



Village of Olympia Fields

Red Light Running Camera System Follow-up Evaluation Report for the Year 2017

Intersection of Vollmer Road at Western Avenue (Northbound Approach)

Overview

The Village of Olympia Fields (here in after referred to as the “Village”) is submitting the follow-up interim RLRC Safety Report, for the year 2017, for the northbound approach of the intersection of Vollmer Road at Western Avenue. Additional reports, as required by Illinois Department of Transportation (IDOT), will be submitted every 3 years.

The Red Light Running Camera System was installed, on the northbound approach, on May 27, 2016 by Redflex Traffic Systems after the Olympia Fields Police Department found limited success with other attempted measures to promote safer driving. Those measures included daily, random enforcement actions taken by Olympia Fields Police Officers. The Village installed Red Light Photo Enforcement System on the northbound approach to this intersection due to ongoing poor driving behavior and due to the accident history at this location.

The existing system by Redflex is currently enforcing the northbound direction at the intersection of Vollmer Road and Western Avenue. This intersection is located approximately six miles east of Interstate 57 and two miles west of Halsted Street.

Updated pictures of the intersection are shown in **Exhibits 1-4**, and the aerial photo provided by Google Maps is shown in **Exhibit 5**.

- **Exhibit 1** is Westbound Vollmer Road
- **Exhibit 2** is Eastbound Vollmer Road
- **Exhibit 3** is Southbound Western Avenue
- **Exhibit 4** is Northbound Western Avenue

The area adjacent to the intersection is populated with private residences, a Country Club, and wooded areas as follows:

1. Northeast quadrant – Flossmoor Country Club
2. Northwest quadrant – Wooded area
3. Southwest quadrant – Wooded area
4. Southeast quadrant – Private residences



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Park and Forest Preserve are located on the north and south of Vollmer Road, within one mile of the intersection. The Metra Station is one and a quarter mile away, to the north of Flossmoor Road which is about a mile north of Vollmer Road and quarter of a mile west of Western Avenue, with parking lot facility on the west side of the station.

Vollmer Road Westbound approach at Western Avenue - Exhibit 1





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Vollmer Road Eastbound approach at Western Avenue - Exhibit 2





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Western Avenue Southbound approach at Vollmer Road - Exhibit 3





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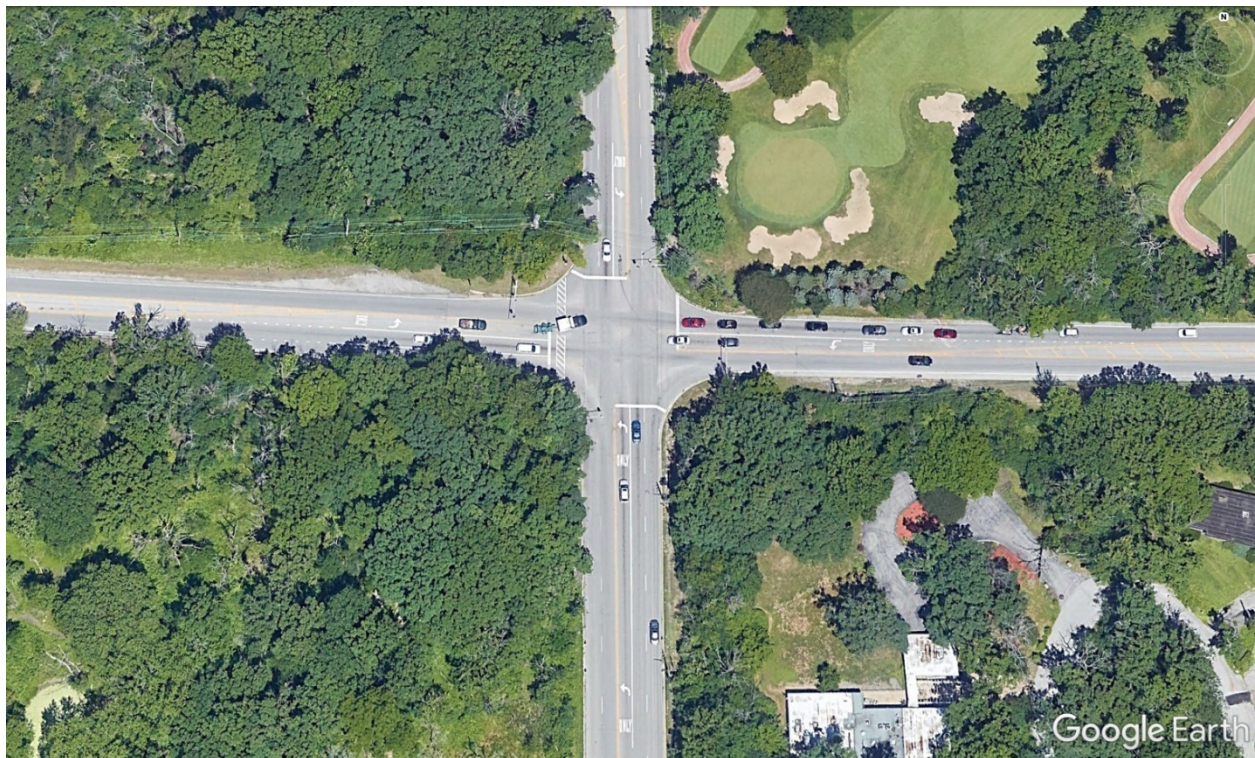
Western Avenue Northbound approach at Vollmer Road - Exhibit 4





