



Coney Island Ave and Cortelyou Road

Community Outreach Session

September 27th, 2023



Outline

1. Overview of location
2. Summary of past work
3. Existing conditions and issues
4. Scenarios
5. Next steps

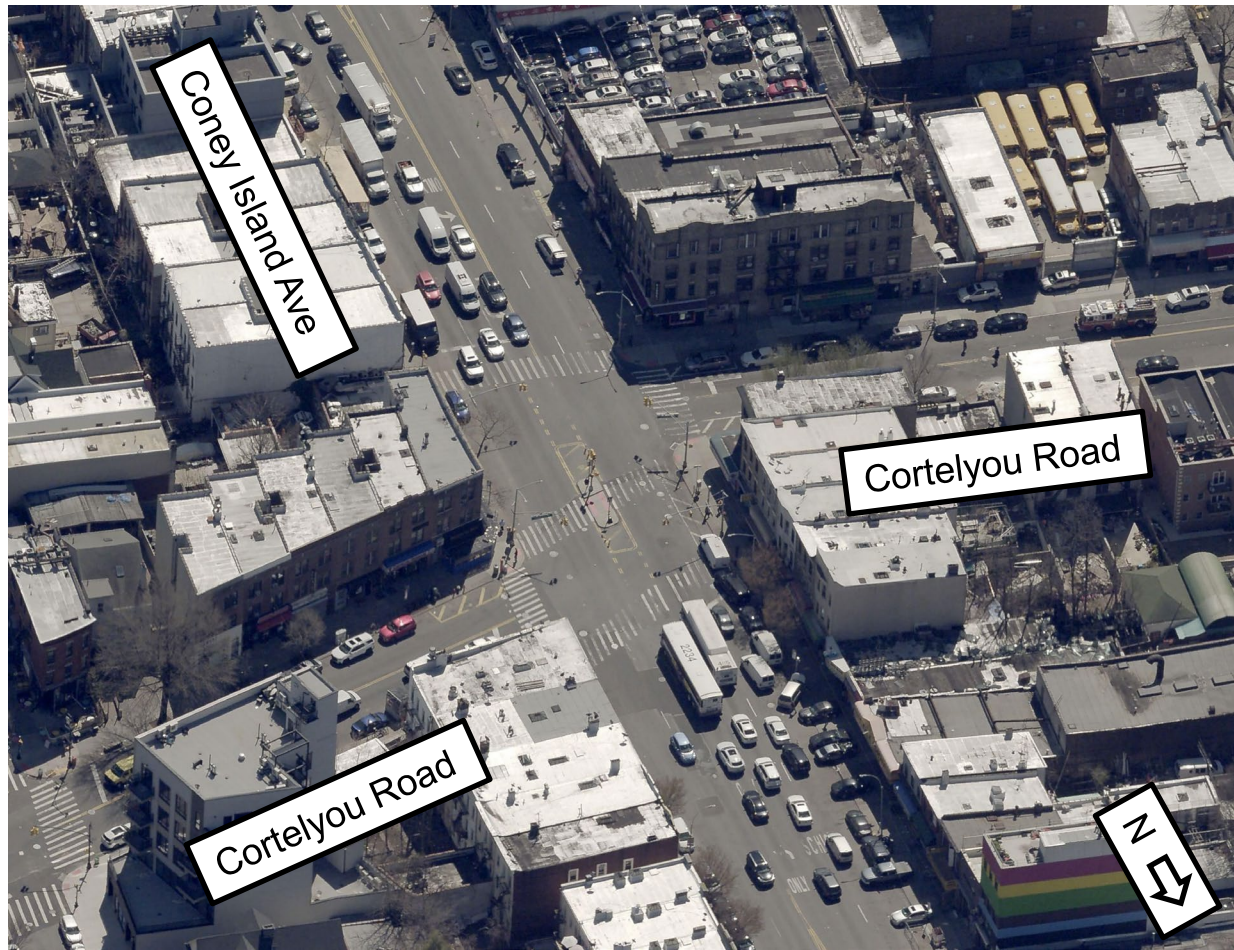


Overview of Location



Location

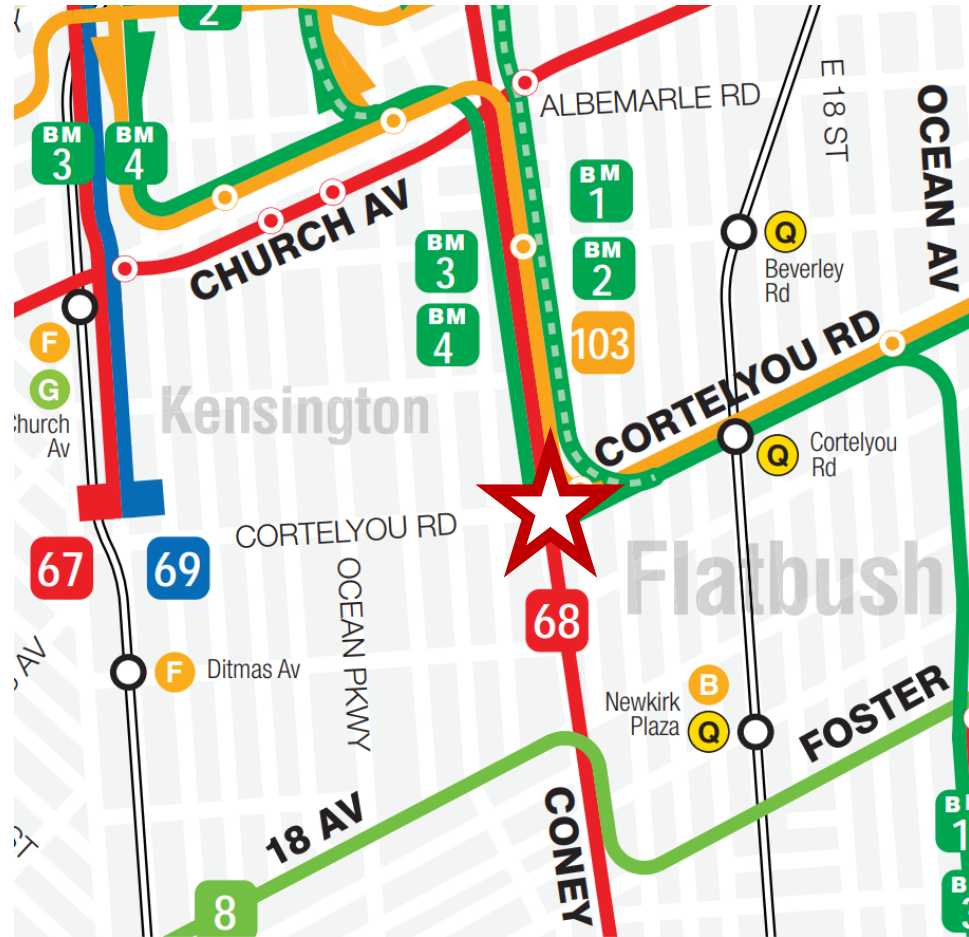
- Complex intersection of Coney Island Avenue and Cortelyou Road
- Intersection is a “dogleg” intersection, meaning it is miss-aligned, resulting in complicated movements and signal timing



