:30 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**0**	**19**	**7**	**26**	**11**	**20**	**1**	**32**	**58**	**11**	**0**	**8**	**19**	**0**	**0**	**0**	**0**	**19**	**77**	

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Total Trucks (15-minute intervals)

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums

Mid-Day Peak Hour

	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
11:45 AM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2

Mid-Day Peak Hour

	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection
	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total
2:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1

Project Crystal Lake Engineering Services

Count Date 9/9/2023

Peds + Bikes in Crosswalks (1-hour intervals)

	Sands Road						Smitana Road						
	Across North Leg			Across South Leg			Across East Leg			Across West Leg			Intersection
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0

Project	Crystal Lake Engineering Services	**Peds + Bikes in Crosswalks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/9/2023			Project #:	3045 - 01.09

	Sands Road						**Smitana Road**							
	Across North Leg			**Across South Leg**			**Across East Leg**			**Across West Leg**			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project	Crystal Lake Engineering Services	**Peds + Bikes in Crosswalks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/9/2023			Project #:	3045 - 01.09

	Sands Road						Smitana Road							
	Across North Leg			Across South Leg			Across East Leg			Across West Leg			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project	Crystal Lake Engineering Services	**Peds + Bikes in Crosswalks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/9/2023			Project #:	3045 - 01.09

	Sands Road						**Smitana Road**							
	Across North Leg			**Across South Leg**			**Across East Leg**			**Across West Leg**			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project	Crystal Lake Engineering Services	**Peds + Bikes in Crosswalks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/9/2023			Project #:	3045 - 01.09

	Sands Road						Smitana Road							
	Across North Leg			Across South Leg			Across East Leg			Across West Leg			Intersection	Hour
Start Time	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total	Sums
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

Totals for Traffic Peak Hour

Mid-Day Peak	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Day Peak	EB	WB	Total	EB	WB	Total	NB	SB	Total	NB	SB	Total	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

Project: Crystal Lake Engineering Services
Count Date: 9/9/2023

Passenger Cars

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2	10
12:15 AM	0	0	0	0	0	2	0	2	2	1	0	0	1	0	0	0	0	1	3	10
12:30 AM	0	0	1	1	0	1	0	1	2	1	0	0	1	0	0	0	0	1	3	9
12:45 AM	0	1	0	1	0	0	0	0	1	1	0	0	1	0	0	0	0	1	2	8
1:00 AM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	7
1:15 AM	0	0	0	0	0	1	0	1	1	1	0	0	1	0	0	0	0	1	2	6
1:30 AM	0	0	0	0	0	1	0	1	1	1	0	0	1	0	0	0	0	1	2	5
1:45 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	4
2:00 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	5
2:15 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	6
2:30 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	6
2:45 AM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2	6
3:00 AM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2	8
3:15 AM	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	8
3:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	8
3:45 AM	0	1	1	2	0	2	0	2	4	0	0	0	0	0	0	0	0	0	4	7
4:00 AM	0	1	0	1	0	0	0	0	1	1	0	0	1	0	0	0	0	1	2	5
4:15 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	5
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
4:45 AM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2	11
5:00 AM	0	1	0	1	0	0	0	0	1	1	0	0	1	0	0	0	0	1	2	13
5:15 AM	0	3	1	4	0	1	0	1	5	0	0	0	0	0	0	0	0	0	5	15
5:30 AM	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	20
5:45 AM	0	3	0	3	0	1	0	1	4	0	0	0	0	0	0	0	0	0	4	27
6:00 AM	0	4	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	30
6:15 AM	0	6	2	8	0	2	0	2	10	0	0	0	0	0	0	0	0	0	10	40
6:30 AM	0	5	1	6	0	3	0	3	9	0	0	0	0	0	0	0	0	0	9	45
6:45 AM	0	6	0	6	0	1	0	1	7	0	0	0	0	0	0	0	0	0	7	64
7:00 AM	0	6	1	7	1	6	0	7	14	0	0	0	0	0	0	0	0	0	14	85
7:15 AM	0	6	3	9	0	6	0	6	15	0	0	0	0	0	0	0	0	0	15	92
7:30 AM	0	10	2	12	0	13	0	13	25	3	0	0	3	0	0	0	0	3	28	98
7:45 AM	0	12	5	17	0	11	0	11	28	0	0	0	0	0	0	0	0	0	28	106

Project: Crystal Lake Engineering Services
Count Date: 9/9/2023

Passenger Cars

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	0	9	7	16	0	5	0	5	21	0	0	0	0	0	0	0	0	0	21	112
8:15 AM	0	7	3	10	0	10	0	10	20	1	0	0	1	0	0	0	0	1	21	130
8:30 AM	0	13	4	17	0	18	0	18	35	1	0	0	1	0	0	0	0	1	36	151
8:45 AM	0	19	4	23	0	10	0	10	33	1	0	0	1	0	0	0	0	1	34	163
9:00 AM	0	25	1	26	0	12	0	12	38	1	0	0	1	0	0	0	0	1	39	178
9:15 AM	0	26	0	26	0	15	0	15	41	1	0	0	1	0	0	0	0	1	42	197
9:30 AM	0	23	0	23	0	24	0	24	47	1	0	0	1	0	0	0	0	1	48	222
9:45 AM	0	26	0	26	0	20	0	20	46	3	0	0	3	0	0	0	0	3	49	237
10:00 AM	0	24	0	24	0	33	0	33	57	1	0	0	1	0	0	0	0	1	58	255
10:15 AM	0	23	4	27	0	37	0	37	64	3	0	0	3	0	0	0	0	3	67	258
10:30 AM	0	24	1	25	0	34	0	34	59	4	0	0	4	0	0	0	0	4	63	254
10:45 AM	0	27	2	29	0	35	0	35	64	3	0	0	3	0	0	0	0	3	67	251
11:00 AM	0	23	3	26	0	32	0	32	58	3	0	0	3	0	0	0	0	3	61	239
11:15 AM	0	18	6	24	1	37	0	38	62	1	0	0	1	0	0	0	0	1	63	236
11:30 AM	0	24	1	25	0	32	0	32	57	3	0	0	3	0	0	0	0	3	60	229
11:45 AM	0	24	0	24	0	31	0	31	55	0	0	0	0	0	0	0	0	0	55	230
12:00 PM	0	22	4	26	0	32	0	32	58	0	0	0	0	0	0	0	0	0	58	236
12:15 PM	0	25	2	27	0	27	0	27	54	2	0	0	2	0	0	0	0	2	56	245
12:30 PM	0	17	4	21	0	39	0	39	60	1	0	0	1	0	0	0	0	1	61	241
12:45 PM	0	15	0	15	0	41	0	41	56	5	0	0	5	0	0	0	0	5	61	246
1:00 PM	0	25	2	27	0	37	0	37	64	3	0	0	3	0	0	0	0	3	67	255
1:15 PM	0	21	0	21	0	25	0	25	46	6	0	0	6	0	0	0	0	6	52	274
1:30 PM	0	19	3	22	2	40	0	42	64	2	0	0	2	0	0	0	0	2	66	282
1:45 PM	0	25	3	28	0	38	0	38	66	4	0	0	4	0	0	0	0	4	70	284
2:00 PM	0	29	1	30	0	54	0	54	84	2	0	0	2	0	0	0	0	2	86	290
2:15 PM	0	18	2	20	0	39	0	39	59	1	0	0	1	0	0	0	0	1	60	278
2:30 PM	0	24	4	28	0	37	0	37	65	3	0	0	3	0	0	0	0	3	68	273
2:45 PM	0	26	2	28	0	46	1	47	75	1	0	0	1	0	0	0	0	1	76	268
3:00 PM	0	21	4	25	0	47	0	47	72	2	0	0	2	0	0	0	0	2	74	250
3:15 PM	0	21	0	21	0	32	0	32	53	2	0	0	2	0	0	0	0	2	55	244
3:30 PM	0	22	1	23	0	37	0	37	60	3	0	0	3	0	0	0	0	3	63	250
3:45 PM	0	17	5	22	0	35	0	35	57	1	0	0	1	0	0	0	0	1	58	257

Project: Crystal Lake Engineering Services
Count Date: 9/9/2023

Passenger Cars

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	25	2	27	0	37	0	37	64	4	0	0	4	0	0	0	0	4	68	256
4:15 PM	0	18	2	20	0	38	0	38	58	3	0	0	3	0	0	0	0	3	61	252
4:30 PM	0	23	3	26	0	38	0	38	64	6	0	0	6	0	0	0	0	6	70	243
4:45 PM	0	22	1	23	0	32	0	32	55	2	0	0	2	0	0	0	0	2	57	222
5:00 PM	0	28	1	29	0	31	0	31	60	4	0	0	4	0	0	0	0	4	64	220
5:15 PM	0	12	5	17	0	32	0	32	49	3	0	0	3	0	0	0	0	3	52	210
5:30 PM	0	14	3	17	0	30	0	30	47	2	0	0	2	0	0	0	0	2	49	210
5:45 PM	0	13	1	14	0	38	0	38	52	3	0	0	3	0	0	0	0	3	55	200
6:00 PM	0	17	0	17	0	32	0	32	49	5	0	0	5	0	0	0	0	5	54	189
6:15 PM	0	14	2	16	0	33	1	34	50	2	0	0	2	0	0	0	0	2	52	167
6:30 PM	0	10	1	11	0	26	0	26	37	2	0	0	2	0	0	0	0	2	39	153
6:45 PM	0	11	1	12	0	25	0	25	37	7	0	0	7	0	0	0	0	7	44	152
7:00 PM	0	13	0	13	0	17	1	18	31	1	0	0	1	0	0	0	0	1	32	137
7:15 PM	0	8	0	8	0	28	0	28	36	2	0	0	2	0	0	0	0	2	38	135
7:30 PM	0	13	3	16	0	20	0	20	36	2	0	0	2	0	0	0	0	2	38	130
7:45 PM	0	7	3	10	0	18	0	18	28	1	0	0	1	0	0	0	0	1	29	116
8:00 PM	0	6	2	8	0	21	0	21	29	1	0	0	1	0	0	0	0	1	30	102
8:15 PM	0	11	1	12	0	20	0	20	32	1	0	0	1	0	0	0	0	1	33	99
8:30 PM	0	2	0	2	0	21	0	21	23	1	0	0	1	0	0	0	0	1	24	79
8:45 PM	0	2	0	2	0	12	0	12	14	1	0	0	1	0	0	0	0	1	15	63
9:00 PM	0	2	1	3	0	19	0	19	22	5	0	0	5	0	0	0	0	5	27	62
9:15 PM	0	4	0	4	0	9	0	9	13	0	0	0	0	0	0	0	0	0	13	44
9:30 PM	0	2	0	2	0	6	0	6	8	0	0	0	0	0	0	0	0	0	8	39
9:45 PM	0	3	0	3	0	11	0	11	14	0	0	0	0	0	0	0	0	0	14	46
10:00 PM	0	1	0	1	0	7	0	7	8	1	0	0	1	0	0	0	0	1	9	41
10:15 PM	0	2	1	3	0	4	0	4	7	1	0	0	1	0	0	0	0	1	8	47
10:30 PM	0	3	1	4	0	9	0	9	13	2	0	0	2	0	0	0	0	2	15	42
10:45 PM	0	4	1	5	0	3	0	3	8	1	0	0	1	0	0	0	0	1	9	42
11:00 PM	0	4	1	5	0	7	0	7	12	3	0	0	3	0	0	0	0	3	15	40
11:15 PM	0	1	1	2	0	1	0	1	3	0	0	0	0	0	0	0	0	0	3	
11:30 PM	0	1	1	2	0	12	0	12	14	1	0	0	1	0	0	0	0	1	15	
11:45 PM	0	3	0	3	0	4	0	4	7	0	0	0	0	0	0	0	0	0	7	
TOTAL	**0**	**1054**	**129**	**1183**	**4**	**1692**	**3**	**1699**	**2882**	**143**	**0**	**0**	**143**	**0**	**0**	**0**	**0**	**143**	**3025**	

Project: Crystal Lake Engineering Services
Count Date: 9/9/2023

Single-Unit Trucks/Buses

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
7:00 AM	0	0	0	0	3	0	0	3	3	0	0	0	0	0	0	0	0	0	3	10
7:15 AM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	13
7:30 AM	0	1	0	1	1	0	0	1	2	2	0	0	2	0	0	0	0	2	4	13
7:45 AM	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	9

