



Center on Quality Policing

A RAND INFRASTRUCTURE, SAFETY, AND ENVIRONMENT CENTER

Police Performance Analysis and Racial Profiling

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Racial Profiling Continues to Be a Concern

- I-95 “turnpike” studies in the mid-1990s raised public concern about racial profiling
- Hundreds of reports have produced “evidence” for and against the existence of racial profiling
 - Texas: “75% of agencies stop more black and Latino drivers than white drivers”
 - Sacramento: the percentage of black drivers stopped matched the percentage of blacks among crime suspect descriptions
 - Illinois: in some cities racial composition of stops matches the census... in others it doesn’t
- The Henry Louis Gates “beer summit” and Senate Bill 1070 have renewed attention to the issue

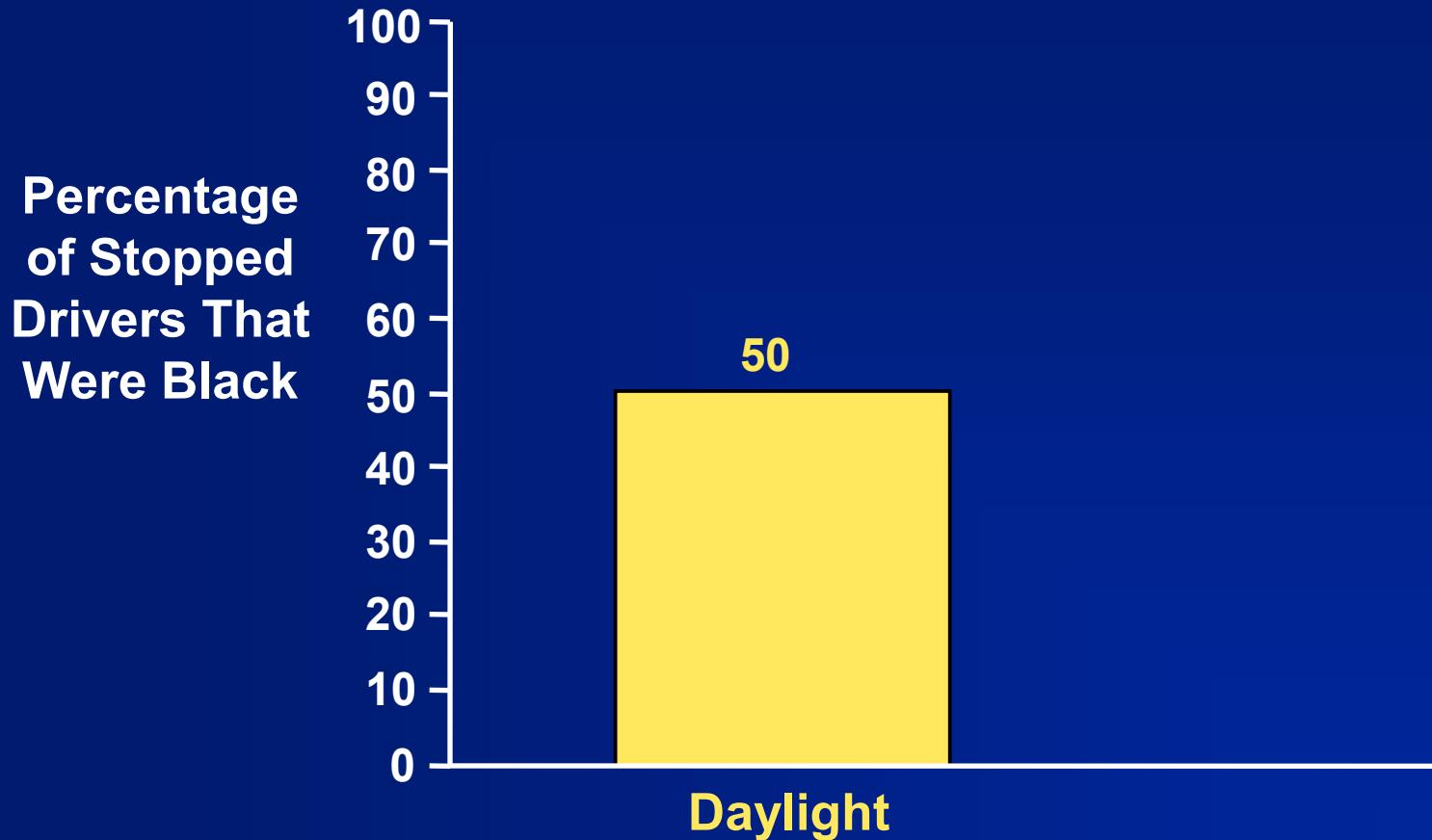
Key Questions

- Are there racial disparities in the decision to stop?
- Are there unusual patterns for specific officers?
- Are there inexplicable racial differences in stop outcomes?
- Can we identify neighborhoods with low police performance?

