

# Right Turn on Red



## Purpose

- Improve travel time by reducing delay at red lights, without compromising safety
- Reduce congestion by decreasing approach delays
- Lower fuel consumption and emissions from cars idling at signals

## Outreach

- Responded to a desire that community members and elected officials had expressed for many years
- Discussed by the Mayor's Staten Island Transportation Task Force
- Provided frequent updates as part of the Task Force process between 2006 and 2008

## Approach

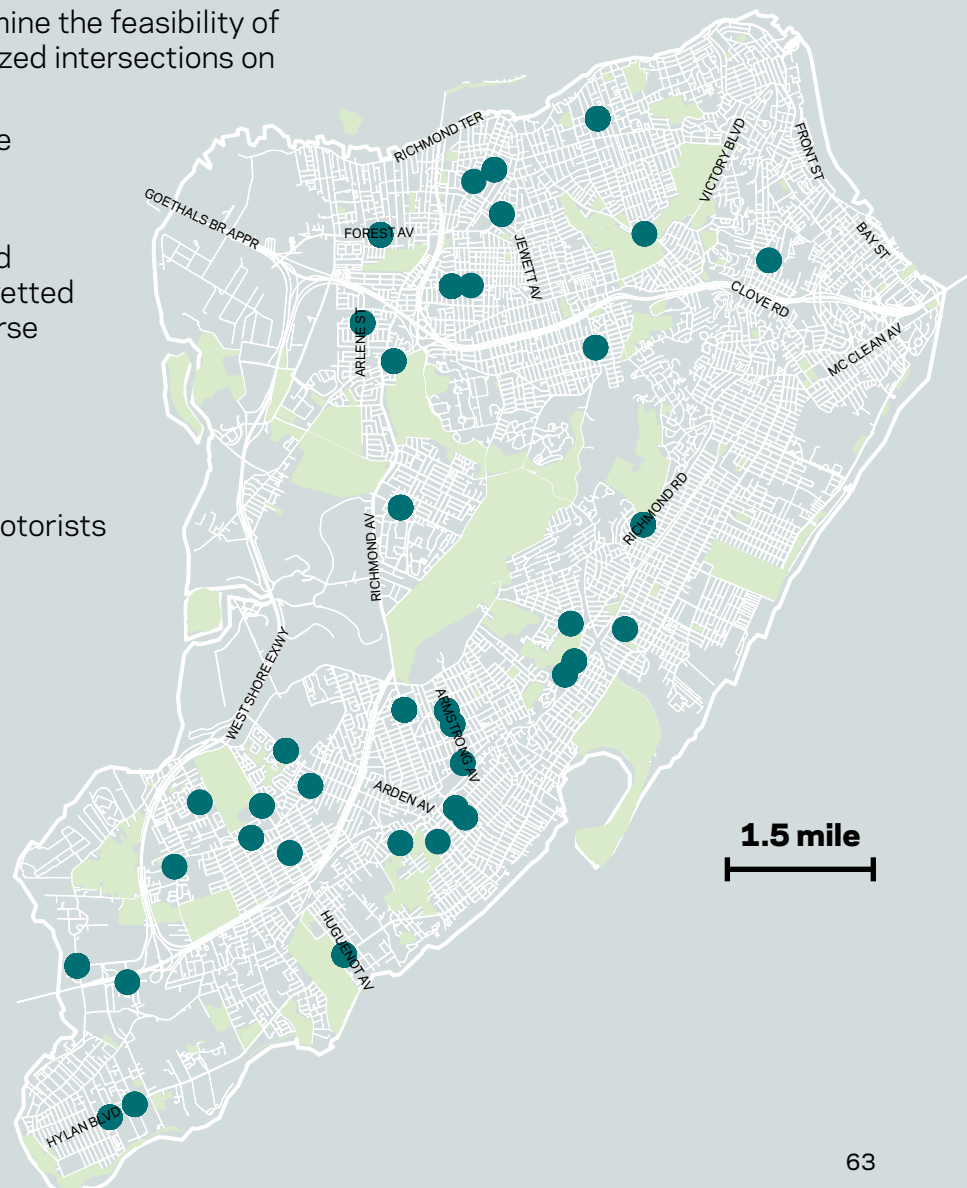
- Conducted extensive analysis to examine the feasibility of Right Turn on Red (RTOR) at all signalized intersections on Staten Island
- Designed comprehensive, quantitative methodology to ensure safety and operational feasibility
- Two-tiered screening process ensured that every intersection was properly vetted and identified without having an adverse operation or safety risk

