



POLICE DEPARTMENT
TRAFFIC SAFETY DIVISION

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At the Heart of Community

April 18, 2024

This report, which has been prepared by the Lake Zurich Police Department Traffic Safety Division, is being submitted regarding the Automated Traffic Law Enforcement System (ATLES). According to Illinois statute, our agency is required to prepare an evaluation report every two years. This report includes the following data for the calendar year of 2023:

- Intersection location and ATLES camera approaches identified
- Date of ATLES camera implementation
- ATLES camera system manufacturer and contractor name
- Summary of adjudication experience and results
- Signal-timing changes
- Traffic volumes
- Three-year crash data
- Analysis of data
- Recommendations

Intersection location and ATLES camera approaches identified

- Southbound US Route 12 at Miller Road, Lake Zurich
- Northbound US Route 12 at Miller Road, Lake Zurich
- Southbound US Route 12 at June Terrace, Lake Zurich
- Northbound US Route 12 at June Terrace, Lake Zurich
- Southbound US Route 12 at Illinois Route 22, Lake Zurich
- Northbound US Route 12 at Illinois Route 22, Lake Zurich
- Eastbound US Route 22 at Illinois Route 12, Lake Zurich

Date of ATLES camera implementation

The ATLES program was implemented on April 15, 2009.

ATLES manufacturer and contractor name

Gatso USA, Inc. (1-978-922-7294)
900 Cummings Center, Suite 321-U
Beverly, MA 01915

Summary of adjudication experience and results

Exhibit 1 is a summary of the adjudication process from January 1, 2023, to December 31, 2023. The table reflects all three ATLES camera locations along US Route 12 and the intersections listed in the chart, the total dollar amount of fines paid by violators, fees paid to GATSO for their services, and the outcome of the violations.

| 2023 | Citations | Miller Road | Route 22 | June Terrace | Paid Violations | GATSO's Fees | Administrative Adjudication | In-person Hearing | Mail Hearing | Liable | Not Liable |
|--------------|------------------|--------------------|-----------------|---------------------|------------------------|---------------------|------------------------------------|--------------------------|---------------------|---------------|-------------------|
| | | | | | | | | | | | |
| January | 221 | 71 | 124 | 26 | \$ 19,300.00 | \$ 6,630.00 | \$ 225.00 | 2 | 2 | 3 | 0 |
| February | 149 | 38 | 101 | 10 | \$ 17,300.00 | \$ 4,470.00 | \$ 262.00 | 3 | 6 | 6 | 3 |
| March | 143 | 43 | 84 | 16 | \$ 15,200.00 | \$ 4,290.00 | \$ 150.00 | 4 | 0 | 3 | 0 |
| April | 219 | 59 | 130 | 30 | \$ 16,300.00 | \$ 6,570.00 | \$ 150.00 | 1 | 1 | 2 | 0 |
| May | 184 | 49 | 109 | 26 | \$ 14,025.00 | \$ 5,520.00 | \$ 225.00 | 0 | 3 | 3 | 0 |
| June | 251 | 64 | 141 | 46 | \$ 15,100.00 | \$ 7,530.00 | \$ 237.00 | 0 | 2 | 2 | 0 |
| July | 210 | 67 | 84 | 59 | \$ 19,500.00 | \$ 6,300.00 | \$ 150.00 | 0 | 0 | 0 | 0 |
| August | 210 | 52 | 80 | 78 | \$ 17,000.00 | \$ 6,300.00 | \$ 150.00 | 0 | 1 | 1 | 0 |
| September | 115 | 33 | 34 | 48 | \$ 17,200.00 | \$ 3,450.00 | \$ 150.00 | 1 | 0 | 0 | 1 |
| October | 302 | 75 | 148 | 79 | \$ 13,100.00 | \$ 9,060.00 | \$ 262.50 | 1 | 3 | 2 | 2 |
| November | 228 | 57 | 103 | 68 | \$ 19,300.00 | \$ 6,840.00 | \$ 225.00 | 0 | 1 | 1 | 0 |
| December | 140 | 24 | 78 | 38 | \$ 17,700.00 | \$ 4,200.00 | \$ 112.50 | 0 | 1 | 1 | 0 |
| Total | 2372 | 632 | 1216 | 524 | \$ 201,025.00 | \$ 71,160.00 | \$ 2,299.00 | 12 | 20 | 24 | 6 |