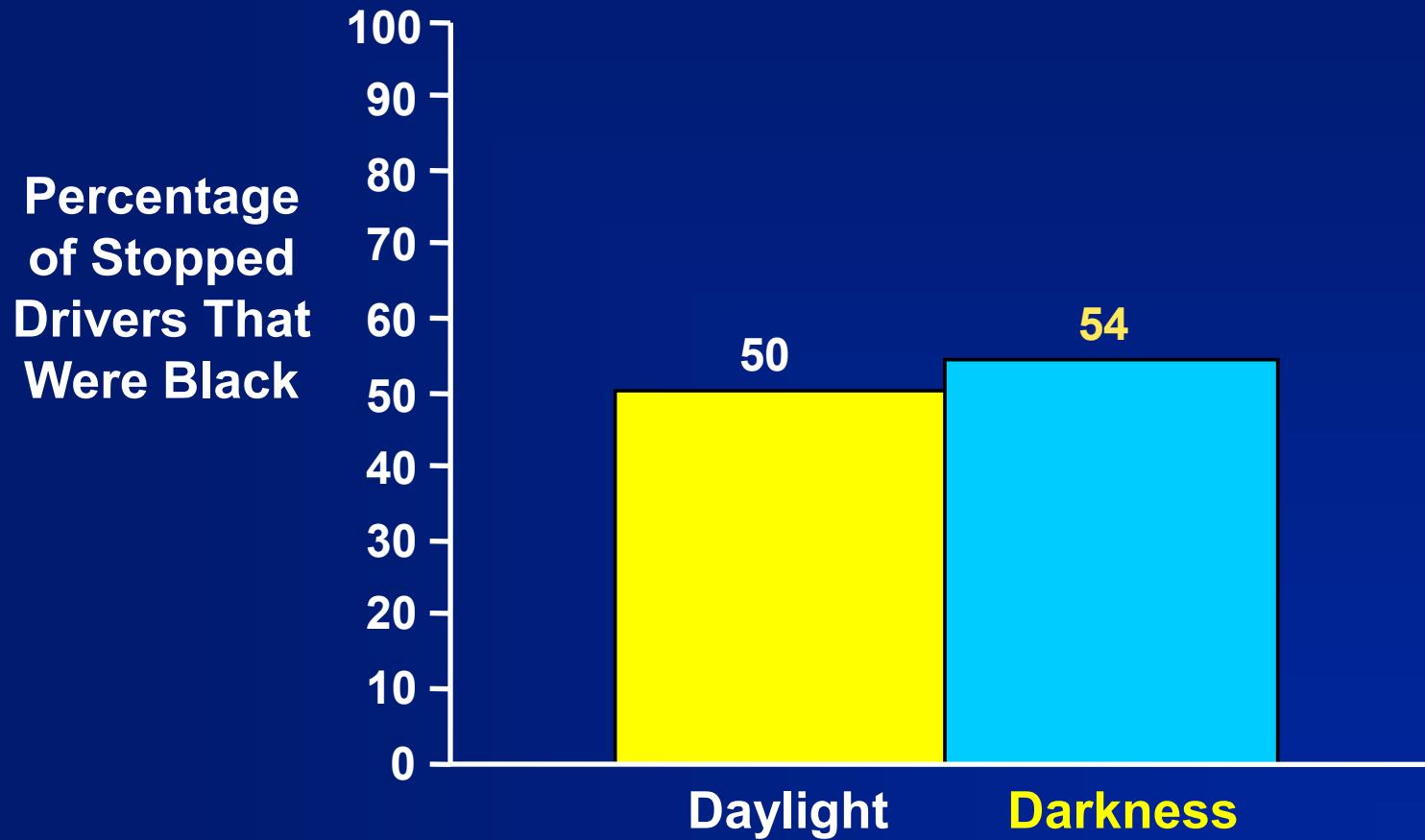
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Racially Biased Policing Should Be Most Evident During Daylight

