




Yovani Baez-Rose
Assistant City Manager/DPD Director

MEMORANDUM

TO: Thomas A. Golden, Jr., City Manager 

FROM: Yovani Baez-Rose, Assistant City Manager/DPD Director

CC: Elizabeth Oltman, PE, Transportation Engineer

SUBJECT: MOTION OF 10/25/2022 – Councilor Nuon, Councilor Rourke – Request City Manager Work With The State Delegation And The MassDOT On Ways And Means To Improve Traffic Safety At The Intersection Of Rogers And Boylston Streets.

In 2010, four intersections were identified by MassDOT as high crash locations in a Road Safety Audit (RSA), including the intersection of Route 38 (Rogers Street) / Boylston Street / Fairmount Street / Laurel Street. At the time, the intersection was ranked 43 in NMCOG's Top 100 Crash Intersections in the Northern Middlesex Region, 2004-2006, with a crash rate of 8.8 crashes per year.

The design phase of the project included a review of the existing intersection geometry, collection of traffic volumes, investigation and analysis of accident data and evaluation of the MassDOT approved design recommendations. The proposed design recommendations provided to MassDOT and the City were intended to enhance traffic operations and improve vehicular and pedestrian safety. Significant public outreach was conducted with City Staff and the adjacent property owners and stakeholders. The final design improvements at the subject intersection were evaluated and included:

- Widening of the Boylston Street approach to provide an exclusive left turn lane.
- Revision of the island geometry to simplify traffic movements and reduce conflict points throughout the intersection by eliminating access to Laurel Street from the Route 38 southbound and Boylston Street eastbound approaches.
- Complete traffic signal equipment replacement and upgrade.
- New signal phasing to clarify traffic flow and reduce congestion.
- Improved sidewalks, ADA ramps, crosswalks and pedestrian signal equipment, including operational pedestrian push buttons and countdown heads.

Full access to the commercial properties at 358 Fairmount Street and 6 Laurel Street were maintained with the reconstruction: the driveways can be accessed by vehicles on Route 38 northbound and southbound, Laurel Street, Fairmount Street and Boylston Street. MassDOT included "No Thru Traffic" signage at the convenience store entrance at Fairmount Street in agreement with the property owner during the public outreach prior to reconstruction of the signal.

This intersection is no longer designated as a high crash location. The construction of the project has been complete for approximately a year, therefore, it is too soon to have a revised crash rate. However, it is noted that only two crashes have been recorded at this intersection to date in 2022, down from 8-12 crashes a year previously.

An unintended consequence of restricting access to Laurel Street is an increase in motorists “cutting through” the parking lot of the commercial building at 6 Laurel Street (Store 38 Convenience Store). The Transportation Engineer visited the intersection during a morning peak period and an evening peak period.

- Vehicles were observed traveling southbound from Fairmount Street turning left into the parking lot and traveling through from Boylston Street and making a right into the parking lot then exiting the lot onto Laurel Street eastbound.
- During the afternoon observation period, a vehicle performed one of the above cut through movements approximately every five minutes, which equates to an average of 10-12 vehicles per hour. During the morning observation period, only two vehicles cut through the parking lot. Not included in this count are the patrons of the convenience store that used the parking area as a cut through once their business was concluded.
- Anecdotal information obtained from the business owner indicated that motorists will also enter the lot from Laurel Street and exit making a left onto Fairmount Street to enter the back of queueing vehicles at the signal, but this was not observed.