Project: Crystal Lake Engineering Services
Count Date: 9/9/2023

Single-Unit Trucks/Buses

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	0	0	1	1	0	1	0	1	2	1	0	3	4	0	0	0	0	4	6	14
8:15 AM	0	0	1	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	11
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
8:45 AM	0	0	0	0	2	0	0	2	2	1	0	3	4	0	0	0	0	4	6	17
9:00 AM	0	0	0	0	2	0	1	3	3	0	0	0	0	0	0	0	0	0	3	12
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2	2	12
9:30 AM	0	0	1	1	2	0	0	2	3	3	0	0	3	0	0	0	0	3	6	15
9:45 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	9
10:00 AM	0	1	2	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	14
10:15 AM	0	1	1	2	0	1	0	1	3	2	0	0	2	0	0	0	0	2	5	11
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
10:45 AM	0	1	0	1	1	2	0	3	4	2	0	0	2	0	0	0	0	2	6	8
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11:30 AM	0	1	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	2	3
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	2
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	2
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:30 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Project: Crystal Lake Engineering Services
Count Date: 9/9/2023

Single-Unit Trucks/Buses

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	3
6:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	3
6:15 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:45 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:00 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**0**	**14**	**7**	**21**	**11**	**10**	**1**	**22**	**43**	**11**	**0**	**8**	**19**	**0**	**0**	**0**	**0**	**19**	**62**	

Project	Crystal Lake Engineering Services	**Multi-Unit Trucks**	Subtitle or Limits:	Client:	Village of Crystal Lake
Count Date	9/9/2023			Project #:	3045 - 01.09

	Sands Road									**Smitana Road**										
	North Approach				**South Approach**				Both	**East Approach**				**West Approach**				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:15 AM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2	2
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:15 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:00 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project: Crystal Lake Engineering Services
Count Date: 9/9/2023

Multi-Unit Trucks

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:15 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	2
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:00 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	3
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:30 AM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	2
11:45 AM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:45 PM	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	2
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project: Crystal Lake Engineering Services
Count Date: 9/9/2023

Multi-Unit Trucks

Subtitle or Limits:

Client: Village of Crystal Lake
Project #: 3045 - 01.09

	Sands Road									Smitana Road										
	North Approach				South Approach				Both	East Approach				West Approach				Both	Intersection	Hour
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Right	Thru	Left	Total	Right	Thru	Left	Total	Approaches	Total	Sums
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
6:15 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	3
6:30 PM	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
6:45 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:30 PM	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	**0**	**5**	**0**	**5**	**0**	**10**	**0**	**10**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	

APPENDIX B

CMAP Correspondence

Civiltech Engineering, Inc.
www.civiltechinc.com

Two Pierce Place, Suite 1400
Itasca, IL 60143
Phone: 630.773.3900
Fax: 630.773.3975

30 N LaSalle Street, Suite 2624
Chicago, IL 60602
Phone: 312.726.5910
Fax: 312.726.5911

Transportation

Civil

Construction

Environmental

Water Resources

Structural

Appraisal

November 11, 2020

Mr. Jose Rodriguez, PTP, AICP
Senior Planner, Research Analysis
Attn: Traffic Projections
Chicago Metropolitan Agency for Planning (CMAP)
233 South Wacker Drive, Suite 800
Chicago, IL 60606

Re: Casey's General Store and Gas Station Traffic Impact Study
City of Crystal Lake
2050 Traffic Projections

Dear Mr. Rodriguez:

The City of Crystal Lake has requested a Traffic Impact Study (TIS) for a proposed redevelopment of a 6.8 acre property located on the north east quadrant of the intersection of U.S. Route 14 (Northwest Highway) and Sands Road.

As IDOT will be reviewing the study as part of their permit process, we are requesting that your office furnish us with Design Year (2050) traffic projections for the intersection of U.S. Route 14 (Northwest Highway) and Sands Road.

Included for your reference are the following items:

Exhibit 1 – Regional Location Map

Exhibit 2 – Existing Conditions Map

Exhibit 3 – 2020 Peak Hour Diagram and ADT

Exhibit 4 - Current Site Plan dated October 12, 2020.

Please note that the enclosed Peak Hour Diagram includes ADT estimates based on peak hour intersection turning movement counts performed November 3, 2020.

U.S. Route 14 (Northwest Highway) is generally a four-lane other principal arterial that has an east/west orientation. The roadway is under the jurisdiction of the Illinois Department of Transportation (IDOT), and has been designated a Strategic Regional Arterial (SRA). At its intersection with Sands Road, U.S. Route 14 provides one exclusive left-turn lane, a through lane, and one shared through/right-turn lane on the east approach and provides one exclusive left-turn lane, two through lanes, and one shared through/right-turn lane on the west approach. U.S. Route 14 has a posted speed limit of 40 mph. The signalized intersection of U.S. Route 14 with Sands Road is approximately 1,100 feet east of the IL Route 31 interchange with U.S. Route 14 and is interconnected to the signals at that interchange.

Sands Road is a two-lane north/south-oriented local road under the jurisdiction of the City of Crystal Lake that provides one travel lane in each direction. At its intersection with U.S. Route 14, there is one exclusive left turn lane and one

shared through lane/right turn lane in both directions. Sands Road has a posted speed limit of 30 mph.

Surrounding land uses include strip commercial on the northwest and southwest quadrants of the intersection, low density residential on the southeast quadrant of the intersection, and some light industrial uses north of the intersection along the west side of Sands Road.

Please review the enclosed traffic data and provide us with suggested Design Year 2050 Build ADTs with respect to your model for our project area for the two alternatives.

If you have any questions, please contact me at bdesalle@civiltechinc.com.

Very truly yours,



Brian R. DeSalle, P.E., PTOE
Civiltech Engineering, Inc.

Enclosures

Cc: Abby Wilgreen, P.E., City of Crystal Lake

TRAFFIC FORECAST RECORD

Record Number: mc-15-20

Type of Report: Projection

Year Sought: 2050

Analyst: JAR

Organization requesting forecast: Civiltech

Contact: Anmol Shrivastava, P.E., PTOE

Email or Phone AShrivastava@civiltechinc.com

Sponsor: City of Crystal Lake

Date request was received: November 11, 2020

Date that response was emailed: November 11, 2020

Facility Location: US 14 (Northwest Highway) @ Sands Road

Municipality: Crystal Lake

Chicago Metropolitan Agency for Planning

433 West Van Buren Street
Suite 450
Chicago, IL 60607

312-454-0400
cmap.illinois.gov

November 11, 2020

Anmol Shrivastava, P.E., PTOE
Civiltech Engineering, Inc.
Two Pierce Place
Suite 1400
Itasca, IL 60143

Subject: ***US 14 (Northwest Highway) @ Sands Road***
City of Crystal Lake

Dear Mr. Shrivastava:

In response to a request made on your behalf and dated November 11, 2020, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current Volumes	Year 2050 ADT
US 14 west of Sands Road	25,300	48,200
US 14 east of Sands Road	23,000	47,000
Sands Road north of US 14	2,700	3,460
Sands Road south of US 14	4,800	6,160

Traffic projections are developed using existing ADT data provided in the request letter and the results from the June 2020 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area. The provision of this data in support of your request does not constitute a CMAP endorsement of the proposed development or any subsequent developments.

If you have any questions, please call me at (312) 386-8806.

Sincerely,

Jose Rodriguez, PTP, AICP
Senior Planner, Research & Analysis

cc: Wintergreen (City of Crystal Lake); Quigley (IDOT)
\2020_TrafficForecast\CrystalLake\mc-15-20\mc-15-20.docx

APPENDIX C

NVA Facility Traffic Data

Enter 10-02-23			
Hour Start	assenger Ca	Trucks	Total
12:00 AM	CI-1		1
1:00 AM			
2:00 AM	CI-2		2
3:00 AM	CI-1		1
4:00 AM			
5:00 AM	CI-3		3
6:00 AM	CI-7		7
7:00 AM	CI-26		26
8:00 AM	CI-9	TI-1	10
9:00 AM	CI-4	TI-2	6
10:00 AM	CI-5	TI-2	7
11:00 AM	CI-2		2
12:00 PM		TI-2	2
1:00 PM	CI-3	TI-2	5
2:00 PM	CI-3		3
3:00 PM	CI-1		1
4:00 PM	CI1	TI-1	2
5:00 PM	CI-1	TI-2	3
6:00 PM			
7:00 PM			
8:00 PM			
9:00 PM			
10:00 PM			
11:00 PM			

Enter 10-03-23			
Hour Start	assenger C	Trucks	Total
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM	CI-1		1
6:00 AM	CI-1	TI-1	2
7:00 AM	CI-24		24
8:00 AM	CI-5		5
9:00 AM			
10:00 AM	CI-4		4
11:00 AM	CI-5	TI-2	7
12:00 PM	CI-5		5
1:00 PM	CI-5		5
2:00 PM	CI-1		1
3:00 PM	CI-3		3
4:00 PM	CI-1		1
5:00 PM	CI-1		1
6:00 PM	CI-2		2
7:00 PM			
8:00 PM			
9:00 PM			
10:00 PM	CI-1		1
11:00 PM			

Enter 10-04-23			
Hour Start	assenger C	Trucks	Total
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM	CI-1		1
7:00 AM	CI-23	TI-1	24
8:00 AM	CI-3		3
9:00 AM	CI-3		3
10:00 AM	CI-3		3
11:00 AM	CI-1		1
12:00 PM	CI-4	TI-3	7
1:00 PM	CI-7		7
2:00 PM	CI-5		5
3:00 PM	CI-3	TI-1	4
4:00 PM		TI-1	1
5:00 PM		TI-1	1
6:00 PM		TI-1	1
7:00 PM	CI-1		1
8:00 PM			
9:00 PM		TI-1	1
10:00 PM			
11:00 PM			

Enter 10-05-23			
Hour Start	assenger C	Trucks	Total
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM	CI-1		1
6:00 AM			
7:00 AM	CI-23		23
8:00 AM	CI-4		4
9:00 AM	CI-1	TI-1	2
10:00 AM	CI-6	TI-1	7
11:00 AM			
12:00 PM	CI-1		1
1:00 PM	CI-7	TI-1	8
2:00 PM	CI-2		2
3:00 PM		TI-1	1
4:00 PM	CI-2		2
5:00 PM			
6:00 PM		TI-1	1
7:00 PM			
8:00 PM		TI-1	1
9:00 PM			
10:00 PM			
11:00 PM			

Enter Friday 10.6.2023			
Hour Start	assenger C	Trucks	Total
12:00 AM		TI-1	1
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM	CI-23	TI-1	24
8:00 AM	CI-3		3
9:00 AM	CI-4	TI-2	6
10:00 AM	CI-4	TI-4	8
11:00 AM	CI-5		5
12:00 PM		TI-2	2
1:00 PM	CI-5	TI-1	6
2:00 PM	ci-1		1
3:00 PM	CI-3		3
4:00 PM	CI-4	TI-1	5
5:00 PM	CI-2	TI-1	3
6:00 PM	CI-3	TI-3	6
7:00 PM	CI-3	TI-2	5
8:00 PM	CI-2	TI-4	6
9:00 PM	CI-1	TI-2	3
10:00 PM	CI-1		1
11:00 PM		TI-2	2

Exiting Traffic 10-02-23			
Hour Start	assenger Ca	Trucks	Total
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM	Cr-1	Tr-2	3
6:00 AM		Tr-2	2
7:00 AM	Cr-2	Tr-6	8
8:00 AM	Cr-5	Tr-5	10
9:00 AM	Cr-5	Tr-4	9
10:00 AM	Cr-7	Tr-4	11
11:00 AM	Cr-1		1
12:00 PM	Cr-4	Tr-2	6
1:00 PM			
2:00 PM	Cr-5		5
3:00 PM	Cr-1		1
4:00 PM	Cr-8		8
5:00 PM	Cr-8		8
6:00 PM	Cr-11	Tr-1	12
7:00 PM	Cr-1	Tr-1	2
8:00 PM			
9:00 PM			
10:00 PM			
11:00 PM			

Exiting Traffic 10-03-23			
Hour Start	assenger C	Trucks	Total
12:00 AM			
1:00 AM	Cr-1		1
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM		Tr-1	1
7:00 AM		Tr-1	1
8:00 AM			
9:00 AM	Cr-2		2
10:00 AM	Cr-3	Tr-1	4
11:00 AM	Cr-6		6
12:00 PM	Cr-1	Tr-1	2
1:00 PM	Cr-3		3
2:00 PM	Cr-3	Tr-1	4
3:00 PM	Cr-3		3
4:00 PM	Cr-8		8
5:00 PM	Cr-8		8
6:00 PM	Cr-11		11
7:00 PM	Cr-1		1
8:00 PM			
9:00 PM			
10:00 PM			
11:00 PM			

Exiting Traffic 10-04-23			
Hour Start	assenger C	Trucks	Total
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM			
8:00 AM	Cr-1		1
9:00 AM	Cr-1	Tr-2	3
10:00 AM	Cr-4	Tr-1	5
11:00 AM	Cr-3	Tr-1	4
12:00 PM	Cr-6	Tr-1	7
1:00 PM	Cr-7	Tr-2	9
2:00 PM	Cr-4		4
3:00 PM	Cr-2		2
4:00 PM	Cr-9		9
5:00 PM	Cr-8	Tr-1	9
6:00 PM	Cr15		15
7:00 PM			
8:00 PM	Cr-1		1
9:00 PM			
10:00 PM			
11:00 PM			