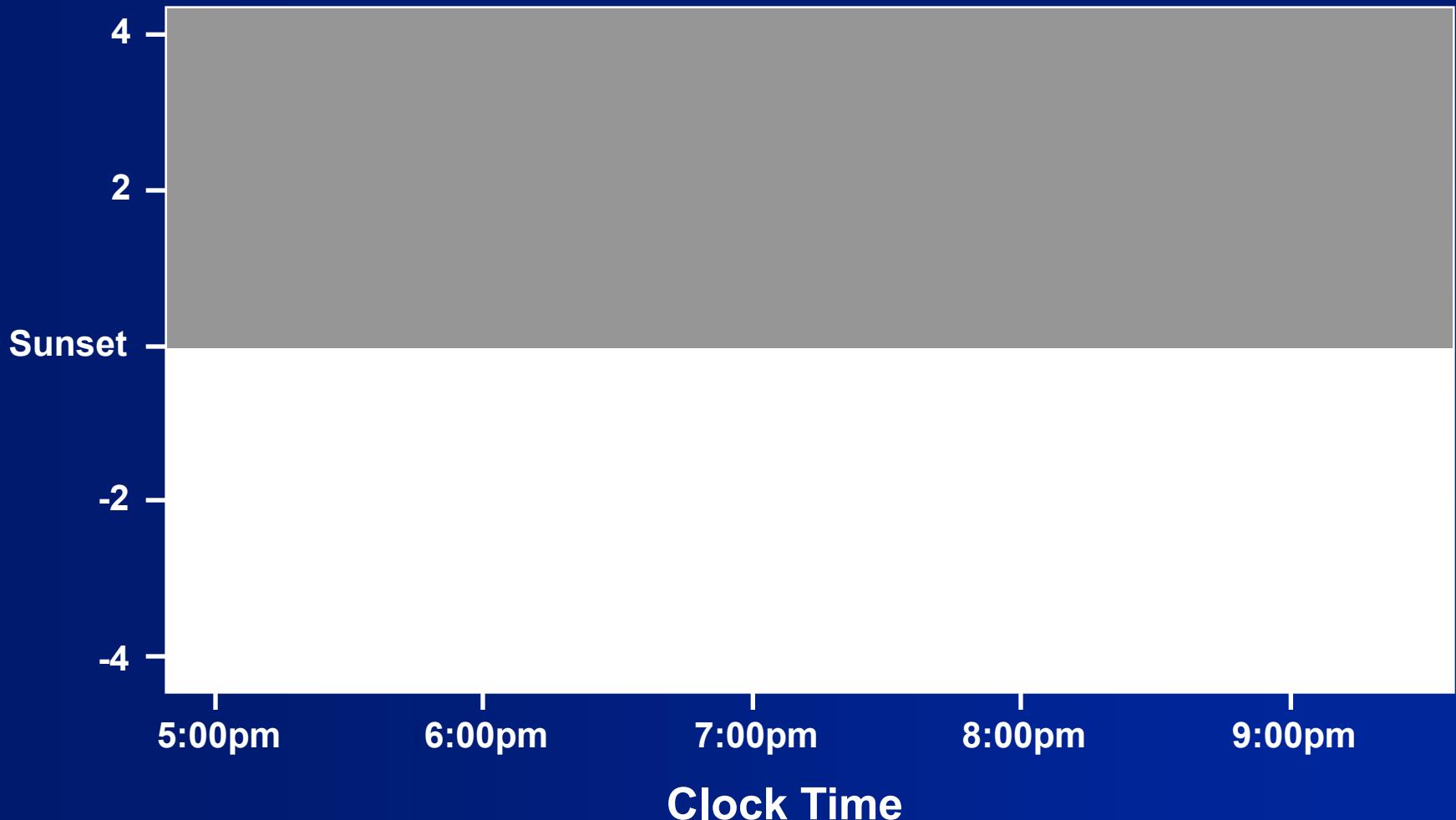


Simple Test Shows No Evidence of Racial Bias in the Decision to Stop



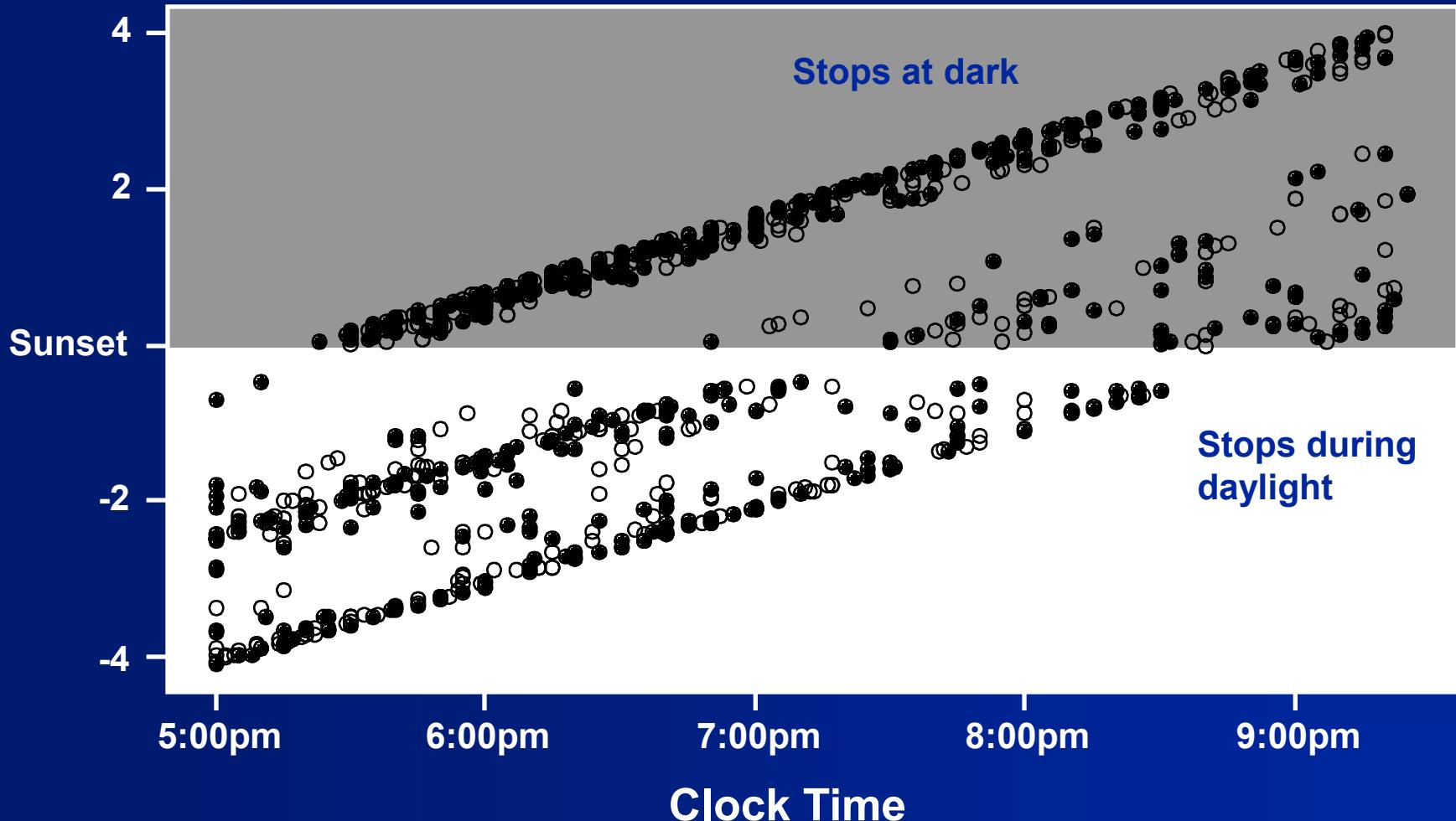
An Approach That Involved Adjusting for “Clock Time”

