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
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

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<th>Before</th>
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<tr>
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<td>'15/ '16</td>
<td>'16/ '17</td>
<td>'17/ '18</td>
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<td>'19/ '20</td>
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<td>3</td>
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</table>

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

<table>
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<th>Change</th>
<th>Actual</th>
<th>Percent</th>
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<tr>
<td>Motor Vehicle Occupant</td>
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<td>Total Injuries</td>
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<td>-32%</td>
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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
Existing Conditions
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 lead 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

- 37% Pedestrians
  - Crossing Cortelyou Rd
- 63% Motorists
  - 26% Pedestrians Crossing Coney Island Ave
  - 14% Southbound Coney Island Ave
  - 2% Southbound Left
  - 3% Northbound Left
  - 30% Northbound Coney Island Ave
  - 5% Eastbound Cortelyou Rd Right
  - 2% Eastbound Cortelyou Rd Thru/Left
  - 4% Westbound Cortelyou Rd Thru/Left
  - 3% Westbound Cortelyou Rd Right

*AM period with 3,300 users in intersection*
Scenarios
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
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
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!