

# Driving Change Evaluating Connecticut's Collaborative Approach to Reducing Racial Disparities in Policing

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Susan T. Parker (Northeastern)

Matthew B. Ross\* (Northeastern)

Stephen L. Ross (UConn, NBER)

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# Motivation



- 94% of Americans believe policing needs minor or major changes (Gallup, 2020)
- 21+ million traffic stops annually
  - Disproportionate impact on minorities (Pierson et al. 2020)
  - Can escalate into deadly encounters (Levenson 2021; Tapp and Davis 2022)
- Punitive enforcement can erode police legitimacy (Ang et al. 2021; Mikdash and Zaiour 2023)
- Limited evidence of benefits to traffic enforcement (DeAngelo & Hansen 2013)

## Recent Reforms to Traffic Enforcement



- Substantial increase in federal DOT 1906 funding and interest in obtaining funding
- DOJ consent decrees increasingly recommend focus on CFS
- Major cities have implicitly/explicitly prohibited pretext stops
- Statewide legislation limiting police discretion

## We Study a Reform in Connecticut

### Connecticut Racial Profiling Prohibition Project (CTRP3):

- Supported by modest amount of federal funding
- One of the first and longest running statewide programs intended to address systemic racial disparities in traffic stops (2013+)
- Annual empirical evaluation of individual departments
- Identified departments offered an interventions (data-driven recommendations)
- Collaborative voluntary approach involving multiple stakeholders

## Overview of our Study

- Goal: Examine the impact of department-level interventions occurring annually in Connecticut from 2013 to 2020.
- Data and Methods:
  - Data on traffic stops, crime, and accidents
  - Stacked event study design (staggered roll out)
- Findings: Relatively low-cost and voluntary intervention w/ large impact
  - 23.6% reduction in minority stops w/ approx. 80% of reduction in pretext stops
  - No change in roadway safety
  - Little to no change in community crime rates

## Scholarly Contribution

- Massive literature documents disparities in police stops
  - Pierson et al. (2020) stop and search rates
  - Feigenberg and Miller (2022) lower rates of successful search
  - Goncalves and Mello (2021) more severe sanctions
- Higher rates of pre-textual stops among low income and minority drivers, respectively
  - Feigenberg and Miller (2023), Makofske (2020)
- Very little work evaluating programs to reduce minority and pretextual traffic stops
  - Naddeo and Pulvino (2024), Matsuzawa (2024), and Rushin and Edwards (2021) focus on single cities using ITT analysis
  - Mixed evidence in crim

## But Connecticut is Important by Itself...

- Program staff has provided guidance to many states, starting as early as 2015
  - Framework adopted in many other states: AL, CA, CO, DC, ME, MA, MN, NV, NJ, NY, NC, OH, and OR as well as the National Sheriff's Association
  - Informed DOJ consent decrees
  - Basis for a pilot of a nationwide initiative of the Council of State Governments
- Promoted by Mothers Against Drunk Driving (MADD) and Governors Highway Safety Association
- Cited by Congresswoman Eleanor Holmes Norton in push to expand DOT 1906

The so-called "Connecticut Model" focuses on seven key components (Ross et al. 2020)

1. Traffic data collected for one year
2. Analysis (preponderance of evidence)
3. Agencies identified to advisory board (confidential)
4. **Program staff informs and works w/ identified agencies**
5. Annual report is released (public)
6. Community forums

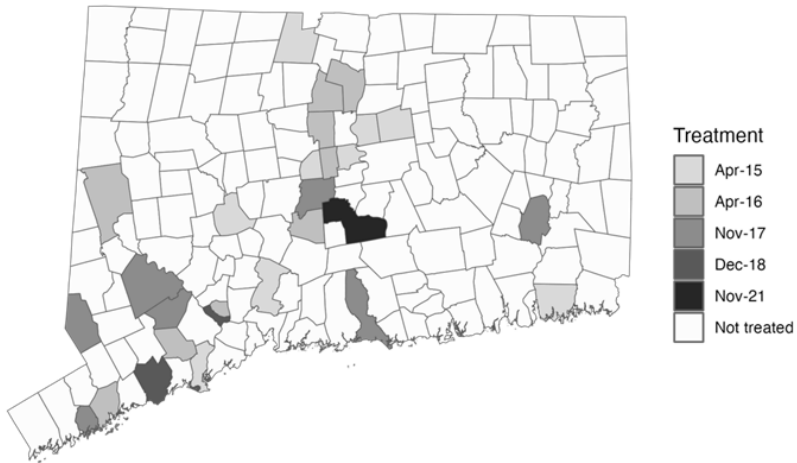


# Department Interventions

We study the impact of the department-level (municipal only) intervention on traffic stops, crime, and roadway safety.