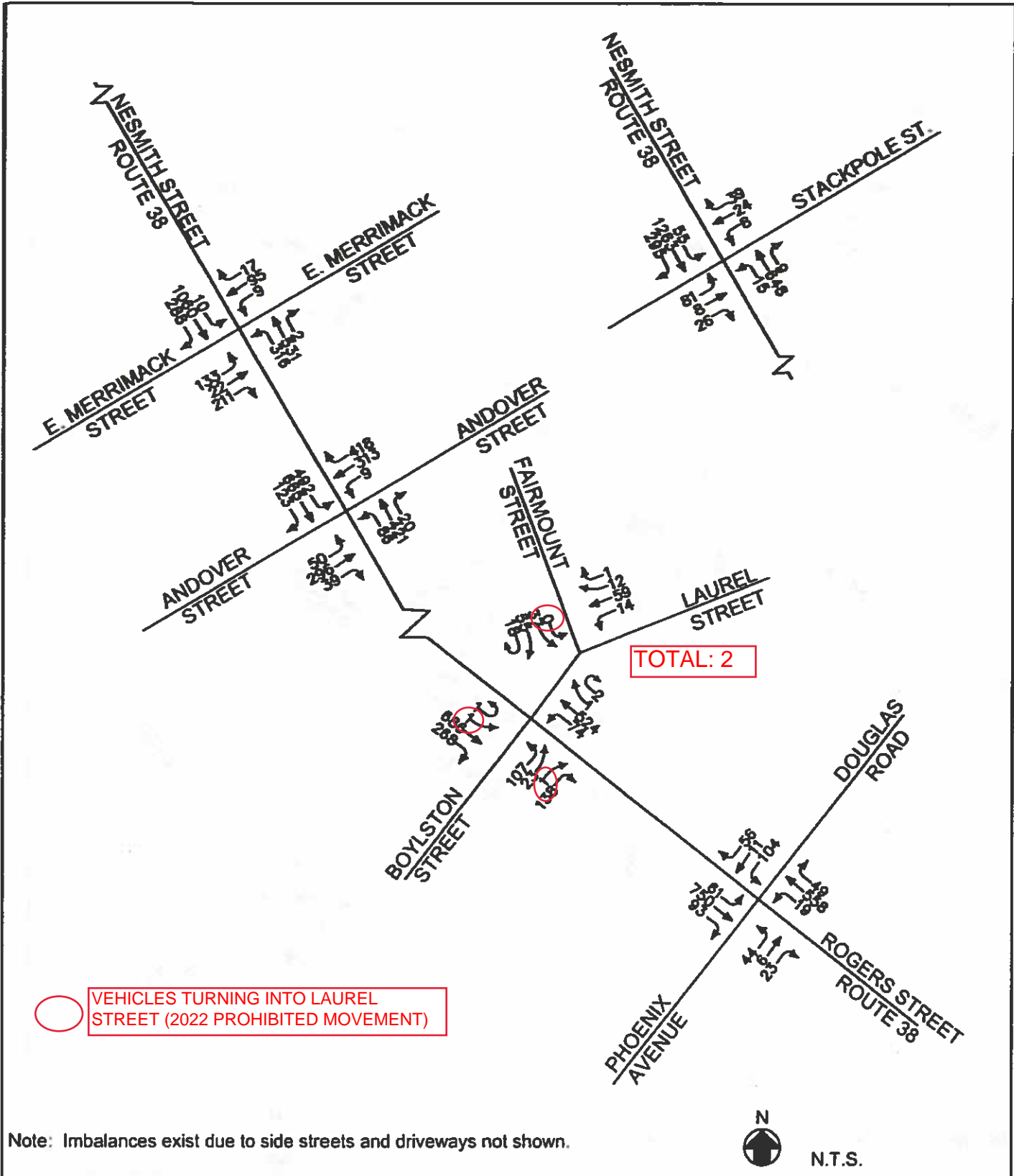
Traffic counts performed in 2014 indicated 99 vehicles coming from Boylston Street or Route 38 southbound accessing Laurel Street (see attached) in the evening peak hour. Two vehicles desired to make these movements in the morning peak hour. With 10-12 cut through movements observed in 2022 during the evening peak period, this indicates that most drivers are obeying normal traffic laws and finding another legal route to their destination.

Overall, the signalized intersection is operating in a safer and more efficient condition than prior to the reconstruction. The pedestrian infrastructure reduces pedestrian and vehicle conflicts and improves access between the residential neighborhood and Shedd Park. The Transportation Engineer does not recommend a return to the previous island configuration as the current intersection design and operation is a significant improvement in safety for both vehicles and pedestrians.

The Transportation Engineer recognizes that the vehicles cutting through the parking lot is a frustrating situation for the property owner, as these vehicles conflict with customer parking movements. Additional options that can be considered by the property owner to reduce or eliminate cut through traffic include:

- Install speed bumps within the parking lot to discourage cut through traffic and slow vehicle speeds. Speed bumps are unlikely to deter regular or new patrons of the store.
- Physically create two parking lots with travel between the two lots prohibited. No customer access would be lost.
- Fully close the Laurel Street driveway and provide all access via the Fairmount Street driveway. No customer access would be lost.
- Request periodic enforcement by Lowell Police Department of the “No Thru Traffic” restriction.