Exiting Traffic 10-05-23			
Hour Start	assenger C	Trucks	Total
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM	Cr-1		1
6:00 AM			
7:00 AM			
8:00 AM	Cr-2		2
9:00 AM	Cr-1	Tr-2	3
10:00 AM	Cr-6	Tr-1	7
11:00 AM			
12:00 PM	Cr-2		2
1:00 PM	Cr-6		6
2:00 PM		Tr-1	1
3:00 PM	Cr-2		2
4:00 PM	Cr-2		2
5:00 PM	Cr-10		10
6:00 PM	Cr-9		9
7:00 PM			
8:00 PM	Cr-1		1
9:00 PM			
10:00 PM			
11:00 PM			

Exiting Traffic Friday 10.6.23			
Hour Start			
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM	Cr-1	Tr-1	2
8:00 AM	Cr-3		3
9:00 AM	Cr-3		3
10:00 AM	Cr-2	Tr-1	3
11:00 AM	Cr-5		5
12:00 PM	Cr-3		3
1:00 PM	Cr-7		7
2:00 PM	Cr-1		1
3:00 PM	Cr-1		1
4:00 PM	Cr-7		7
5:00 PM	Cr-11		11
6:00 PM	Cr-8		8
7:00 PM	Cr-7		7
8:00 PM	Cr-6		6
9:00 PM	Cr-4		4
10:00 PM	Cr-1		1
11:00 PM	Cr-2		2

Entering 10.07.2023			
Hour Start	Passenger Cars	Trucks	Total
12:00 AM		Tl-1	1
1:00 AM		Tl-2	2
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM		Tl-1	1
6:00 AM	Cl-1		1
7:00 AM	Cl-10	Tl-2	12
8:00 AM	Cl-4		4
9:00 AM	Cl-1		1
10:00 AM	Cl-2	Tl-1	3
11:00 AM	Cl-6		6
12:00 PM	Cl-3	Tl-2	5
1:00 PM	Cl-2		2
2:00 PM	Cl-2	Tl-1	3
3:00 PM	Cl2	Tl-1	3
4:00 PM			
5:00 PM	Cl-2		2
6:00 PM			
7:00 PM			
8:00 PM	Cl-1		1
9:00 PM	Cl-1		1
10:00 PM			
11:00 PM			

Entering Sunday 10.8.2023			
Hour Start	Passenger Cars	Trucks	Total
12:00 AM			
1:00 AM			
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM	Cl-1		1
7:00 AM			
8:00 AM	Cl-2		2
9:00 AM	Cl-2		2
10:00 AM	Cl-1	Tl-1	2
11:00 AM	Cl-2		2
12:00 PM	Cl-3		3
1:00 PM			
2:00 PM	Cl-1		1
3:00 PM			
4:00 PM	Cl-6		6
5:00 PM	Cl-3	Tl-1	4
6:00 PM	Cl-1		1
7:00 PM	Cl-2		2
8:00 PM	Cl-2		2
9:00 PM	Cl-1		1
10:00 PM	Cl-1		1
11:00 PM			

Exit 10.07.2023			
Hour Start	Passenger Cars	Trucks	Total
12:00 AM	Cr-1		1
1:00 AM	Cr-2		2
2:00 AM			
3:00 AM			
4:00 AM			
5:00 AM			
6:00 AM			
7:00 AM			
8:00 AM	Cr-4		4
9:00 AM	Cr-1		1
10:00 AM	Cr-2		2
11:00 AM	Cr-7		7
12:00 PM	Cr-4	Tr-1	5
1:00 PM	Cr-4		4
2:00 PM	Cr-3	Tr-3	6
3:00 PM	Cr-10	Tr-1	11
4:00 PM	Cr-4		4
5:00 PM	Cr-2		2
6:00 PM			
7:00 PM			
8:00 PM	Cr-1		1
9:00 PM			
10:00 PM	Cr-1		1
11:00 PM			

Exit Sunday 10.8.2023			
Hour Start	Passenger Cars	Trucks	Total
12:00 AM			
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	Cr-2	Tr-2	4
10:00 AM	Cr-1	Tr-2	3
11:00 AM	Cr-1	Tr-1	2
12:00 PM	Cr-5	Tr-3	8
1:00 PM		Tr-1	1
2:00 PM	Cr-1		1
3:00 PM	Cr-1	Tr-1	2
4:00 PM	Cr-1	Tr-1	2
5:00 PM	Cr-3	Tr-4	7
6:00 PM		Tr-1	1
7:00 PM	Cr-1		1
8:00 PM	Cr-1	Tr-1	2
9:00 PM			
10:00 PM	Cr-1		1
11:00 PM			

Avg Existing Entering Traffic, Weekday

Hour Start	Passenger Cars	Trucks	Total
12:00 AM	0	0	0
1:00 AM	0	0	0
2:00 AM	0	0	0
3:00 AM	0	0	0
4:00 AM	0	0	0
5:00 AM	1	0	1
6:00 AM	2	0	2
7:00 AM	24	0	24
8:00 AM	5	0	5
9:00 AM	2	1	3
10:00 AM	4	1	5
11:00 AM	3	0	3
12:00 PM	2	1	3
1:00 PM	5	1	6
2:00 PM	2	0	2
3:00 PM	2	0	2
4:00 PM	2	1	3
5:00 PM	1	1	2
6:00 PM	1	1	2
7:00 PM	1	0	1
8:00 PM	0	1	1
9:00 PM	0	1	1
10:00 PM	0	0	0
11:00 PM	0	0	0
Grand Total:	57	9	66

TRUCK SCALING FACTOR =	5.41
PC SCALING FACTOR =	2.35

Site Plan Total:
- 325 Truck Spots
- 61 Regular Spots
- 3 ADA Spots
- 33,000 SF

Existing Total:
- 60 truck spots
- 47 regular spots
- 3 ADA spots
- 14,000 SF

Site/Existing Ratios:

By Floor: 2.35

By Truck Spots: 5.41

By Parking Spots: 1.29

Weekday Trip Gen - Enter

Hour Start	Passenger Cars	Trucks	Total
12:00 AM	0	0	0
1:00 AM	0	0	0
2:00 AM	0	0	0
3:00 AM	0	0	0
4:00 AM	0	0	0
5:00 AM	2	0	2
6:00 AM	5	0	5
7:00 AM	56	0	56
8:00 AM	12	0	12
9:00 AM	5	5	10
10:00 AM	9	5	14
11:00 AM	7	0	7
12:00 PM	5	5	10
1:00 PM	12	5	17
2:00 PM	5	0	5
3:00 PM	5	0	5
4:00 PM	5	5	10
5:00 PM	2	5	7
6:00 PM	2	5	7
7:00 PM	2	0	2
8:00 PM	0	5	5
9:00 PM	0	5	5
10:00 PM	0	0	0
11:00 PM	0	0	0
Grand Total:	134	45	179

Avg Existing Exiting Traffic, Weekday

Hour Start	Passenger Cars	Trucks	Total
12:00 AM	0	0	0
1:00 AM	0	0	0
2:00 AM	0	0	0
3:00 AM	0	0	0
4:00 AM	0	0	0
5:00 AM	0	0	0
6:00 AM	0	1	1
7:00 AM	1	2	3
8:00 AM	2	1	3
9:00 AM	2	2	4
10:00 AM	4	2	6
11:00 AM	3	0	3
12:00 PM	3	1	4
1:00 PM	5	0	5
2:00 PM	3	0	3
3:00 PM	2	0	2
4:00 PM	7	0	7
5:00 PM	9	0	9
6:00 PM	11	0	11
7:00 PM	2	0	2
8:00 PM	2	0	2
9:00 PM	1	0	1
10:00 PM	0	0	0
11:00 PM	0	0	0
Grand Total:	57	9	66

Weekday Trip Gen - Exit

Hour Start	Passenger Cars	Trucks	Total
12:00 AM	0	0	0
1:00 AM	0	0	0
2:00 AM	0	0	0
3:00 AM	0	0	0
4:00 AM	0	0	0
5:00 AM	0	0	0
6:00 AM	0	5	5
7:00 AM	2	11	13
8:00 AM	5	5	10
9:00 AM	5	11	16
10:00 AM	9	11	20
11:00 AM	7	0	7
12:00 PM	7	5	12
1:00 PM	12	0	12
2:00 PM	7	0	7
3:00 PM	5	0	5
4:00 PM	16	0	16
5:00 PM	21	0	21
6:00 PM	26	0	26
7:00 PM	5	0	5
8:00 PM	5	0	5
9:00 PM	2	0	2
10:00 PM	0	0	0
11:00 PM	0	0	0
Grand Total:	134	48	182

Existing Entering Traffic Sat

Hour Start	Passenger Cars	Trucks	Total
12:00 AM	0	1	1
1:00 AM	0	2	2
2:00 AM	0	0	0
3:00 AM	0	0	0
4:00 AM	0	0	0
5:00 AM	0	1	1
6:00 AM	1	0	1
7:00 AM	10	2	12
8:00 AM	4	0	4
9:00 AM	1	0	1
10:00 AM	2	1	3
11:00 AM	6	0	6
12:00 PM	3	2	5
1:00 PM	2	0	2
2:00 PM	2	1	3
3:00 PM	2	1	3
4:00 PM	0	0	0
5:00 PM	2	0	2
6:00 PM	0	0	0
7:00 PM	0	0	0
8:00 PM	1	0	1
9:00 PM	1	0	1
10:00 PM	0	0	0
11:00 PM	0	0	0
Grand Total:	37	11	48

TRUCK SCALING FACTOR =	5.41
PC SCALING FACTOR =	2.35

Site Plan Total:
- 325 Truck Spots
- 61 Regular Spots
- 3 ADA Spots
- 33,000 SF

Existing Total:
- 60 truck spots
- 47 regular spots
- 3 ADA spots
- 14,000 SF

Site/Existing Ratios:

By Floor: 2.35

By Truck Spots: 5.41

By Parking Spots: 1.29

Weekend Trip Gen - Enter

Hour Start	Passenger Cars	Trucks	Total
12:00 AM	0	5	5
1:00 AM	0	11	11
2:00 AM	0	0	0
3:00 AM	0	0	0
4:00 AM	0	0	0
5:00 AM	0	5	5
6:00 AM	2	0	2
7:00 AM	24	11	35
8:00 AM	9	0	9
9:00 AM	2	0	2
10:00 AM	5	5	10
11:00 AM	14	0	14
12:00 PM	7	11	18
1:00 PM	5	0	5
2:00 PM	5	5	10
3:00 PM	5	5	10
4:00 PM	0	0	0
5:00 PM	5	0	5
6:00 PM	0	0	0
7:00 PM	0	0	0
8:00 PM	2	0	2
9:00 PM	2	0	2
10:00 PM	0	0	0
11:00 PM	0	0	0
Grand Total:	87	58	145

Existing Exiting Traffic Sat

Hour Start	Passenger Cars	Trucks	Total
12:00 AM	1	0	1
1:00 AM	2	0	2
2:00 AM	0	0	0
3:00 AM	0	0	0
4:00 AM	0	0	0
5:00 AM	0	0	0
6:00 AM	0	0	0
7:00 AM	0	0	0
8:00 AM	4	0	4
9:00 AM	1	0	1
10:00 AM	2	0	2
11:00 AM	7	0	7
12:00 PM	4	1	5
1:00 PM	4	0	4
2:00 PM	3	3	6
3:00 PM	10	1	11
4:00 PM	4	0	4
5:00 PM	2	0	2
6:00 PM	0	0	0
7:00 PM	0	0	0
8:00 PM	1	0	1
9:00 PM	0	0	0
10:00 PM	1	0	1
11:00 PM	0	0	0
Grand Total:	46	5	51

Weekend Trip Gen - Exit

Hour Start	Passenger Cars	Trucks	Total
12:00 AM	2	0	2
1:00 AM	5	0	5
2:00 AM	0	0	0
3:00 AM	0	0	0
4:00 AM	0	0	0
5:00 AM	0	0	0
6:00 AM	0	0	0
7:00 AM	0	0	0
8:00 AM	9	0	9
9:00 AM	2	0	2
10:00 AM	5	0	5
11:00 AM	16	0	16
12:00 PM	9	5	14
1:00 PM	9	0	9
2:00 PM	7	16	23
3:00 PM	24	5	29
4:00 PM	9	0	9
5:00 PM	5	0	5
6:00 PM	0	0	0
7:00 PM	0	0	0
8:00 PM	2	0	2
9:00 PM	0	0	0
10:00 PM	2	0	2
11:00 PM	0	0	0
Grand Total:	106	26	132