Exhibit 1

A total of **4,879 violations** were submitted by GATSO. Those violations were submitted and reviewed by members of the Lake Zurich Police Department. Of those violations, **2,350 were processed and approved for collections**. The remaining **2,529 were rejected** and never submitted to the violator. Exhibit 2 represents the total number of violations, broken down by site.

| Site name | Rejected | Approved | Total |
|------------------------|-----------------|-----------------|--------------|
| EB Hwy 22 & Rand | 555 | 391 | 946 |
| NB Rand & Hwy 22 | 204 | 475 | 679 |
| SB Rand & Hwy 22 | 113 | 338 | 451 |
| | | | |
| NB Rand & Miller | 224 | 172 | 396 |
| SB Rand & Miller | 255 | 451 | 706 |
| | | | |
| EB Rand & June Terrace | 272 | 130 | 402 |
| WB Rand & June Terrace | 906 | 393 | 1299 |
| | | | |
| Total | 2529 | 2350 | 4879 |

Exhibit 2

Signal timing changes

The signal timings are controlled by IDOT in accordance with the Manual on Uniform Traffic Control Devices. The Lake Zurich Police Department is unaware of any signal timing changes made at any of the locations since the implementation of the ATLES program. For reference, exhibit 3 represents the signal times for each intersection. Traffic facing a separate signal for right turns has a yellow-light time of 3.50 seconds for all intersections.

| Site | Speed Limit | Yellow-light time |
|------------------------|-------------|-------------------|
| EB Hwy 22 & Rand | 35 | 4.5 seconds |
| NB Rand & Hwy 22 | 45 | 4.6 seconds |
| SB Rand & Hwy 22 | 45 | 4.6 seconds |
| | | |
| NB Rand & Miller | 50 | 5.1 seconds |
| SB Rand & Miller | 50 | 5.1 seconds |
| | | |
| EB Rand & June Terrace | 50 | 5.1 seconds |
| WB Rand & June Terrace | 50 | 5.1 seconds |

Exhibit 3

Traffic volumes

The Illinois Department of Transportation only tracks the average daily traffic counts for state roadways every other year. Traffic counts on county roads were historically conducted every four years, however, the most recent data available was compiled in 2019. A special traffic count was conducted by the Lake Zurich Police Department in 2023 for Miller Road and June Terrace. Exhibit 4 indicates the average daily traffic count for the most recent year available at intersections with an ATLES installed:

| 2021 Average Daily Traffic Counts | |
|--------------------------------------|--------------------|
| Intersection | Number of Vehicles |
| Route 12 north of Miller Road | 32300 |
| Route 12 south of Miller Road | 35100 |
| Miller Road east of Route 12* (2023) | 3433 |
| Miller Road west of Route 12* (2023) | 5169 |

| 2021 Average Daily Traffic Counts | |
|-----------------------------------|--------------------|
| Intersection | Number of Vehicles |
| Route 12 north of Route 22 | 36200 |
| Route 12 south of Route 22 | 37900 |
| Route 22 east of Route 12 | 18200 |
| Route 22 west of Route 12 | 14000 |

| 2021 Average Daily Traffic Counts | |
|---------------------------------------|--------------------|
| Intersection | Number of Vehicles |
| Route 12 north of June Terrace | 37900 |
| Route 12 south of June Terrace | 37900 |
| June Terrace at Route 12 (*2023 data) | 2256 |

Exhibit 4

Crash Data

Crash data was compiled for intersections equipped with an ATLES. Exhibit 5 compares the data at intersections with an ATLES installed from 2021 to 2023.