Hours Since Sunset



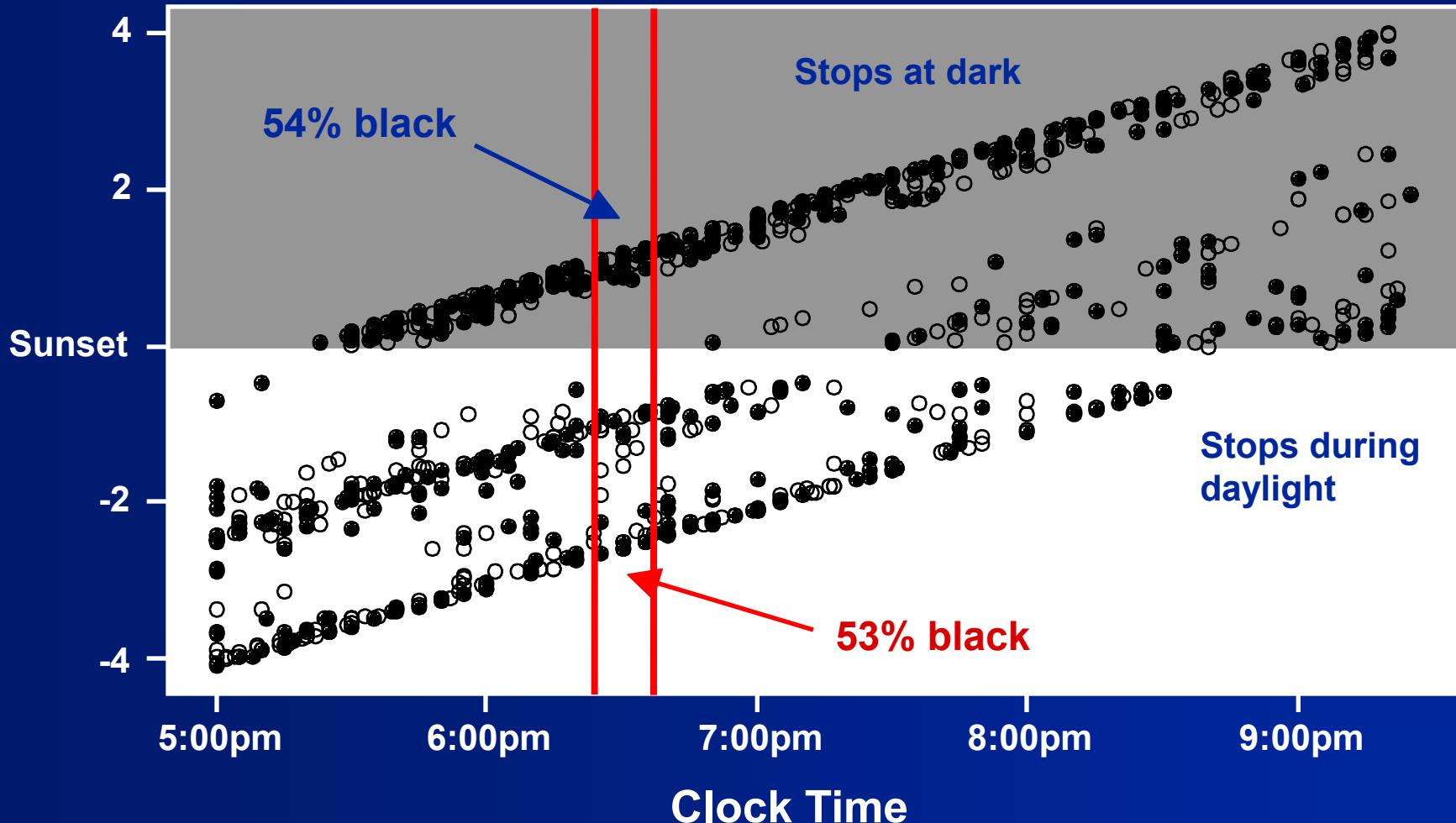
Compare Stops During Daylight with Stops in Darkness

Hours Since Sunset



There Is No Difference in the Rate that Black Drivers Are Stopped

Hours Since Sunset



Key Questions

- Are there racial disparities in the decision to stop?
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Examine Individual NYPD Officers for Evidence of Bias

Stop Characteristic	Example Officer (%) <i>n</i> = 392
Percent black	86%



- Arrests
- Use-of-force
- Injuries to self or others
- Complaints

NYPD Has Substantial Information on the Stop Features

Stop Characteristic	Example Officer (%) <i>n = 392</i>
Percent black	86%
Month	
January	3
February	4
March	8
Day of the week	
Monday	13
Tuesday	11
Wednesday	14
Time of day	
(4-6 p.m.]	9
(6-8 p.m.]	8
(8-10 p.m.]	23
(10 p.m. -12 a.m.]	17
Patrol borough	
Brooklyn North	100
Precinct	
B	98
C	1
Outside	
In uniform	
Yes	99
Radio run	
Yes	1

Benchmark with Similar Stops Made by Other Officers

Stop Characteristic	Example Officer (%) <i>n</i> = 392	Internal Benchmark (%) ESS = 3,676
Percent black	86%	
Month		
January	3	3
February	4	4
March	8	9
Day of the week		
Monday	13	13
Tuesday	11	10
Wednesday	14	15
Time of day		
(4-6 p.m.]	9	10
(6-8 p.m.]	8	8
(8-10 p.m.]	23	23
(10 p.m. -12 a.m.]	17	17
Patrol borough	Brooklyn North	100
Precinct	B	98
	C	1
Outside		96
In uniform	Yes	99
Radio run	Yes	1
		3

