



Agenda
Village of Glen Ellyn
Special Workshop Meeting
Monday, September 18, 2017
7:00 PM
Police Department Community Room

Village Board Workshop Procedures Statement

Visitors are most welcome to attend all meetings of the Village Board and can find copies of the Agenda on their chairs or online at www.glenellyn.org prior to the meeting. Any individual with a disability requiring a reasonable accommodation in order to participate in a meeting should contact the Village of Glen Ellyn ADA Coordinator, 630-469-5000, at least five (5) business days in advance of the next scheduled meeting. All matters on the Agenda may be discussed, amended, and acted upon.

A. Call to Order

B. Pledge of Allegiance

C. Roll Call

D. Audience Participation

1. Open:

Members of the public are welcome to speak to any item *not* specifically listed on tonight's agenda for up to three minutes. For those items which are on tonight's agenda, the public will have the opportunity to comment at the time the item is discussed. In either case, please complete the Audience Participation form and turn it in to the Village Clerk. It is requested that, if possible, one spokesman for a group be appointed to present the views of the entire group. Speakers who are recognized are requested to step to a microphone and state their name, address and the group they are representing prior to addressing the Village Board.

E. Discussion of Lambert and Taft Intersection (Public Works Director Hansen)

1. Staff will lead a discussion pertaining to traffic related issues occurring at the intersection of Lambert and Taft

F. Village Board Training (Attorney Julie Tappendorf - Ancel Glink)

G. Other Items

H. Adjournment



Glen Ellyn Village Board
535 Duane Street
Glen Ellyn, IL 60137

Meeting: 09/18/17 07:00 PM
Department: Public Works
Department Head: Julius Hansen
Category: Discussion Item
Prepared By: Rich Daubert

SCHEDULED

AGENDA ITEM (ID # 2877)

DOC ID: 2877

Staff will lead a discussion pertaining to traffic related issues occurring at the intersection of Lambert and Taft

Background:

Car accidents have increased at the intersection of Taft and Lambert to a point that it is being presented to the Village Board for discussion to determine the best course of action to be taken by staff to implement measures to reduce the frequency of these accidents. Many of the accidents result in vehicles needing to be towed away from the damage incurred. A traffic engineer consultant was hired to give the village recommendations to help reduce accidents at this specific intersection. These recommendations were evaluated by Public Works in collaboration with the Police Department. The consensus is east and west bound cross traffic movements need to be eliminated from the intersection. This is the most cost effective and fastest way to implement measures to reduce accidents.

Issues:

This intersection has a bad accident history record demonstrating the need for improvements to reduce accidents. The east and west cross traffic movements are the root cause for these accidents. These accidents occur at all times of the day with a concentration of them during peak traffic times. Vehicles on Taft that cross Lambert to go east or west are most vulnerable to being hit by a north or south bound vehicle. Stopping the cross traffic would thereby stop accidents caused by this movement.

Recommendation:

The consensus is east and west bound cross traffic movements need to be eliminated from the intersection. In order to implement this idea a raised median would be constructed in two locations on Taft. The raised median on Taft east of Lambert would only allow right turns onto Lambert from Taft. The raised median on Taft west of Lambert would allow both left and right turns onto Lambert from Taft. In conjunction with the raised median the two lanes east and east bound lanes on Taft would be converted into a single lane for turning movements only.

In addition to this significant measure other minor improvements have been recommended. Public Works plans to install a Flashing yellow beacon at two locations on Lambert for north and south bound lanes in advance of the intersection. In addition, two flashing red beacons will be installed on the stop signs at both the southwest corner and northeast corner of Taft. The flashing lights will convey to motorists the importance to proceed carefully when using the intersection.

Budget Impact:

Funds to make these improvements would be taken from the Capital Project Improvements Fund. No other measure will reduce accidents as effectively or be as cost effective as this particular measure.

Action Requested:

Approve the recommendation to eliminate east and west cross traffic movements at Taft and Lambert.