APPENDIX D

ITE Trip Generation Manual Excerpts

Warehousing
(150)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

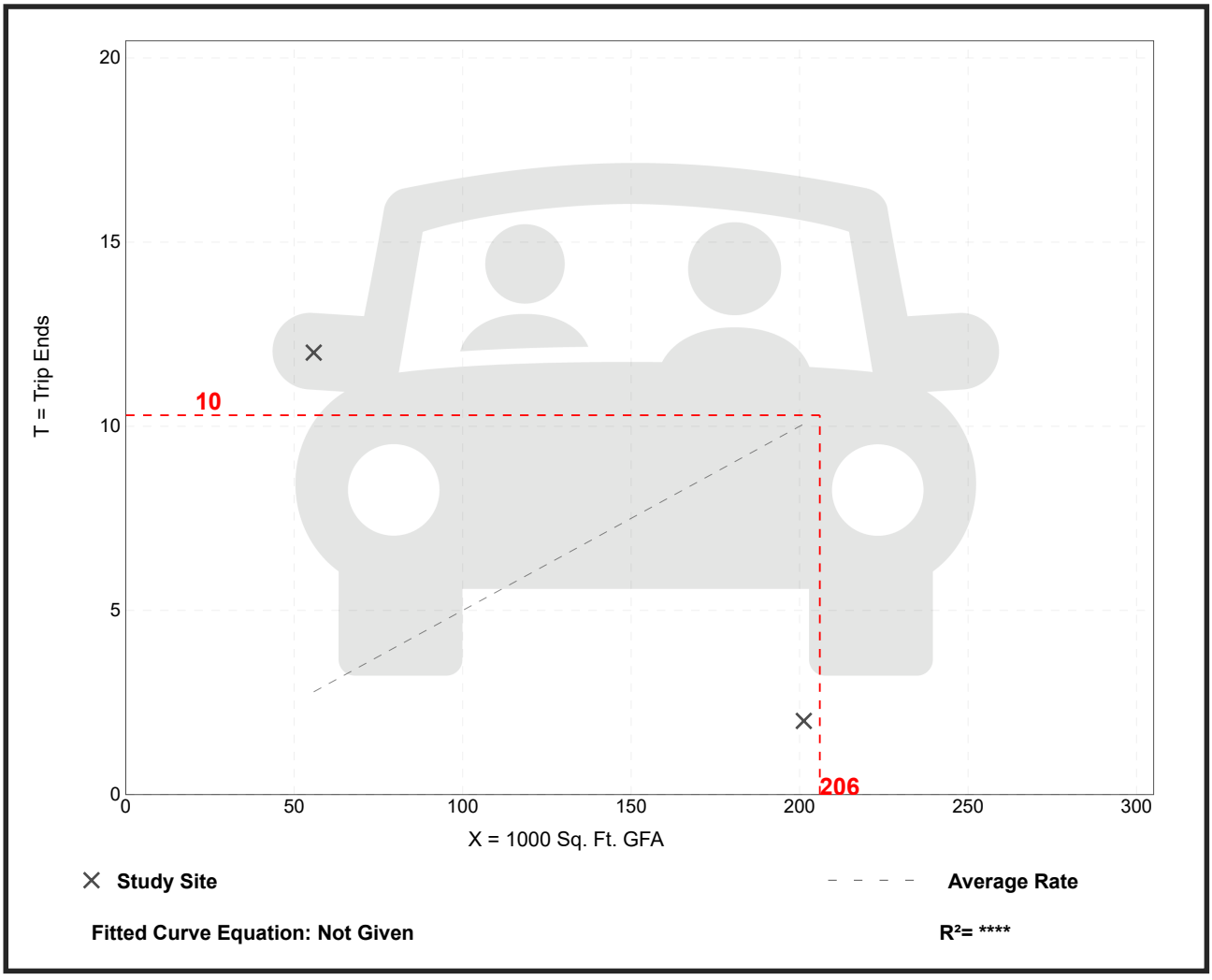
Setting/Location: **General Urban/Suburban**
Number of Studies: 2
Avg. 1000 Sq. Ft. GFA: 129
Directional Distribution: 64% entering, 36% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.05	0.01 - 0.22	*

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

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Warehousing
(150)

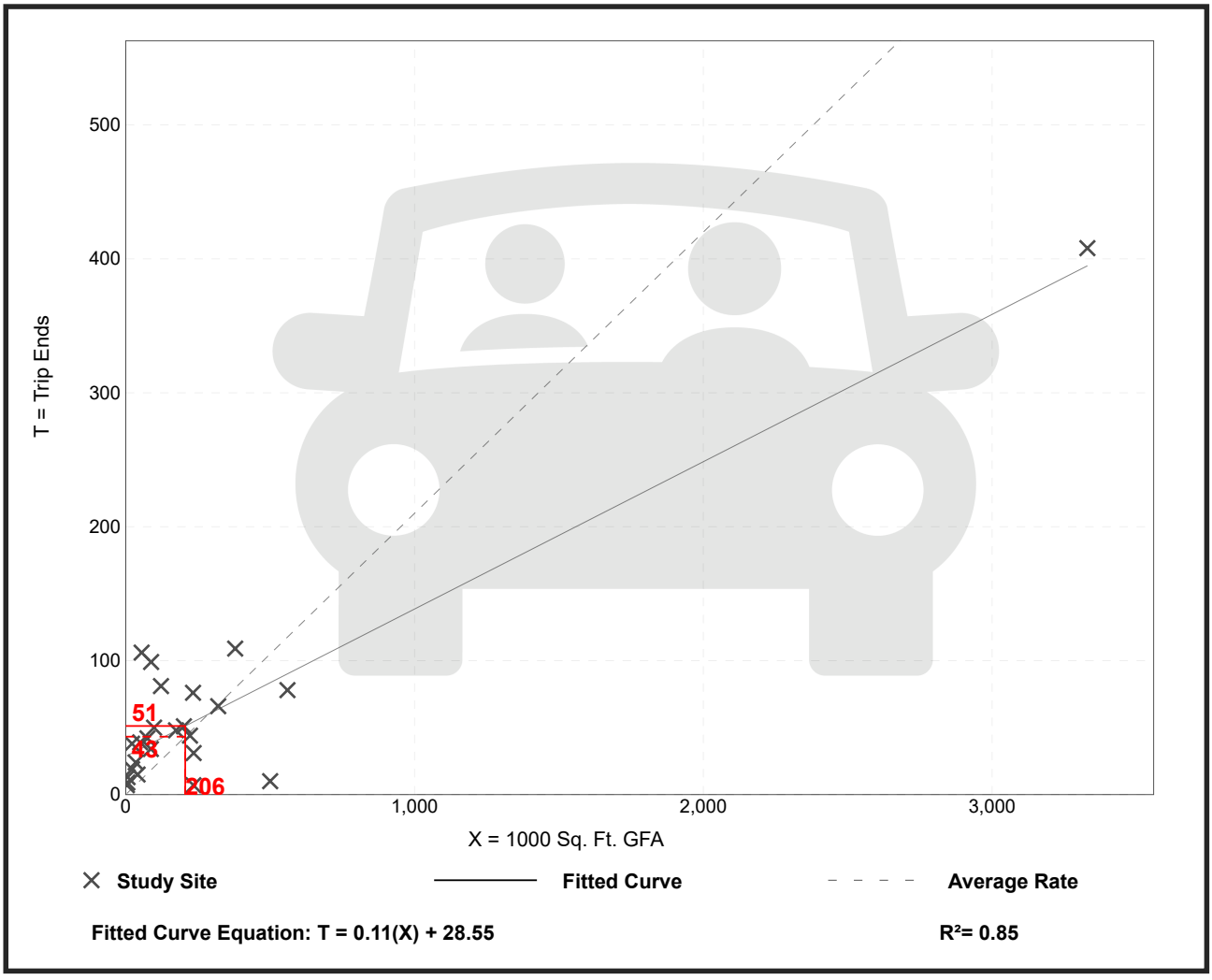
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 25
Avg. 1000 Sq. Ft. GFA: 284
Directional Distribution: 66% entering, 34% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.21	0.02 - 2.08	0.26

Data Plot and Equation



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Warehousing
(150)

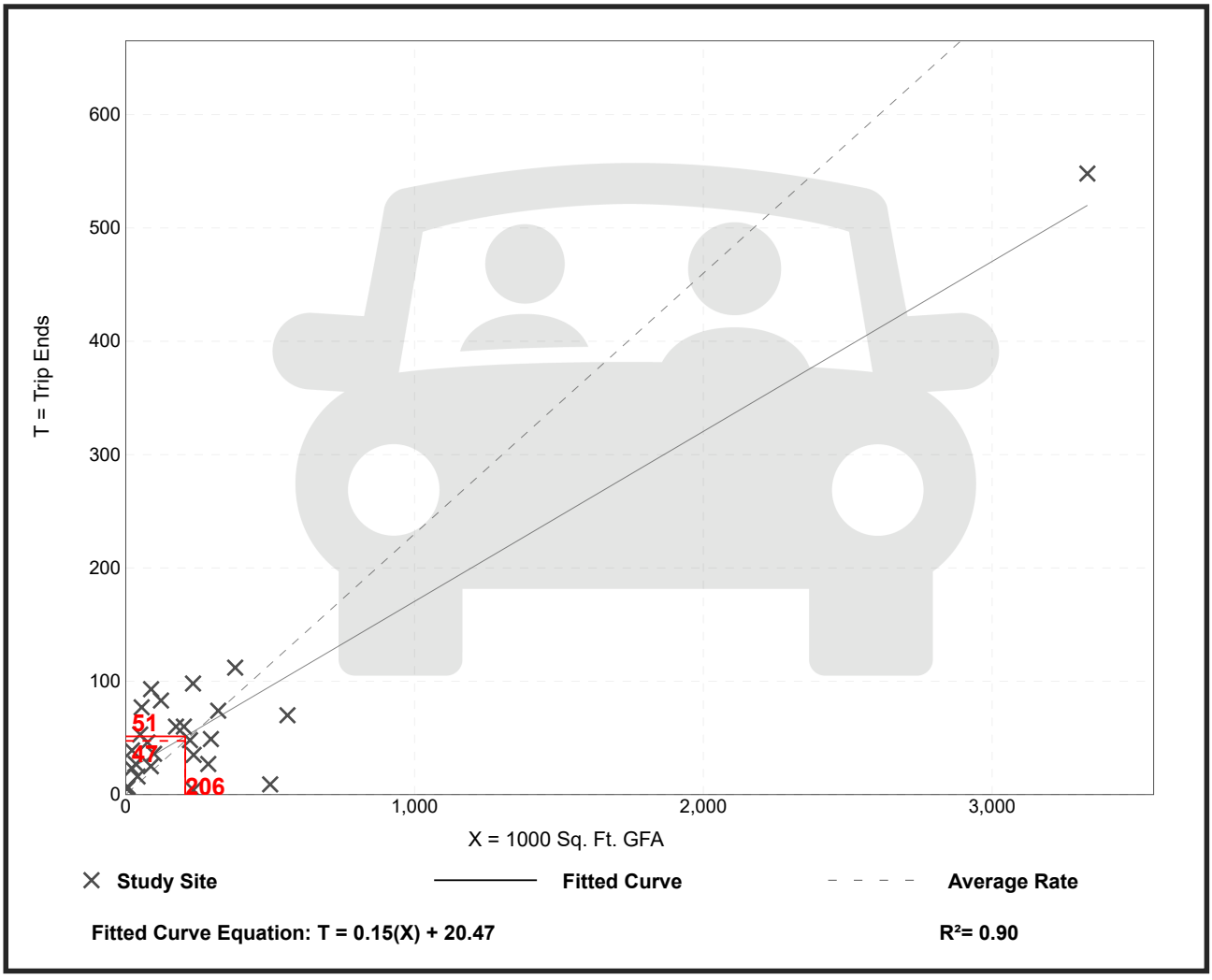
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 27
Avg. 1000 Sq. Ft. GFA: 284
Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.23	0.02 - 1.80	0.23

Data Plot and Equation



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Warehousing
(150)