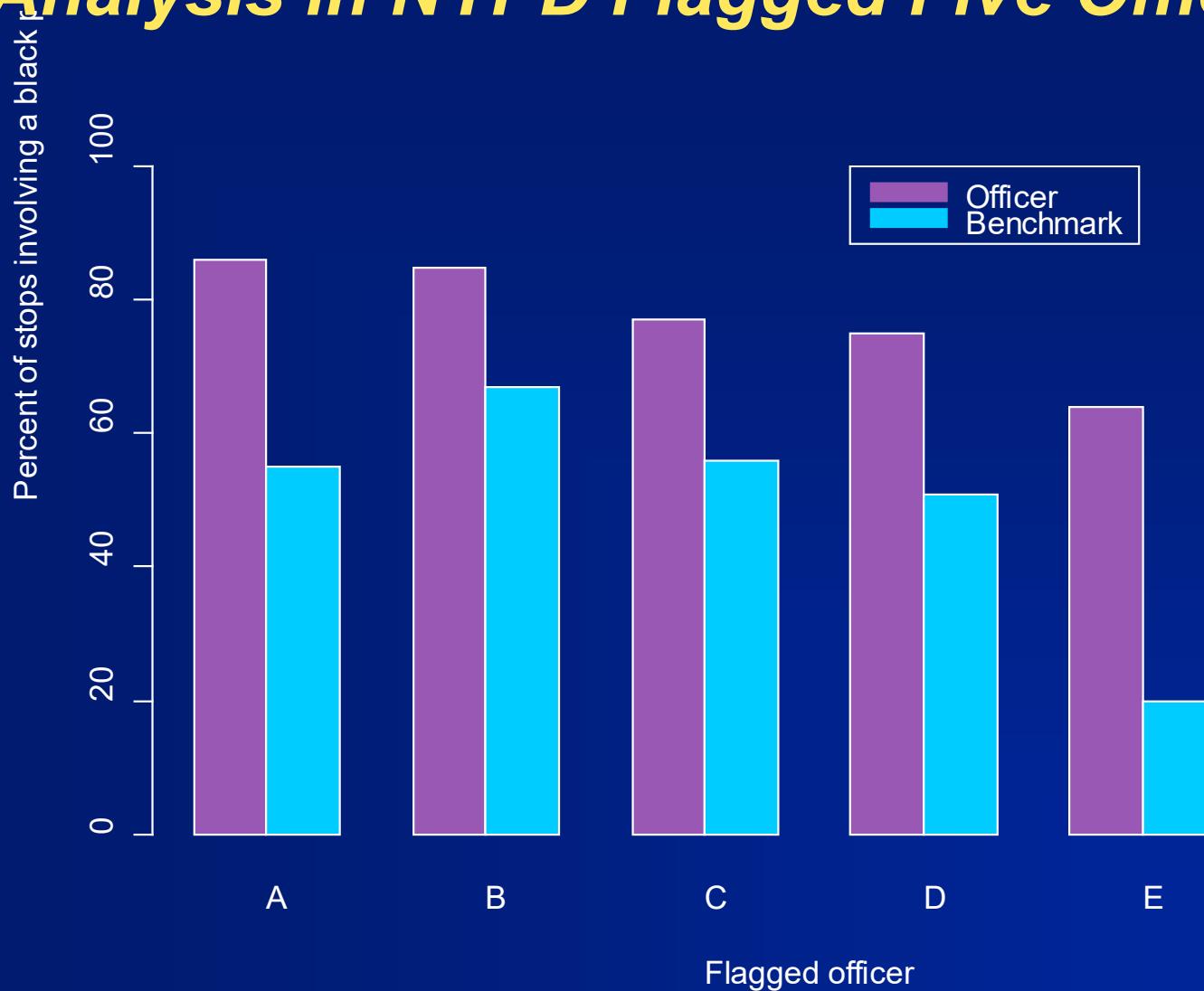
Examine Individual Officers for Evidence of Bias

Stop Characteristic	Example Officer (%) <i>n</i> = 392	Internal Benchmark (%) ESS = 3,676
Percent black	86%	55%
Month	January	3
	February	4
	March	8
Day of the week	Monday	13
	Tuesday	11
	Wednesday	14
Time of day	(4-6 p.m.]	9
	(6-8 p.m.]	8
	(8-10 p.m.]	23
	(10 p.m. -12 a.m.]	17
Patrol borough	Brooklyn North	100
Precinct	B	98
	C	1
Outside		96
In uniform	Yes	99
Radio run	Yes	1

Benchmark Quality Is Also Evident in Exactly Where the Stops Occur



Analysis in NYPD Flagged Five Officers



Cincinnati and New York Use This Approach

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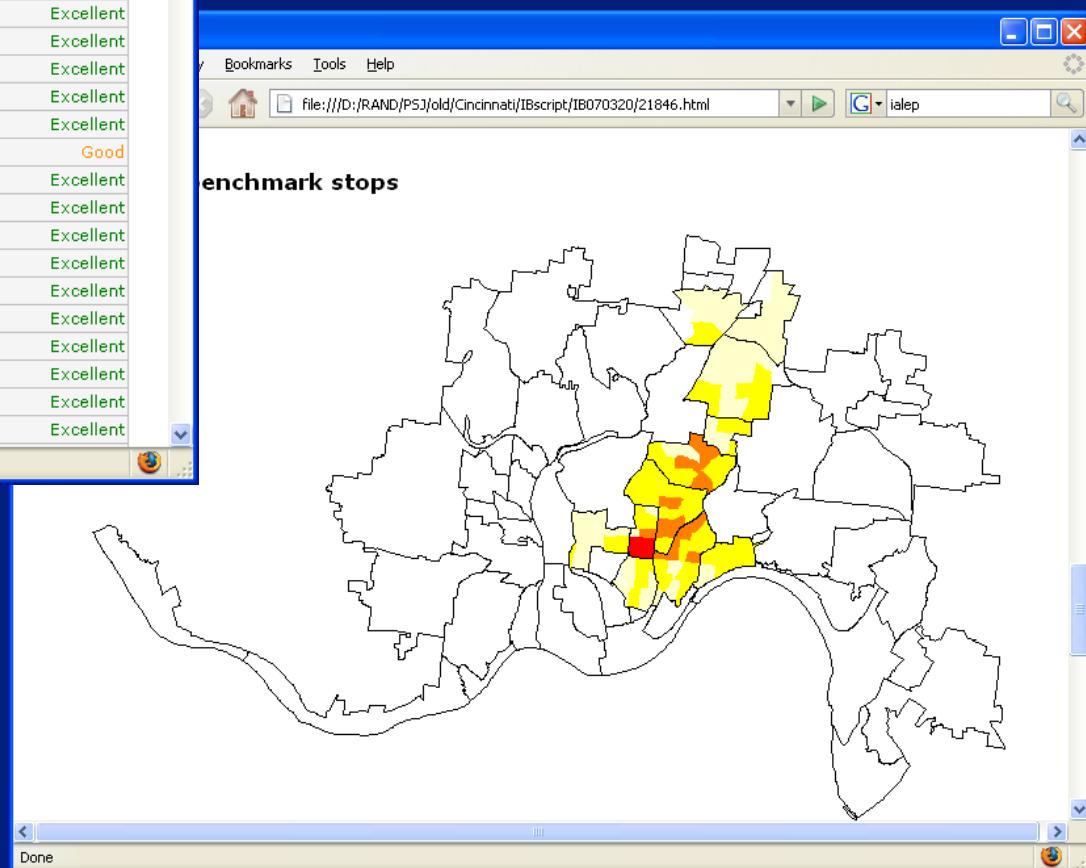
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Summary of CPD Internal Benchmark