- Largely voluntary
  - Power to withhold funding
  - Leverage delayed release of study
  - Some non-compliance (command staff usually gets fired)
- Analyses of Sources of Disparities
  - Officer analysis
  - Geographic and enforcement analysis
  - Crime and accident analysis
- Data-driven dialogue
  - Propose solutions based on data
  - Work with departments to explore options

# Map of Treatment



## Constructing the Analytical Sample

- Stop-level Data: 2.55 million traffic stops made by 94 municipal police departments from October, 2013 to December, 2021
- Monthly Data: 4,277 month by agency observations from October, 2013 to December, 2021.
- Stacked DiD Panel: 3,225 month by agency observations (controls repeat)
  - Each treated town is a separate "sub-experiment"
  - Create a separate dataset for treated agency +/- 12 months (report released  $\approx$  12 months after treatment)
  - Controls (untreated & not-yet-treated) and restricted to "peer" towns

# Peer Town Example

Department	Treatment Date	Eligible Peer Towns (2013 CTRP3)				
Fairfield	12/2018	Trumbull (4/2016)	West Hartford (4/2016)	Enfield	North Haven	Westport
Manchester	4/2015	Milford	Farmington	Cromwell	Newington (4/2016)	Trumbull (4/2016)
Norwich	4/2017	Brookfield	Bethel	Old Saybrook	Plainfield	Waterford

- We restrict control towns (any never or not yet treated) based on a set of “peer” towns developed by CTRP3 program staff in 2013.
  - Average of 4.13 usable control towns per treated town
- Robust to using all towns and inverse propensity scores weights Abadie (2005).

## Descriptive Statistics

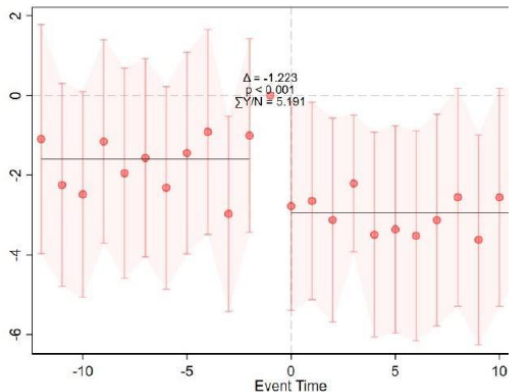
Sample	1[Treatment]		1[Control]	
Time Period	+/- 12 Months of Group Treatment			
Sample	Stacked Panel			
	Mean	SD	Mean	SD
Total Stops	368.88	222.53	277.42	220.36
Stops (Any Min.)	156.91	122.98	66.15	59.51
Stops (Black/AA)	77.35	69.39	28.66	26.44
Stops (Hisp/Lat)	63.88	59.03	29.21	28.64
Stops (Pretext)	19.03	33.90	18.85	33.98
Stops (Moving)	187.86	112.02	142.42	112.99
Stops (Equip.)	105.16	111.66	80.57	94.51
Stops (Admin)	42.14	35.61	29.83	33.34
Stops (Warning)	19.00	13.09	14.39	10.97
Stops (Cites)	45.03	30.11	33.80	27.22
Stops (Search)	90.75	88.97	60.45	73.80
Stops (Arrests)	89.10	69.69	60.44	61.82
N=	640		2585	

On the stacked panel, we estimate:

$$Y_{git} = \alpha_{gt} + \gamma_{gi} + \sum_{\tau} \delta_{\tau} (1[\textit{treated}]_{gi} * D_{gt}) + \mu_{git}$$