Operations

- Both corridors are commercial corridors, with Cortelyou Rd functioning as a more neighborhood focused retail corridor
- B68 runs north and south on Coney Island Ave
- B103* and BM1, 2, 3, 4* run on Cortelyou Road and turn onto Coney Island Ave north of the intersection

*Routes may change per MTA Brooklyn Bus Network Redesign



Past Work

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2018 – In-house Safety Project

- DOT project added middle crosswalk and pedestrian island to accommodate pedestrians walking to Cortelyou Rd Q Station
- Project added a leading pedestrian interval and flashing yellow left turn arrows to prevent vehicles from “jumping the red” and conflicting with pedestrians at high speed



Before/After Safety Data

- In the three years after installation, crashes with injuries were reduced 30% and pedestrian injuries reduced 40%
- Safety data only accounts for reported injuries, and does not account for “perceived” safety issues such as near-misses or feeling unsafe

Crashes and Injuries										
Three-Year After Analysis, Coney Island Ave at Cortelyou Rd										
	Before				After				Change	
	'15/ '16	'16/ '17	'17/ '18	Average	'19/ '20	'20/ '21	'21/ '22	Average	Actual	Percent
Crashes w/ Injuries	4	9	4	5.7	2	4	6	4.0	-1.7	-29%
Motor Vehicle Occupant	5	6	3	4.7	3	1	6	3.3	-1.3	-29%
Pedestrian	1	4	0	1.7	0	2	1	1.0	-0.7	-40%
Cyclist	1	0	2	1.0	0	0	1	0.3	-0.7	-67%
Other Motorized	0	0	0	0.0	0	1	0	0.3	0.3	N/A
Total Injuries	7	10	5	7.3	3	4	8	5.0	-2.3	-32%

The 3-yr before period is October 01, 2015 to September 30, 2018.
 The 3-yr after period is June 01, 2019 to May 31, 2022.
 The implementation period of October 01, 2018 to May 31, 2019 is excluded.
 Source: NYPD AIS/ TAMS Crash Database

Before/After Pedestrian Counts

- Middle crosswalk was the second most used crossing *prior* to the project being installed
- Pedestrians using the middle crosswalk increased **140-260%** following installation of the crosswalk and island

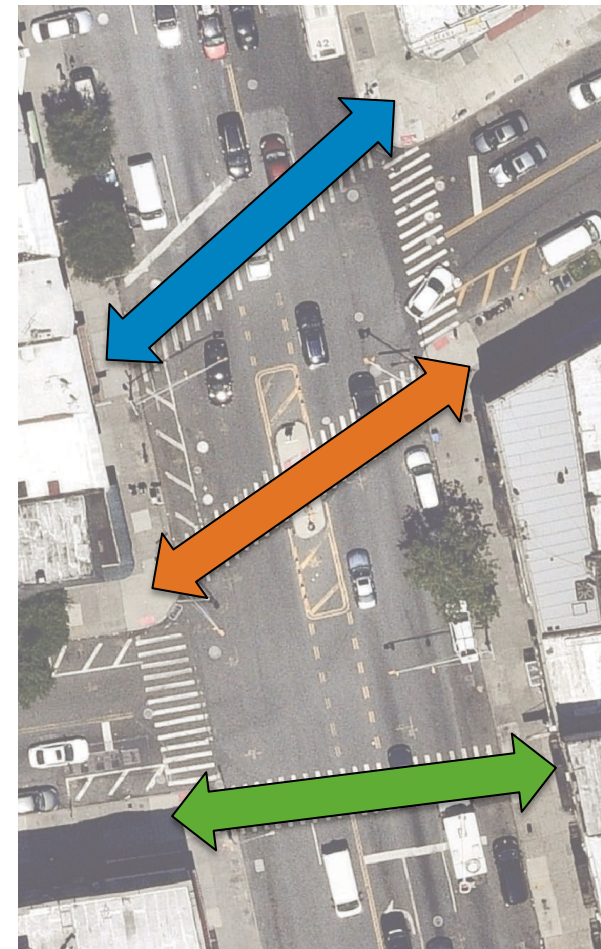
Before Data: May 2016
After Data: October 2019

Before: 160AM/155PM
After: 75AM/95PM

Before: 220AM/90PM
After: 535AM/330PM

140-260% Increase

Before: 330AM/140PM
After: 230AM/130PM

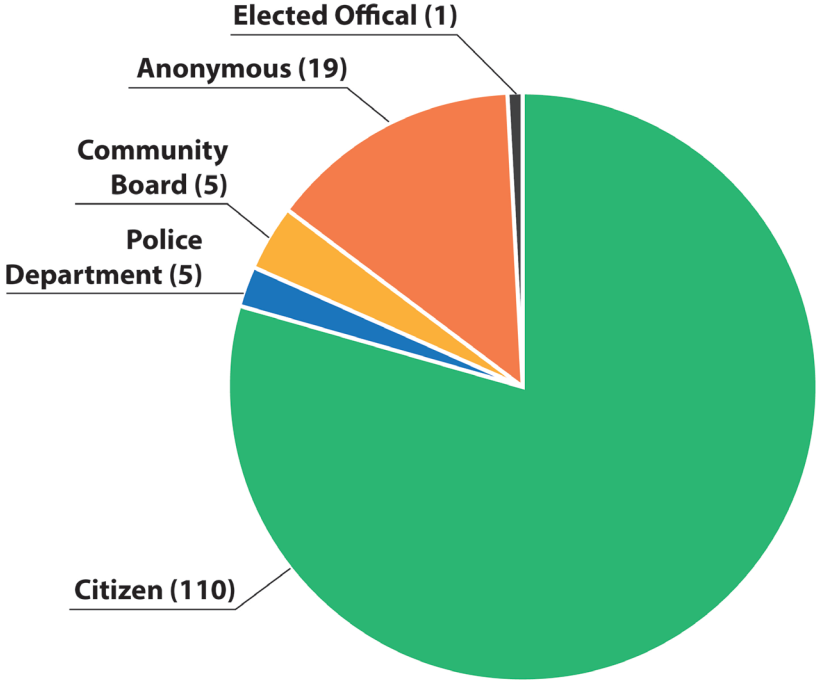
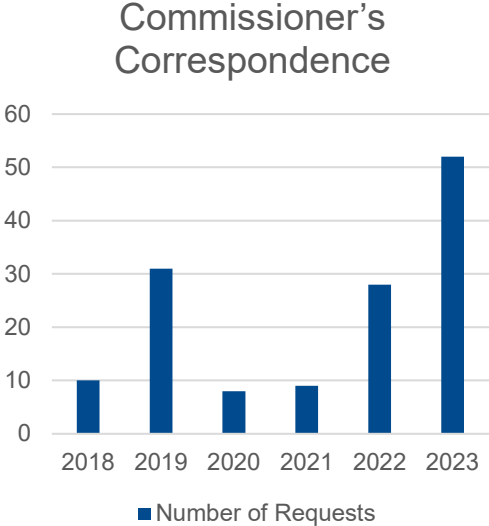