Officer ID	% of Stops with Black Driver	Benchmark %	Outlier Probability	Benchmark quality
12XXX	15.1%	35.6%	1.00	Excellent
13XXX	24.7%	52.4%	1.00	Excellent
19XXX	23.1%	41.9%	1.00	Excellent
13XXX	26.8%	49.5%	1.00	Excellent
18XXX	25.1%	47.1%	1.00	Excellent
21XXX	95.3%	71.5%	1.00	Excellent
22XXX	89.3%	61.2%	1.00	Excellent
19XXX	91.7%	64.3%	0.99	Excellent
13XXX	11.4%	30.7%	0.99	Good
22XXX	85.8%	60.5%	0.98	Excellent
18XXX	90.0%	58.2%	0.98	Excellent
23XXX	98.5%	81.8%	0.98	Excellent
20XXX	96.2%	79.3%	0.95	Excellent
18XXX	88.0%	61.3%	0.95	Excellent
21XXX	90.9%	73.1%	0.93	Excellent
13XXX	86.2%	68.1%	0.89	Excellent
18XXX	81.7%	49.7%	0.89	Excellent
21XXX	76.6%	53.3%	0.88	Excellent
21XXX	90.6%	63.6%	0.88	Excellent

Done



Key Questions

- Are there racial disparities in the decision to stop?
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- Can we identify neighborhoods with low police performance?

Cincinnati Reported Large Disparities in Stop Duration

Stop feature	% Black drivers N=26,941	% Nonblack drivers (unadjusted) N=25,149
Stop < 10 minutes	55	65

Black and Nonblack Drivers Differ in Numerous Ways

Stop feature	% Black drivers N=26,941	% Nonblack drivers (unadjusted) N=25,149
Stop < 10 minutes	55	65
Invalid license	22	7
Male	65	66
Neighborhood		
Over-the-Rhine	9	5
Avondale	5	1
I-75	4	11
Residence		
Cincinnati	93	61
Date\Time		
12am-4am	16	8
Monday	15	14
August	9	11
Age		
18-25	33	29
Reason		
Equipment violation	27	16
Moving violation	51	76

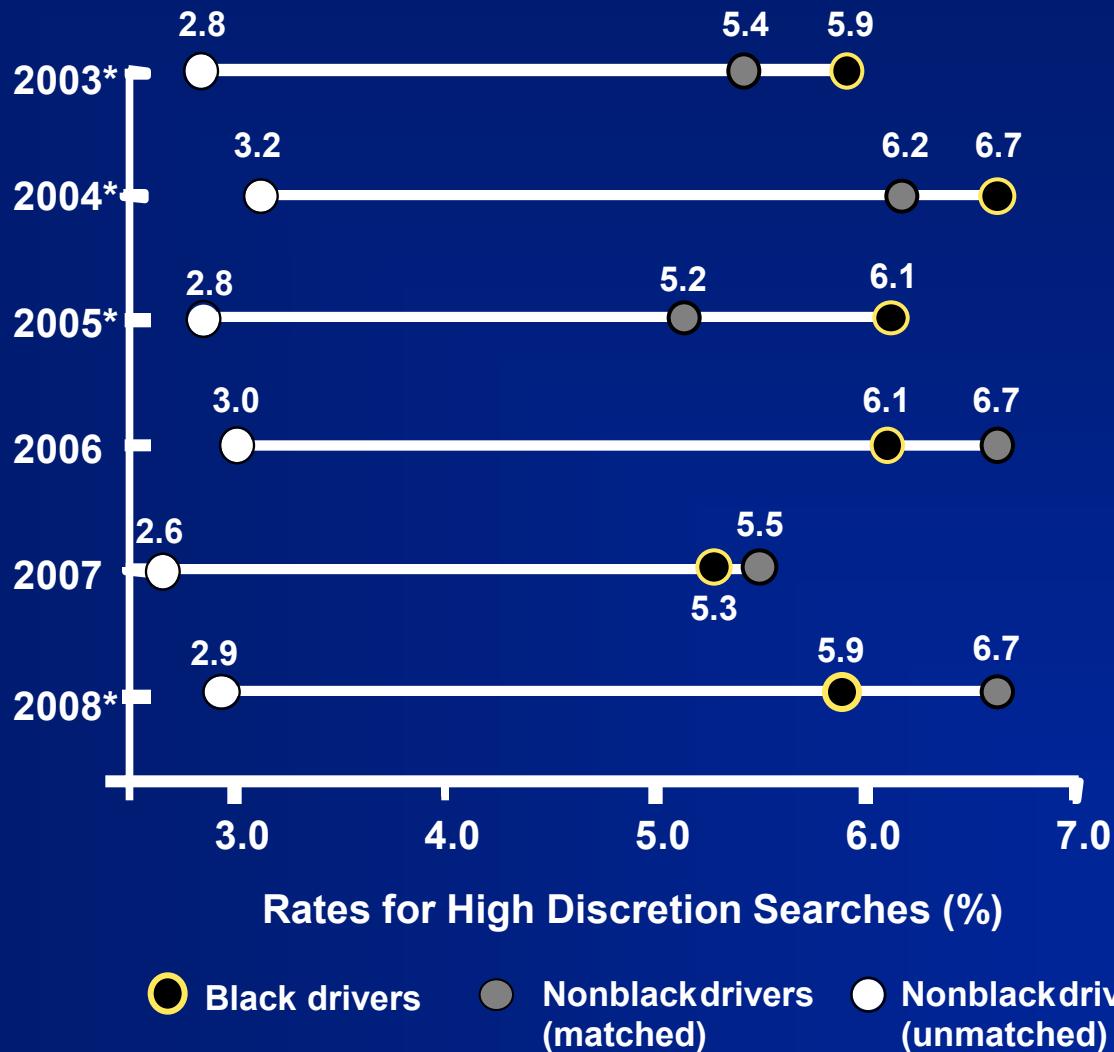
There Are Similarly Situated Nonblack Drivers