Attachments:

- Traffic Engineer Consultant Report

ATTACHMENTS:

- Lambert Rd & Taft Ave_Traffic Safety Memo (PDF)

**Hampton, Lenzini and Renwick, Inc.**

380 Shepard Drive, Elgin, IL 60123-7010

Memorandum

To: Bob Minix, PE
Civil Engineer, Village of Glen Ellyn

From: P. Brien Funk, PE, PTOE

Date: 2/9/2017

Re: Lambert Road & Taft Avenue – Traffic Safety Study

Hampton, Lenzini & Renwick, Inc. (HLR) has conducted a traffic safety study at the intersection of Lambert Road & Taft Avenue in the Village of Glen Ellyn. The Village asked HLR to review the roadway conditions at and around the intersection due to its high number of recorded crashes and to recommend possible improvements to mitigate the crash issue. This memo summarizes the analysis and presents the findings and recommendations of HLR.

Existing Conditions

Roadway

Lambert Road is a two-way roadway running north-south within the Village of Glen Ellyn. The existing cross-section includes curb and gutter, no median, and no on-street parking. Lambert Road has a speed limit of 35 miles per hour (mph) and serves as one of the main routes between the College of DuPage (COD) and IL Route 38 (Roosevelt Road). COD is located approximately one mile south of the study intersection.

Taft Avenue is a local two-way street that runs east-west and is located approximately 300 feet south of IL Route 38. The cross-section includes curb and gutter, no median, and no on-street parking. The speed limit on Taft Avenue is 30 mph. Taft Avenue was previously two separate short segments running from President Street to Lorraine Road and from Lambert Road to Main Street. In 2013 the segment between Lorraine Road and Lambert Road was completed to provide a continuous stretch from President Street to Main Street.

The intersection of Lambert Road & Taft Avenue is two-way stop controlled, with stop signs on the Taft Avenue approaches. As stated above, the intersection is located approximately 300 feet south of the IL Route 38 & Lambert Road intersection, which is controlled by a traffic signal. The east- and westbound Taft Avenue approaches each have one exclusive left-turn lane and one shared through/right-turn lane. Southbound Lambert Road has one shared left-turn/through/right-turn lane. Northbound Lambert Road has one shared through/left-turn lane and one shared through/right-turn lane. The through/left-turn lane feeds directly into the northbound left-turn lane for the IL Route 38 & Lambert Road intersection. The close proximity to IL Route 38 essentially turns the northbound through/left-turn lane approaching Taft Avenue into additional storage for the northbound left-turn at IL Route 38. The middle of the intersection is cross-hatched to keep motorists from stopping within the intersection while queued for the IL Route 38 & Lambert Road traffic signal. An aerial image of the intersection is shown on the following page.



Crash History

Crash data was provided to HLR for the years 2013, 2014, 2015, and the first half of 2016. A quick summary of the number of crashes is shown in Table 1 below:

Table 1: Crash Data Summary

Year	2013	2014	2015	2016*
Crashes	10	27	31	15

*2016 crash data through 6/30/16

A review of the crash data clearly shows a significant increase in the crash rate between 2013 and 2014. The Taft Road connection was constructed in 2013. The Glen Ellyn Police Department installed supplemental “Cross Traffic Does Not Stop” signs to the stop sign posts for east- and westbound Taft Road on October 21, 2015. These signs appear to have had no impact as the number of crashes through the first half of 2016 is trending to be about the same as 2015.

The predominant crash type is angle crash, making up 75.9% of the observed crashes. The second highest crash type is turning crash, with 14.5% of the crashes. The majority of these crashes occur between a southbound through vehicle and a westbound through vehicle. The most common theme in the driver statements was that the westbound vehicle could not see southbound traffic due to the queued vehicles in the northbound left-turn lane at IL Route 38 & Lambert Road. Drivers would state that they thought there was no southbound vehicle and proceeded straight through the intersection, colliding with a southbound vehicle. The second most common crash direction was eastbound through vehicles with northbound through vehicle. Similarly, eastbound drivers would state that they could not

see northbound traffic in the through lane due to queued vehicles in the northbound left-turn lane. Crash diagrams are attached to this memo as Exhibit 1.