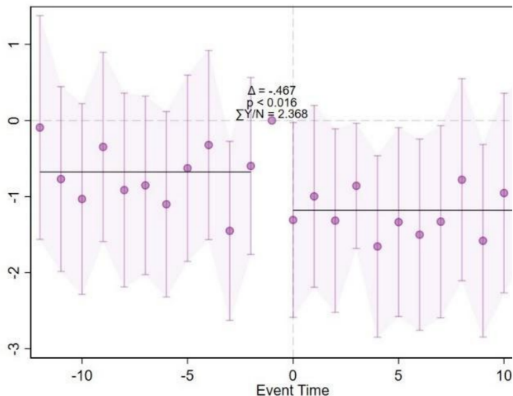
- $Y_{git}$  = outcome (stop, crime, or arrest) for sub-experiment (treated group)  $g$ , department  $i$ , and time  $t$
- $\alpha_{gt}$  = sub-experiment x time fixed effect
- $\gamma_{gi}$  = sub-experiment x town fixed effect
- $(1[\textit{treated}]_{gi} * D_{gt})$  = treated town x event time
- $\delta_{\tau}$  = Difference b/w treated and control towns averaged across sub-experiments, variables of interest
- Note: Additional controls on aggregate results vs. other results.

## Results on Traffic Stops of Any Racial/Ethnic Minority



- -1.2 stops ( $p < 0.001$ ) relative to mean of 5.2 stops (16 violation  $\times$  agency  $\times$  month)
- 23.6% reduction or about 234 stops per agency in the year following treatment

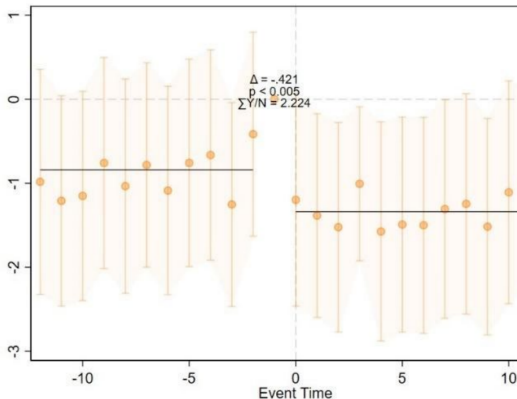
## Results on Traffic Stops of Black/AA



- -0.5 stops ( $p < 0.016$ ) relative to mean of 2.4 stops (16 violation  $\times$  agency  $\times$  month)
- 19.7% reduction in the year following treatment

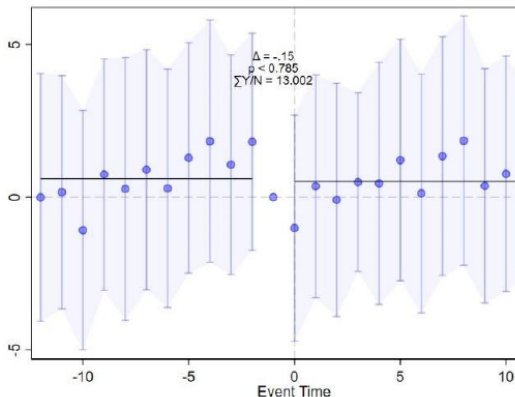


## Results on Traffic Stops of Hispanic/Latino



- -0.4 stops ( $p < 0.051$ ) relative to mean of 2.2 stops (16 violation  $\times$  agency  $\times$  month)
- 18.9% reduction in the year following treatment

## Results on Traffic Stops of non-Hispanic White

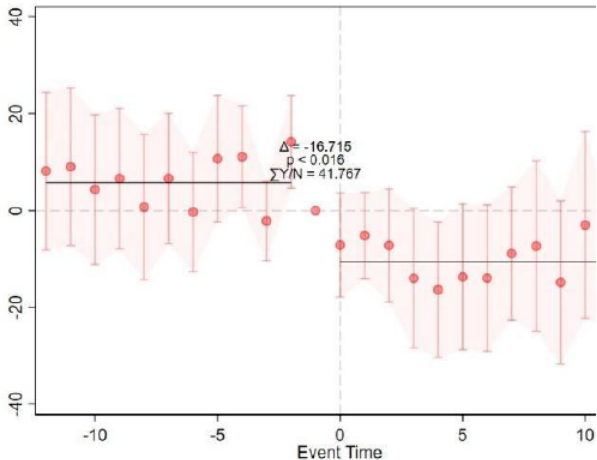


- -0.15 stops ( $p < 0.785$ ) relative to mean of 13 stops (16 violation x agency x month)
- Insignificant relative decline of only 1.2%