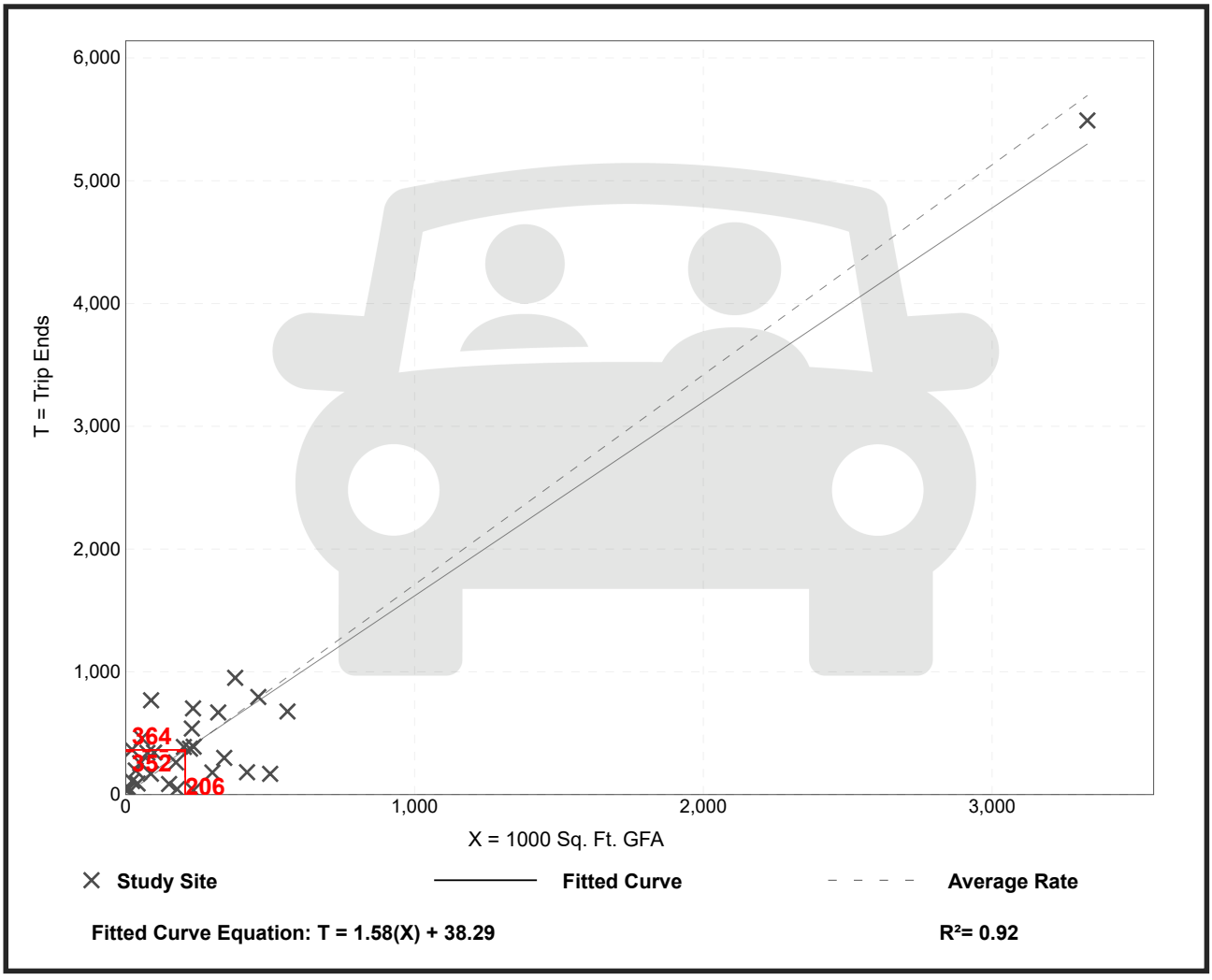
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 31
Avg. 1000 Sq. Ft. GFA: 292
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.71	0.15 - 16.93	1.48

Data Plot and Equation



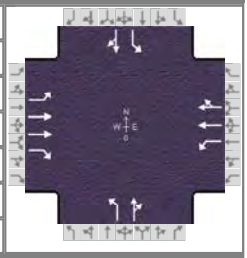
Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

APPENDIX E

HCS Analysis Results

HCS7 Signalized Intersection Results Summary

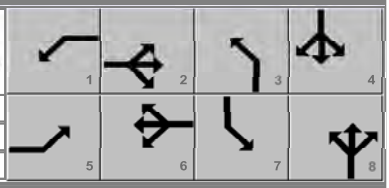
General Information				Intersection Information	
Agency	Civiltech Engineering			Duration, h	0.25
Analyst	MRS	Analysis Date	10/19/2023	Area Type	Other
Jurisdiction	IDOT/Crystal Lake	Time Period		PHF	0.93
Urban Street	US-14 (Northwest Hwy)	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	US-14 and Sands Road	File Name	US14-Sands_Existing_AM.xus		
Project Description	Sands TIS, AM Weekday Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	65	875	60	15	615	10	45	20	15	20	30	30

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.3	1.9	94.4	1.9	2.6	7.9	
Yellow	3.5	0.0	4.5	3.5	0.0	4.5	
Red	0.0	0.0	2.0	0.0	0.0	2.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	6.7	102.8	4.8	100.9	8.0	17.0	5.4	14.4
Change Period, ($Y+R_c$), s	3.5	6.5	3.5	6.5	3.5	6.5	3.5	6.5
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	9.2	4.2	9.2
Queue Clearance Time (g_s), s	3.3		2.3		5.4	4.7	3.4	6.6
Green Extension Time (g_e), s	0.2	0.0	0.0	0.0	0.0	1.3	0.0	1.1
Phase Call Probability	0.92		0.44		0.83	1.00	0.54	0.99
Max Out Probability	0.00		0.00		0.22	0.02	0.01	0.10

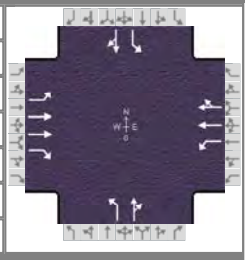
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	70	941	65	16	337	335	48	38		22	65	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1815	1510	1725	1906	1895	1711	1712		1810	1792	
Queue Service Time (g_s), s	1.3	11.8	1.5	0.3	7.6	7.6	3.4	2.7		1.4	4.6	
Cycle Queue Clearance Time (g_c), s	1.3	11.8	1.5	0.3	7.6	7.6	3.4	2.7		1.4	4.6	
Green Ratio (*g/C*)	0.75	0.74	0.74	0.74	0.73	0.73	0.10	0.08		0.08	0.06	
Capacity (*c*), veh/h	610	2688	1118	439	1385	1377	147	139		144	109	
Volume-to-Capacity Ratio (*X*)	0.115	0.350	0.058	0.037	0.243	0.243	0.328	0.272		0.149	0.592	
Back of Queue (*Q*), ft/ln (95 th percentile)	19.1	186.9	20.9	4.9	133.4	127	72.1	59.4		30.7	105.5	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.8	7.1	0.8	0.2	5.1	5.1	2.7	2.2		1.2	4.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.09	0.00	0.14	0.02	0.00	0.00	0.90	0.00		0.38	0.00	
Uniform Delay (d_1), s/veh	4.4	5.9	4.6	5.1	5.9	5.9	53.8	56.1		56.3	59.5	
Incremental Delay (d_2), s/veh	0.1	0.4	0.1	0.0	0.4	0.4	1.3	1.5		0.5	7.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	4.5	6.3	4.7	5.2	6.3	6.3	55.1	57.6		56.8	66.6	
Level of Service (LOS)	A	A	A	A	A	A	E	E		E	E	
Approach Delay, s/veh / LOS	6.0	A		6.3	A		56.2	E		64.1	E	
Intersection Delay, s/veh / LOS	11.0						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.86	B	1.86	B	2.32	B	2.47	B
Bicycle LOS Score / LOS	1.37	A	1.06	A	0.63	A	0.63	A

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HCS7 Signalized Intersection Results Summary

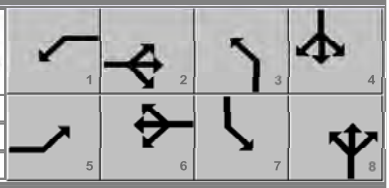
General Information				Intersection Information	
Agency	Civiltech Engineering			Duration, h	0.25
Analyst	MRS	Analysis Date	10/19/2023	Area Type	Other
Jurisdiction	IDOT/Crystal Lake	Time Period		PHF	0.95
Urban Street	US-14 (Northwest Hwy)	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	US-14 and Sands Road	File Name	US14-Sands_Existing_PM.xus		
Project Description	Sands TIS, PM Weekday Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	110	795	115	45	1190	15	140	60	50	35	35	45

Signal Information			
Cycle, s	145.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	2.8	2.3		98.4	3.7	3.8	10.5					
Yellow	3.5	0.0		4.5	3.5	3.5	4.5					
Red	0.0	0.0		2.0	0.0	0.0	2.0					



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	8.6	107.2	6.3	104.9	14.5	24.3	7.2	17.0
Change Period, (*Y+R c*), s	3.5	6.5	3.5	6.5	3.5	6.5	3.5	6.5
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	9.3	4.2	9.3
Queue Clearance Time (*g s*), s	4.8		3.2		12.9	10.6	4.8	8.6
Green Extension Time (*g e*), s	0.3	0.0	0.1	0.0	0.0	2.5	0.0	1.9
Phase Call Probability	0.99		0.85		1.00	1.00	0.77	1.00
Max Out Probability	0.00		0.00		1.00	0.24	0.01	0.70

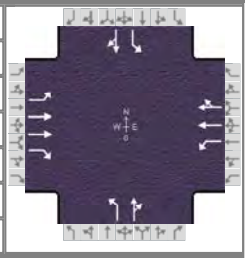
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	116	837	121	47	636	633	147	116		37	84	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1874	1610	1810	1969	1960	1795	1820		1767	1802	
Queue Service Time (*g s*), s	2.8	12.7	3.6	1.2	22.2	22.2	10.9	8.6		2.8	6.6	
Cycle Queue Clearance Time (*g c*), s	2.8	12.7	3.6	1.2	22.2	22.2	10.9	8.6		2.8	6.6	
Green Ratio (*g/C*)	0.72	0.69	0.69	0.70	0.68	0.68	0.16	0.12		0.10	0.07	
Capacity (*c*), veh/h	341	2603	1118	480	1336	1330	222	223		158	131	
Volume-to-Capacity Ratio (*X*)	0.339	0.321	0.108	0.099	0.476	0.476	0.664	0.518		0.234	0.644	
Back of Queue (*Q*), ft/ln (95 th percentile)	47.4	217.7	55.4	19.8	368.2	361.8	231.9	190.9		59.4	150.1	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.9	8.6	2.2	0.8	14.5	14.5	9.2	7.5		2.3	6.0	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.22	0.00	0.37	0.08	0.00	0.00	2.90	0.00		0.74	0.00	
Uniform Delay (*d 1*), s/veh	8.6	8.7	7.3	7.4	11.0	11.0	55.7	59.6		60.2	65.4	
Incremental Delay (*d 2*), s/veh	0.6	0.3	0.2	0.1	1.2	1.2	7.3	2.6		0.8	7.3	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	9.2	9.0	7.5	7.5	12.3	12.3	63.0	62.2		61.0	72.7	
Level of Service (LOS)	A	A	A	A	B	B	E	E		E	E	
Approach Delay, s/veh / LOS	8.9	A		12.1	B		62.6	E		69.2	E	
Intersection Delay, s/veh / LOS	18.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.87	B	1.88	B	2.32	B	2.48	B
Bicycle LOS Score / LOS	1.37	A	1.57	B	0.92	A	0.69	A

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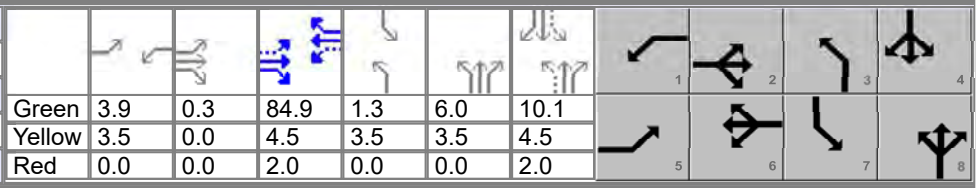
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Civiltech Engineering			Duration, h	0.25
Analyst	MRS	Analysis Date	10/19/2023	Area Type	Other
Jurisdiction	IDOT/Crystal Lake	Time Period		PHF	0.94
Urban Street	US-14 (Northwest Hwy)	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	US-14 and Sands Road	File Name	US14-Sands_Existing_Sat_Midday.xus		
Project Description	Sands TIS, Midday Weekend Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	85	815	210	75	895	5	210	50	95	15	45	30

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.9	0.3	84.9	1.3	6.0	10.1	
Yellow	3.5	0.0	4.5	3.5	3.5	4.5	
Red	0.0	0.0	2.0	0.0	0.0	2.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	7.7	91.8	7.4	91.4	14.3	26.0	4.8	16.6
Change Period, ($Y+R_c$), s	3.5	6.5	3.5	6.5	3.5	6.5	3.5	6.5
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	9.3	4.2	9.3
Queue Clearance Time (g_s), s	4.2		3.9		12.8	12.5	3.1	7.4
Green Extension Time (g_e), s	0.2	0.0	0.2	0.0	0.0	3.2	0.0	2.7
Phase Call Probability	0.96		0.94		1.00	1.00	0.44	1.00
Max Out Probability	0.00		0.00		1.00	0.22	0.00	0.48