Existing Conditions

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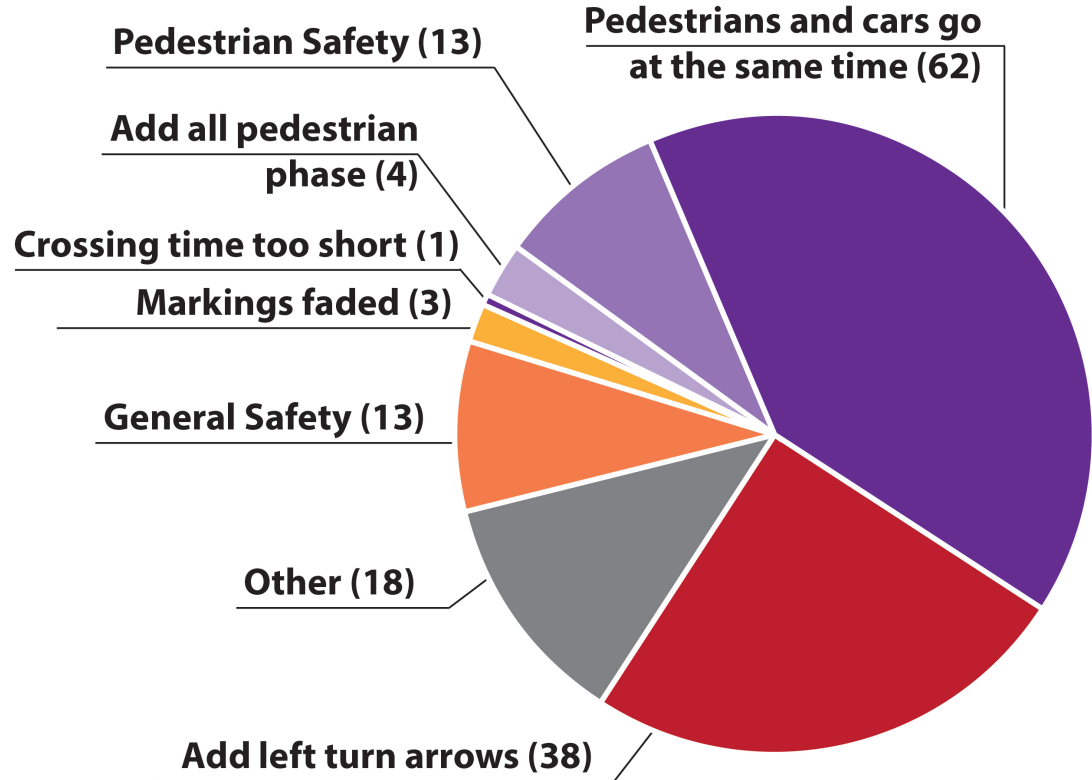
Requests for further Changes

- 138 requests for improvements to the intersection since 2018
- Number of requests spiked after the project was installed in 2018/2019, and again in 2023 after a community led organizing effort



Requests for further Changes

- Pedestrian issues were 50% of the complaints, with pedestrians and vehicles going at the same time across Coney Island Avenue as the most identified issue
- Adding left turn arrows and general safety were frequently identified
- Other requests include: Turn bans, right turns only, crosswalk removals, congestion mitigation, and double-parking enforcement



Project Area



Non-standard Movements

- Thru movements are non-standard and cross multiple crosswalks
- By design, thru movements function as a left turn, followed by a right turn
- Non-standard operations leads to confusion and aggressive turns



Crosswalk Conflicts

- Complex movement and middle crosswalk proceed at the same time
- Many vehicles do not fully yield to pedestrians with the right-of-way
- Pedestrians have no dedicated crossing time in the signal phasing, all crossing time is shared with turning vehicles



