
INFRASTRUCTURE, SAFETY,
AND ENVIRONMENT

# *Racial Profiling: Not Always Black and White*

**Greg Ridgeway**

**November 11, 2004**

# *Racial Profiling Is a Growing Concern*

- I-95 "turnpike" studies in the mid-1990s raised public concern about racial profiling
  - Showed concrete evidence of racial profiling policies
- Public concern has led to state and local-level action
  - At least 14 states have passed legislation to deal with it
  - Many localities collect data voluntarily; some are compelled to do so by U.S. Justice Department
  - More than 400 police agencies now compile data on racial distribution of stopped motorists
- Congress is considering End of Racial Profiling Act
  - Mandates data collection to receive Federal funds

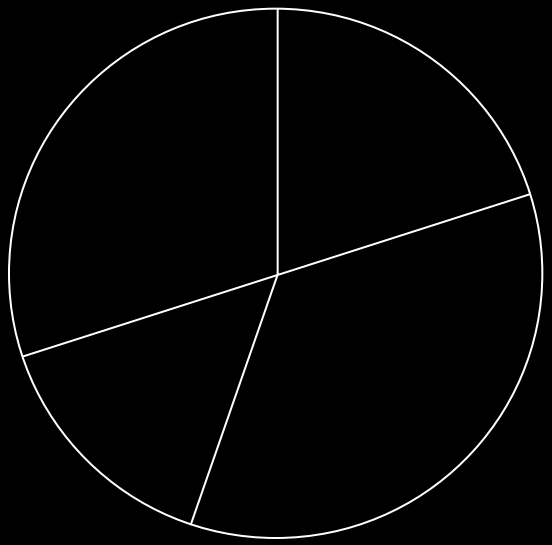
# *Unfortunately, the Quality of the Analysis Using Collected Data Is Weak*

- A growing number of studies claim racial profiling based on analysis of data collected
  - **Texas**: Concluded that "75% of agencies stop more black and Latino drivers than white drivers"
  - **Massachusetts**: Flagged 68% of agencies as having racial profiling issues
- And some studies hastily conclude no profiling occurs based on analyzed data
  - **Sacramento**: Found that the percentage of black drivers stopped matched the percentage of blacks among crime suspect descriptions

# *Why Is Testing for Racial Profiling So Hard?*

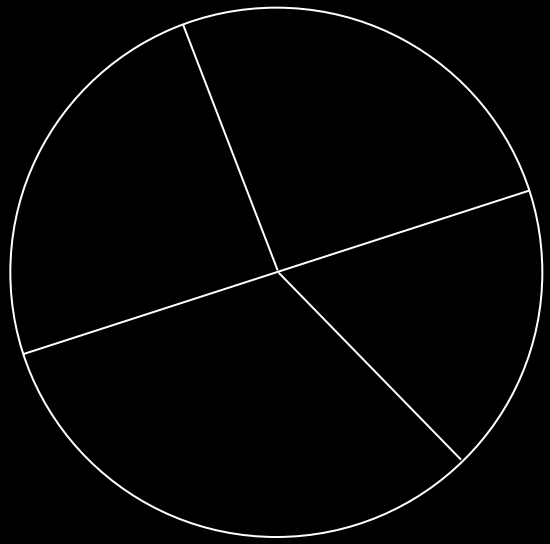
Difference Between

**Racial Distribution of People Stopped**



And

**Racial Distribution of People at Risk of Being Stopped**



= Racial Profiling

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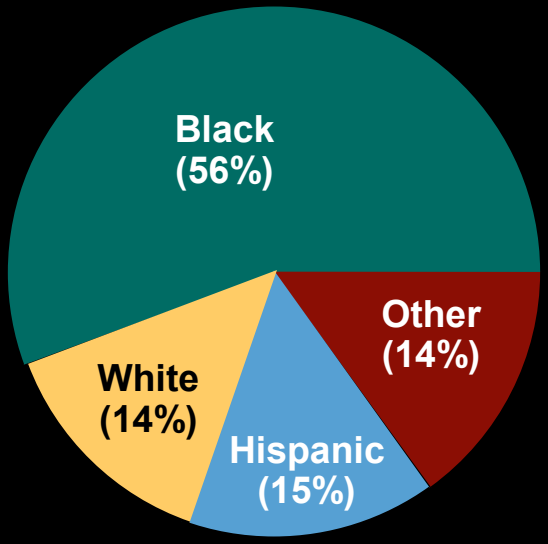


**Racial Distribution of People at Risk of Being Stopped**

**Difference Between** **And** **?** **=** **Racial Profiling**

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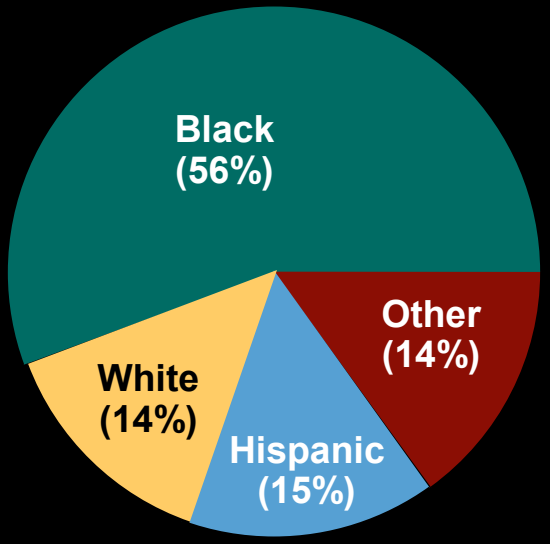