Traffic Operations and Sight Distance

HLR visited the study location on January 24, 2017 to observe traffic operations and measure sight distance. COD was in session on this date, so the traffic conditions were considered normal.

What was quickly evident was that vehicles queued in the northbound left-turn lane at IL Route 38 & Lambert Road can block the sight distance from westbound Taft Avenue looking north. It only takes three to four cars to be queued to significantly block sight distance. The majority of the cycles during the observation period had three to five vehicles queued in this lane. With three passenger cars queued, the sight distance to the north from the westbound approach is approximately 200 feet. The *Illinois Department of Transportation Bureau of Local Roads and Street Manual* requires 445 feet of sight distance for the existing conditions. Exhibit 2 attached to this memo shows the sight distance triangles for this intersection with no vehicles queued. With no cars queued adequate sight distance is available to the north and south from both Taft Avenue approaches. Exhibit 3 shows how the sight distance decreases significantly with a typical three car queue.

Most classes at COD let out at 50 minutes past each hour. When this happens there are short bursts of extra traffic that cause the queue at IL Route 38 to extend past the Taft Avenue intersection. This is the condition that is present during most of the reported crashes. When the queue extends through the intersection, there is essentially no sight distance to the north from the westbound approach or the south from the eastbound approach. There is storage for approximately nine passenger cars in the left-turn lane between IL Route 38 and Taft Avenue. Exhibit 4 shows the sight distance triangles when the queue extends through the study intersection.

Crash Mitigation Alternatives

After a review of the existing conditions and recent crash history, it is clear that the largest contributing factor to the high crash rate is the northbound left-turn queue at IL Route 38 restricting sight distance for the vehicles on Taft Avenue. It only takes three vehicles in this queue for sight distance from westbound vehicles looking north to reduce to 200 feet. As the queue approaches the Taft Avenue intersection, this sight distance becomes essentially zero. When the queue extends past the Taft Avenue intersection, the eastbound sight distance looking south becomes zero.

These conditions were present at the intersection prior to the Taft Avenue connection project. However, the connection has likely resulted in a large increase in traffic volumes along Taft Avenue which has led to the dramatic increase in number of crashes. Ways to help reduce the crash rate involve reducing traffic along Taft Avenue, adding additional vehicle control at the intersection, or restricting movements. The options are discussed below:

Redirection of College of DuPage Traffic

Reducing the amount of traffic using Lambert Road should reduce the crash rate at the study intersection. Presumably, the majority of the traffic using Lambert Road during the day is travelling to/from COD. Somehow redirecting this traffic away from Lambert Road could result in less queueing at IL Route 38 & Lambert Road, thus reducing the amount of time the sight distance issue is present. While this may reduce the crash rate at the intersection it does not eliminate the actual issue that is contributing to the crashes. At times queues will still reach lengths that will block sight distance from Taft Avenue. Also, there is no reasonable way to redirect traffic from the college. Simply placing signs at and around COD would likely have little effect on drivers' route choice. Major changes to the college

access points and the intersection of Lambert Road & 22nd Street would need to be completed to force traffic away from Lambert Road. This would likely have a negative impact on all drivers using Lambert Road, not just the COD traffic.

Speed Humps

It is likely that once the Taft Avenue connection was completed, this became an alternate to IL Route 38 between President Street and Main Street. The increase in through traffic along Taft Avenue has resulted in an increased number of crashes. Adding speed humps to Taft Avenue would likely result in a traffic reduction along the route. If the route is made less convenient to through traffic, some vehicles would move back to IL Route 38. The reduction in traffic should result in a reduced number of crashes at the intersection.