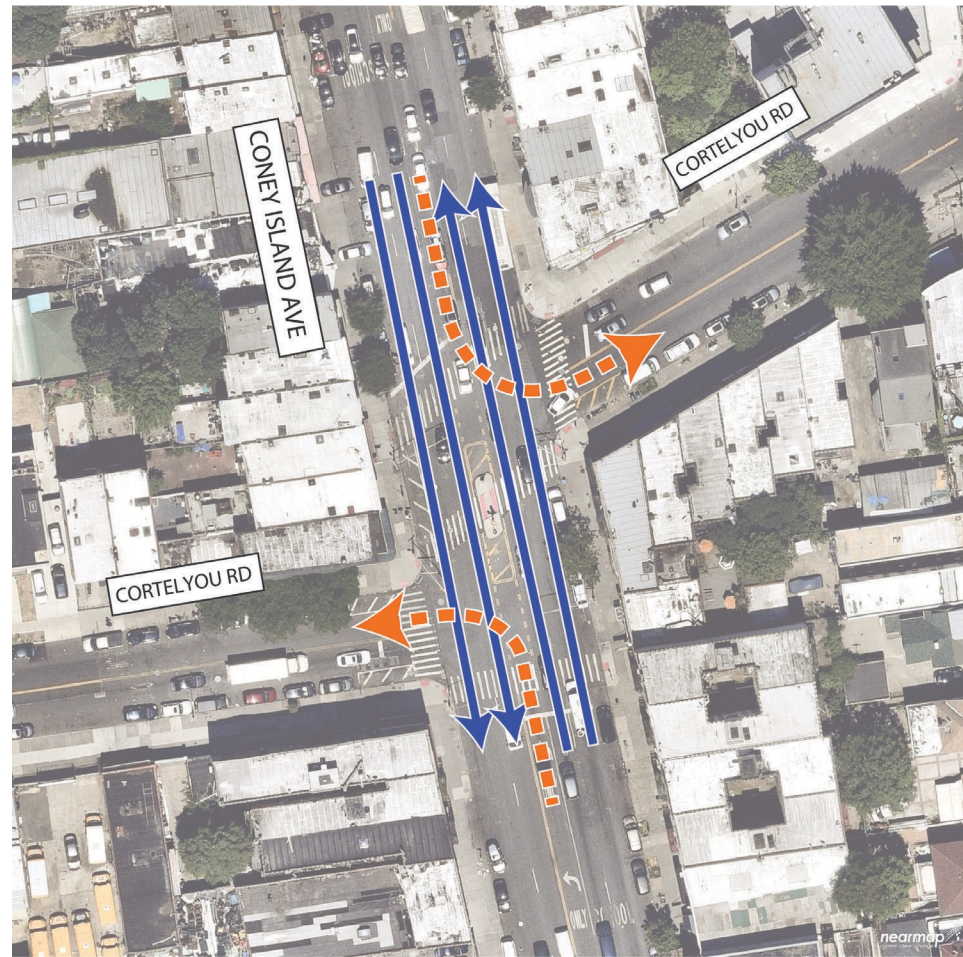
Stopping in Intersection

- Some drivers turn left and stop prior to the middle crosswalk, even though the signals, signage and markings do not require it
- Drivers stopped at crosswalk are unable to see signals overhead and do not know when to proceed

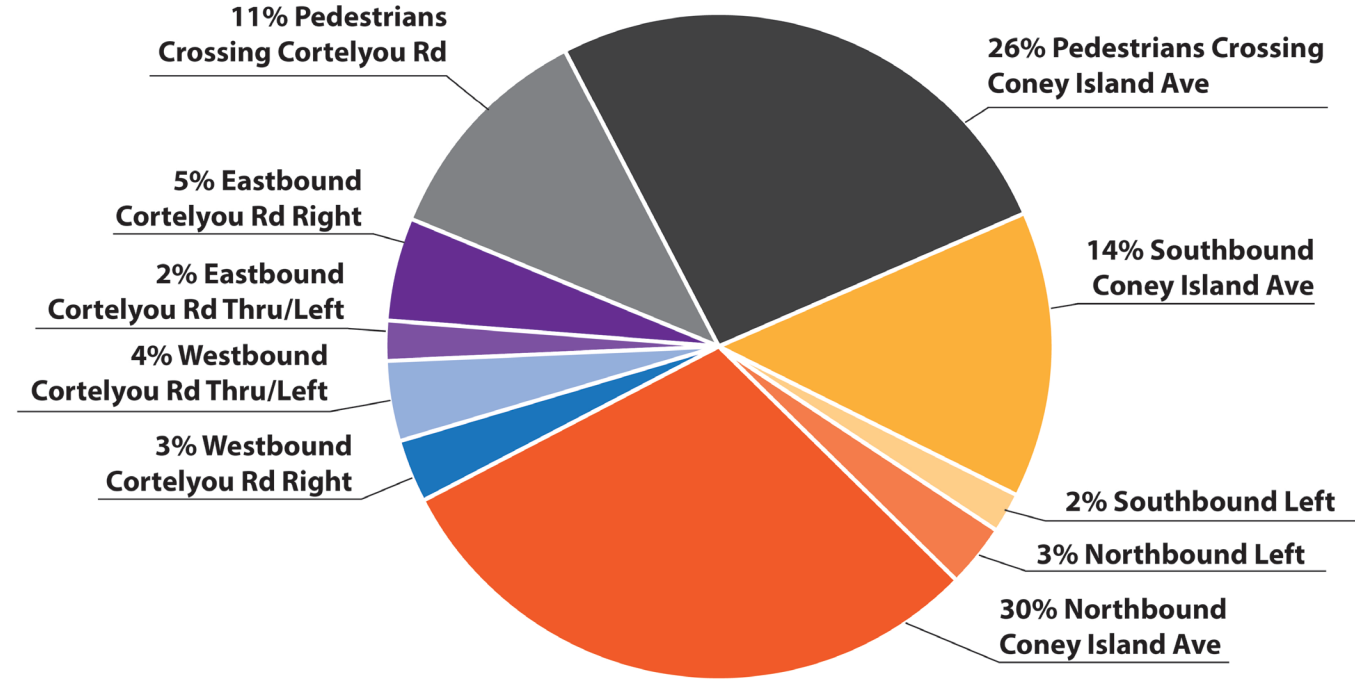
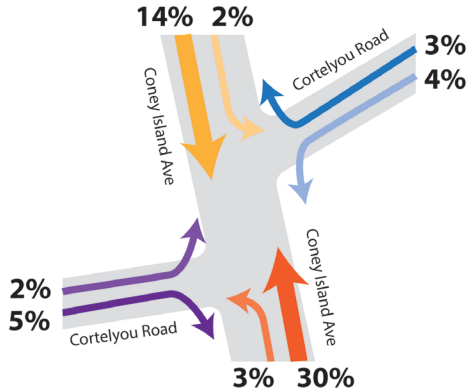


Difficult Left Turns

- Due to heavy thru volumes on Coney Island Ave, left turns onto Cortelyou Rd are difficult
- Difficult left turns is a driving factor for MTA to consider moving buses off of Cortelyou Rd onto Beverley Rd
- Many left turning vehicles “turn on red” at the end of the signal phase



People in the Intersection



*AM period with 3,300 users in intersection

Scenarios

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Design Scenarios

- DOT has analyzed three scenarios and is seeking community input
- Outline scenarios with pros/cons and initial determination by DOT on feasibility
 1. Protected Left Turns
 2. All Pedestrian Phase
 3. Minor markings/signage improvements
- Provide opportunity for community input and reactions



