

MEMORANDUM

Date: 5/1/18
To: Seattle City Council
From: Mark Bandy, SDOT Director of Transportation Operations
Subject: Automated Enforcement SLI Response

The following memo responds to SLI 58-1-A-1, requesting that SDOT report on the potential for using automated enforcement to reduce "block the box" incidents and transit lane violations. The SLI requests the following information:

Council requests that the Department of Transportation, in conjunction with Seattle Police Department, report on the potential for using automated enforcement to reduce "block-the-box" incidents and transit lane violations. The report should address any technological, legislative, and budgetary needs to implement automated enforcement strategies.

Background

Currently, automated enforcement of block the box and transit lane violations is not permitted under state and city law. However, SDOT recommends pursuing state authorization due to the significant benefits of automated enforcement.

Block the box describes an incident in which a motor vehicle fails to properly clear an intersection, preventing other vehicles from making their intended maneuver. Block the box incidents create several public safety and mobility issues:

- Impacts the speed and response time of emergency responders, including emergency medical services, Seattle Fire Department, and Seattle Police Department
- Exacerbates traffic delays and congestion, particularly during rush hour conditions
- Reduces the speed and reliability of transit
- Negatively affects pedestrian and bicycle safety and mobility

Block the box violations are a growing concern in and around downtown Seattle, including several intersections near fire stations and along major routes to hospitals. Data collected from a sample location at 4th and Battery in March 2018 showed an average of almost 11 violations per day, with a high of 53 intersection obstructions between 5pm and 6pm on a single day. Not only do these incidents present a significant public safety concern, but they continue to destabilize broader efforts to maintain mobility through downtown.

As Seattle continues to install more transit-only lanes, in an effort to preserve mobility and increase quality of service, there are an increasing number of transit lane violations. Preliminary data from the 4th and Battery study showed 174 violations over a single eight-hour period. These incidents reduce the effectiveness of the Seattle transit system and increase the safety risk for drivers and transit operators.

Manual enforcement has not addressed these issues for several reasons. Locations where block the box and transit lane violations most frequently occur often do not have adequate space for a vehicle to be pulled over. Even when there is space, manual enforcement still typically impacts the flow of traffic through the travel lane, exacerbating the public safety and mobility problems caused by the violation in

the first place. Manual enforcement is also challenging, resource intensive, and potentially hazardous for the officers who must navigate through heavy traffic conditions to the violator's vehicle.

In contrast to relying on manual enforcement, SDOT anticipates that implementing automated enforcement would:

- Increase the amount of time intersections are clear of vehicles, thereby decreasing impact to emergency responders
- Increase the number of vehicles that intersections handle during hyper-congested conditions
- Increase transit speed reliability on pathways through these intersections
- Reduce pedestrian collision risk through decreased blocking of crosswalks

Case Studies

New York City, NY – A study in New York City traffic data showed that the average time a violating vehicle was stopped within the intersection was 10.5 seconds. Nearly 40 percent of the violation events recorded obstructed the intersection for 10 seconds or more. In 2008, the New York legislature passed legislation that reclassified block the box from a moving violation to a parking violation and change the financial penalty from \$50 to \$115.

San Francisco, CA – In 2014, the San Francisco Municipal Transportation Agency conducted a pilot enforcement effort of block the box in the SoMA neighborhood at intersections near the Bay Bridge. The results of the effort showed a 57% reduction of intersection and crosswalk blocking when enforcement officers were present. A separate pilot of transit lane enforcement cameras in 2014 saw a 55% reduction in violations and a 16% drop in collisions.

Austin, TX – In 2015, Austin launched a Don't Block the Box campaign with signage and manual enforcement. While police were present, officers reported that the number of infractions issued by the end of the emphasis period had dropped compared to the baseline at the beginning of the emphasis, although detailed data were not collected.

Boston, MA – In 2012, in the Longwood Medical Area, Boston police began a block the box enforcement emphasis resulting in a 50% decrease in the amount of intersection blocking. In late 2015, Boston announced an initiative to use Waze data to target block the box and double-parking enforcement activities, resulting in an 18% reduction in traffic jams and a 20% reduction in commuter travel delays according to a 2015 report.

London, U.K. – London began automated enforcement of bus lane transit violations in 1997. A 2007 report on the effectiveness of the program found that transit speeds in bus lanes had increased by 5%, with buses traveling 12.6% faster in bus only lanes with automated enforcement compared to general purpose lanes. From 2015 to 2016, there were 330,279 bus lane violations issued across Greater London.

Implementation Strategy

This section outlines the legislative authorization necessary to implement automated enforcement of block the box and transit lane violations, along with subsequent technological and budgetary needs following such approval.

Legislative Framework

Existing Washington State Law establishes block the box and transit lane violations as infractions. The Revised Code of Washington (RCW) 46.61.202, stopping when traffic obstructed, states:

“No driver shall enter an intersection or a marked crosswalk or drive onto any railroad grade crossing unless there is sufficient space on the other side of the intersection, crosswalk, or railroad grade crossing to accommodate the vehicle he or she is operating without obstructing the passage of other vehicles, pedestrians, or railroad trains notwithstanding any traffic control signal indications to proceed.”

