Hylan Boulevard Street Improvement Project

Presentation to Tottenville Civic Association August 10th, 2022





Overview

Project Overview

Hylan Boulevard from Satterlee Street to Page Avenue

- NYC DOT has identified Hylan Boulevard from Satterlee Street to Page Avenue as a high crash corridor
- As part of our mission to increase safety and mobility for all road users, we intend do what we can to add life-saving safety features where they are needed most



What We've Done

Hylan Boulevard from Satterlee Street to Page Avenue

- **In 2015**, NYC DOT begins analyzing this section of Hylan Boulevard
- Summer/Fall 2019, we notified local representatives and Community Board 3 of our recommendations for improvements
- **June 2022**, additional presentations were made to the Community Board and local representatives
- **May/June 2022**, follow up studies were conducted in response to concerns raised by the community
- **July 2022**, following a deadly crash on Hylan Boulevard, NYC DOT has decided to move forward with the safety project

In Just the Last Three Months

Timeline



In Just The Last Three Months

Recent Crashes

- At least **3 serious crashes** have occurred in the last **3 months**
- **3 teenagers died** within seconds drive from the project (July 10th)
- 1 car went through Conference House Park (May 25th)
- 1 car went through a house at Sleight Avenue (July 25th)



May 25th Crash (Photo from SI Advance)



July 25th Crash (Photo from SI Advance)

These Are Not Isolated Events

The Bigger Picture

- NYC DOT study of Hylan Boulevard found that speed is a significant factor in crashes
- These 3 recent crashes were all the result of speed
- It's unlucky, but **more likely** that crashes like these would occur and that they will happen again in the future
- Because of that danger, NYC DOT is proceeding with the project

What We Are Going To Talk About Today

Presentation Overview

- Why we are working here:
 - $\circ~$ The objectives and goals of the project
- Why Hylan Boulevard has high injuries:
 - Traffic Safety
 - o Roadway Design
 - o Street Users
- What we can do:
 - Previous experience
 - o Safer designs



Background



Why We Are Working Here

NYC DOT Programs

- Vision Zero Campaign

 Focus on road safety
- NYC DOT Bike Unit
 - Expanding bicycling in NYC



Improving Street Safety

Vision Zero

- NYC DOT believes that everyone should be able to travel safely and securely through the City via all available mode options
- We aim to create safe transportation environments and eliminate serious and fatal traffic crashes
- We can achieve this through **datadriven processes and design**

VISION ZERO Solution of the second second

Implementing Vision Zero

Vision Zero Priority Corridors

- To prioritize safety work, NYC DOT identifies the corridors with the most severe injuries and fatalities in each borough
- Those corridors are classified as
 Vision Zero Priority Corridors
- Hylan Boulevard from Satterlee Street to Page Avenue has a been a Vision Zero Priority Corridor since 2015



Identifying Vision Zero Priority Corridors

Corridor Classes By Borough

- Corridor safety is measured by the number of people
 Killed or Severely
 Injured (KSI) per mile
- On Staten Island, corridors with 6.47+ KSI/per mile are identified as Vision Zero Priority Corridors

Borough	Total Mileage	KSI	Total KSI/Mile	Top 10%
Manhattan	729	2,805	3.8	19.87+
Bronx	984	2,537	2.6	13.32+
Brooklyn	1,763	4,737	2.7	13.36+
Queens	2,494	3,629	1.5	10.63+
Staten Island	1,052	816	0.8	6.47+
Total City*	6,191	17,904	2.9	

This Section Of Hylan Meets The Criteria

KSI per mile from Satterlee Street to Page Avenue

- At 7.5 KSI per mile, this stretch of Hylan Boulevard is within the Top 10% of corridors with people killed or severely injured
- It is 9 times the average Staten Island street's KSI per mile
- 2½ times the average NYC street

People Killed or Severely Injured In Crashes per Mile



Expanding Cycling In NYC

NYC DOT Bike Unit

- Network Expansion
 - 542.9 lane miles built since 2013
- Daily Cycling
 - **116% increase** in daily cycling (2009-2019)
- NYC Streets Master Plan
 - Focus on improving overall cycling network and connectivity across the entire city



Significant Cycling Route

Strava | Metro Data

- Strava tracks bicycle ridership through their apps
- Allows NYC DOT to see cycling trends around Staten Island
- Identifies Hylan Boulevard as a primary cycling route



Bicycle Network Priority Route

Previous Plans

- NYC Bicycle Master Plan
 - NYC DCP, DPR, DOT 1997
- The Green Wave Plan
 - NYC DOT 2019
- The Five Borough Bikeway
 - Regional Plan Association 2020
- Streets Master Plan
 - NYC DOT 2022