1. Protected Left Turns

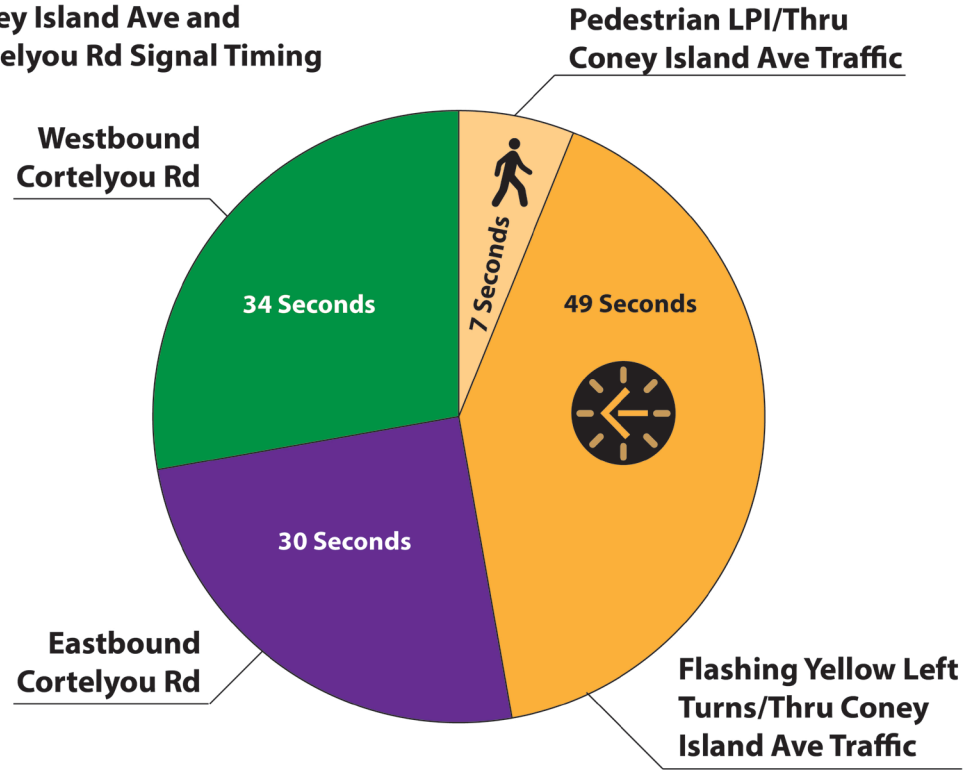
- Add 12 second protected left turn (green turn arrow) phase for Coney Island Avenue vehicles turning left to Cortelyou Road
- Make no other changes to intersection



Making it Work

- Signal timing is limited to 120 seconds, time for left turns cannot be “added” and must be taken from another phase
- Existing phases for Cortelyou Road are unable to be merged due to the offset geometry and vehicular conflicts
- Cortelyou Road phases cannot be shortened due to crosswalk clearance time and roadway width
- Time for left turns must be taken from Coney Island thru traffic

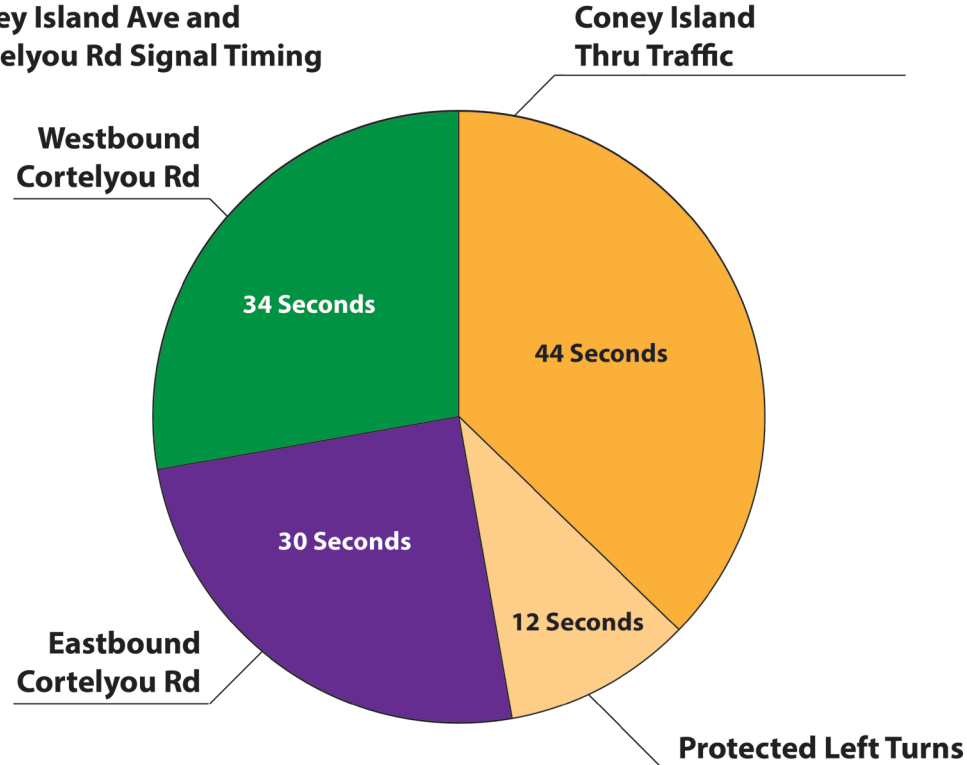
Coney Island Ave and Cortelyou Rd Signal Timing



Making it Work

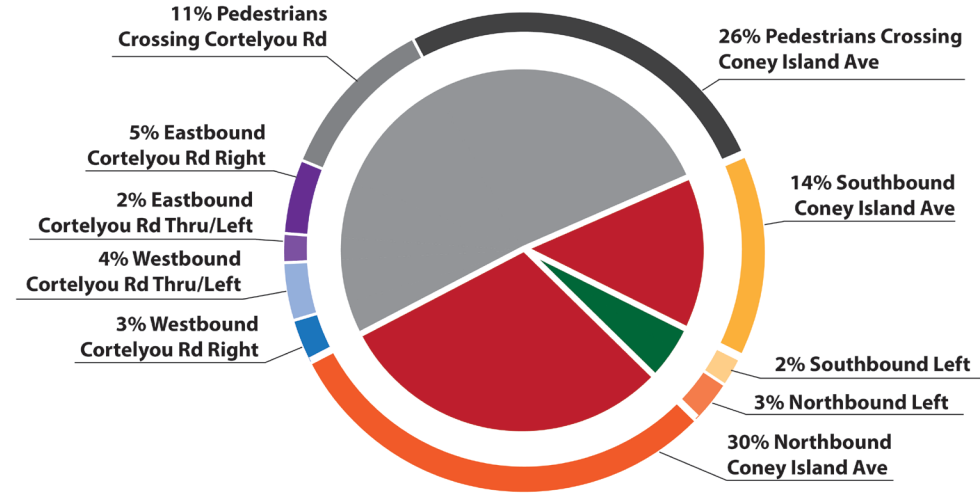
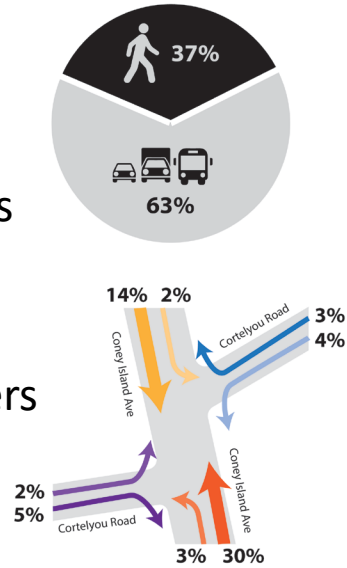
- Instead of 56 seconds, thru traffic on Coney Island Avenue would get 44 seconds
- For comparison, Coney Island Avenue gets 81 seconds of time at Avenue C
- Capacity is greatly reduced and resulting queue would spill back to south of Dorchester Rd in the AM peak and north of Avenue C in the PM peak
- Level of service would degrade from D and C, to F and D for north and south bound Coney Island Avenue

Coney Island Ave and Cortelyou Rd Signal Timing



Who is affected?