All-way Stop Control

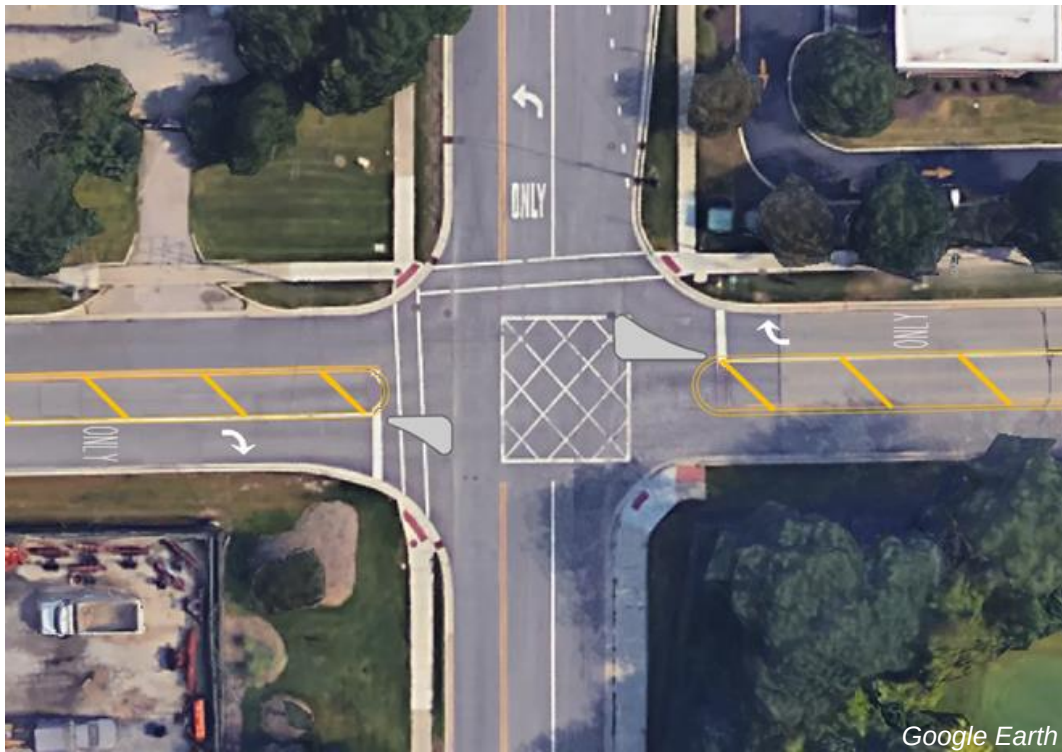
Adding all-way stop control to the intersection eliminates the sight distance issue. With all vehicles being required to stop, this would significantly reduce the crash rate of the intersection. However, all-way stop control is likely not a good solution at this location due to its proximity to IL Route 38. Stopping southbound vehicles could result in southbound queues reaching the IL Route 38 intersection. Traffic counts would be required and a capacity analysis performed to see what the likelihood of this situation would be. Stop control from the northbound approach would also have a negative impact on the northbound left-turn at IL Route 38 due to the disrupted flow from the south causing the movement to gap out.

Traffic Signal Control

Adding a traffic signal here, either an extension of the Lambert Road & IL Route 38 signal or a separate signal, could reduce the crash rate significantly. This is not a preferred option due to the high cost and the complexity of the operation between the two closely spaced signals.

Restricted Movements

Restricting the movements most involved in the crashes is a good way to improve the safety of the intersection. Since the majority of the crashes involve eastbound and westbound through movements, restricting these would greatly reduce the crash rate of the intersection. Placing islands on the east- and westbound approaches would still allow right-turn movements from Taft Avenue and right-turns and left-turns from the Lambert Road approaches. A concept of this is shown on the following page.