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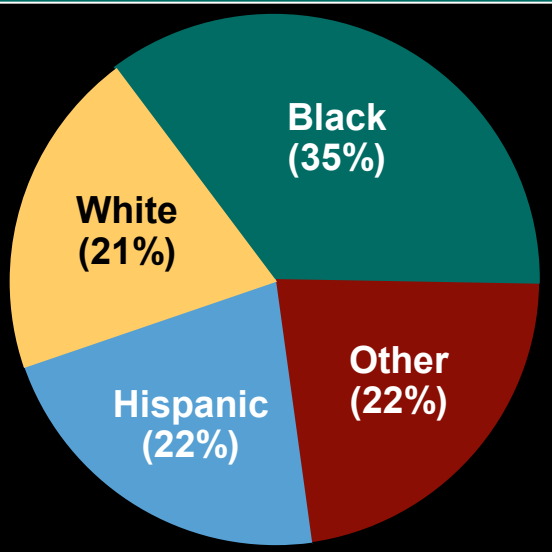
**Racial Distribution of Residents According to the Census**

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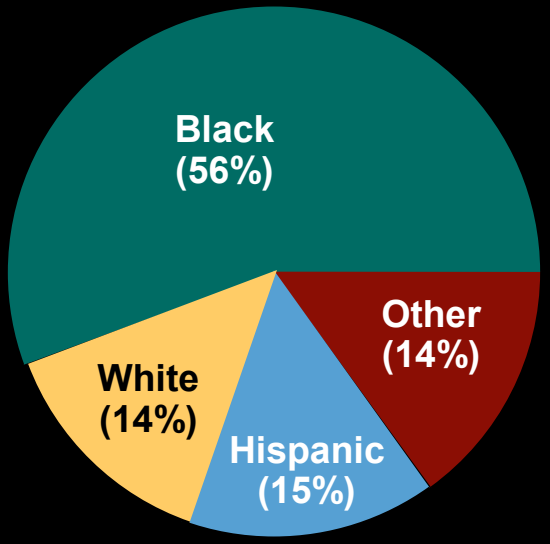


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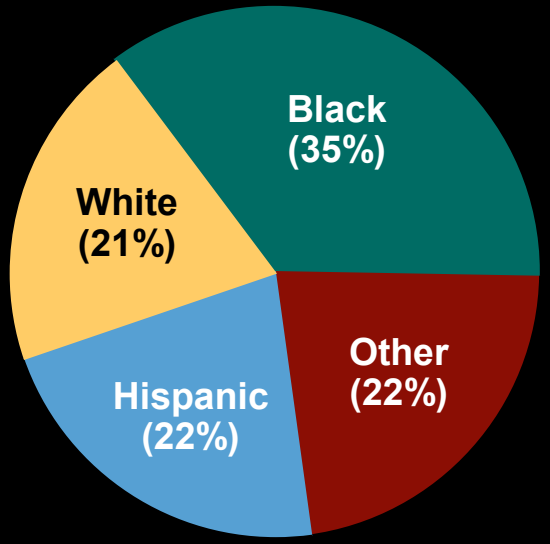


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- The difference between the racial distributions may result from:
  - A race bias
  - Driving behavior: car ownership, time on the road, and care
  - Exposure to police

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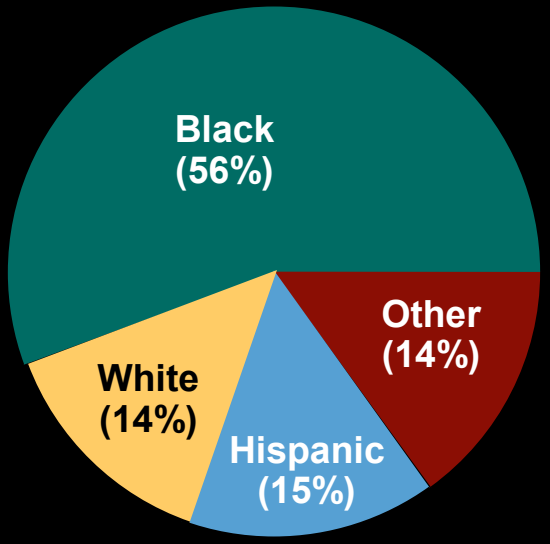


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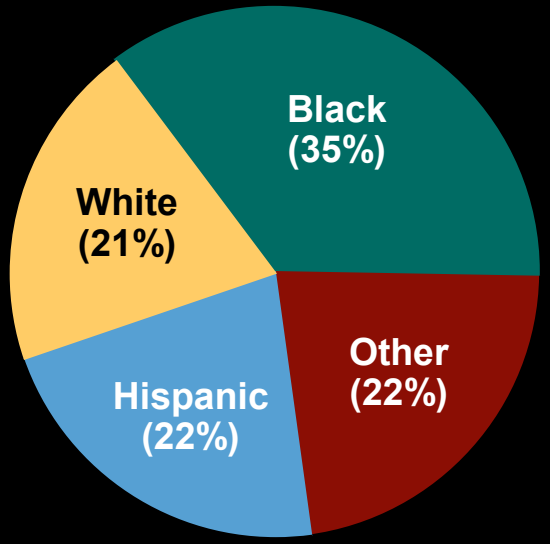