- Left turn phase would improve operations for **5%** of intersection users
- Left turn phase would worsen operations for **44%** of intersection users
- The remaining **51%** of users would see no change to operations, including pedestrians



*AM period with 3,300 users in intersection

1. Protected Left Turns

Pros:

- Simple installation
- Alleviates left turn issue

Cons:

- Severely delays thru traffic on Coney Island Ave
- Queue spillback would block access to left turn lanes, negating improvements
- Negatively affects bus speeds
- Does not solve/improve pedestrian issues at the intersection

DOT assessment finds this scenario to be infeasible



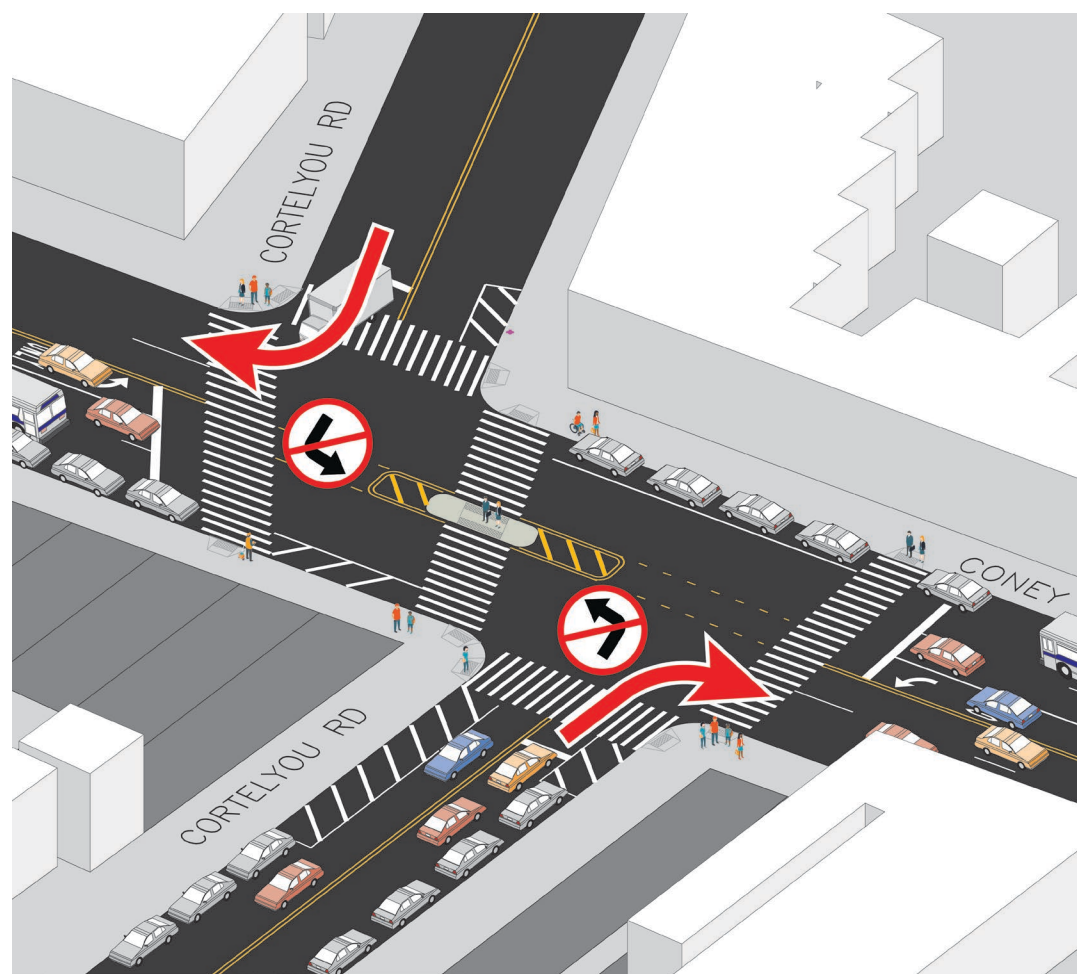
2. All Pedestrian Phase

- Add all pedestrian phase (Barnes Dance) to create conflict free crossings
- Add long, protected left turn phase for left turns on Coney Island Avenue without impacting thru traffic
- Requires all traffic on Cortelyou Road to turn right at Coney Island Avenue
- Allows for consolidation of both signal phases for Cortelyou Road as there are no turn conflicts



Making it Work

- To allow for new All Pedestrian Phase, both Cortelyou Rd signal phases must be consolidated
- This requires all traffic on Cortelyou Road approaching Coney Island Avenue to turn right, left and thru movements would be banned
- Turn restrictions would be reinforced with markings, signage and vertical elements
- FDNY operations would be maintained, and emergency vehicles would still be able to make all turns with sirens and lights activated

