



### **Village of Olympia Fields**

### **Red Light Running Camera System Follow-up Evaluation Report for Year 2010, 2011, 2012**

#### **Intersection of Lincoln Highway (US 30) at Governors Highway/Crawford Avenue**

#### **(Westbound Approach in Olympia Fields)**

## **Overview**

The Village of Olympia Fields (here in after referred to as the "Village") is submitting the follow-up RLRC Safety Report for the years 2010 thru 2012 for the westbound approach of the intersection of Lincoln Highway (US 30) at Governors Highway/Crawford 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 westbound approach, on August 28, 2008 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 westbound approach to this intersection due to on-going poor driving behavior and due to the accident history at this location.

The existing system by Redflex is currently enforcing the westbound direction in Olympia Fields while the eastbound, southbound, and northbound directions are enforced by the Village of Matteson. This intersection is located approximately one and a half miles east of Interstate 57 and two and a quarter mile west of Western Avenue.

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

- **Exhibit 1** is Westbound Lincoln Highway (US 30)
- **Exhibit 2** is Eastbound Lincoln Highway (US 30)
- **Exhibit 3** is Southbound Crawford Avenue
- **Exhibit 4** is Northbound Governors Highway

The northwest, southwest, and southeast quadrants of the intersection are occupied by shopping centers, restaurants, gas station, and a car washing facility. The northeast quadrant has an auto service facility, restaurant as well as residential area further east and northeast of the intersection. The land use adjacent to the intersection is summarized by quadrants:

1. Northwest – Car wash, shopping center, restaurants
2. Northeast – Auto service, restaurant and retail, residential



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3. Southwest – Gas station, Matteson Plaza shopping center
4. Southeast – Restaurants, retail, medical office space

The Metra Station is one-half mile away, to the east, with parking lots on the north and south sides. There are sidewalks in northwest, southwest, and southeast quadrants; however, there is no sidewalk in the northeast quadrant of this intersection.

**Lincoln Highway Westbound Approach at Governors Highway/Crawford Avenue - Exhibit 1**





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**Lincoln Highway Eastbound Approach at Governors Highway/Crawford Avenue - Exhibit 2**





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**Governors Highway/Crawford Avenue Southbound Approach at Lincoln Highway - Exhibit 3**





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**Governors Highway/Crawford Avenue Northbound Approach at Lincoln Highway - Exhibit 4**





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**Lincoln Highway (US 30) at Governors Highway/Crawford 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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**Lincoln Highway (US 30) at Governors Highway/Crawford Avenue**

**Crash Analysis and History**

Lincoln Highway state road connecting several different villages. Orchard is a local collector serving the nearby neighborhoods. Crash data, including 3 years prior to 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.

Village of Olympia Fields Crash Data 2005-2007 vs 2010-2012						
Lincoln Highway (US 30) at Governors Highway/Crawford Avenue						
Year	Type of Crash					<b>Total</b>
	Turning	Sideswipe	Head On	Rear End	Other	
2005	9	3	1	6	1	20
2006	13	0	0	17	1	31
2007	12	1	0	23	6	42
2010	7	3	0	3	5	18
2011	8	3	0	4	3	18
2012	2	4	0	4	3	13
Total	51	14	1	57	19	142

**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 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 cars 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 signal.

## **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 12 inch Light Emitting Diode (LED) signal heads. Therefore, as part of the construction processes the existing LED signal heads were kept in place. The 2009 Average Daily Traffic (ADT) on Lincoln Highway, on the east side of intersection was approximately 34,200 Vehicles per Day (VPD) prior to the installation of the RLR camera system. The ADT on Lincoln Highway was 33,100 VPD in the year 2012. It was 32,500 VPD in 2013 and 30,700 VPD in 2015. The ADT had increased to 34,700 VPD in 2017 on Lincoln Highway; and along Governors Highway, on the south side of the intersection, it was about 18,800 VPD. The ADT information was obtained from [www.gettingaroundillinois.com](http://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 intersection crashes have decreased by an average 47%. This number was arrived at by taking the average number of crashes, 3 years before the camera activation and then comparing it to the average of the last three years of activation.

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 off a rear end accident caused by drivers not expecting the through lanes to come to a stop while waiting to 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.