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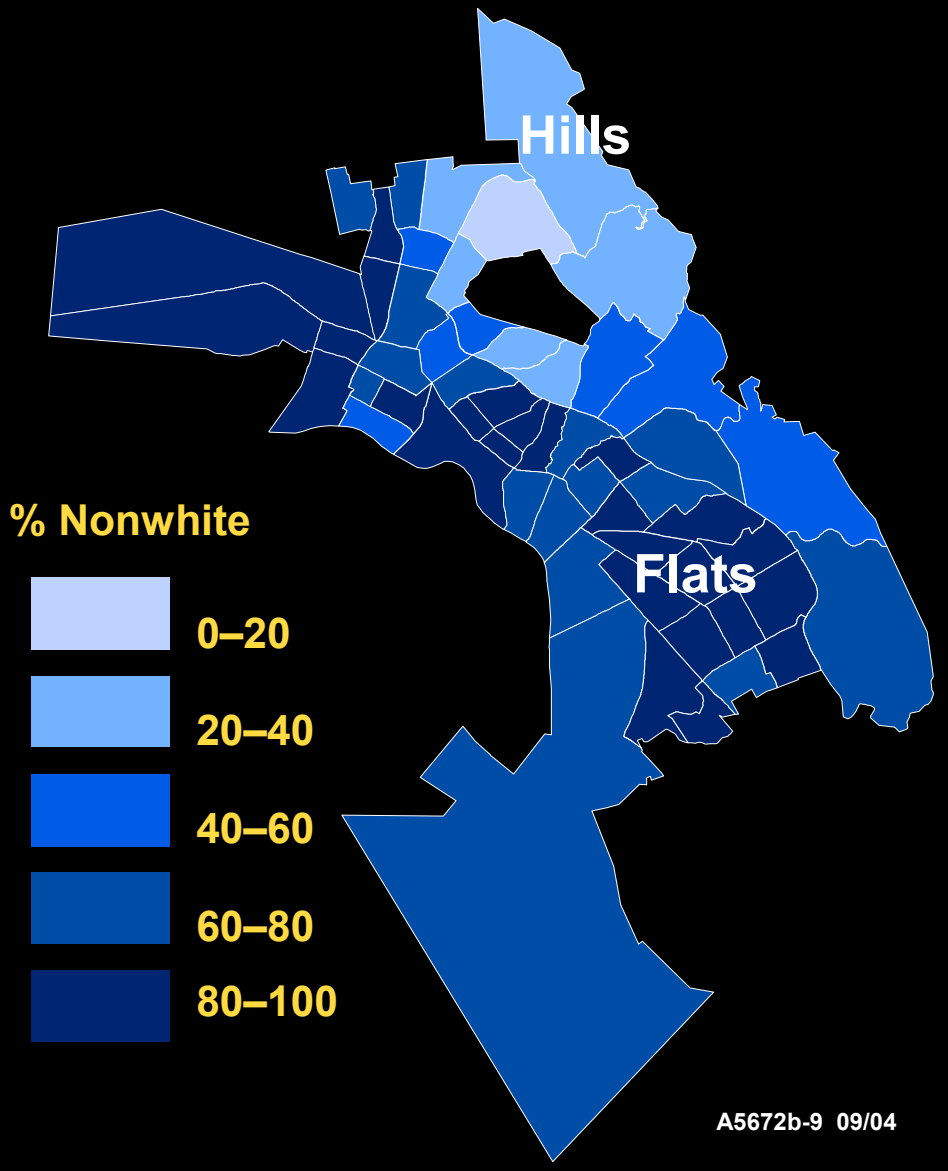
  - A race bias
  - Driving behavior: car ownership, time on the road, and care
  - Exposure to police

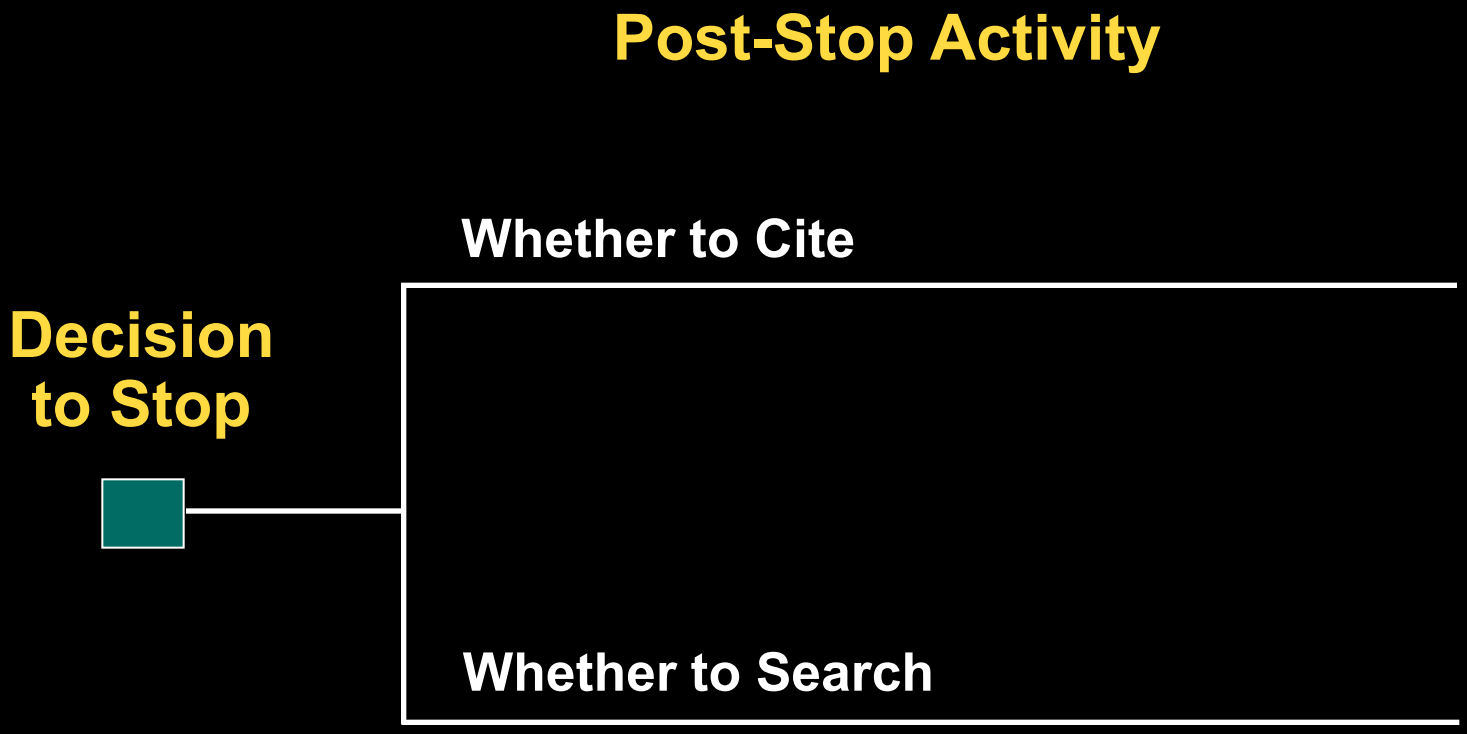
***Other approaches to dealing with issue are also problematic***