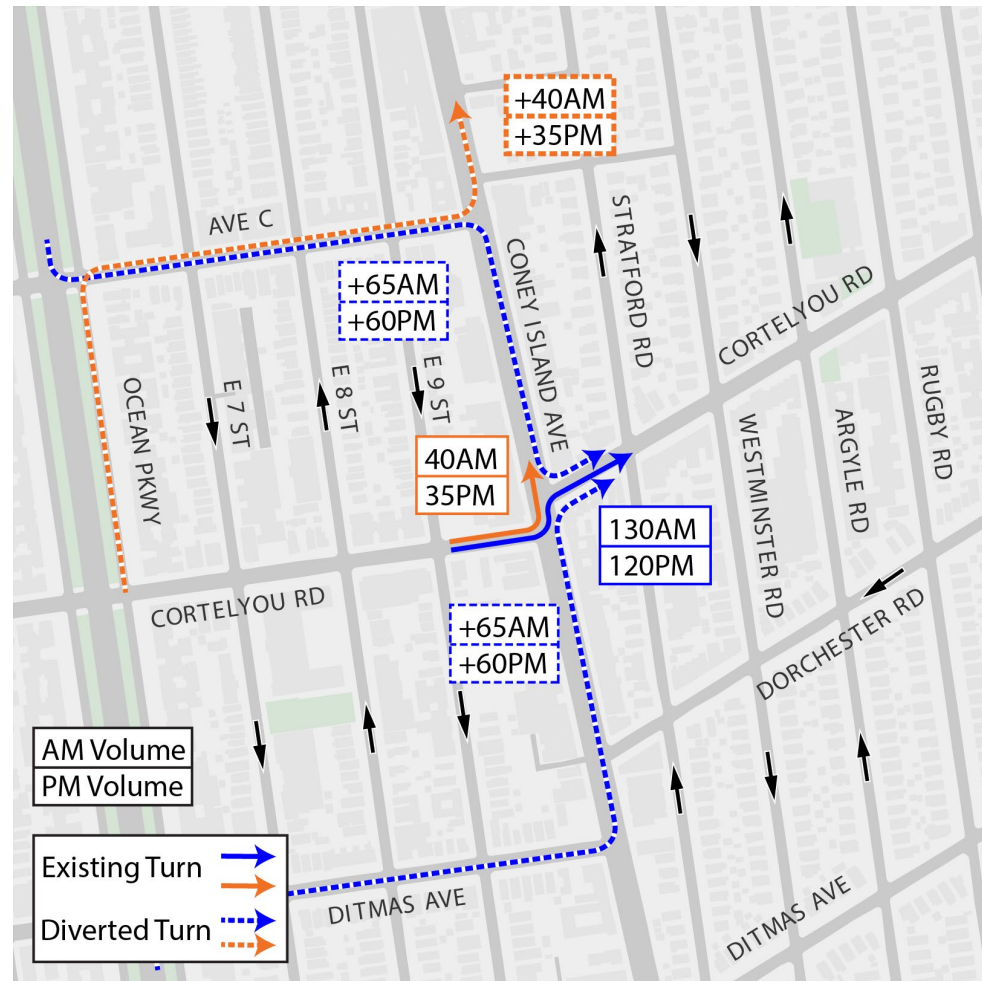


Making it Work

Eastbound Cortelyou Road Diversion*

- **Thru traffic** towards Ocean Avenue would use Avenue C or Ditmas Avenue (~130 vehicles in the peak hour/5 cars per cycle)
- **Eastbound left turning vehicles** heading north could use Avenue C to access Coney Island Ave (~40 vehicles in the peak hour/2 cars per cycle)

*Traffic diversion routes are estimates, some vehicles may take routes entirely outside the study area

