



TOWN OF ARLINGTON
DEPARTMENT OF PLANNING and
COMMUNITY DEVELOPMENT

TOWN HALL, 730 MASSACHUSETTS AVENUE
ARLINGTON, MASSACHUSETTS 02476
TELEPHONE 781-316-3090

MEMORANDUM

To: Adam Chapdelaine, Town Manager

From: Daniel Amstutz, Senior Transportation Planner

CC: Jennifer Raitt, Director, Department of Planning and Community Development
Michael Rademacher, Director, Department of Public Works
Juliann Flaherty, Acting Chief of Police, Arlington Police Department

Date: February 28, 2019

RE: Visibility Improvements for Safety at Crosswalk Near Trader Joe's and Starbucks

Since the beginning of the year, there have been three pedestrian crashes at the crosswalk on Massachusetts Avenue in front of Trader Joe's/Starbucks in Arlington Heights. All three pedestrians were struck in the crosswalk while crossing Mass Ave. Staff from the Department of Planning and Community Development, Arlington Police Department, and Department of Public Works have reviewed the situation at the crosswalk and have discussed recommendations for short and long term pedestrian safety improvements at this location.

Location Context, Crash Data, and Staff Observations

The marked crosswalk is at the intersection of Mass Ave and Dundee Road and crosses Mass Ave directly in front of the building housing the Starbucks and Trader Joe's in Arlington Heights. The crosswalk is uncontrolled, meaning there are no traffic control devices (such as a STOP sign or traffic signal) to designate right of way for pedestrians versus automobile drivers. However, drivers must yield the right of way to pedestrians when pedestrians are in the crosswalk.

The three crashes at this crosswalk all occurred while the pedestrians were in the crosswalk, based on the police reports provided by the Arlington Police Department. The crashes occurred on January 3, 16, and 19. All of the crashes occurred under low light conditions: two of the crashes occurred at around 7:00 p.m. and 7:30 p.m., while one occurred at 6:50 a.m. One was a hit and run; in the other two cases, the drivers remained at the scene and said they did not see the pedestrian in the crosswalk before the crash. The pedestrians were in the process of crossing the street at the time of the crashes.

Observations at the location by DPCD staff were done on a weekday morning between 8:15-9:00 a.m. Parking is clearly well-used at this location, even early in the morning. Drivers

parking on-street usually went into Starbucks for a short time before leaving again. The crosswalk was also used fairly frequently, with around a dozen pedestrians using the crosswalk during the period of observation.



Figure 1: Mass Ave at Dundee Road/Trader Joe's Crosswalk

Besides the standard “ladder” crosswalk pavement markings indicating the crossing, there are also advance pedestrian warning signs for the crosswalk and an in-road pedestrian warning sign. However, there are several issues with this crosswalk that limit visibility of pedestrians entering the crosswalk:

- Drivers are allowed to park on-street immediately adjacent to either side of the crosswalk on the Starbucks side of the road, without any clear space between the vehicle and the crosswalk. On the other side of Mass Ave at Dundee Road, vehicles can similarly park right up to the crosswalk (but not on the other side since that is in the intersection with Dundee Road). This severely limits the visibility of pedestrians entering the crosswalk.
- Eastbound on Mass Ave approaching the crosswalk, there is a sign for the Mystic Valley Freemasons Lodge that is badly worn with peeling paint. This sign is directly in front of the advance pedestrian warning sign for the crosswalk and partially blocks its visibility.
- There is a street light on a utility pole on the Trader Joe's side of Mass Ave approximately 25' east of the crosswalk. This appears to be the closest street light to the crosswalk. There is a utility pole directly adjacent to the crosswalk on the opposite side of the street (near Dundee Road), but there is no street light on this pole. Using a light meter, DPW has confirmed that light levels are low at this location during night time.

- Pedestrians must cross the entire length of the street, a distance of approximately 48'. This increases the exposure of pedestrians to vehicle traffic as they cross. At an average walking speed of 3.5 feet per second, it can take pedestrians 13 seconds to cross the street here. Due to the presence of on-street parking, pedestrians usually must already be in the street for them to be seen by drivers.

Although not related specifically to visibility, the vehicle travel lanes in this segment of Mass Ave are 15' wide, which can contribute to higher speeds by drivers. Higher speeds increase the distance by which drivers can safely stop to yield to pedestrians, limits their reaction time, and reduces their field of vision in order to see pedestrians at the edge of the road in the first place.



Figure 2: Vehicles parked directly before the crosswalk block visibility of pedestrians entering the crosswalk

Short Term Improvements

The following short term improvements (that can be implemented immediately or in the next few months) are recommended to improve pedestrian visibility and thus safety at this crosswalk:

- Parking should be restricted with appropriate signage before the crosswalk on the eastbound and westbound approaches to improve visibility. Generally, 20 feet (the length of one parking space) is recommended as a best practice for pedestrian safety for crosswalks. The Transportation Advisory Committee voted to approve new crosswalk guidelines that include the 20 foot parking restriction as a guideline at their January 2019 meeting. However, due to site constraints, the recommendation for each side are as follows:

- On the westbound side, closest to Starbucks, there is a 15' gap between a handicap parking spot and the crosswalk. To avoid moving this parking spot, simply removing parking in between the crosswalk and the handicap spot is sufficient.
- On the eastbound side, parking should be restricted before the crosswalk by 20'.
- Parking should be restricted five feet following the crosswalk on the westbound side to enable motorists to exit the next parking space without backing into the crosswalk.
- Pavement markings should be used to further indicate that parking in these locations is not allowed. Hatch marks (i.e., diagonal lines) can be used for this purpose. A similar treatment can be observed on the westbound side of Mass Ave approaching the crosswalk at Water Street/Peg Spengler Way.
- The Mystic Valley Freemasons sign should be removed to prevent it from blocking visibility of the pedestrian crosswalk signs. It is in poor condition and may be returned to the local Lodge. It could also be moved to a more appropriate location along the corridor, but preferably as a new sign.
- Considering that all three crashes occurred in low light conditions, and DPW has confirmed the low light levels, Town staff (including DPW, APD, and DPCD) will explore lighting options to better illuminate the crosswalk, including installing a new street light if necessary. DPW will evaluate the lighting conditions to make this determination and the proper location of a new light.

Long Term Improvements

Certain potential improvements will require more study or will be more costly to implement. Longer-term improvements may include:

- Curb extensions should be considered at this location to improve visibility and reduce the crossing distance for pedestrians.
- Narrowing of travel lanes on Mass Ave to encourage speed reduction at or below posted speeds. This may also allow for the installation of full bicycle lanes through this portion of Mass Ave.
- A thorough evaluation of the intersections of Mass Ave and Dundee Road and Mass Ave and Paul Revere Road to recommend improvements for pedestrian safety. This evaluation could include a review of potential geometric changes to both intersections, crash data, signalization including a full traffic signal or pedestrian signal, and parking needs. The locations of the existing crosswalks at the section of Mass Ave should also be reviewed through this process.

Conclusion

Staff request the Select Board approve implementing the parking restrictions at this location. Staff plan to implement the updates to street lighting and adjustments to warning signage as well. Long term improvements will be included in staff long term planning and review for future project work. Please advise if further questions or clarifications about this request are needed.