Large, Existing Bike Network

Previous Work

- Existing on-street bicycle lanes connect to a variety of Greenways and destinations:
 - Bunker Pond Park
 - Lemon Creek Park
 - Mount Loretto
 - Long Pond Park
 - Conference House Park



Street User Opinions

NYC DOT Street Ambassador Survey

Gain insight from the community with regards to current travel modes and cycling behavior to inform an effort to expand the bike network



In Person Surveys

Deployment Sites

- 4 in person surveys were done
- Conference House Park
 - May 13th
 - June 1st
 - June 3rd
- Tottenville Pool
 - June 28th



Online Surveys

QR Flyers Posted and Social Media Campaign



Flyers advertising the survey were placed at popular destinations

Also shared on social media sites

Participation Rate Was High

By The Numbers

- We received **double** the number of respondents that we were expecting
- Most surveys were filled out via the web
- More than 50 inperson surveys were completed



On-street conversations



Survey Is Reflective Of The Community

Gender

Public Survey Profile

- Majority of respondents typically get around by car
- Reside near Hylan Boulevard
- Half were women
- Majority White
- Many were between the ages of 45 and 54



88%

12%

52%

31%

15%

1%

Do you reside near Hylan Blvd?

Female

Prefer not to say

Male

Other

Yes

No

Race Asian 2% Hispanic/Latinx 5% White 56% Other race 7% Prefer not to say 30% Participant Age

18 – 24 4% 25 – 34 12% 35 – 44 17% 45 – 54 27% 55 – 64 18% 65 – 74 8% 75+ 3% Prefer not to say 11%

Background

Why We Are Working On Hylan

Summary

- Hylan is 9 times as likely to have a crash with serious injury or death than other streets on Staten Island and it is our job to improve it
- It has been on all major bike network plans for Staten Island since 1997
- Because it is one of the most popular routes for cyclists on the Island



Existing

Why Hylan Has Lot's Of Injuries

Existing

- What's **causing** the injuries?
- What is the **design of the street**, what are the impacts of that design?
- What is the **traffic** like?
- How do people **feel** about cycling around Hylan?



37 Crashes With Injuries or Fatalities

Crash Reports With Injuries by Year (2016-2020)

- NYC DOT has analyzed 37 crash reports (MV-104AN) where an injury or death occurred
- On average there is a crash with at least an injury every 49 days

2016	2017	2018	2019	2020
36219475	36770407	37181118	37678109	38321047
36222865	36784877	37259044	37686080	38391396
36239793	36803432	37357310	37713745	38490810
36427906	36809725	37517873	37758196	38547394
	36858550	37529107	37833488	38650841
	36902928	37579972	37912644	38678485
	36913844		37923039	
			37977769	
			37977869	
			37999313	
			38068462	
			38133758	
			38215729	
			38220900	

Source: Fatalities: NYC DOT, Injuries NYS DOT

46 People Were Injured, 8 Severely, 1 Killed

Injury Summary, 2016-2020 (5 Years)

• 4 pedestrians

suffered severe injuries

- 4 motor vehicle occupants were severely injured and 1 was killed
- 5 cyclists were injured

Mode	Total Injuries	Severe Injuries	Fatalities	KSI
Pedestrian	6	4	0	4
Bicyclists	5	0	0	0
Motor Vehicle Occupant	35	4	1	5
Total	46	8	1	9

Source: Fatalities: NYC DOT, Injuries NYS DOT

Injuries Occur Throughout Corridor

- Crashes On Hylan With Injuries and Fatalities
- Crashes with injuries and severe injuries occurred throughout the corridor
- One fatality occurred at Joline Avenue (by the Tottenville Pool)
- Eight injuries (one severe) at Sleight Avenue



Total Injuries Remains Consistent Since 2015

Injuries By Year, 2016-2020 (5 Years)

- On average, per year:
 - o 9 people are injured
 - o 1 pedestrian
 - o 1 cyclist
 - 7 motor vehicle occupants
- Crashes with injuries happen on a **regular** basis

Year	Pedestrian	Bicyclist	Motor Vehicle	Total
2016	0	0	4	4
2017	0	3	5	8
2018	0	0	8	8
2019	5	1	12	18
2020	1	1	6	8
Total	6	5	35	46

Source: Fatalities: NYC DOT, Injuries NYS DOT

Cyclists Being Injured Are Young

Injuries by Age Group, 2016-2020 (5 Years)

- Injured children and young adults are more likely to be cyclists than pedestrians
- Injured adults are more likely to be pedestrians than cyclists

Age Group	Pedestrian	Bicyclists	Total
Children (1-17)	0	2	2
Young Adults (18-29)	1	2	3
Adults (30-64)	3	1	4
Seniors (65-120)	0	0	0
Unknown	2	0	2
Total	6	5	11