Stop feature	% Black drivers N=26,941	% Nonblack drivers (weighted) ESS=4,952	% Nonblack drivers (unadjusted) N=25,149
Stop < 10 minutes	55		65
Invalid license	22	20	7
Male	65	65	66
Neighborhood			
Over-the-Rhine	9	10	5
Avondale	5	5	1
I-75	4	5	11
Residence			
Cincinnati	93	92	61
Date\Time			
12am-4am	16	16	8
Monday	15	15	14
August	9	9	11
Age			
18-25	33	32	29
Reason			
Equipment violation	27	28	16
Moving violation	51	52	76

No Significant Difference in Stop Duration

Stop feature	% Black drivers N=26,941	% Nonblack drivers (weighted) ESS=4,952	% Nonblack drivers (unadjusted) N=25,149
Stop < 10 minutes	55	57	65
Invalid license	22	20	7
Male	65	65	66
Neighborhood			
Over-the-Rhine	9	10	5
Avondale	5	5	1
I-75	4	5	11
Residence			
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Most of the Search Rates Disparity Is Also Due to Non-Racial Factors



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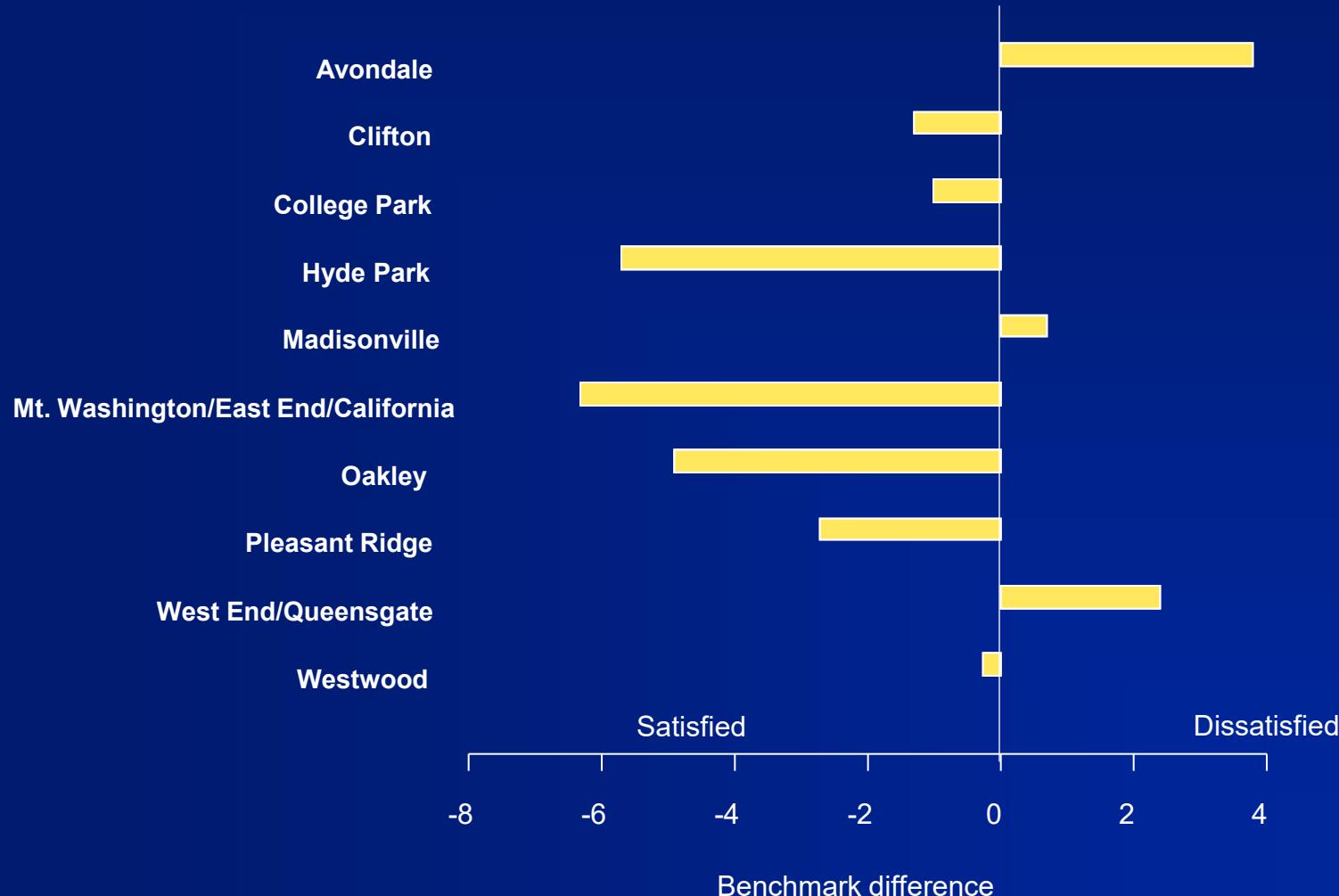
Neighborhood Benchmarks Can Be Constructed Similarly

- **Surveyed 2,000+ members of Cincinnati households in 53 community defined neighborhoods**
- **The survey asked questions about perceptions of the police and community conditions**
- **Survey also documented basic household information**

Satisfaction With the Police Was Assessed by Combining Five Questions

- **How would you rate Cincinnati PD on working with residents to address local crime problems?**
- **How would you rate the quality of police protection?**
- **Does your neighborhood get its fair share of police services?**
- **Would you say the Cincinnati police officers are generally polite?**
- **How much do you trust police officers working for the Cincinnati Police Department?**