# Pretextual Stops

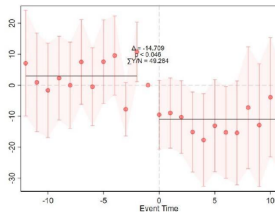
- Problem: Imperfect compliance w/ pretext stops, criminal statutes, admin violations (unclear)
- We use the empirical distribution of warnings/arrests per violation (+ hand curating)
- Using the above, we create three definitions of pretextual stops
  1. Unsuccessful pretext stops: eligible violations w/o arrest
  2. Successful pretext stops: eligible violations w/ arrest + only criminal statute
  3. Potentially pretext stops: administrative violations where a choice is made to run a plate

## Decline in Minority Stops are from Pretext Stops

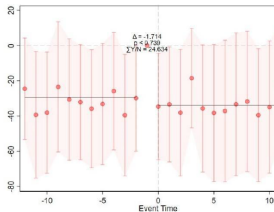


- -16.7 stops or 40% decline in pretext stops of any minorities
- Pretext stops are 85% of the total decline

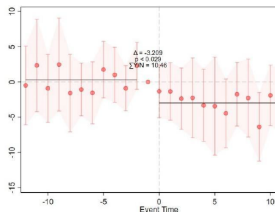
# Changes in Other Outcomes



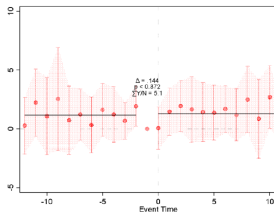
(a) Warnings



(b) Citations



(c) Arrest



(d) Search

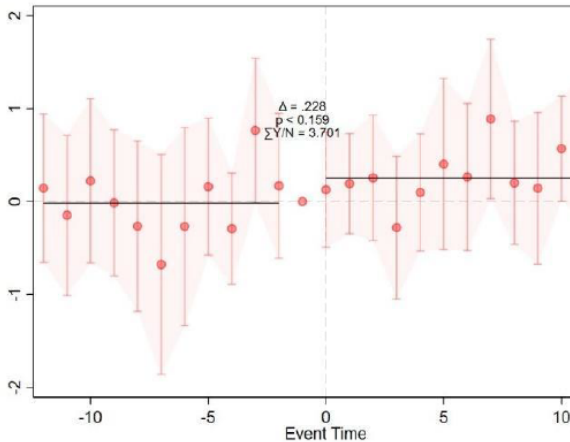
- Large decline in warnings; small decline in arrests
- No change in citations or searches

# Unintended Consequences

Frequent argument by police is that declines in pretext stops could have unintended consequences:

- Possible decreases in roadway safety (equipment + admin violations)
- Possible increase in crime (losing a crime-fighting tool)

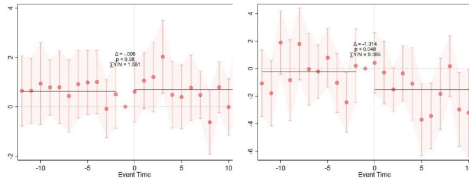
# Do Accident Rates Change?



(a) Total Crashes

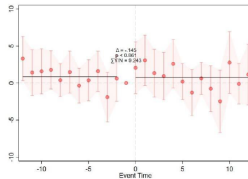
- No change in accidents (overall and for specific reasons)

# Do Crime Rates Change?



(a) Part 1- Violent Crimes

(b) Part 1- Property Crimes



(c) Non-Part 1

- No change in most crimes
- Small decline in clearance of property crimes, less than decline of arrests from stops



## Conclusions

- Our results are possibly an underestimate of the true impact
- Upon treatment, number of traffic stops of minority motorists fall with minimal change in stops of white motorists
- Declines arise primarily from pretextual stops. Consistent w/ this, number of warnings and arrests fall
- Modest decline in number of cleared property crimes, but the effect is less than half of the decline in arrests
- No evidence of any increases in crashes from the decline in stops
- Interventions have been a key component to Connecticut's success