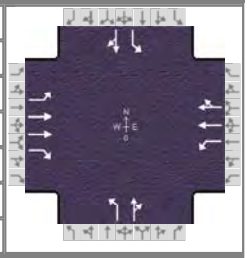
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	90	867	223	80	479	478	223	154		16	80	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1874	1610	1810	1969	1965	1795	1775		1810	1851	
Queue Service Time (g_s), s	2.2	13.5	7.2	1.9	14.5	14.5	10.8	10.5		1.1	5.4	
Cycle Queue Clearance Time (g_c), s	2.2	13.5	7.2	1.9	14.5	14.5	10.8	10.5		1.1	5.4	
Green Ratio (*g/C*)	0.69	0.66	0.66	0.68	0.65	0.65	0.18	0.15		0.09	0.08	
Capacity (*c*), veh/h	436	2458	1056	457	1286	1284	253	267		142	144	
Volume-to-Capacity Ratio (*X*)	0.207	0.353	0.212	0.175	0.373	0.373	0.885	0.578		0.113	0.555	
Back of Queue (*Q*), ft/ln (95 th percentile)	35.5	228.9	111.9	31.3	257.8	253.8	184	215.1		22.4	123.6	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.4	9.0	4.5	1.3	10.2	10.2	7.3	8.5		0.9	4.9	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.16	0.00	0.75	0.13	0.00	0.00	2.30	0.00		0.28	0.00	
Uniform Delay (d_1), s/veh	7.7	10.0	8.9	7.8	10.3	10.3	52.8	51.4		54.6	57.8	
Incremental Delay (d_2), s/veh	0.2	0.4	0.5	0.2	0.8	0.8	28.8	2.8		0.3	4.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	8.0	10.4	9.4	8.0	11.2	11.2	81.6	54.2		54.9	62.5	
Level of Service (LOS)	A	B	A	A	B	B	F	D		D	E	
Approach Delay, s/veh / LOS	10.0	B		10.9	B		70.4	E		61.2	E	
Intersection Delay, s/veh / LOS	20.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.88	B	1.88	B	2.31	B	2.47	B
Bicycle LOS Score / LOS	1.46	A	1.34	A	1.11	A	0.65	A

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HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Civiltech Engineering			Duration, h	0.25
Analyst	MRS	Analysis Date	10/19/2023	Area Type	Other
Jurisdiction	IDOT/Crystal Lake	Time Period		PHF	0.93
Urban Street	US-14 (Northwest Hwy)	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	US-14 and Sands Road	File Name	US14-Sands_Background 2030_AM.xus		
Project Description	Sands TIS, AM Weekday 2030 Background				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	135	970	65	25	730	10	50	35	15	55	40	75

Signal Information					EB			WB			NB		
Cycle, s	130.0	Reference Phase	2										
Offset, s	0	Reference Point	End	Green	1.9	0.1		86.9	4.9	0.3	12.4		
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.5	3.5		4.5	3.5	0.0	4.5		
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0		2.0	0.0	0.0	2.0		



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	9.0	97.1	5.4	93.4	8.4	18.9	8.7	19.2
Change Period, (*Y+R c*), s	3.5	6.5	3.5	6.5	3.5	6.5	3.5	6.5
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	9.3	4.2	9.3
Queue Clearance Time (*g s*), s	5.2		2.7		5.7	5.7	5.8	10.9
Green Extension Time (*g e*), s	0.4	0.0	0.0	0.0	0.0	2.3	0.0	1.8
Phase Call Probability	0.99		0.62		0.86	1.00	0.88	1.00
Max Out Probability	0.00		0.00		0.32	0.19	0.39	0.56

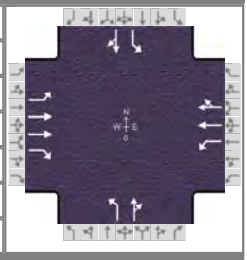
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	145	1043	70	27	399	397	54	54		59	124	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1815	1510	1725	1906	1897	1711	1750		1810	1748	
Queue Service Time (*g s*), s	3.2	15.9	1.9	0.7	11.4	11.4	3.7	3.7		3.8	8.9	
Cycle Queue Clearance Time (*g c*), s	3.2	15.9	1.9	0.7	11.4	11.4	3.7	3.7		3.8	8.9	
Green Ratio (*g/C*)	0.73	0.70	0.70	0.68	0.67	0.67	0.13	0.10		0.14	0.10	
Capacity (*c*), veh/h	527	2528	1052	373	1275	1269	136	167		219	171	
Volume-to-Capacity Ratio (*X*)	0.275	0.413	0.066	0.072	0.313	0.313	0.395	0.321		0.270	0.724	
Back of Queue (*Q*), ft/ln (95 th percentile)	48.9	253.8	28.4	10.8	211.6	201.6	78.2	83.7		79.6	198.2	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.9	9.7	1.1	0.4	8.1	8.1	3.0	3.1		3.2	7.7	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.22	0.00	0.19	0.04	0.00	0.00	0.98	0.00		1.00	0.00	
Uniform Delay (*d 1*), s/veh	6.2	8.4	6.3	7.5	9.0	9.0	50.9	54.8		50.3	56.9	
Incremental Delay (*d 2*), s/veh	0.3	0.5	0.1	0.1	0.6	0.6	1.8	1.6		0.7	8.0	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	6.5	8.9	6.4	7.5	9.7	9.7	52.7	56.4		51.0	64.9	
Level of Service (LOS)	A	A	A	A	A	A	D	E		D	E	
Approach Delay, s/veh / LOS	8.5	A		9.6	A		54.6	D		60.4	E	
Intersection Delay, s/veh / LOS	15.0						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.87	B	1.88	B	2.32	B	2.47	B
Bicycle LOS Score / LOS	1.53	B	1.17	A	0.67	A	0.79	A

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HCS7 Signalized Intersection Results Summary

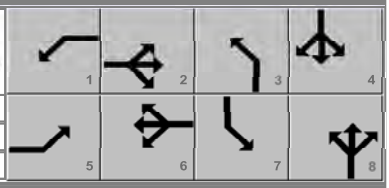
General Information				Intersection Information	
Agency	Civiltech Engineering			Duration, h	0.25
Analyst	MRS	Analysis Date	10/19/2023	Area Type	Other
Jurisdiction	IDOT/Crystal Lake	Time Period		PHF	0.95
Urban Street	US-14 (Northwest Hwy)	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	US-14 and Sands Road	File Name	US14-Sands_Background 2030_PM.xus		
Project Description	Sands TIS, PM Weekday Background 2030				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	185	880	130	60	1370	15	155	80	55	75	45	90

Signal Information			
Cycle, s	145.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.6	0.7	91.0	7.5	0.0	15.2						
Yellow	3.5	3.5	4.5	3.5	3.5	4.5						
Red	0.0	0.0	2.0	0.0	0.0	2.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	11.3	101.7	7.1	97.5	14.5	25.2	11.0	21.7
Change Period, (*Y+R c*), s	3.5	6.5	3.5	6.5	3.5	6.5	3.5	6.5
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	9.3	4.2	9.3
Queue Clearance Time (g_s), s	7.4		3.8		13.0	12.6	7.7	13.3
Green Extension Time (g_e), s	0.4	0.0	0.1	0.0	0.0	2.8	0.1	1.9
Phase Call Probability	1.00		0.92		1.00	1.00	0.96	1.00
Max Out Probability	0.06		0.00		1.00	0.83	0.54	1.00

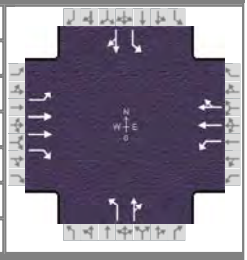
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	195	926	137	63	730	728	163	142		79	142	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1874	1610	1810	1969	1961	1795	1834		1767	1772	
Queue Service Time (g_s), s	5.4	16.3	4.6	1.8	31.8	31.9	11.0	10.6		5.7	11.3	
Cycle Queue Clearance Time (g_c), s	5.4	16.3	4.6	1.8	31.8	31.9	11.0	10.6		5.7	11.3	
Green Ratio (*g/C*)	0.70	0.66	0.66	0.65	0.63	0.63	0.19	0.13		0.16	0.10	
Capacity (*c*), veh/h	294	2461	1057	420	1236	1231	219	237		193	186	
Volume-to-Capacity Ratio (*X*)	0.662	0.376	0.129	0.150	0.591	0.591	0.744	0.600		0.410	0.766	
Back of Queue (*Q*), ft/ln (95 th percentile)	125.9	274.5	73.8	32	518.2	509.5	255.1	226.5		121.8	244.6	
Back of Queue (*Q*), veh/ln (95 th percentile)	5.0	10.8	3.0	1.3	20.4	20.4	10.1	8.9		4.8	9.7	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.57	0.00	0.49	0.13	0.00	0.00	3.19	0.00		1.52	0.00	
Uniform Delay (d_1), s/veh	16.1	11.4	9.3	9.8	16.0	16.0	53.2	59.6		54.3	63.2	
Incremental Delay (d_2), s/veh	2.6	0.4	0.3	0.2	2.1	2.1	12.8	3.4		1.4	12.4	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	18.6	11.8	9.6	10.0	18.0	18.1	66.0	63.1		55.7	75.6	
Level of Service (LOS)	B	B	A	A	B	B	E	E		E	E	
Approach Delay, s/veh / LOS	12.6	B		17.7	B		64.6	E		68.5	E	
Intersection Delay, s/veh / LOS	23.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.88	B	1.89	B	2.32	B	2.47	B
Bicycle LOS Score / LOS	1.53	B	1.74	B	0.99	A	0.85	A

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HCS7 Signalized Intersection Results Summary

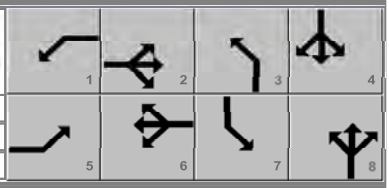
General Information				Intersection Information	
Agency	Civiltech Engineering			Duration, h	0.25
Analyst	MRS	Analysis Date	10/19/2023	Area Type	Other
Jurisdiction	IDOT/Crystal Lake	Time Period		PHF	0.94
Urban Street	US-14 (Northwest Hwy)	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	US-14 and Sands Road	File Name	US14-Sands_Background 2030_Sat_Midday.xus		
Project Description	Sands TIS, Midday Weekend Background 2030				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	165	905	235	95	1045	5	235	70	105	50	55	75

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.9	2.3	77.5	4.6	2.7	14.6	
Yellow	3.5	0.0	4.5	3.5	3.5	4.5	
Red	0.0	0.0	2.0	0.0	0.0	2.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.6	86.2	8.4	84.0	14.3	27.2	8.1	21.1
Change Period, (*Y+R c*), s	3.5	6.5	3.5	6.5	3.5	6.5	3.5	6.5
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	9.3	4.2	9.3
Queue Clearance Time (*g s*), s	6.8		4.8		12.8	14.7	5.4	11.6
Green Extension Time (*g e*), s	0.4	0.0	0.2	0.0	0.0	3.6	0.1	2.9
Phase Call Probability	1.00		0.97		1.00	1.00	0.85	1.00
Max Out Probability	0.01		0.00		1.00	0.67	0.00	1.00

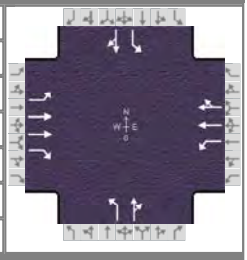
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	176	963	250	101	559	558	250	186		53	138	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1874	1610	1810	1969	1965	1795	1791		1810	1798	
Queue Service Time (*g s*), s	4.8	17.4	9.2	2.8	20.8	20.8	10.8	12.7		3.4	9.6	
Cycle Queue Clearance Time (*g c*), s	4.8	17.4	9.2	2.8	20.8	20.8	10.8	12.7		3.4	9.6	
Green Ratio (*g/C*)	0.66	0.61	0.61	0.63	0.60	0.60	0.21	0.16		0.15	0.11	
Capacity (*c*), veh/h	378	2300	988	399	1174	1172	252	286		176	201	
Volume-to-Capacity Ratio (*X*)	0.464	0.419	0.253	0.253	0.476	0.476	0.990	0.652		0.301	0.687	
Back of Queue (*Q*), ft/ln (95 th percentile)	83	290.2	149	49.3	360.8	355.2	275.7	252		70.8	207.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.3	11.4	6.0	2.0	14.2	14.2	10.9	10.0		2.8	8.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.38	0.00	0.99	0.20	0.00	0.00	3.45	0.00		0.88	0.00	
Uniform Delay (*d 1*), s/veh	11.2	13.1	11.5	10.6	14.8	14.8	51.4	51.3		48.9	55.5	
Incremental Delay (*d 2*), s/veh	0.9	0.6	0.6	0.3	1.4	1.4	53.8	3.6		0.9	5.8	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	12.1	13.6	12.1	10.9	16.2	16.2	105.2	54.8		49.9	61.3	
Level of Service (LOS)	B	B	B	B	B	B	F	D		D	E	
Approach Delay, s/veh / LOS	13.2	B		15.8	B		83.7	F		58.2	E	
Intersection Delay, s/veh / LOS	26.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.89	B	2.31	B	2.47	B
Bicycle LOS Score / LOS	1.63	B	1.49	A	1.21	A	0.80	A

