

NYC Safe Routes to School Evaluation Project

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Acknowledgements

- Centers for Disease Control and Prevention 1 R21 CE001816 and 1 R49 CE002096
- New York City Department of Transportation
- Guohua Li, Peter Meunnig, Qixuan Chen



Some Conclusions

- Traffic Calming Works
- Evaluation Important
- Kids can still be kids and be safe



Safe Routes to School

- 2005 US DOT legislation \$612 million
 - by 2012, total about \$1.12 billion
 - 10,000 of nation's 100,000 schools
 - get kids walking / biking (safely) to school
- 130 of 2,000 NYC schools
 - Traffic and pedestrian signals, exclusive pedestrian crossing times, speed bumps, speed boards, sidewalk extensions; ~ 700 ft. buffer

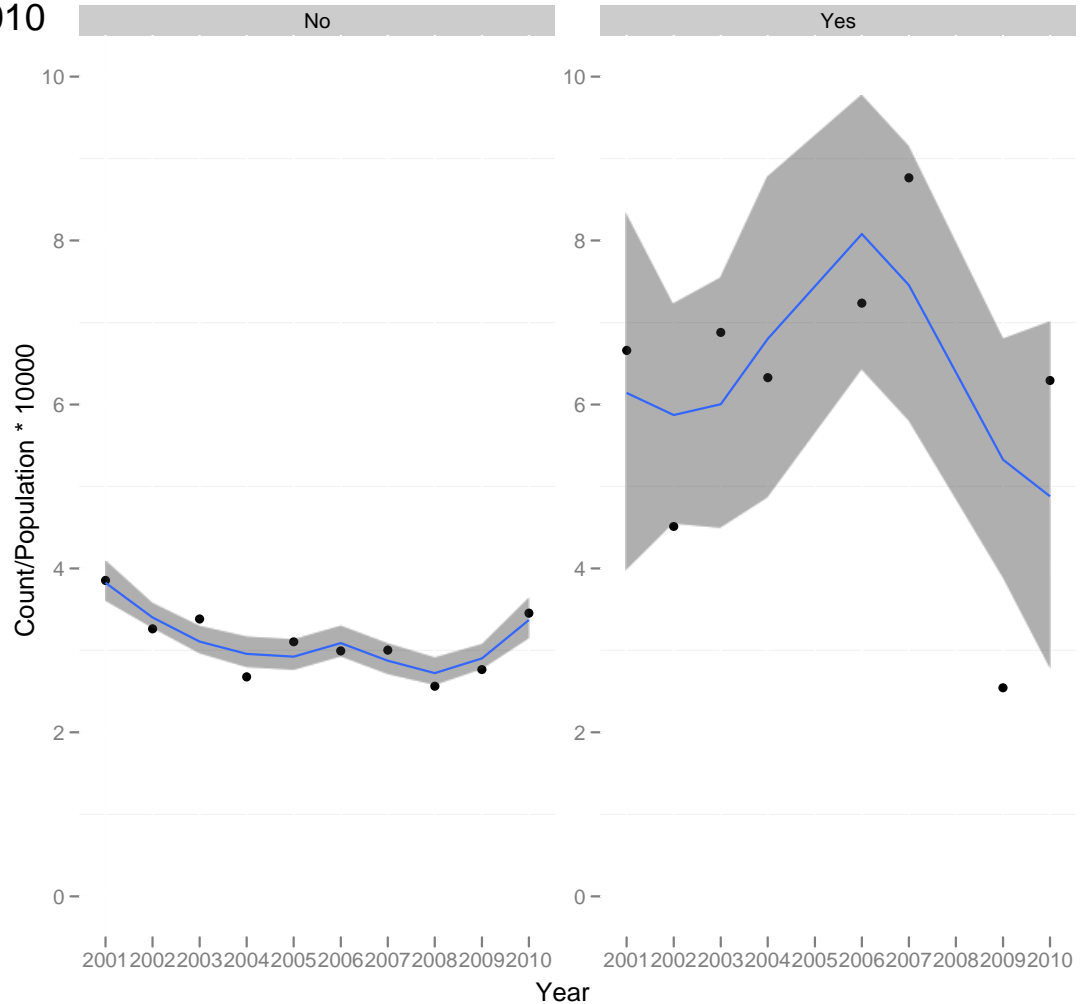


NYC SRTS Evaluation Program

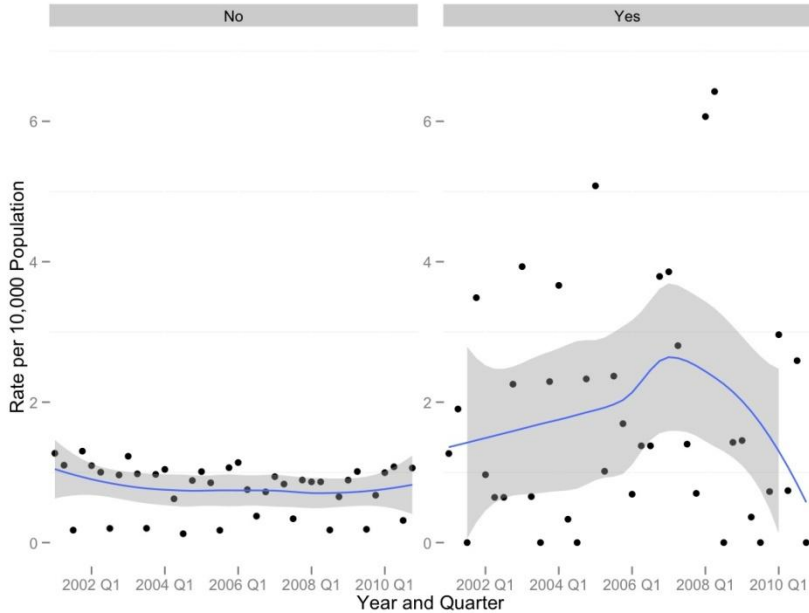
- Data and Analysis
 - 186,000 geocoded pedestrian crashes 2001-2010
 - Geocoded school centroids
 - Census tract injury counts
 - Mon-Fri, 7AM-9AM or 2PM-4PM (excluding Summer, Holidays)
 - Compare SRTS census tracts vs non-SRTS census tracts pre and post program implementation (2008)
- Results
 - 44% decrease (95% CI 17%,65%) in SRTS census tracts following program implementation
 - 0% change (95% CI -8%, 8%) in non-SRTS census tracts following program implementation