Source: Fatalities: NYC DOT, Injuries NYS DOT

Injuries Indicate Speed Is An Issue

Motor Vehicle Injuries by Collision Type, 2016-2020

- Rear-end and right-angle collisions are the primary identified causes of crashes for motor vehicle injuries
- Speed plays a primary factor in the severity of injuries from such collisions

Collision Type	Number of Injuries	Percent of Known Injuries
Left Turn	4	12.5%
Rear-End	7	21.9%
Right-Angle	7	21.9%
Head-on	2	6.3%
Other Known	12	37.5%
Total Known	32	91%
Unknown	3	9%
Total	35	100%

Speed Impacts Pedestrian Safety Too

Vehicle Action Versus Ped Action, 2016-2020 (5 Years)

 Pedestrians most likely to be hit by a vehicle going straight, where a vehicle should be able to see and react before hand

Unsafe speeds leaves little time to react

Vehicle Action	Crossing with Signal	Crossing Against Signal	Crossing No Signal Marked Crosswalk	Unknown	Total
Left Turn	1	0	1	0	2
Right Turn	0	0	0	0	0
Going Straight	1	2	0	1	4
Total	2	2	1	1	6

Source: Fatalities: NYC DOT, Injuries NYS DOT

Wide, Residential Street

Street Design

- **60 feet wide** with two travel lanes in each direction and parking permitted along the curbs
- Last mile of a major northsouth route on Staten Island
- Lined with **detached housing**
- Designed for large-scale development





Traffic Volumes Were Low in 2015

Automated Traffic Recorder (ATR) Counts From October 2015

- Eastbound traffic reaches a short peak of 769 vehicles per hour (VPH)
- Traffic stays below 450 VPH for other times and directions
- Low volumes are conducive to speeding

Midweek Hourly Traffic Volume Bedell Ave to Page Ave

Eastbound --- Westbound



Source: ATR Count 96810 on Hylan Blvd. from Bedell Ave. to Page Ave. - 10/18/2015 - 10/31/2015

And Have Stayed Low Since 2015

2015 ATRs vs. 2022 Spot Checks

- NYC DOT conducted follow up spot checks during midweek peak hours
- In 6 years, traffic volumes have not significantly increased, but have decreased during most times and directions

Peak Volumes 2015 vs. 2022

Ø 2015 ATRs ■ 2022 Spot Checks



Source: ATR Count 96810 on Hylan Blvd. from Bedell Ave. to Page Ave. – 10/18/2015 – 10/31/2015, Spot Traffic Volume Check – 6/22/2022



90%

75%

Vehicles Were Going too Fast Before

Radar Speed Survey's from May 2017

- **21% of vehicle speeds** were above the posted speed limit (40 MPH)
- 63% of vehicle speeds
 were above 32 MPH



Source: Radar Speed Survey of eastbound traffic on Hylan Blvd. from Chelsea St. to Brighton St. at 9:30pm, 5/18/2017

Changes To Speed Enforcement

Changes Since First Spot Speed Count

- Speed cameras were installed within the project area
- The **speed limit** reduced to 30 MPH along all of Hylan Boulevard



And Vehicles Continue To Go Too Fast

Radar Speed Survey's from June 2022

- **59% of vehicle speeds** were above the posted speed limit (30 MPH)
- **52% of vehicle speeds** are above 32 MPH
- Despite enforcement changes, vehicles are still going very fast for a local street



Source: Radar Speed Survey of eastbound traffic on Hylan Blvd. from Loretto St. to Sprague Ave. at 8:00pm, 6/23/2022

Hylan Is A Popular Bike Route

500

450

400

Spot Checks from 2017 and 2022

- 12 bicycle counts have been done over 5 years
- Volumes have stayed consistent
- Volumes are high for an on-street bike lane in Staten Island





Source: Bicycle Counts 108567 (June 2017), 108568 (June 2017), 142274 (June 2022), and 142275 (June 2022)

Cyclists Report Using Hylan Often

Profile Questions from Street Ambassador Survey

- A quarter of all respondents cycle on Hylan Boulevard
- Two-thirds cycle on in frequently

Do you cycle on Hylan Blvd?



Frequency cycling on Hylan Blvd

Frequently	62%
Occasionally	32%
Rarely	4%
First time	2%

What Would Get More People To Cycle?