# RAND Focused on Applying New Approaches to Assessing Racial Profiling

- Assess whether there is racial profiling in the decision to stop
  - Using "veil of darkness" approach
- Assess whether there is racial profiling in post-stop activity
  - Using propensity score analysis approach
- Use data from Oakland Police Department
  - 7,607 recorded vehicle stops
  - Between 6/15/03 and 12/30/03



# *Is There Racial Profiling in Oakland?*



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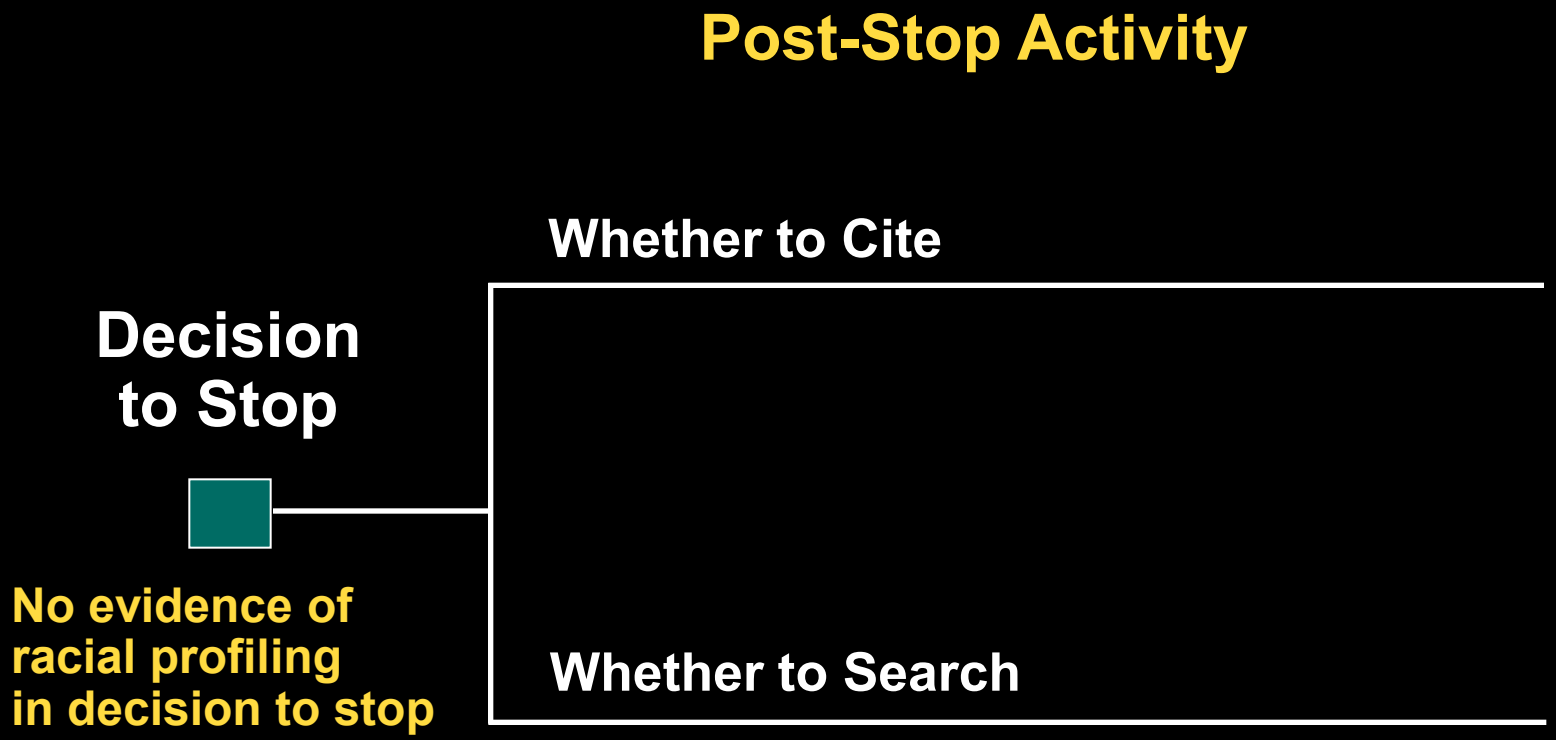
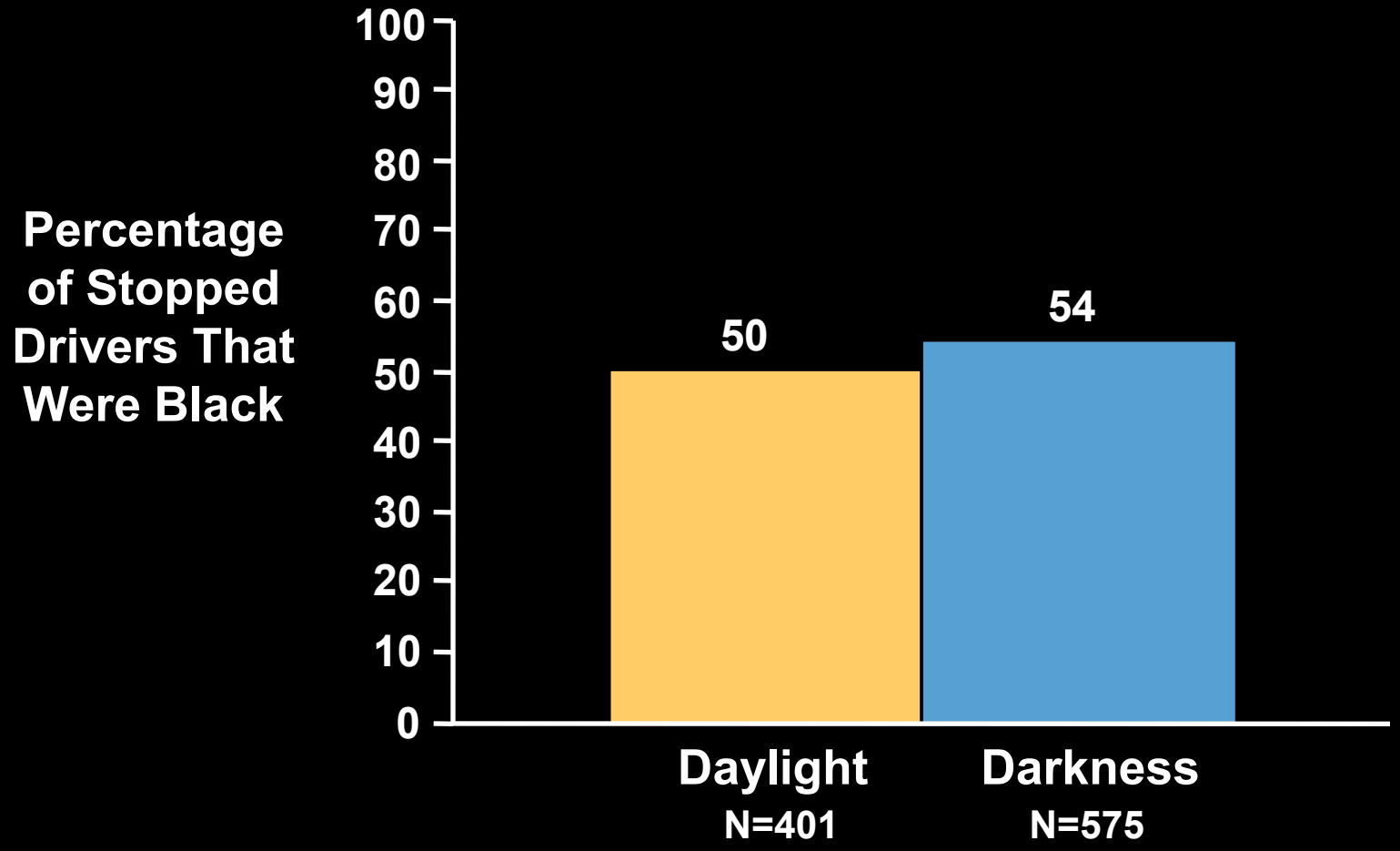