## Results

- Reduction in delays at red lights for motorists making a right turn
- Accident rates not affected



The practice of allowing right turns on red lights (RTOR) was adopted by localities across the nation in the 1970s, but are not generally allowed in the five boroughs of New York City. DOT conducted a rigorous study to identify specific intersections on Staten Island where RTOR could safely be allowed to help reduce motorist delay at red lights.



Unlike many North American cities, Right Turns on Red (RTOR) are severely restricted in New York City. Within the five boroughs, this movement is permitted only where posted and has been most prevalent in Staten Island, where lower traffic and pedestrian volumes allow for the safe movement of both vehicles and pedestrians. This project, one of the major initiatives implemented as part of the Mayor's Staten Island Transportation Task Force program, built upon strong support and interest by elected officials and Staten Island residents looking for opportunities to improve traffic flow throughout the borough.

Prior to the initiation of the study in 2006, 134 of the boroughs 501 signalized intersections permitted a RTOR, typically on a single approach. This borough-wide study developed an analytical process to identify locations where RTOR could be permitted. By applying a comprehensive strategy to evaluate and install RTOR, it was believed that these improvements would allow for improved intersection capacity, lower approach delays and reduced fuel consumption, while ensuring the safety of pedestrians crossing the street.

Primary concerns in allowing RTOR include the potential adverse impacts this movement could have on pedestrian safety, especially at locations where

pedestrian volumes are substantial, as well as at school crosswalks, senior centers and high volume shopping areas. There are also concerns regarding non-compliance or the failure of drivers to come to a complete stop prior to executing their turn. Finally the magnitude of conflicting traffic volumes may not allow for the safe execution of RTOR due to insufficient gaps in the intersecting traffic flow.

Beginning in fall 2006, DOT began conducting a thorough engineering study to evaluate all the signalized intersections and individual approaches where RTOR should be permitted.

The overall study was built around a two-tiered review process that would qualify an intersection to be considered as a potential RTOR location. The initial assessment considered surrounding land uses, accident history, roadway geometries and the presence of a school crosswalk or signal phasing that allowed for leading pedestrian intervals or an



New signs were installed at the 56 approaches on Staten Island where RTOR is now allowed.

### Crashes with Injuries Intersections allowing Right Turn on Red

	Before* (three previous years)			After
<b>Total Crashes with Injuries</b>	22	33	38	26.2
<b>Number of Crashes with Injuries to:</b>				
<b>Motor Vehicle Occupants</b>	17	31	32	19.1
<b>Pedestrians</b>	5	2	5	6.5
<b>Bicyclists</b>	0	0	1	1.1

\* Before columns show the crash history for each of the three years immediately prior to project implementation. After column shows number of crashes since implementation (through November 2009) at annual rate. See page 72 for further information on crash data source and analysis methodology. The sum of the three specific categories may not equal "Total Crashes with Injuries" because some crashes involved injuries in multiple categories.

## Allowing Right Turn on Red responds to community requests, improves intersection capacity and reduces delays and fuel consumption.

exclusive pedestrian phase. This eliminated 235 intersections and 890 approaches. The remaining 296 intersections and 1,075 approaches underwent a second screening analysis that examined the operational and engineering characteristics of each location. This included a more detailed review of accident histories, pedestrian volumes, operational constraints, sight distances and frequency of gaps in the traffic stream. This process removed an additional 258 intersections. Upon completing the two-rounds of screening, 56 approaches at 38 intersections were selected as

intersections where RTOR was implemented. Most of the new RTOR movements involved turns from a major onto a minor street.

The intersections where RTOR is allowed have not seen significant changes in the overall number of crashes, nor in the number of crashes involving injuries to pedestrians. (for crash analysis methodology, see page 72)