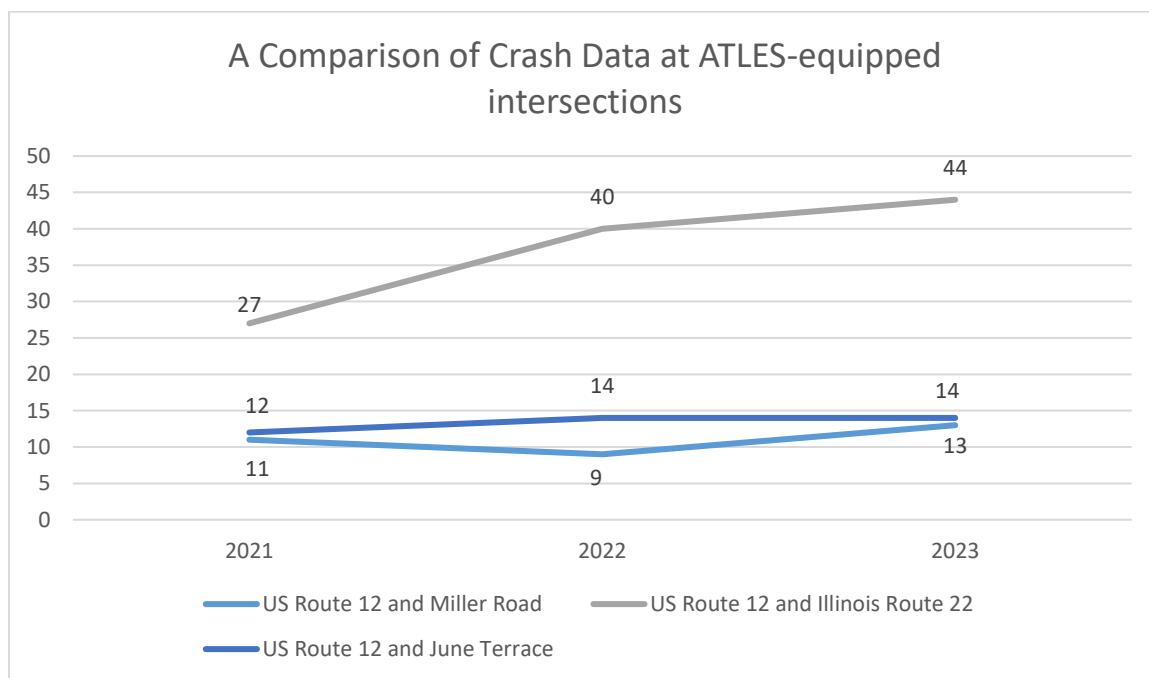


Exhibit 5

While the overall number of traffic crashes increased at the ATLES intersections from 40 in 2021 to 71 in 2023, it only increased 11% from 2022. The large jump from 2021 can be attributed to the Covid-19 pandemic. According to the National Highway Transportation Safety Administration, traffic counts during the Covid-19 pandemic were down significantly, however, crashes due to risky driving increased on a national basis¹. In accordance with 625 ILCS 5/11-208.6 (k-7), the best data available was used to compile these statistics and no additional studies are warranted at this time.

¹ *Update to Special Reports of Traffic Safety During the COVID-19 Public Health Emergency: Fourth Quarter Data*, published June, 2021

Analysis of Crash Data at Intersections with an ATLES

In an attempt to gain more information on the effectiveness of the Automated Traffic Law Enforcement System (ATLES), specifically within our Village, a statistical survey has been completed. The survey compared the most recent full year of crash data (2023) with the most recent traffic counts. Crash data was taken from crash investigation reports. Traffic volume data was compiled using average daily traffic counts recorded by the Illinois Department of Transportation (IDOT). This data is available to the public on IDOT's website.

According to IDOT's website, data is collected in the following manner:

IDOT annually publishes detailed traffic information based on a statewide traffic count program. Counts from this program range in duration from continuously recorded data at permanent count stations to thousands of 24-hour counts at locations throughout the state.

While a local study would certainly be more accurate, the financial burden to undertake a study of such magnitude would be considerable.

