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Nicolás H. Bosonetto, P.E.
City Engineer (Interim)

Date: November 27, 2017

TO: Kevin J. Murphy, City Manager

VIA: Tom Bellegarde, Assistant City Manager/DPW Commissioner

FROM: Nicolás H. Bosonetto, P.E., City Engineer (Interim)

SUBJECT: 7/25/17 Councilor Rourke - Request City Manager have Traffic Engineer look into a four way stop at the intersection of Riverside and Sparks Street

Riverside Street (Route 113) is an urban minor arterial connecting the Town of Dracut to the City of Lowell with an estimated traffic volume of over 13,000 vehicles per day. Sparks Street is a local road which serves as an access into UML's Cushing Field complex and into the surrounding neighborhoods.

The Traffic Engineer and the Bicycle/Pedestrian Coordinator investigated this intersection in May of 2017 due to an increase in crashes over the last 5 years. According to LPD reports there have been an average of 9.2 crashes per year at this intersection with 85% of the crashes being caused by vehicles pulling out of the eastern side of Sparks Street into oncoming traffic on Riverside Street. The crash rate for this intersection is three times the district average.

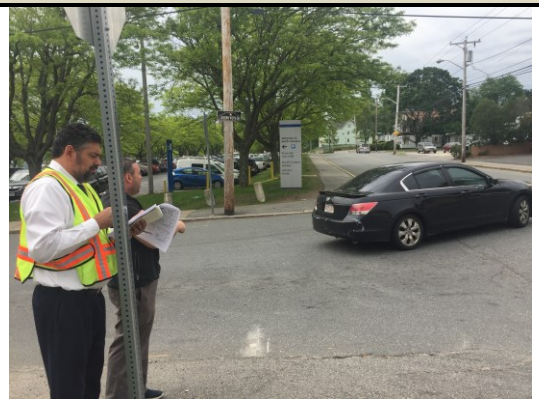
Upon inspection it was found that the increase in crashes directly corresponds to UML having installed a pylon sign about 6 years ago which blocks the sight line for vehicles exiting Sparks Street. (see attached report and map) The Traffic Engineer requested UML relocate the pylon to a location outside the sight line. The request was made in May of this year, but to date UML has been recalcitrant against the move.

A four-way stop sign at this location is not warranted by MUTCD or MassDOT regulations. However, a four-way stop sign was installed on a trial basis 60 days ago and it has now been removed because it caused significant traffic congestion and numerous complaints that traffic was being backed up to University Avenue during afternoon rush hour.

High Crash Volume-Failure to Stop
Sparks and Riverside Streets
Mr. Russel

REASONS/TOPICS:
Received complaint regarding crashes and failure to stop at the intersection of Sparks and Riverside Street across from the UML Riverside Parking Lots (A-B). After received the complaint the Tranportation Engineer and Bicycle and Pedestrian Coordinator began to look at the crash reports provided by the Lowell Police Department. The reports indicated that from 2012 to 2016, there were a total of 46 crashes/accidents; 4 of which involved pedestrian crossing Riverside Street. The average crashes is 9.2 per year and is consider high crashes and heavy traffic. The accident reports also showed that 85% of them was due to driver coming out of Sparks Street and toward Riverside Street and 15% going into the UML Parking Lot. Data showed: 2012 (5 crashes), 2013 (15 crashes), 2014 (7 crashes), 2015 (9 crashes), and 2016 (10 crashes.)

DISCUSSION/COMPLAINTS:
During our meet with Russel on Wednesday May 24, 2017, we found out that there's a **sightline issue** for drivers coming out of UML Lots east of Sparks Street onto Riverside Street, As indicated in photo 1. The UML Parking Sign into Riverside Lot A&B is blocking the view of drivers coming out of Sparks Street from oncoming traffic thus prone to accidents. When drivers lean onto Riverside to see oncoming traffic, it impede on pedestrian crossing causing an unsafe environment. As indicated in photo 2, the **crosswalks are not visible** on all side of Sparks Street. Long Term: **A Thorough Traffic Study is needed** for Sparks and Riverside Streets. In the meantime, below are some short term recommendations.

Photo 1	Photo 2	Photo 3
		

ACTIONs/RECOMMENDATIONs:
1. Relocate the UML Riverside Lots A&B Parking sign-Photo 1
2. Crosswalks painting (Sparks and Riverside Streets)
3. Line striping
4. Continue to evaluate to see progress after installations

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PROJECT STATUS
APPROVED: ☐ _____
DENIED: ☐ _____
DATE: _____

Sparks Street
Sight Line Obstruction

60 30 0 60 Feet

SPARKS ST

EMERY AV

RIVERSIDE ST

MARTIN ST

Driver's Eye
10' behind
Stop Bar

Stopping Distance
390 feet at 35 MPH
per Exhibit 3-11
MassDOT Design Guide

UML Pylon Sign
Blocking Sight Line
- Move back
21 feet from edge
of travel way