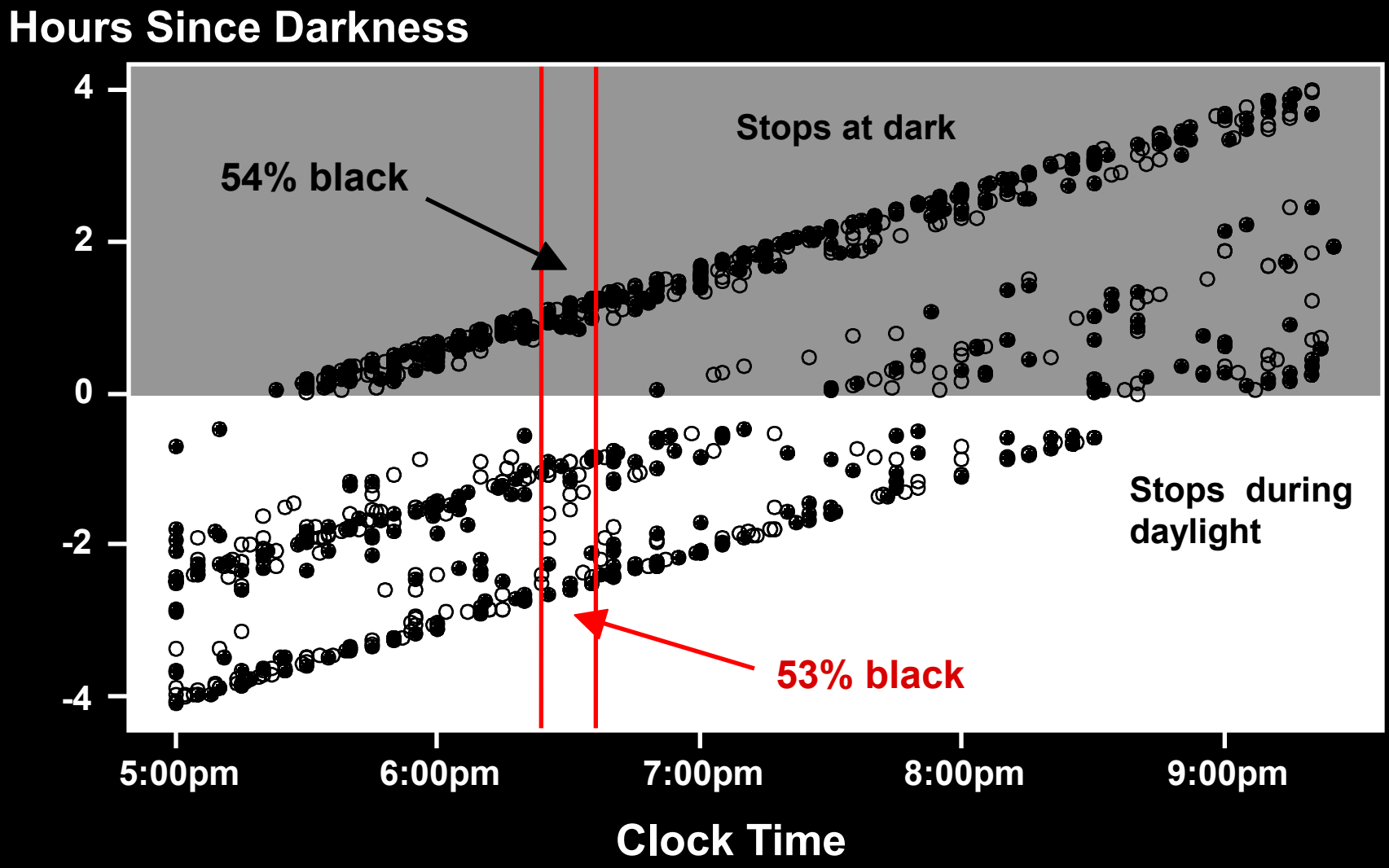
# *Veil of Darkness Approach Relies on Natural Lighting Experiment to Assess Racial Profiling*