Both major and moderate thoroughfares throughout the Village of Lake Zurich were chosen based on the presence of a traffic signal at the intersection. Although the Village only has ATLES cameras at intersections along US Route 12, data from other intersections not along US Route 12 was included in order to have a control group. While being able to compare data at the same intersection with and without the system installed over a longer period of time would have been ideal, the data without the system is over 10 years old and other factors have changed enough to render the data obsolete.

Exhibit 6 shows traffic counts at the selected intersections. Data of vehicles passing through a specific intersection is not recorded, just data in each direction before and after the intersection. The counts in both directions of traffic were averaged and the average was multiplied by the number of days in a year. Traffic counts have been converted to a yearly average because crash data was compiled on a yearly basis.

| Intersection | Yearly Traffic Count |
|--|----------------------|
| <i>US Route 12 at IL Route 22</i> | 19,399,750 |
| <i>US Route 12 at Ela Road</i> | 18,085,750 |
| <i>US Route 12 at S Old Rand Road</i> | 17,483,500 |
| <i>US Route 12 at June Terrace</i> | 14,656,940 |
| <i>US Route 12 at Miller Road</i> | 13,870,365 |
| <i>US Route 12 at Honey Lake Road</i> | 13,578,000 |
| <i>IL Route 22 at Ela Road</i> | 8,312,875 |
| <i>Ela Road at Cuba Road</i> | 8,185,125 |
| <i>IL Route 22 at S Old Rand Road</i> | 7,665,000 |

| | |
|---------------------------------------|-----------|
| IL Route 22 at Oakwood Road | 7,254,375 |
| S Old Rand Road at Main Street | 4,051,500 |

Exhibit 6

Exhibit 7 includes crash data taken from the same intersections. Locations are listed on crash reports by how far a crash occurred from the nearest intersection. Crashes were not excluded based on the type of crash because it is impossible to know whether or not the crash was directly related to the presence of an ATLES. The severity of the crash was not taken into consideration when compiling the data.

| Intersection | Total crashes in 2023 |
|---------------------------------------|-----------------------|
| US Route 12 at IL Route 22 | 44 |
| US Route 12 at Ela Road | 29 |
| US Route 12 at June Terrace | 14 |
| US Route 12 at Miller Road | 13 |
| US Route 12 at S Old Rand Road | 9 |
| IL Route 22 at Oakwood Road | 6 |
| IL Route 22 at S Old Rand Road | 5 |
| IL Route 22 at Ela Road | 4 |
| S Old Rand Road at Main Street | 3 |
| Ela Road at Cuba Road | 2 |
| US Route 12 at Honey Lake Road | 0 |

Exhibit 7

Exhibit 8 represents a graphical look at the data in exhibits 6 and 7. Generally, all intersections on the graph follow a similar and expected pattern: more traffic at an intersection equals more crashes. Intersections equipped with an ATLES are indicated in red.

A Comparison of Crashes to Vehicle Traffic at Common Intersections in Lake Zurich