With No Adjustment, Two Neighborhoods Appear to Have Low Police Satisfaction



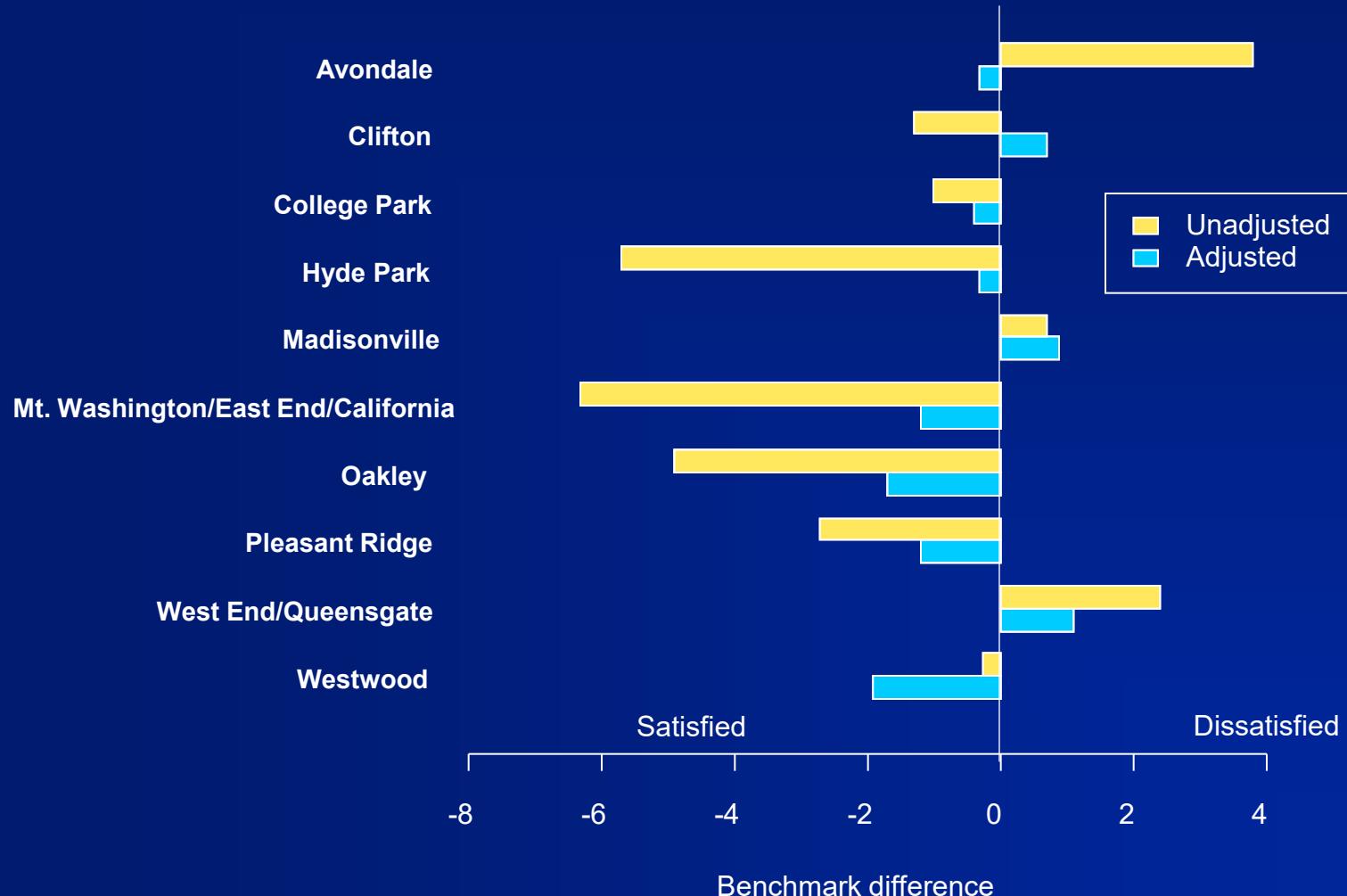
Neighborhoods Are Not Directly Comparable

	Target Neighborhood (N=56)	All Other Neighborhoods (N=2,111)	Comparable Respondents (N=247)
Black	80%	43%	79%
Employed	65%	69%	63%
Education (level)	2.5	3.1	2.5
Income (level)	1.6	2.9	1.7
Disorder in neigh.	15.6	10.0	15.5
Neighborhood crime	2.2	1.6	2.2
Fear of crime	2.8	2.4	2.7
Neighborhood participation	0.3	0.2	0.3
Neigh. socialization	2.6	2.4	2.6
Trust of neighbors	1.9	2.7	1.9
Know police	47%	33%	47%
Married	9%	35%	9%
Home ownership	13%	53%	13%
Number of children	1.0	0.7	1.0
Male	44%	38%	44%
Age (years)	40.6	46.5	

...But We Can Construct a Suitable Comparison

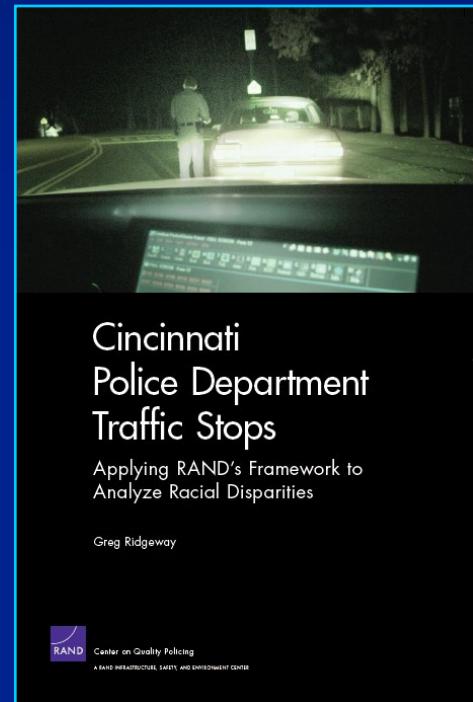
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Age (years)	40.6	46.5	40.5

Much Of The Dissatisfaction Is Not Due To The Neighborhood



Summary

- **Key principle: Construct fair comparisons**
- **Facilitates transparent calculations**
- **Translates into other performance measures**
 - Use of force
 - Injuries
 - Complaints
 - Commendations





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