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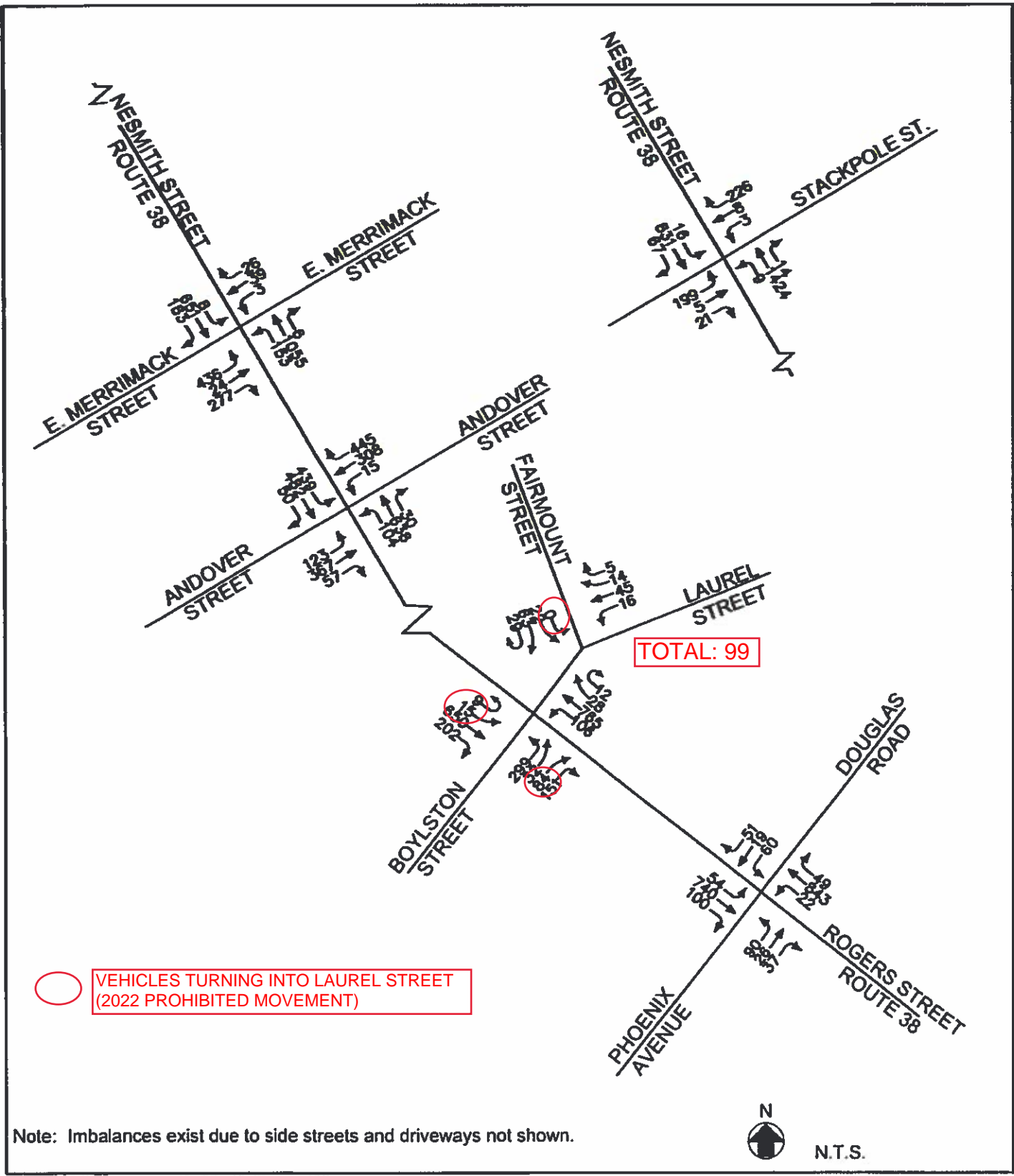


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ROUTE 38
 INTERSECTION
 IMPROVEMENTS
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Figure 2

2014 Existing
 Weekday Morning
 Peak Hour Traffic Volumes



Note: Imbalances exist due to side streets and driveways not shown.



N.T.S.



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Figure 3
 2014 Existing
 Weekday Evening
 Peak Hour Traffic Volumes