- **Does an officer's ability to identify race of driver in advance influence which drivers he stops?**
- **The ability to identify race in advance of the stop decreases as it becomes dark**
- **We directly test whether the ability to identify the race affects the race distribution of the stopped drivers**

# *Simple Veil of Darkness Test Shows No Evidence of Racial Bias in the Decision to Stop*



# *Adjusting for "Clock Time" Does Not Change the Finding*



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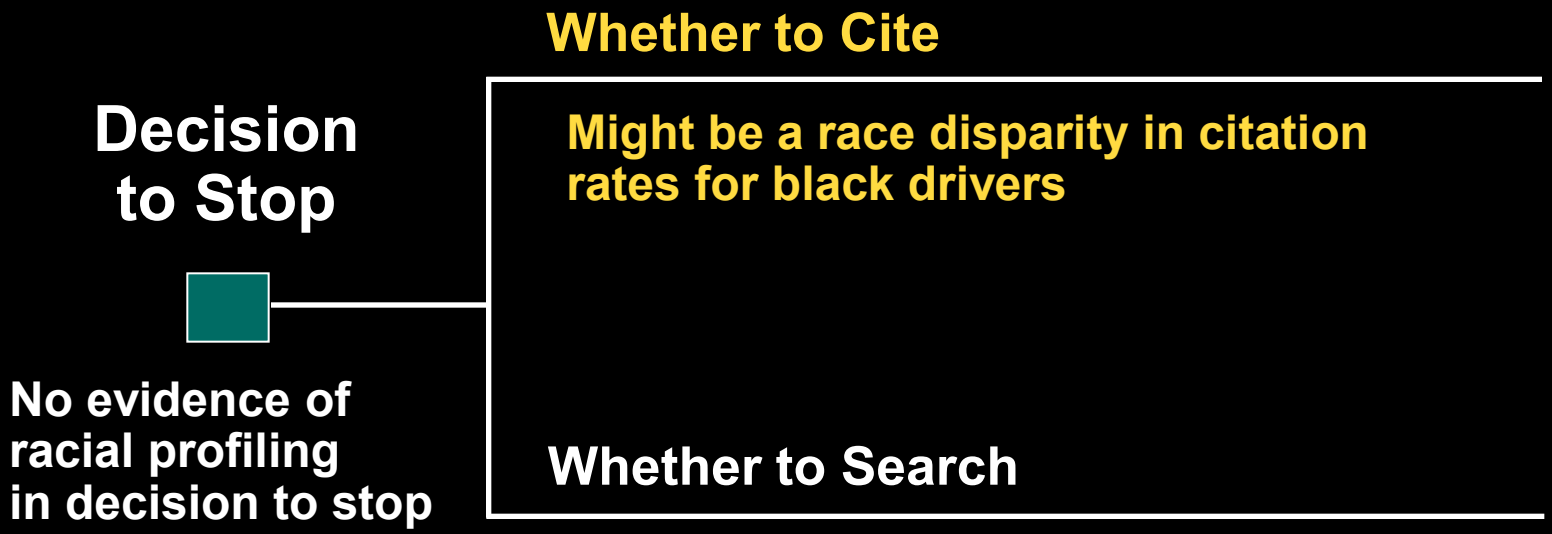
## Post-Stop Activity



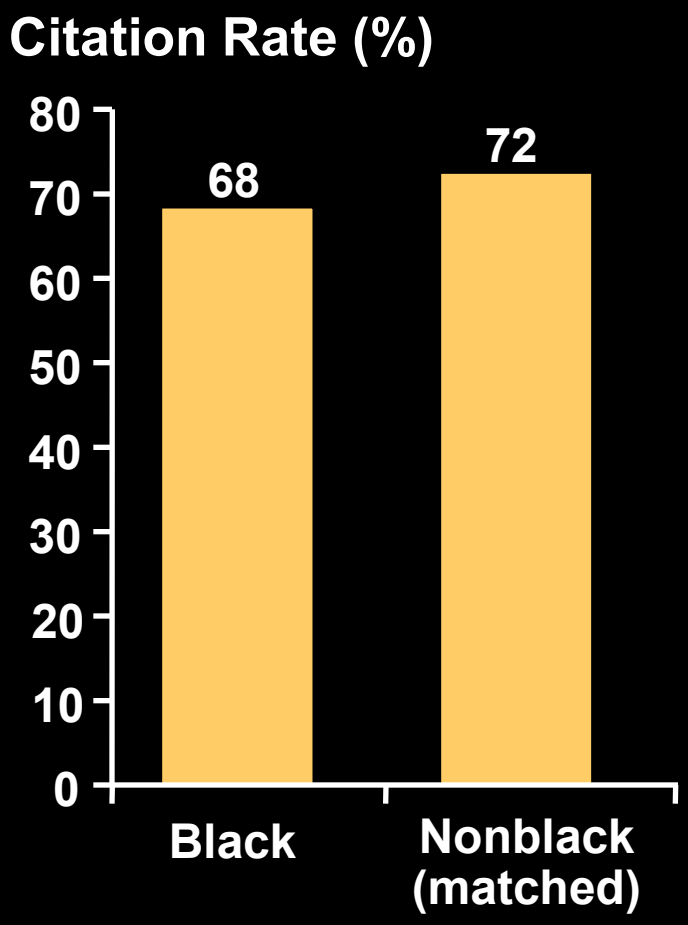
# *Propensity Score Analysis Created Comparison Group in Terms of Stop Features*

| Stop Feature | % Black Drivers (N=3,703) | % Nonblack Drivers (unmatched) (N=3,033) |
|---|---|---|
| Region<br>East<br>⋮ | 32% | 14% |
| Time of Day<br>12AM-4AM<br>⋮ | 16% | 7% |
| Resident | 76% | 64% |
| Age<br>18-29<br>⋮ | 47% | 38% |
| Reason<br>Mechanical/ Registration<br>⋮ | 26% | 16% |
| Male | 75% | 74% |

