



SAFETY TREATMENT EVALUATION NEW YORK CITY

Research on the Road 2022

Rob Viola, NYC DOT



Safety Treatment Evaluation

Methodology

- Came out of *Pedestrian Safety and Older New Yorkers* report
- Wide-ranging before/after analysis of safety treatments comparing seniors and non-senior adults.
- Identified seven particularly powerful treatments



Safety Treatment Evaluation

Methodology

- DOT then analyzed those treatments for all-ages: all road users, pedestrians and motor vehicle operators
 - Bikes excluded because of increased bike volume issue
 - Motorcycles excluded due to low sample size
- Treatment sample data:
 - Most treatments from Street Improvement Projects (2008-2016)
 - LPIs are from 2010-2016, with the majority in the latter years as NYC DOT ramped up the program
 - Turn Calming treatments are from 2016, the first year of the program
- 3 years of before data vs 2 or 3 years of after data
- Crash data (2005-2018)

Safety Treatment Evaluation

Citywide Background Trend

- Citywide, all injuries declined annually on average over the study period, even as New York City's population grew by 5%
- Injuries for all road users fell 0.4% and Killed or Severely Injured (KSI) fell 2.8%

Safety Features:



Slowing Vehicle Speeds

Encourage lower vehicle speeds, usually by motor vehicle lane reduction or lane narrowing.



Reducing Pedestrian Exposure

Reduce opportunities for pedestrians to be struck, either by shortened crossing distances, reduced travel space for motor vehicles or traffic signals providing pedestrian-only crossing time.



Slowing Turns

Encourage lower motor vehicle turning speeds, either through sharper turns (closer to a 90 degree angle) or by vehicles stopping before making a turn.



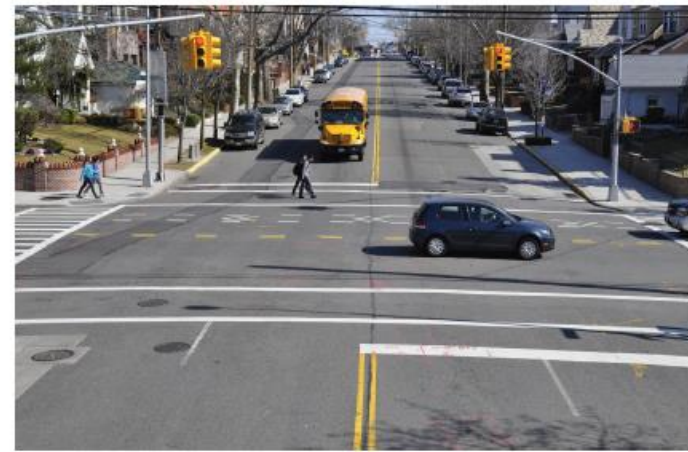
Providing Pedestrian Refuge

Create a protected space for pedestrians to stop while crossing the roadway.

Safety Treatment Evaluation

Road Diets

- Injuries declined 17%
- Severe Injuries declined 30%



86 Street, Brooklyn



86 Street, Brooklyn

Safety Treatment Evaluation

Conventional Bike Lanes

- **Injuries flat**
- **Severe Injuries declined 15%**
- **Pedestrian severe injuries declined 16%**



West 55 Street, Manhattan

Safety Treatment Evaluation

Protected Bike Lanes

- Injuries declined 15%
- Severe Injuries declined 18%
- Pedestrian severe injuries declined 30%



9 Street, Brooklyn



Central Park West, Manhattan

Safety Treatment Evaluation

Pedestrian Islands

- **Injuries declined 15%**
- **Severe Injuries declined 36%**
- **Pedestrian severe injuries declined 30%**



116 Street, Manhattan

Safety Treatment Evaluation

Curb and Sidewalk Expansions

- Injuries declined 10%
- Severe Injuries declined 34%
- Pedestrian severe injuries declined 45%



Queens Boulevard, Queens



Riverside Drive, Manhattan

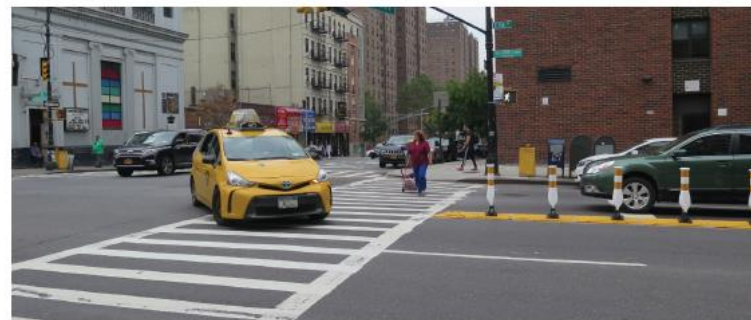
Safety Treatment Evaluation

Turn Calming

- Injuries flat
- Severe Injuries declined 16%
- Pedestrian severe injuries declined 33%