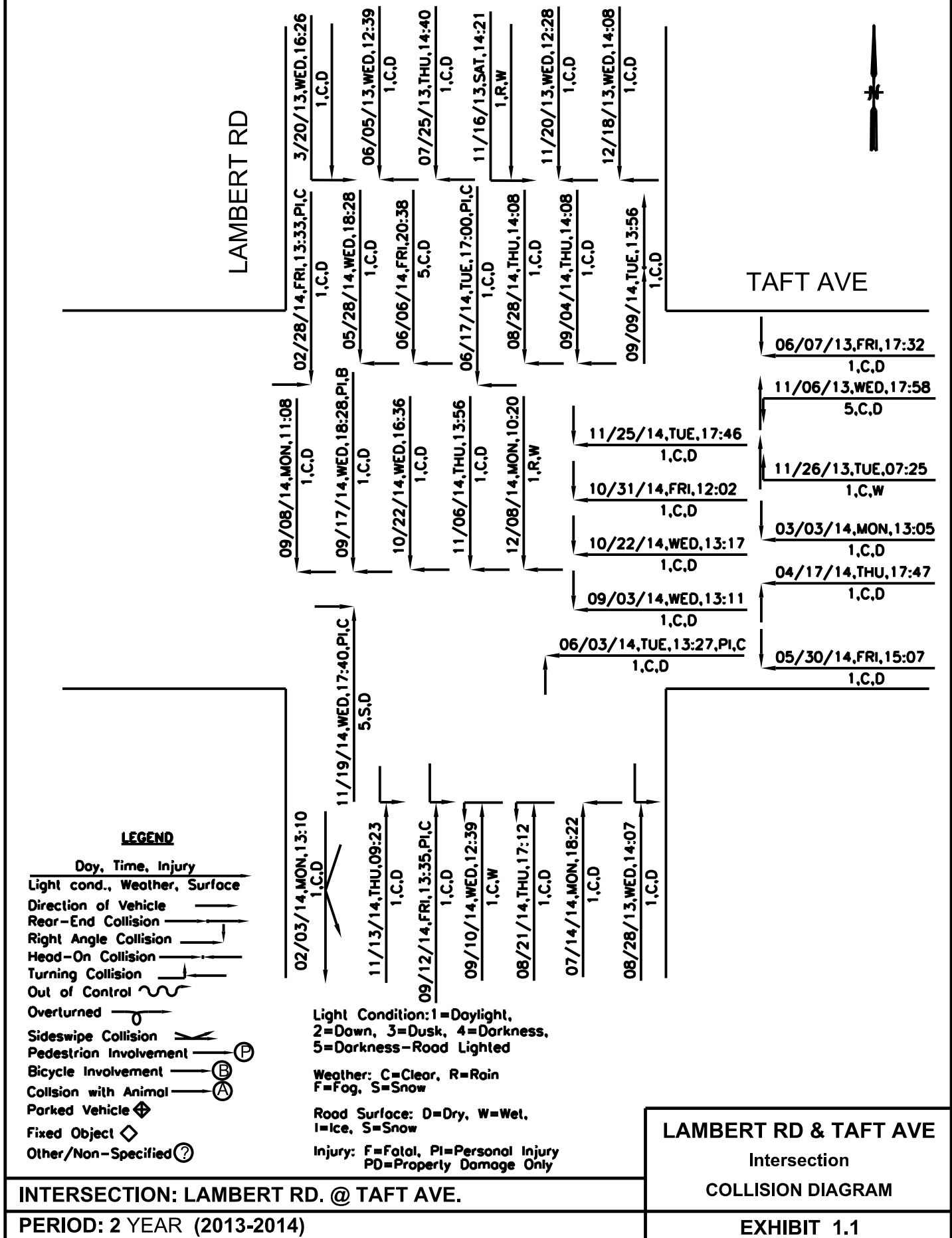
Conclusion

HLR recommends collecting traffic count data at the study intersection and at IL Route 38 & Lambert Road in order to fully explore the options mentioned. All-way stop control will likely not work in this location due to the proximity of the intersection to IL Route 38. Speed humps would likely reduce the crash rate as they encourage drivers to use IL Route 38, but they do not eliminate the issue that is leading to the crashes. The efforts required to successfully redirect traffic from the COD make it an unfeasible option.