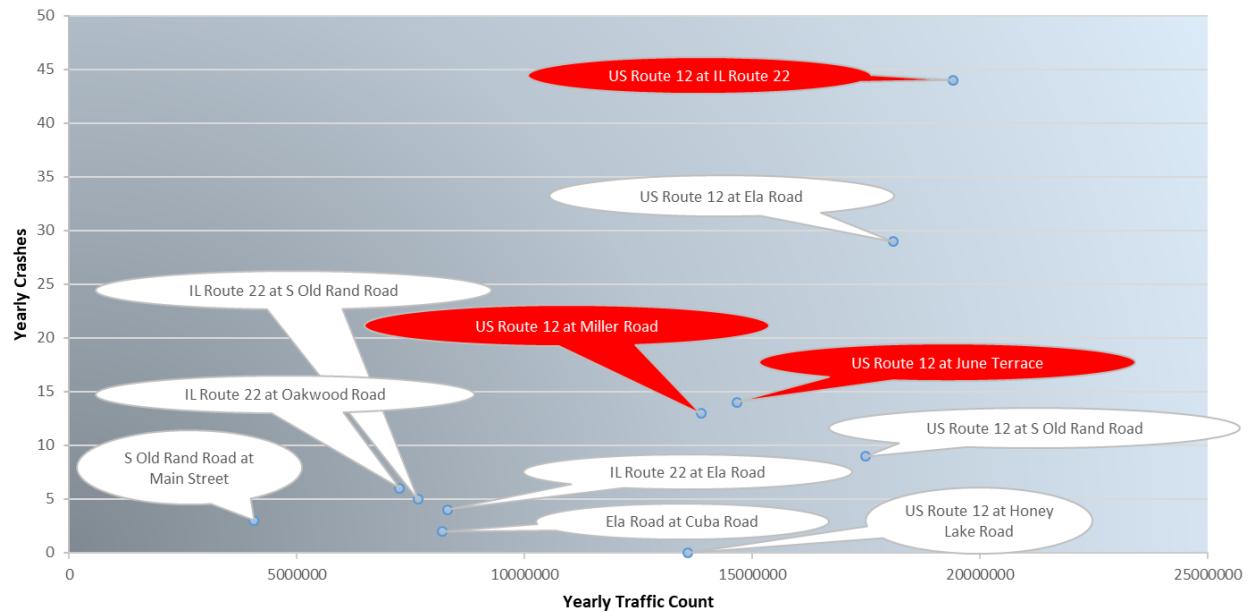


Exhibit 8

To accurately create a metric to compare the data between intersections, the total crashes near an intersection were divided by the yearly traffic count to find the probability of being involved in a traffic crash at a specific intersection. As these figures are extremely minuscule, the number is rounded to the nearest hundred-thousandth of a percent. The raw data is included in Exhibit 9. The data is shown graphically in Exhibit 10. This metric is more telling as to the effectiveness of the ATLES program. It is notable to have two of the ATLES-equipped intersections grouped together with the same probability. This pattern has been observed in prior years.

| Intersection | Ratio |
|---------------------------------------|----------|
| US Route 12 at IL Route 22 | 0.00023% |
| US Route 12 at Ela Road | 0.00016% |
| US Route 12 at June Terrace | 0.00010% |
| US Route 12 at Miller Road | 0.00009% |
| IL Route 22 at Oakwood Road | 0.00008% |
| IL Route 22 at S Old Rand Road | 0.00007% |
| S Old Rand Road at Main Street | 0.00007% |
| IL Route 22 at Ela Road | 0.00005% |
| US Route 12 at S Old Rand Road | 0.00005% |
| Ela Road at Cuba Road | 0.00002% |
| US Route 12 at Honey Lake Road | 0.00000% |