Marcy Avenue, Brooklyn

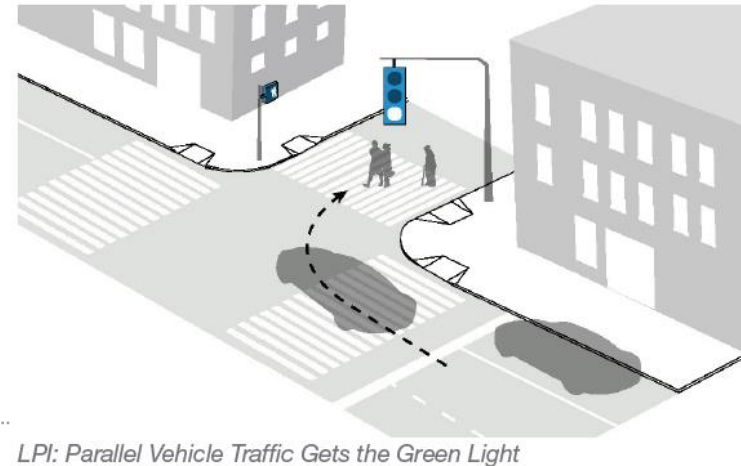
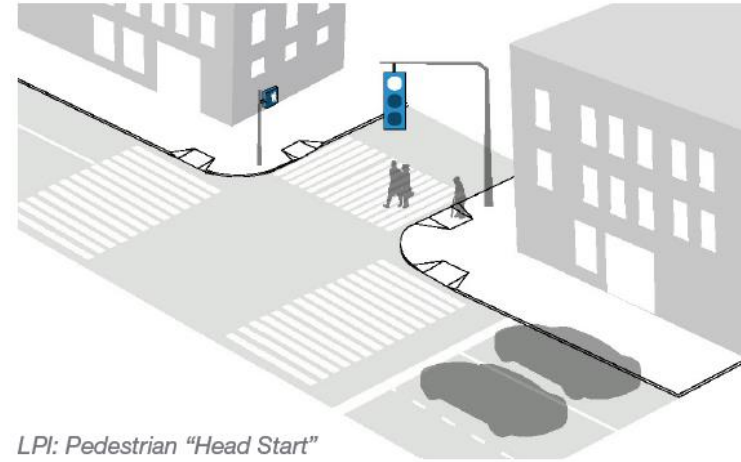


East 116 Street, Manhattan

Safety Treatment Evaluation

Leading Pedestrian Intervals (LPIs)

- **Injuries declined 14%**
- **Severe Injuries declined 30%**



Safety Treatment Evaluation

Motor Vehicle Occupants

Safety Treatment	MV Inj Chg	MV KSI Chg
Road Diets	-19.3%	-33.8%
Conventional Bike Lanes	-1.1%	-25.1%
Protected Bike Lanes	-19.0%	-13.1%
Pedestrian Islands	-18.1%	-52.0%
Curb & Sidewalk Extensions	-10.1%	-24.1%
Turn Calming	13.6%	50.7%*
Leading Pedestrian Intervals (LPIs)	-13.5%	-28.5%

*Motor Vehicle KSI at Turning Calming locations rose from an annual average of 7.3 KSI in the before period to 11 KSI in the after period. Due to this small sample size of severe injuries, it is likely that this large increase (50.7%) is not as accurate as other report findings.

THANK YOU!

Questions?



NYCDOT



nyc_dot



nyc_dot



NYCDOT

Safety Treatment Evaluation

All Modes

Safety Treatment	Injury Change	KSI Change
Road Diets	-16.6%	-30.0%
Conventional Bike Lanes	1.1%	-15.3%
Protected Bike Lanes	-14.8%	-18.1%
Pedestrian Islands	-15.1%	-35.5%
Curb & Sidewalk Extensions	-10.4%	-34.1%
Turn Calming	0.3%	-16.2%
Leading Pedestrian Intervals (LPIs)	-13.5%	-29.6%

Safety Treatment Evaluation

Pedestrians

Safety Treatment	Ped Inj Chg	Ped KSI Chg
Road Diets	-12.5%	-31.7%
Conventional Bike Lanes	-1.4%	-16.2%
Protected Bike Lanes	-17.8%	-29.2%
Pedestrian Islands	-10.2%	-29.9%
Curb & Sidewalk Extensions	-16.5%	-44.7%
Turn Calming	-17.5%	-32.7%
Leading Pedestrian Intervals (LPIs)	-18.1%	-34.3%