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HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Civiltech Engineering			Duration, h	0.25
Analyst	MRS	Analysis Date	10/19/2023	Area Type	Other
Jurisdiction	IDOT/Crystal Lake	Time Period		PHF	0.93
Urban Street	US-14 (Northwest Hwy)	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	US-14 and Sands Road	File Name	US14-Sands_Projected_AM.xus		
Project Description	Sands TIS, AM Weekday Projected				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	155	970	65	25	730	10	50	35	15	65	40	80

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.9	0.8	85.8	4.9	1.1	12.0						
Yellow	3.5	3.5	4.5	3.5	0.0	4.5						
Red	0.0	0.0	2.0	0.0	0.0	2.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	9.6	96.6	5.4	92.3	8.4	18.5	9.5	19.6
Change Period, (*Y+R c*), s	3.5	6.5	3.5	6.5	3.5	6.5	3.5	6.5
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	9.3	4.2	9.3
Queue Clearance Time (*g s*), s	5.7		2.7		5.7	5.7	6.5	11.3
Green Extension Time (*g e*), s	0.4	0.0	0.0	0.0	0.0	2.3	0.1	1.8
Phase Call Probability	1.00		0.62		0.86	1.00	0.92	1.00
Max Out Probability	0.00		0.00		0.33	0.23	0.88	0.62

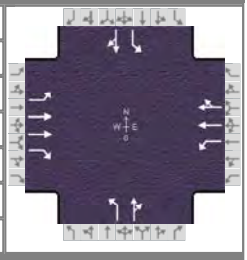
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	167	1043	70	27	399	397	54	54		70	129	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1815	1510	1725	1906	1897	1711	1750		1810	1744	
Queue Service Time (*g s*), s	3.7	16.1	1.9	0.7	11.7	11.7	3.7	3.7		4.5	9.3	
Cycle Queue Clearance Time (*g c*), s	3.7	16.1	1.9	0.7	11.7	11.7	3.7	3.7		4.5	9.3	
Green Ratio (*g/C*)	0.72	0.69	0.69	0.67	0.66	0.66	0.13	0.09		0.14	0.10	
Capacity (*c*), veh/h	529	2516	1046	370	1259	1253	136	162		226	176	
Volume-to-Capacity Ratio (*X*)	0.315	0.415	0.067	0.073	0.317	0.317	0.394	0.333		0.309	0.732	
Back of Queue (*Q*), ft/ln (95 th percentile)	57.9	256.9	28.8	11.2	217.3	207	78.5	84.3		94.2	204.8	
Back of Queue (*Q*), veh/ln (95 th percentile)	2.3	9.8	1.1	0.4	8.3	8.3	3.0	3.1		3.8	8.0	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.26	0.00	0.19	0.04	0.00	0.00	0.98	0.00		1.18	0.00	
Uniform Delay (*d 1*), s/veh	6.5	8.6	6.4	7.8	9.5	9.5	51.2	55.3		50.2	56.7	
Incremental Delay (*d 2*), s/veh	0.3	0.5	0.1	0.1	0.7	0.7	1.8	1.7		0.8	8.1	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	6.8	9.1	6.5	7.8	10.1	10.1	53.1	57.0		51.0	64.8	
Level of Service (LOS)	A	A	A	A	B	B	D	E		D	E	
Approach Delay, s/veh / LOS	8.7	A		10.1	B		55.0	E		59.9	E	
Intersection Delay, s/veh / LOS	15.4						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.87	B	1.88	B	2.32	B	2.47	B
Bicycle LOS Score / LOS	1.54	B	1.17	A	0.67	A	0.82	A

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HCS7 Signalized Intersection Results Summary

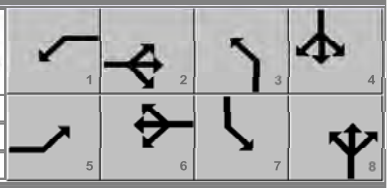
General Information				Intersection Information	
Agency	Civiltech Engineering			Duration, h	0.25
Analyst	MRS	Analysis Date	10/19/2023	Area Type	Other
Jurisdiction	IDOT/Crystal Lake	Time Period		PHF	0.95
Urban Street	US-14 (Northwest Hwy)	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	US-14 and Sands Road	File Name	US14-Sands_Projected_PM.xus		
Project Description	Sands TIS, PM Weekday Background 2030				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	185	880	130	60	1370	15	155	80	55	85	45	100

Signal Information			
Cycle, s	145.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.6	0.7	90.2	8.3	2.7	15.9	
Yellow	3.5	3.5	4.5	3.5	0.0	4.5	
Red	0.0	0.0	2.0	0.0	0.0	2.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	11.3	100.9	7.1	96.7	14.5	25.1	11.8	22.4
Change Period, (*Y+R c*), s	3.5	6.5	3.5	6.5	3.5	6.5	3.5	6.5
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	9.3	4.2	9.3
Queue Clearance Time (g_s), s	7.5		3.8		13.0	12.6	8.4	14.2
Green Extension Time (g_e), s	0.3	0.0	0.1	0.0	0.0	2.8	0.1	1.7
Phase Call Probability	1.00		0.92		1.00	1.00	0.97	1.00
Max Out Probability	0.11		0.00		1.00	0.94	1.00	1.00

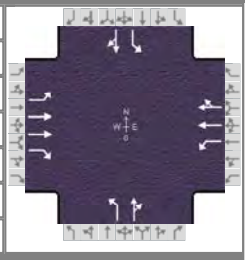
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	195	926	137	63	730	728	163	142		89	153	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1874	1610	1810	1969	1961	1795	1834		1767	1765	
Queue Service Time (g_s), s	5.5	16.6	4.7	1.8	32.3	32.3	11.0	10.6		6.4	12.2	
Cycle Queue Clearance Time (g_c), s	5.5	16.6	4.7	1.8	32.3	32.3	11.0	10.6		6.4	12.2	
Green Ratio (*g/C*)	0.69	0.65	0.65	0.65	0.62	0.62	0.19	0.13		0.17	0.11	
Capacity (*c*), veh/h	292	2442	1049	416	1225	1220	218	236		202	194	
Volume-to-Capacity Ratio (*X*)	0.668	0.379	0.130	0.152	0.596	0.596	0.750	0.603		0.443	0.787	
Back of Queue (*Q*), ft/ln (95 th percentile)	130	278.9	75.2	32.8	526.8	518	256.1	226.9		136.9	262.8	
Back of Queue (*Q*), veh/ln (95 th percentile)	5.1	11.0	3.0	1.3	20.7	20.7	10.2	8.9		5.3	10.4	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.59	0.00	0.50	0.13	0.00	0.00	3.20	0.00		1.71	0.00	
Uniform Delay (d_1), s/veh	16.5	11.7	9.6	10.1	16.4	16.4	53.2	59.7		53.4	62.9	
Incremental Delay (d_2), s/veh	3.0	0.4	0.3	0.2	2.1	2.2	13.4	3.5		1.5	14.9	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	19.5	12.2	9.9	10.3	18.6	18.6	66.7	63.2		54.9	77.8	
Level of Service (LOS)	B	B	A	B	B	B	E	E		D	E	
Approach Delay, s/veh / LOS	13.0	B		18.2	B		65.1	E		69.3	E	
Intersection Delay, s/veh / LOS	24.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.88	B	1.89	B	2.32	B	2.47	B
Bicycle LOS Score / LOS	1.53	B	1.74	B	0.99	A	0.89	A

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HCS7 Signalized Intersection Results Summary

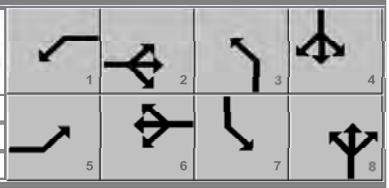
General Information				Intersection Information	
Agency	Civiltech Engineering			Duration, h	0.25
Analyst	MRS	Analysis Date	10/19/2023	Area Type	Other
Jurisdiction	IDOT/Crystal Lake	Time Period		PHF	0.94
Urban Street	US-14 (Northwest Hwy)	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	US-14 and Sands Road	File Name	US14-Sands_Projected_Sat_Midday.xus		
Project Description	Sands TIS, Midday Weekend Projected Total				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	175	905	235	95	1045	10	235	70	105	55	60	80

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.9	2.6	76.5	5.1	2.2	15.2	
Yellow	3.5	0.0	4.5	3.5	3.5	4.5	
Red	0.0	0.0	2.0	0.0	0.0	2.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	11.0	85.6	8.4	83.0	14.3	27.5	8.6	21.7
Change Period, (*Y+R c*), s	3.5	6.5	3.5	6.5	3.5	6.5	3.5	6.5
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	9.3	4.2	9.3
Queue Clearance Time (*g s*), s	7.2		4.9		12.8	14.7	5.7	12.4
Green Extension Time (*g e*), s	0.4	0.0	0.2	0.0	0.0	3.7	0.1	2.8
Phase Call Probability	1.00		0.97		1.00	1.00	0.88	1.00
Max Out Probability	0.02		0.00		1.00	0.71	0.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	186	963	250	101	562	560	250	186		59	149	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1874	1610	1810	1969	1962	1795	1791		1810	1799	
Queue Service Time (*g s*), s	5.2	17.6	9.4	2.9	21.4	21.4	10.8	12.7		3.7	10.4	
Cycle Queue Clearance Time (*g c*), s	5.2	17.6	9.4	2.9	21.4	21.4	10.8	12.7		3.7	10.4	
Green Ratio (*g/C*)	0.65	0.61	0.61	0.63	0.59	0.59	0.22	0.16		0.16	0.12	
Capacity (*c*), veh/h	376	2280	979	395	1158	1154	251	289		185	210	
Volume-to-Capacity Ratio (*X*)	0.495	0.422	0.255	0.256	0.485	0.485	0.996	0.645		0.317	0.708	
Back of Queue (*Q*), ft/ln (95 th percentile)	89.7	294.3	151.6	50.4	371	364.7	279.1	251.7		77.2	221.5	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.6	11.6	6.1	2.0	14.6	14.6	11.1	10.0		3.1	8.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.41	0.00	1.01	0.20	0.00	0.00	3.49	0.00		0.97	0.00	
Uniform Delay (*d 1*), s/veh	11.7	13.4	11.8	11.0	15.4	15.4	51.1	51.0		48.2	55.3	
Incremental Delay (*d 2*), s/veh	1.0	0.6	0.6	0.3	1.5	1.5	55.5	3.6		1.0	6.5	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	12.7	14.0	12.4	11.3	16.9	16.9	106.6	54.6		49.2	61.8	
Level of Service (LOS)	B	B	B	B	B	B	F	D		D	E	
Approach Delay, s/veh / LOS	13.6	B		16.4	B		84.4	F		58.2	E	
Intersection Delay, s/veh / LOS	26.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.89	B	2.31	B	2.47	B
Bicycle LOS Score / LOS	1.64	B	1.50	A	1.21	A	0.83	A

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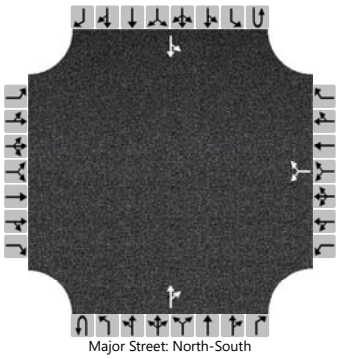
General Information

Analyst	Civiltech Engineering
Agency/Co.	Crystal Lake
Date Performed	11/2/2023
Analysis Year	2023
Time Analyzed	
Intersection Orientation	North-South
Project Description	Sands TIS

Site Information

Intersection	Sands/Smitana AM Existing
Jurisdiction	
East/West Street	Smitana Road
North/South Street	Sands Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						5		15			95	0		30	80	
Percent Heavy Vehicles (%)						7		7						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.47		6.27						4.11		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.56		3.36						2.21		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							22							33		
Capacity, c (veh/h)							867							1495		
v/c Ratio							0.03							0.02		
95% Queue Length, Q_{95} (veh)							0.1							0.1		
Control Delay (s/veh)							9.3							7.5		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)					9.3								2.2			
Approach LOS					A											

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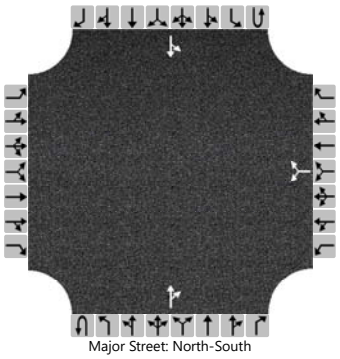
General Information