Existing statute does not permit the City to use automated enforcement to uphold this law, however. Under RCW 46.63.170, the use of automated traffic safety cameras is limited to instances of stoplight, railroad crossing, or school speed zone violations only. Local government must prepare an analysis of proposed automated enforcement locations prior to enacting an authorizing ordinance and must report annually on the number of infractions and traffic accidents at each location once automated enforcement cameras are installed. Representative Joe Fitzgibbon (D-Burien) introduced legislation to provide local governments with authority to conduct automated enforcement of transit lane violations during the 2018 legislative session but it did not pass. This authorization is critical for the City to address the public safety and mobility concerns posed by the increasing number of block the box violations, which affect residents, commuters, visitors, and the broader regional economic and transportation systems.

The City currently conducts automated enforcement for school speed zones and red light violations, as authorized in RCW 46.63.170 and Seattle Municipal Code (SMC) 11.50.570. The SMC mirrors existing state law with regards to what violations may be enforced through automated cameras, meaning the Code will also have to be changed following state authorization. In revising the law, SDOT recommends establishing block the box and transit lane infractions as non-moving violations, so they do not negatively impact offenders' insurance rates. This is the current practice for other forms of automated enforcement in both state and local statute.

Technology

Following state legislative approval and revision of the SMC, implementation of automated enforcement cameras for block the box and transit lanes violations would follow a similar process to the installation and use of red light and school speed zone cameras. SDOT would identify intersections to monitor for violations and work with SPD to manage the automated enforcement vendor contract. SPD's current vendor contract is scheduled to expire in June and the department has drafted an RFP for the service. As currently drafted, the RFP includes the option to expand the vendor service into other areas of photo enforcement as they are appropriately approved at the state and City level.

Based on data on traffic patterns and known block the box violations, SDOT recommends beginning with a pilot program in some or all the following locations to study the effectiveness, equity impacts, and broader feasibility for automated enforcement:

- Dexter Avenue and Mercer Street
- Denny Way and Westlake Avenue
- 4th Avenue and Battery Street
- 4th Avenue S and S Jackson Street
- Fairview Avenue and Valley Street

Other locations to consider, either as part of the pilot or for future expansion, include 5th & Spring, 1st & Columbia, and Boren & Howell.

There are two potential approaches for automated enforcement of transit lanes following state and City authorization: stationary cameras placed at intersections or along the right of way, or cameras installed on transit vehicles to monitor their surroundings for offenders. Based on the traffic patterns in Seattle and our experience with other automated enforcement cameras, SDOT believes that stationary cameras in the right of way would be the preferred approach as it would likely be less expensive and equally, if not more, effective at identifying violators. However, the department would want to engage with partner agencies to assess both approaches before committing to a specific strategy.

Under RCW 46.63.170, photographs taken by automated enforcement cameras may not include the face of drivers or passengers, may not be used in any other legal proceeding aside from the violation captured by the camera, and may not be retained longer than necessary to enforce that violation. As such, stationary cameras for automated enforcement of block the box and transit lane are anticipated to be exempt from the City's Surveillance ordinance under the exception set forth in SMC 14.18.030.B.3 – installed pursuant to state law authorization in or on any vehicle or along public right-of-way solely to record traffic violations. While this narrow exception was included specifically to allow for limited-use enforcement capabilities, SDOT would nonetheless work with relevant stakeholders to ensure that any data collected be stored and employed properly. Transit lane enforcement cameras attached to vehicles could be subject to the surveillance ordinance depending on the how the cameras functions, the policies governing their use, and data collection technology. A privacy assessment will need to be completed for any proposed pilot following state authorization.

Once cameras are installed, the City is required to provide a 30-day grace period when the cameras issue warnings as part of public outreach. All locations where an automated traffic safety camera is used must be clearly marked with visible at least 30 days prior to activation as well. A policy decision will also have to be made as to whether this is a sufficiently long period of nonenforcement.

Budget

Developing detailed budget estimates for implementation of automated enforcement is not possible until the specifics of state approval are known. The cost to install and operate cameras for block-the-box and transit lane infractions is unknown. The estimates included in this response are based on SDOT's experience with red light cameras and are subject to change. Based on the estimates developed in the 2014 School Zone Camera BIP however, SDOT anticipates installation of each automated enforcement camera to cost approximately \$10,000. The department expects to install at least two cameras at each automated enforcement location, potentially more depending on the conditions of the intersection and streets. Pavement repairs, restriping, and other street improvements may also be necessary. We estimate capital cost for each intersection to be approximately \$60,000 in total.

In terms of ongoing costs, there could be additional staffing needs for SDOT and/or SPD. However, existing automated enforcement programs have consistently seen revenues exceed the cost of both vendor payments and ongoing O&M costs, and neither department anticipates negative impact on the general fund as a result of automated enforcement.