# *Propensity Score Analysis Created Comparison Group in Terms of Stop Features*

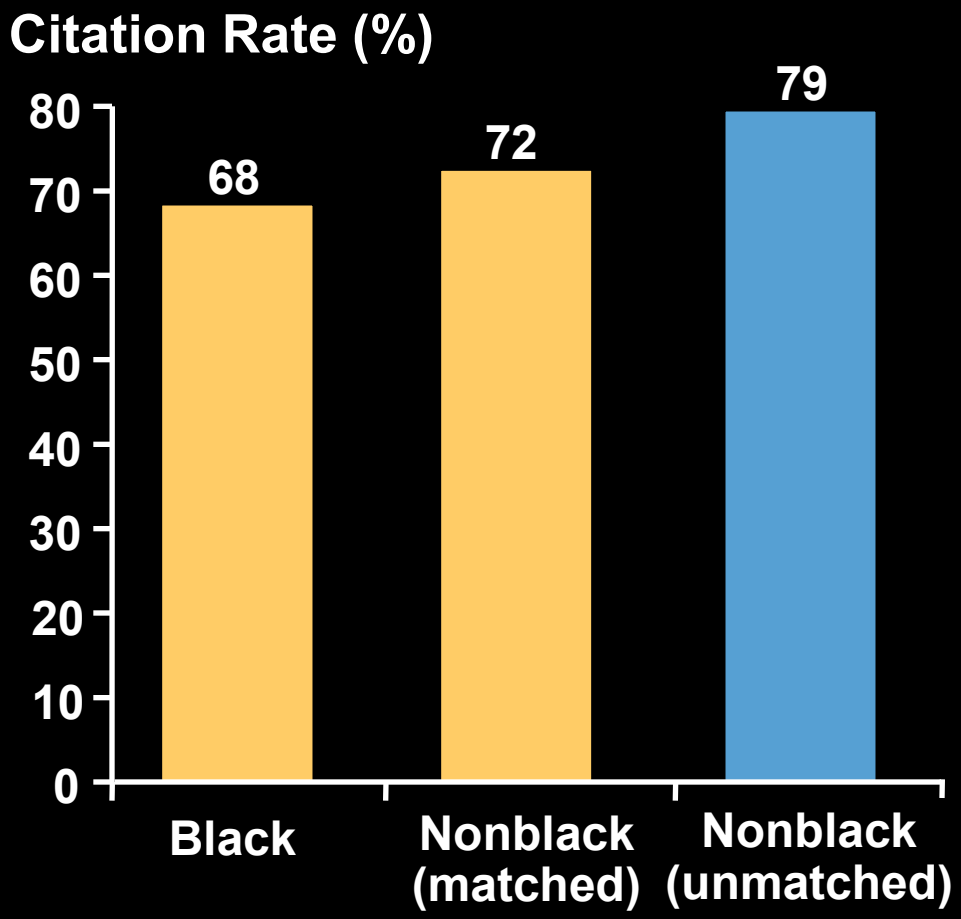
| Stop Feature | % Black Drivers (N=3,703) | %Nonblack Drivers (matched) (N=2,809) | % Nonblack Drivers (unmatched) (N=3,033) |
|---|---|---|---|
| Region<br>East<br>⋮ | 32% | 30% | 14% |
| Time of Day<br>12AM-4AM<br>⋮ | 16% | 13% | 7% |
| Resident | 76% | 72% | 64% |
| Age<br>18-29<br>⋮ | 47% | 45% | 38% |
| Reason<br>Mechanical/<br>Registration<br>⋮ | 26% | 23% | 16% |
| Male | 75% | 76% | 74% |

# *Analysis Shows That a Race Disparity in Citation Rates Might Exist*




- Citation rate for black drivers is 4% less than for comparable non-black drivers
- Finding potentially implies that either
  - Police are slightly more hesitant to cite black drivers
  - Some of stops involving black drivers were of a level of severity unlikely to result in citation

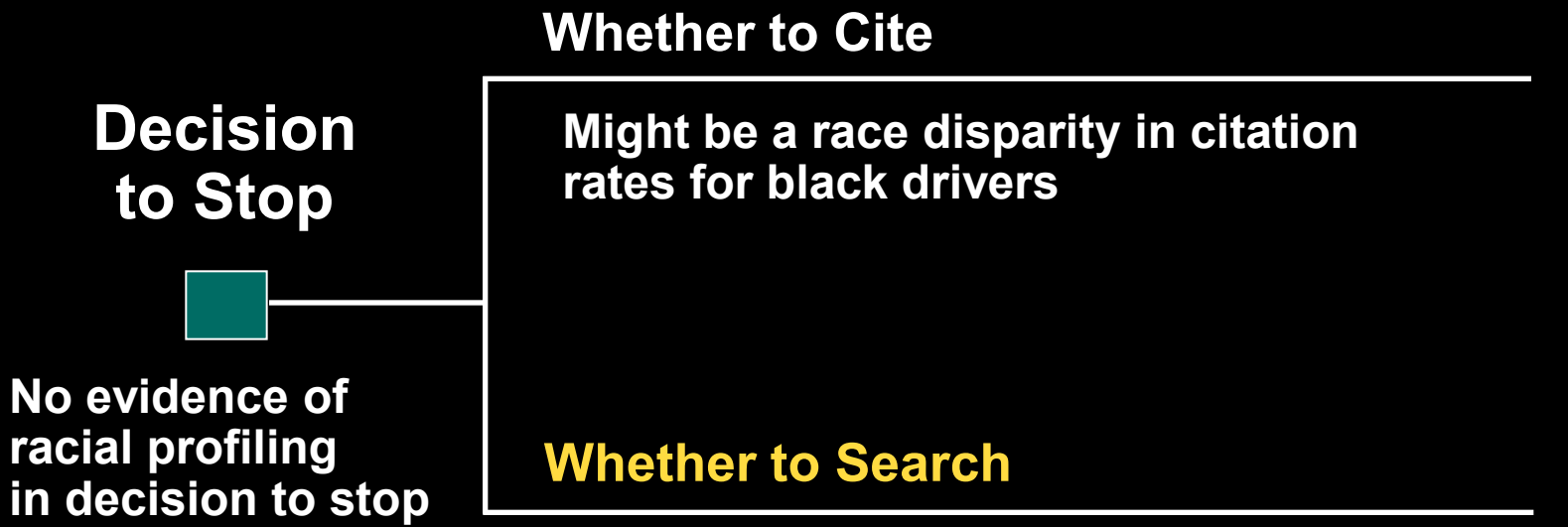
# *But the Analysis Also Shows the Danger of Making Naïve Comparisons*