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Agency/Co.	Crystal Lake
Date Performed	11/2/2023
Analysis Year	2023
Time Analyzed	
Intersection Orientation	North-South
Project Description	Sands TIS

Site Information

Intersection	Sands/Smitana PM Existing
Jurisdiction	
East/West Street	Smitana Road
North/South Street	Sands Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						0		35			190	0		5	110	
Percent Heavy Vehicles (%)						7		7						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.47		6.27						4.11		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.56		3.36						2.21		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							38							5		
Capacity, c (veh/h)							821							1371		
v/c Ratio							0.05							0.00		
95% Queue Length, Q_{95} (veh)							0.1							0.0		
Control Delay (s/veh)							9.6							7.6		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)					9.6								0.4			
Approach LOS					A											

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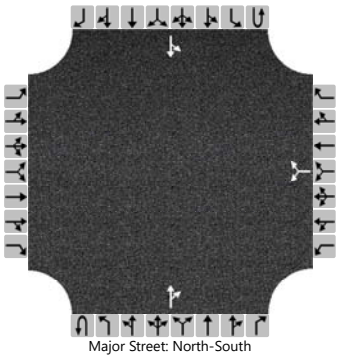
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Intersection Orientation	North-South
Project Description	Sands TIS

Site Information

Intersection	Sands/Smitana Sat Existin
Jurisdiction	
East/West Street	Smitana Road
North/South Street	Sands Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						0		5			175	0		10	100	
Percent Heavy Vehicles (%)						7		7						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.47		6.27						4.11		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.56		3.36						2.21		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							5							11		
Capacity, c (veh/h)							839							1390		
v/c Ratio							0.01							0.01		
95% Queue Length, Q_{95} (veh)							0.0							0.0		
Control Delay (s/veh)							9.3							7.6		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)					9.3								0.7			
Approach LOS					A											

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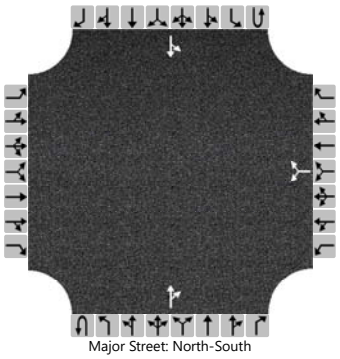
General Information

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Agency/Co.	Crystal Lake
Date Performed	11/2/2023
Analysis Year	2023
Time Analyzed	
Intersection Orientation	North-South
Project Description	Sands TIS

Site Information

Intersection	Sands/Smitana 2030
Jurisdiction	
East/West Street	Smitana Road
North/South Street	Sands Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						5		15			110	0		35	95	
Percent Heavy Vehicles (%)						7		7						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.47		6.27						4.11		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.56		3.36						2.21		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							22							38		
Capacity, c (veh/h)							838							1475		
v/c Ratio							0.03							0.03		
95% Queue Length, Q_{95} (veh)							0.1							0.1		
Control Delay (s/veh)							9.4							7.5		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)						9.4								2.2		
Approach LOS						A										

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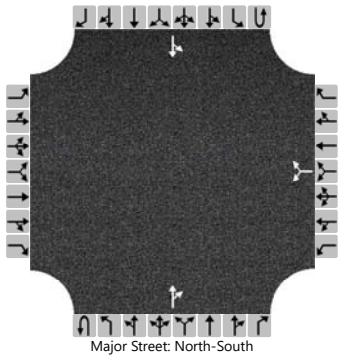
General Information

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Agency/Co.	Crystal Lake
Date Performed	11/2/2023
Analysis Year	2023
Time Analyzed	
Intersection Orientation	North-South
Project Description	Sands TIS

Site Information

Intersection	Sands/Smitana PM 2030
Jurisdiction	
East/West Street	Smitana Road
North/South Street	Sands Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						0		40			215	0		5	125	
Percent Heavy Vehicles (%)						7		7						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.47		6.27						4.11		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.56		3.36						2.21		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							43							5		
Capacity, c (veh/h)							793							1340		
v/c Ratio							0.05							0.00		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
Control Delay (s/veh)							9.8							7.7		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)					9.8								0.3			
Approach LOS					A											

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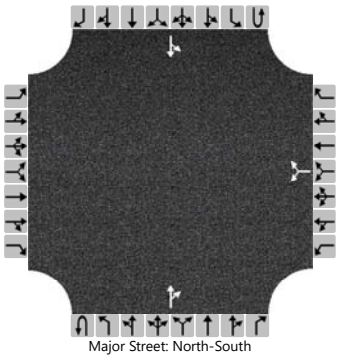
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Analysis Year	2023
Time Analyzed	
Intersection Orientation	North-South
Project Description	Sands TIS

Site Information

Intersection	Sands/Smitana Sat 2030
Jurisdiction	
East/West Street	Smitana Road
North/South Street	Sands Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						0		5			200	0		10	115	
Percent Heavy Vehicles (%)						7		7						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.47		6.27						4.11		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.56		3.36						2.21		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							5							11		
Capacity, c (veh/h)							817							1366		
v/c Ratio							0.01							0.01		
95% Queue Length, Q_{95} (veh)							0.0							0.0		
Control Delay (s/veh)							9.4							7.7		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)					9.4								0.7			
Approach LOS					A											

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HCS7 Two-Way Stop-Control Report

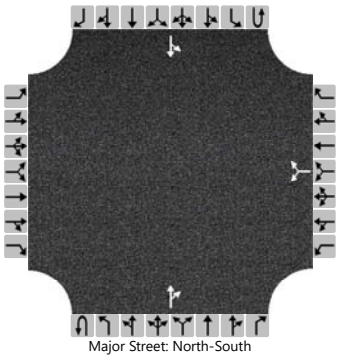
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Date Performed	11/2/2023
Analysis Year	2023
Time Analyzed	
Intersection Orientation	North-South
Project Description	Sands TIS

Site Information

Intersection	Sands/Smitana AM Project
Jurisdiction	
East/West Street	Smitana Road
North/South Street	Sands Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						5		15			150	0		35	110	
Percent Heavy Vehicles (%)						7		7						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.47		6.27						4.11		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.56		3.36						2.21		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							22							38		
Capacity, c (veh/h)							786							1422		
v/c Ratio							0.03							0.03		
95% Queue Length, Q_{95} (veh)							0.1							0.1		
Control Delay (s/veh)							9.7							7.6		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)						9.7								2.0		
Approach LOS						A										

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HCS7 Two-Way Stop-Control Report

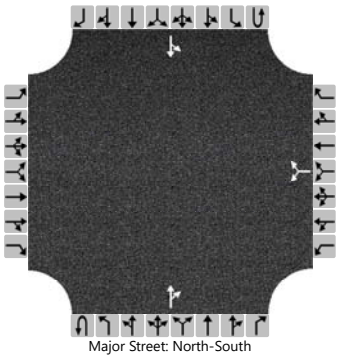
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Date Performed	11/2/2023
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Time Analyzed	
Intersection Orientation	North-South
Project Description	Sands TIS

Site Information

Intersection	Sands/Smitana PM Project
Jurisdiction	
East/West Street	Smitana Road
North/South Street	Sands Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						0		40			225	0		5	145	
Percent Heavy Vehicles (%)						7		7						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.47		6.27						4.11		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.56		3.36						2.21		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							43							5		
Capacity, c (veh/h)							782							1327		
v/c Ratio							0.06							0.00		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
Control Delay (s/veh)							9.9							7.7		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)					9.9								0.3			
Approach LOS					A											

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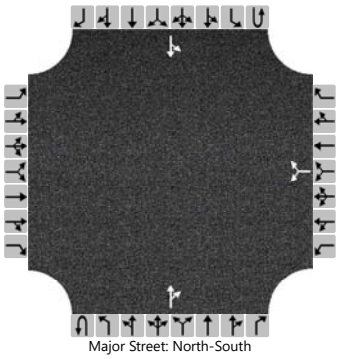
General Information

Analyst	Civiltech Engineering
Agency/Co.	Crystal Lake
Date Performed	11/2/2023
Analysis Year	2023
Time Analyzed	
Intersection Orientation	North-South
Project Description	Sands TIS

Site Information

Intersection	Sands/Smitana Sat Project
Jurisdiction	
East/West Street	Smitana Road
North/South Street	Sands Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						0		5			220	0		10	135	
Percent Heavy Vehicles (%)						7		7						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.47		6.27						4.11		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.56		3.36						2.21		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							5							11		
Capacity, c (veh/h)							795							1342		
v/c Ratio							0.01							0.01		
95% Queue Length, Q_{95} (veh)							0.0							0.0		
Control Delay (s/veh)							9.6							7.7		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)					9.6								0.6			
Approach LOS					A											

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HCS7 Two-Way Stop-Control Report

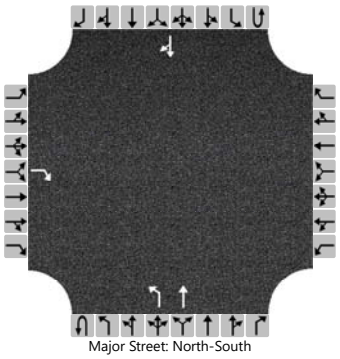
General Information

Analyst	Civiltech Engineering
Agency/Co.	Crystal Lake
Date Performed	11/2/2023
Analysis Year	2023
Time Analyzed	AM Peak - Projected
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Project Driveway/Sands
Jurisdiction	
East/West Street	Project Driveway
North/South Street	Sands Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration				R						L	T					TR
Volume (veh/h)				15						40	125				90	15
Percent Heavy Vehicles (%)				66						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)				6.2						4.1						
Critical Headway (sec)				6.86						4.10						
Base Follow-Up Headway (sec)				3.3						2.2						
Follow-Up Headway (sec)				3.89						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)				16						43						
Capacity, c (veh/h)				800						1488						
v/c Ratio				0.02						0.03						
95% Queue Length, Q_{95} (veh)				0.1						0.1						
Control Delay (s/veh)				9.6						7.5						
Level of Service (LOS)				A						A						
Approach Delay (s/veh)		9.6								1.8						
Approach LOS		A														

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HCS7 Two-Way Stop-Control Report

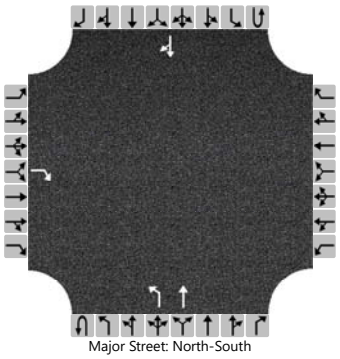
General Information

Analyst	Civiltech Engineering
Agency/Co.	Crystal Lake
Date Performed	11/2/2023
Analysis Year	2023
Time Analyzed	PM Peak - Projected
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Project Driveway/Sands
Jurisdiction	
East/West Street	Project Driveway
North/South Street	Sands Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration				R						L	T					TR
Volume (veh/h)				20						10	215				120	0
Percent Heavy Vehicles (%)				0						50						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)				6.2						4.1						
Critical Headway (sec)				6.20						4.60						
Base Follow-Up Headway (sec)				3.3						2.2						
Follow-Up Headway (sec)				3.30						2.65						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)				22						11						
Capacity, c (veh/h)				925						1206						
v/c Ratio				0.02						0.01						
95% Queue Length, Q_{95} (veh)				0.1						0.0						
Control Delay (s/veh)				9.0						8.0						
Level of Service (LOS)				A						A						
Approach Delay (s/veh)		9.0								0.4						
Approach LOS		A														

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HCS7 Two-Way Stop-Control Report

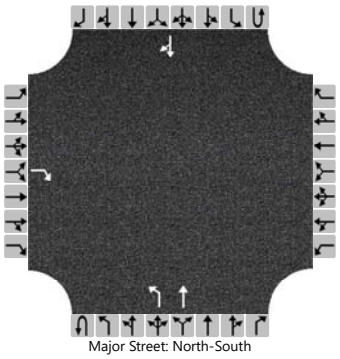
General Information

Analyst	Civiltech Engineering
Agency/Co.	Crystal Lake
Date Performed	11/2/2023
Analysis Year	2023
Time Analyzed	Sat Mid Peak - Projected
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Project Driveway/Sands
Jurisdiction	
East/West Street	Project Driveway
North/South Street	Sands Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration				R						L	T					TR
Volume (veh/h)				20						20	200				110	5
Percent Heavy Vehicles (%)				33						50						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)				6.2						4.1						
Critical Headway (sec)				6.53						4.60						
Base Follow-Up Headway (sec)				3.3						2.2						
Follow-Up Headway (sec)				3.60						2.65						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)				22						22						
Capacity, c (veh/h)				852						1212						
v/c Ratio				0.03						0.02						
95% Queue Length, Q_{95} (veh)				0.1						0.1						
Control Delay (s/veh)				9.3						8.0						
Level of Service (LOS)				A						A						
Approach Delay (s/veh)		9.3								0.7						
Approach LOS		A														

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