Exhibit 9

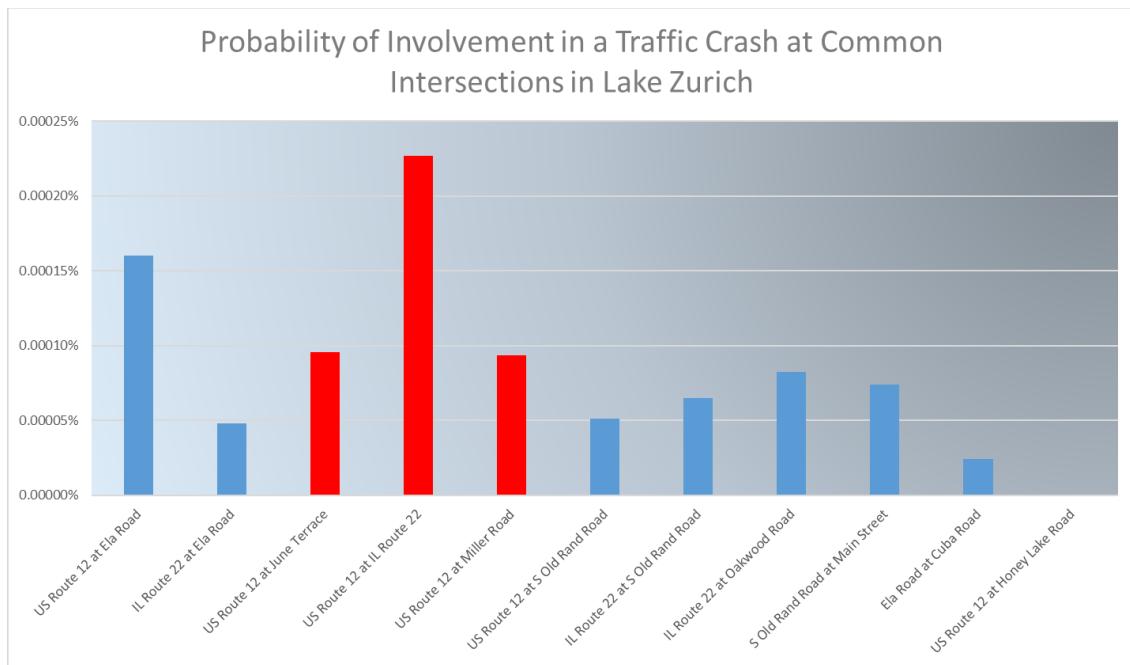


Exhibit 10

There is no way to know how many crashes have or have not been prevented (or caused) near an intersection, just as there is no way to measure a police officer's effect on what he or she may have prevented during his or her tour of duty.

Police officers investigating a traffic crash must use a standardized form created by the Illinois Department of Transportation. The form does not specifically track whether or not a motorist made a driving decision based on the perception of receiving a violation. Because crashes and traffic patterns have other influences involved such as weather, human factors, clarity of traffic signage, and construction (just to name a few), a law enforcement officer investigating a motor-vehicle crash at an intersection where an ATLES has been installed has no way of truly knowing the effectiveness of the system based solely on the statements of the drivers involved.

Therefore, the best data available must be examined. Generally, motorists were no more or less likely to be involved in a crash at an ATLES-equipped intersection. While motorists at the intersection of US Route 12 and Illinois Route 22 did have a greater probability of being involved in a traffic crash in 2023, it is still consistent with the theory that more traffic equates to more crashes. This intersection is also unique in that it is the only one in the Village where a six-lane highway intersects with a four-lane highway. The average probability of being involved in a traffic crash in the Village of Lake Zurich is 0.00008%. While the probability of being involved in a crash at US Route 12 and Illinois Route 22 is 0.00023%, nearly triple the average, a crash is still such an unlikely occurrence that a variation of a few crashes can skew the rest of the data. The other two

ATLES intersections are about average when compared with other intersections within the Village. involved in a crash at two of our intersections equipped with an ATLES (US Route 12/IL Route 22 and US Route 12/June Terrace).

Recommendations

Consistent with Illinois statute, our agency collects data from this report every three consecutive years to identify metrics to aid in the determination of the effectiveness of ATLES and make decisions moving forward.

It is the recommendation of the Traffic Safety Division that the Village continue to support the ATLES program, in accordance with State statute. In 2023, the legislature amended the statute to include two major changes. A requirement to post signs informing motorists whether, following a stop, a right turn at the is permitted or prohibited has already been complied with. The statute also requires a study every two years, as opposed to three. This agency will comply and the next reporting year will be 2025.

An effective traffic enforcement program must include a suite of different techniques to deter and apprehend traffic violators. Our agency has always made traffic safety a priority. We participate in traffic grants, saturation patrols, traffic surveys, and public education campaigns. We will continue to closely monitor both regional and national data to make informed decisions to best serve the public.

Disclaimer:

The traffic-crash data referenced herein was provided by the Illinois Department of Transportation based upon information derived from multiple sources. Any conclusions drawn from analysis of the aforementioned data are the sole responsibility of the data recipient(s). Additionally, for coding years 2015 to present, the Bureau of Data Collection uses the exact latitude/longitude supplied by the investigating law-enforcement agency to locate crashes. Therefore, location data may vary in prior years since the data prior to 2015 was physically located by bureau personnel. Given the subjective nature of the reporting process, the modifications in the incident-locating protocols and the changes to the crash-reporting thresholds effective 2009, the Village acknowledges the potential for discrepancies in the final conclusions drawn.