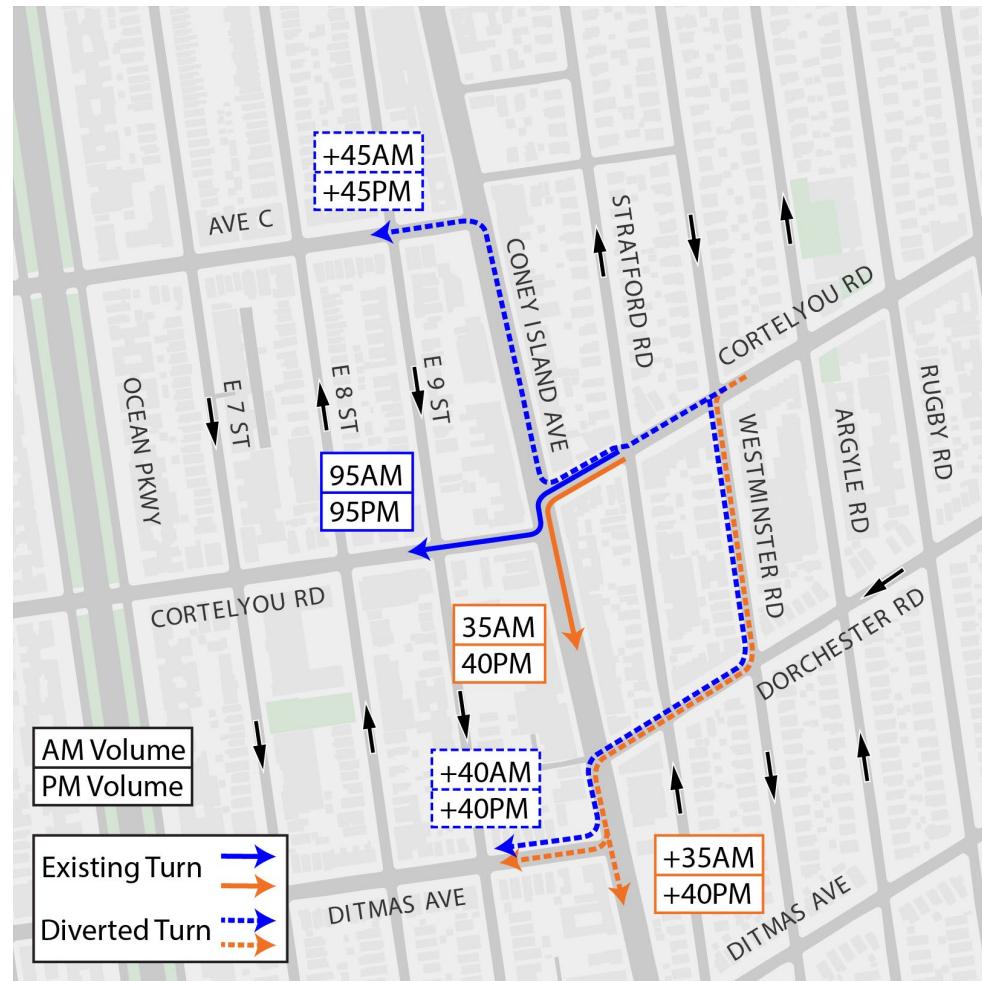


Making it Work

Westbound Cortelyou Road Diversion*

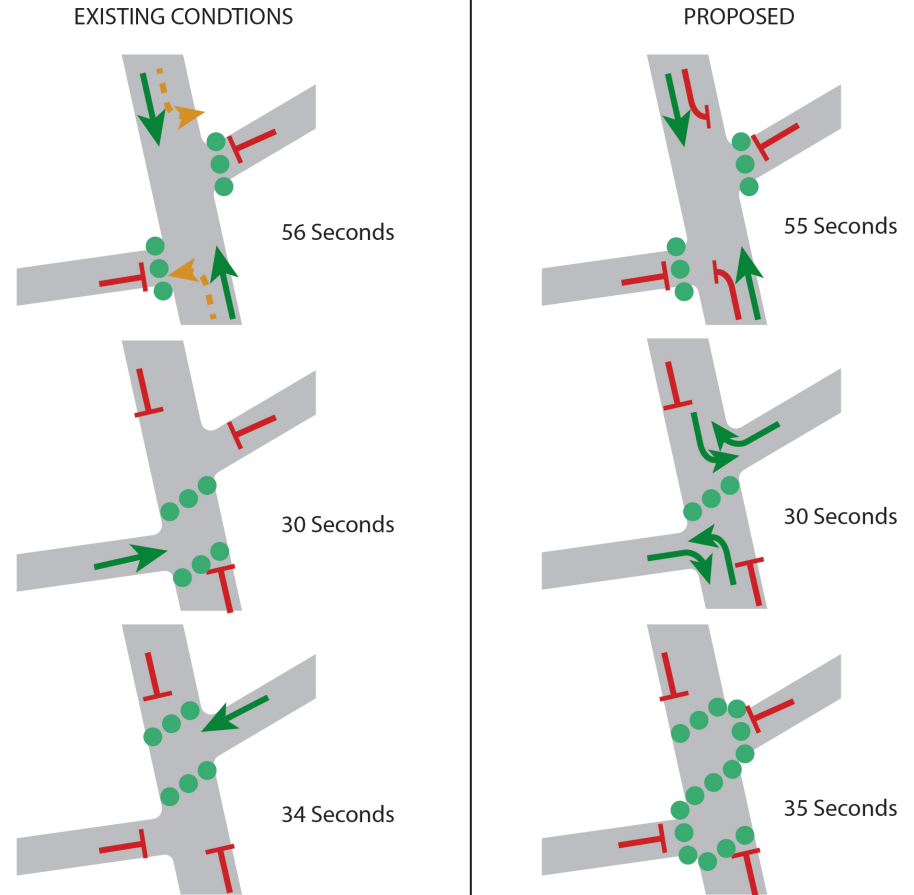
- **Thru traffic** towards Ocean Parkway would use Avenue C or Dorchester Rd and Ditmas Avenue
(~95 vehicles in the peak hour/3 cars per cycle)
- **Westbound left turning** vehicles heading south could use Dorchester Rd and Ditmas Avenue
(~40 vehicles in the peak hour/1 car per cycle)

*Traffic diversion routes are estimates, some vehicles may take routes entirely outside the study area



Making it Work

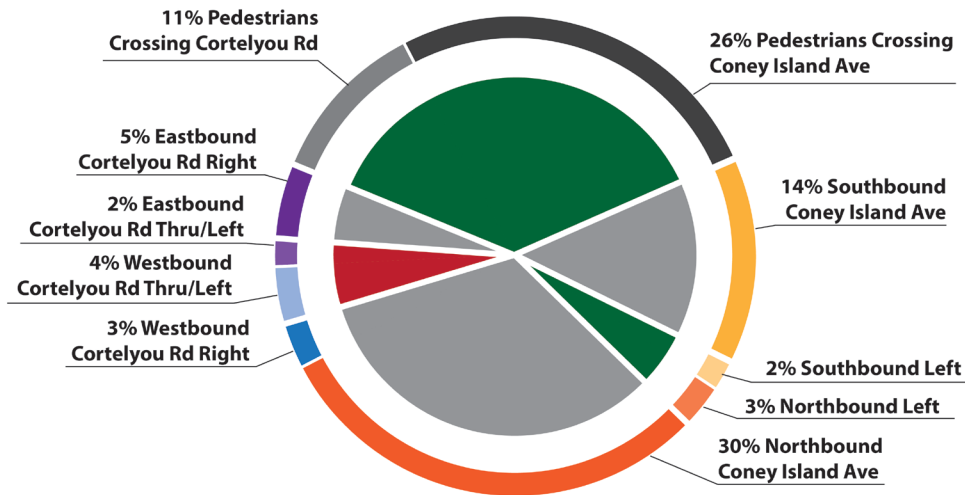
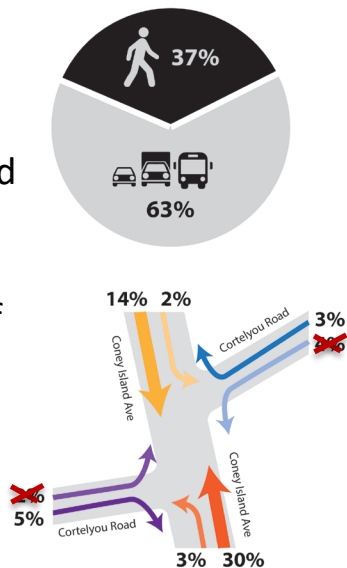
- Traffic diversions allow for consolidating the two Cortelyou Rd phases into one phase
- Coney Island Ave left turns could be paired with protected right turns on Cortelyou Rd, allowing for long period for left turns to occur
- New, all pedestrian phase would allow for conflict free crossings in all crosswalks in the intersection, giving 37% of intersection users 29% of the signal timing



*Timing is draft and subject to change following detailed analysis

Who is affected?

- Diversions would worsen operations for **6%** of intersection users, who would have to find alternate routes
- Left turn phase would improve operations for **5%** of intersection users
- All pedestrian phase would improve operations for **37%** of users, by creating conflict free crossings
- The remaining **52%** of users would see limited improvements or no changes to operations



*AM period with 3,300 users in intersection

2. All Pedestrian Phase

Pros:

- Improves operations for a large percentage of users (42%)
- Alleviates left turn issue
- Alleviates pedestrian safety concerns by creating conflict free crossings
- Improves bus operations, allowing buses to remain on Cortelyou Road

Cons:

- Diverts traffic for some users to alternate routes (6%)
- Maintaining emergency access does not allow for physical barriers to reinforce turn bans
- Compliance with turn bans/diversions could be problematic

DOT assessment finds this alternative to be feasible pending further review



3. Minor Changes

- Investigate additional “Yield to Pedestrians” signage
- Remove parking in intersection to improve visibility
- Widen middle crosswalk to improve yielding compliance and visibility, and reduce stopping in the intersection



3. Minor Changes

Pros:

- Simple installation

Cons:

- Does not solve left turn issues
- Does not improve bus operations
- Does not solve pedestrian issues at the intersection

DOT assessment finds this alternative to be feasible pending further review



What comes next?

Open discussion on scenarios presented

Selection of a scenario for further review by DOT based on feedback

Identify implementation schedule based on preferred scenario



Thank You For Attending!



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