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Vollmer Road at Western Avenue - Exhibit 5





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Red Light Running (RLR) Camera Enforcement Systems

In accordance with Public Act 94-0795 the Village has entered into a contract with a vendor, Redflex Traffic Systems. The technology installed by Redflex Traffic Systems allowed us to differentiate between actual red light violations and false triggers. False triggers include vehicles stopping after the white stop line, funeral processions, emergency vehicles, drivers yielding to emergency vehicles, drivers making legal turns on red after coming to a complete stop and drivers being directed through the intersection by an authorized person directing traffic. The package from Redflex includes three still images of the violator's vehicle and a 12 second video of the violation. The digital images will clearly show the traffic signal heads and the vehicle behind the stop line at the point the driver triggered the enforcement system. Furthermore the attached video will provide definitive proof of the traffic signal sequence with 6 seconds of video both before and after the violation. This will allow reviewing officers a detailed account of the violation and assist them to determine actual violations from false triggers.



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Vollmer Road at Western Avenue Crash Analysis and History

Vollmer Road, with an interchange at I-57, is a major east-west route connecting several different villages. Western Avenue is a north-south street which traverses through several southern suburbs. Crash data, the Red Light Running camera system installation, has been attached to the report detailing driving behavior at the intersection.

Crash data for the intersection prior to and following the installation of the camera systems are shown in the below table. Please see attached Safety Report, at the end of this report. The number of crashes, particularly the rear end type, has increased after the installation of the RLR camera system which could be attributed to the increased traffic volume at the intersection, the travel speed in excess of the posted speed limit, as well as the roadway geometrics.

Village of Olympia Fields Crash Data 2013-2015 vs 2017						
Vollmer Road at Western Avenue						
Year	Type of Crash					Total
	Turning	Angle	Head On	Rear End	Other	
2013	9	0	0	9	2	20
2014	6	1	0	12	1	20
2015	3	0	0	9	2	14
2017	6	3	0	22	5	36
Total	24	4	0	52	10	90

Table 1 – Crash Data Before and After Camera Installation



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The U.S. Department of Transportation Project Development and Design Manual state that turning, and angled crashes have a number of probable crash causes. Probable causes of these types of crashes include the following:

- Large volumes of traffic turning left/right
- Large total volume at the intersection
- Excessive speed at approaches
- Inadequate traffic control devices
- Poor visibility of signals

While red light cameras cannot truly decrease the volume of vehicular traffic entering the intersection, nor the amount of turning traffic, traffic volumes are considered during the initial Justification Report analysis. The remaining crash causes can be addressed with the implementation of red light cameras. First, signage stating that the intersection is red light photo enforced is placed before the signalized intersection in an effort to decrease excessive speeding and increase awareness while traveling on the enforced approach. Finally, 12 inch LED signals are installed at every photo enforced intersection to help increase visibility of the traffic signals.

Intersection Operations

There were no signal timing changes after the Red Light Running Camera System was installed. Prior to the construction, traffic signal heads were not 12 inch Light Emitting Diodes (LED) signal heads. As part of the construction process the LED signal heads were installed. The 2009 Average Daily Traffic (ADT) on Vollmer Road, on west side of the intersection was approximately 20,600 Vehicles per Day (VPD) and 13,500 VPD in the year 2018. The 2018 ADT along Western Avenue is about 14,400 VPD. The ADT information was obtained from www.gettingaroundillinois.com.



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Recommendations

Redflex Traffic Systems and the Village of Olympia Fields are both satisfied with the functionality of the camera equipment and the accuracy of the violations being issued. Since the inception of the camera installation, the data from Table 1 shows that total number of crashes at the intersection in the year 2017 are 36 compared to an average of 18 crashes per year for the years 2013 thru 2015, prior to the installation of the RLR system on the northbound approach in May of 2016.

Based on the typical causes of crashes, turning volumes are typically addressed with geometric changes which may include extending turn-lane storage lengths to allow for longer queues thereby decreasing the amount of thru lane blockage, and possibly also decreasing the chance of a rear end accident caused by drivers not expecting the through lanes to come to a stop while waiting to make a turn.

Crashes are most likely caused by a large influx of volume leading to a decreased level of service at the intersection thus increasing delay and increasing the motorist's frustration which may lead to a driver taking an unnecessary and aggressive risk to clear the intersection against the red signal.

Additional monitoring by the Village of Olympia Fields and an increase in speed enforcement along busy corridors can decrease corridor and intersection speeds throughout the Village.

The last two crash causes, inadequate traffic control devices and poor visibility of signals, do not seem to be a factor in crashes due to the high visibility of the LED signal heads installed and the additional signage prior to and at the intersection.