Top changes respondents want to see to encourage cycling in the neighborhood Percent of respondents report cycling barriers on

- About half of those • surveyed are **not** interested in cycling
- For those who are, • protected lanes was the highest rated

Hylan Blvd (n=368)

Not interested in cycling		50%
More protected bike lanes	15%	
Improved road surfaces	14%	
Other	6%	
Safer traffic conditions	6%	
More bike lanes in general	4%	
More awareness of bike safety	3%	
More bike parking	1%	
Better bike access	1%	

What We've Learned

Summary

- Crashes with injuries happen every 49 days, throughout the corridor indicate there is a design issue with the street
- Speeding, due to a road with too much capacity, is playing significant role
- Lots of cyclists, who use the route frequently
- Cyclist want better protections



Planned Improvements



What We Can Do

NYC DOT Toolkit

- We can make operational changes for a safer street with **low-cost** tools that can be installed quickly
- We call these Street Improvement Projects and we've done hundreds
- We've developed groups of safety improvements that we call our toolkit
- We've studied them for their effectiveness, and we can apply them here



We Can Use A "Road Diet"

NYC DOT Safety Toolkit

- Road Diets are defined as, but not limited to, corridor projects with an added flush median, bike lane or a widened parking lane, and a removed vehicular moving lane for at least 1,000 feet
- By **balancing vehicle volume to lane capacity**, safety can be significantly increased for all users



Road Diets Substantially Reduce Injuries

NYC DOT Safety Treatment Evaluation

- Survey of 28 treatments and 29.1 centerline miles between 2005 and 2018 showed substantial drops in KSI for all road users
- Highest percentage was for Motor Vehicle Occupants

Street User	Injury Change	KSI Change
All Road Users	-16.6%	-30.0%
Pedestrians	-12.5%	-31.7%
Motor Vehicle Occupants	-19.3%	-33.8%

Proven Method of Increasing Safety

4 to 3 Conversions Helps Safety For All Road Users

- Reduce the number of travel lanes from two lanes to one in each direction, which helps calm traffic and discourages speeding
- Add dedicated left-turn bays for safer left-turns

Example Projects	Change in Crashes with Injuries (%)
West 6 th Street, BK	-24%
Empire Boulevard, BK	-15%
Allerton Avenue, BX	-28%
Gerritsen Avenue, BK	-40%
Southern Boulevard, BK	-20%
Randall Avenue, BX	-22%
Macombs Road, BX	-44%

We Can Add Bike Lanes

NYC DOT Safety Toolkit

- Conventional Bicycle Lanes, a lane designated for cyclists, defined only by paint, sometimes referred to as Class II Bicycle Facilities
- By increasing safety for cyclists, other road users benefit, too



Bike Lanes Improve Safety For All Users

NYC DOT Safety Treatment Evaluation

- Survey of 542 treatments and 133.8 centerline miles between 2005 and 2018 showed drops in KSI for all road users
- Highest percentage was for Motor Vehicle Occupants

Street User	Injury Change	KSI Change
All Road Users	1.1%	-15.3%
Pedestrians	-1.4%	-16.2%
Motor Vehicle Occupants	-1.1%	-25.1%

What A Road Diet Will Look Like

Planned Changes

- One travel lane in each direction replaced with left-turn bays and flush median for safer left turns
- Bike lanes separate bicycle traffic from vehicular traffic and narrows remaining travel lanes to discourage speeding



Additional Changes

Hylan Blvd at Page Ave East-leg of Intersection

- Convert one travel lane into a right turn bay and one into a thru only so traffic flow lines up through the intersection
- Add floating southbound bike lane between turn and thru lanes
- 5 parking spaces removed from northwest corner to help with bus merge



We Can Improve Safety on Hylan

Summary

- By balancing road capacity and traffic volumes, along with adding left-turn bays, we can bring down the number of people killed and severely injured
- By adding bike lanes we can improve safety and comfort for the cyclists who use Hylan and make it safer for others as well



Summary

In Just The Last Three Months (cont'd)

- Historically, we can expect an injury causing crash to occur every 49 days on average and can expect that speed will most likely be a factor in those crashes
- We saw two serious crashes related to speed in the project corridor within
 61 days:
 - May 25th crash at Conference House Park
 - o July 25th crash at Sleight Avenue
- Those crashes were not isolated incidents, they represent understood issues caused in part by the design of the street
- And NYC DOT has **proven tools** to address them

What We Will Do

Summary of Changes

- We will repurpose one travel lane in each direction and add left-turn bays to balance traffic volume and capacity
- We will install a bike lane in each direction to complete the Hylan Boulevard bike route between Poillon Avenue and Conference House Park
- And will continue to monitor and evaluate the street, as we do with all our safety projects, following installation



Why We're Doing It

Summary of Benefits

- The City is dedicated to reducing traffic deaths and severe injuries
- We do not believe that crashes with injures must happen on Hylan Boulevard and can design a safer street for everyone who uses it
- We can **expand travel options** for all of Hylan's users
- And we can do so without significantly impacting those who use it now



Thank You!

Questions?



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