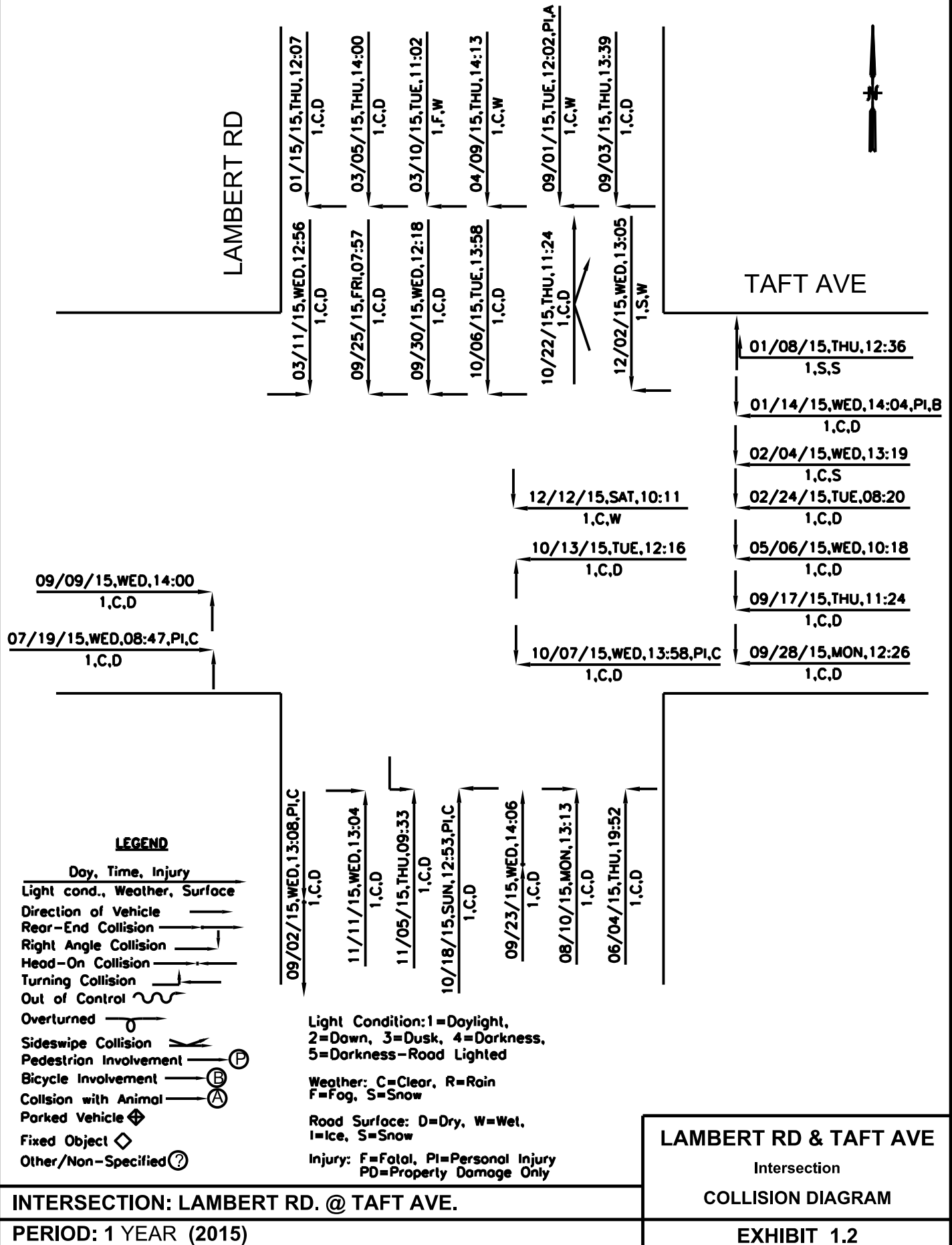
With the limited traffic data at this time, the installation of movement restricting islands at the intersection which restrict through and left-turn movements from Taft Avenue appears to have the greatest potential to reduce crashes. By restricting the movements most commonly involved in crashes, this will have a significant impact on the number of crashes at this intersection. Traffic counts should be taken and analyzed to ensure that restricting these movements does not have a significant negative effect on traffic operations or businesses in the area.

If you have any questions or comments regarding this study please contact Brien Funk at 847-697-6700.

COLLISION DIAGRAM



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