School-Aged Pedestrian Crashes per 10,000 Population During Travel To-From School Hours, SRTS Intervention Census Tracts (Yes) vs. Non-Intervention Census Tracts (No), New York City 2001-2010

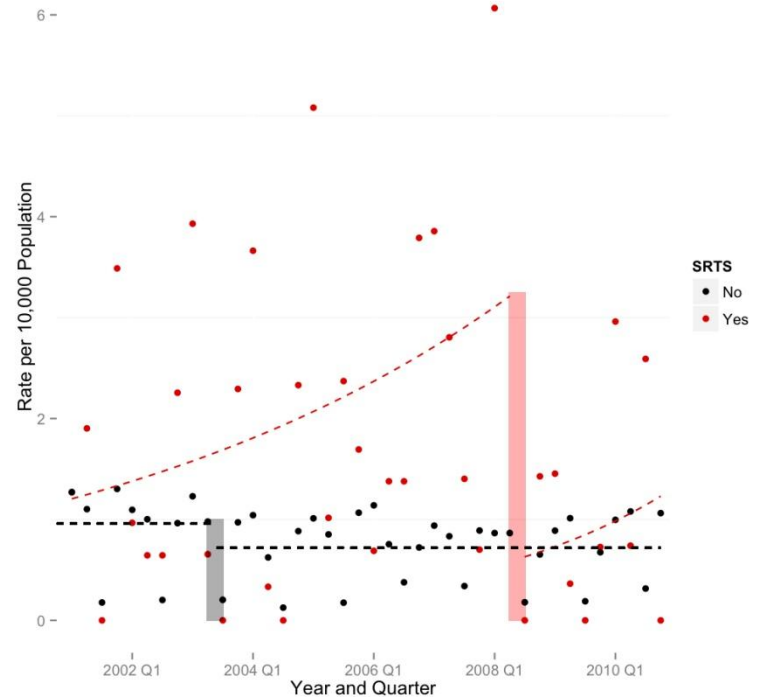


Changepoint



most likely changepoint SRTS
 census tracts 2nd quarter 2008
 (quarter 30.5, 95% Cr I 30, 31)

non-SRTS census tracts
 largely unchanged



Difference in Differences

$$\log(\mu_t) = \beta_0 + \beta_1 \text{Period}_t + \beta_2 \text{SRTS} + \beta_3 \text{Period}_t * \text{SRTS} + \log(\text{Population}_t)$$

	SRTS Vs. No SRTS	Completed SRTS Vs. Not Completed SRTS
Variable		
β_0 (Pre-Changepoint, Non-SRTS)	-9.43 (-9.55, -9.31)	-8.51 (-8.69, -8.33)
β_1 (Pre-Changepoint, SRTS)	0.95 (0.42, 1.48)	0.03 (-0.32, 0.38)
β_2 (Post-Changepoint, Non-SRTS)	-0.13 (-0.40, 0.14)	-0.33 (-0.76, 0.10)
β_3 (Post-Changepoint, SRTS)	-0.58 (-2.01, 0.85)	-0.38 (-1.34, 0.58)

- 44% risk reduction (95% CI 87% decrease, 130% increase)
 - compared to incomplete SRTS: 32% risk reduction (95% CI 74% decrease, 78% increase)



Some Conclusions

- Traffic Calming Works
 - expensive, but we can rationally and effectively use public resources to address public health and safety
 - education and enforcement still important
- Evaluation Important
 - MAP-21 removes SRTS as stand-alone program
 - difficult to tease out effects of any single program
 - NYC experience unique?
- Kids can still be kids and be safe





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