- When we compare black vs. nonblack (unmatched), difference is 11%
- Had we not adjusted for factors such as time and location of stop, we would have concluded that black drivers are *much* less likely to be cited than nonblack ones

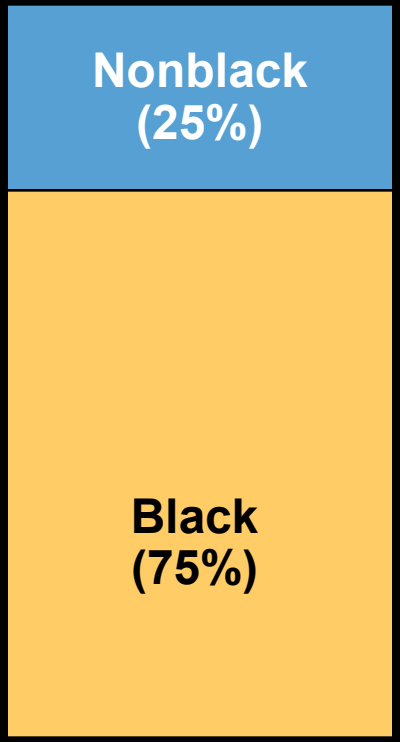
# *Is There Racial Profiling in Oakland?*

## Post-Stop Activity

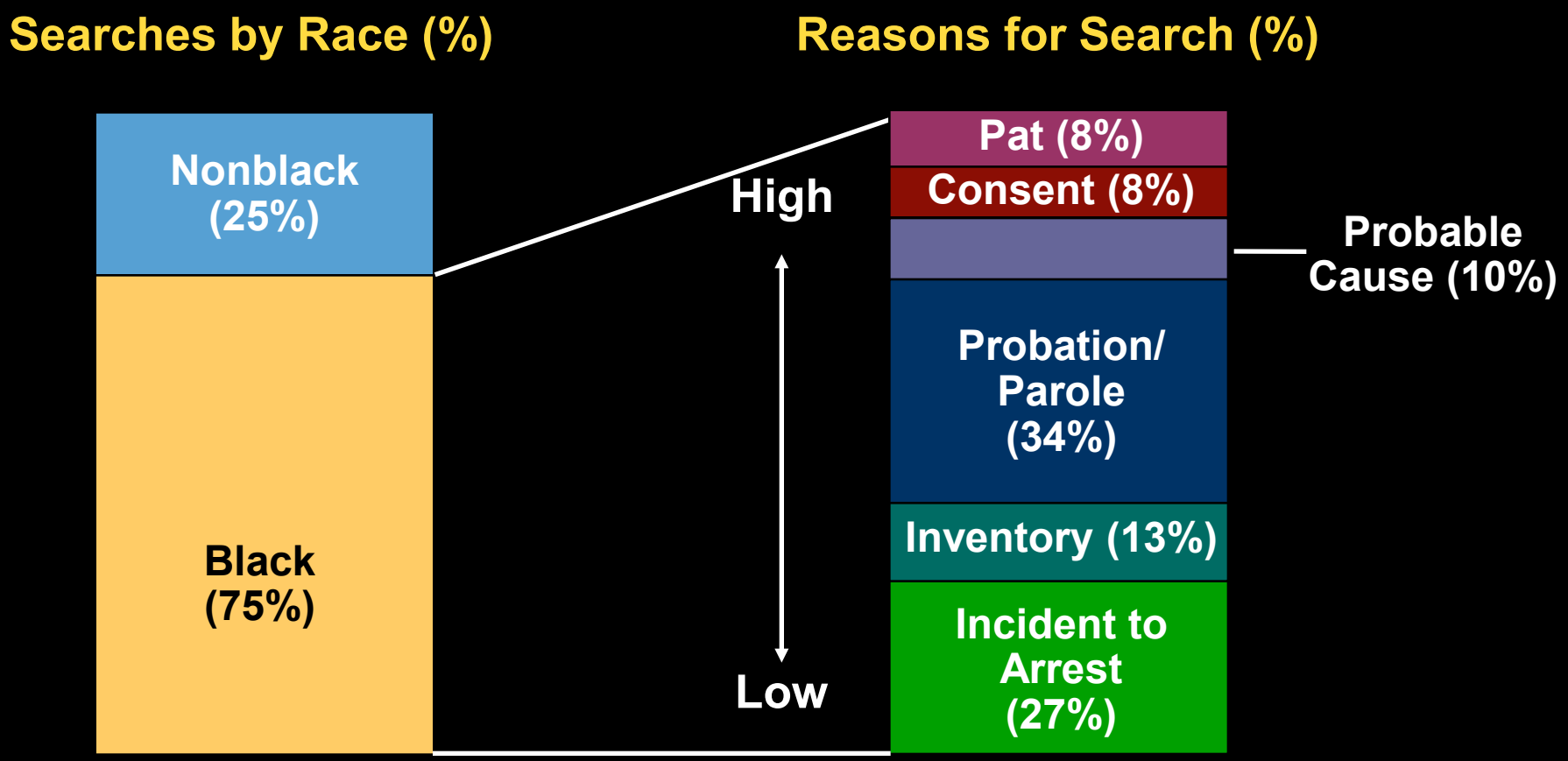


# *Black Drivers Bear the Burden of Searches*

**Searches by Race (%)**



# *Black Drivers Bear the Burden of Searches but Most Searches Are Low-Discretion Ones*



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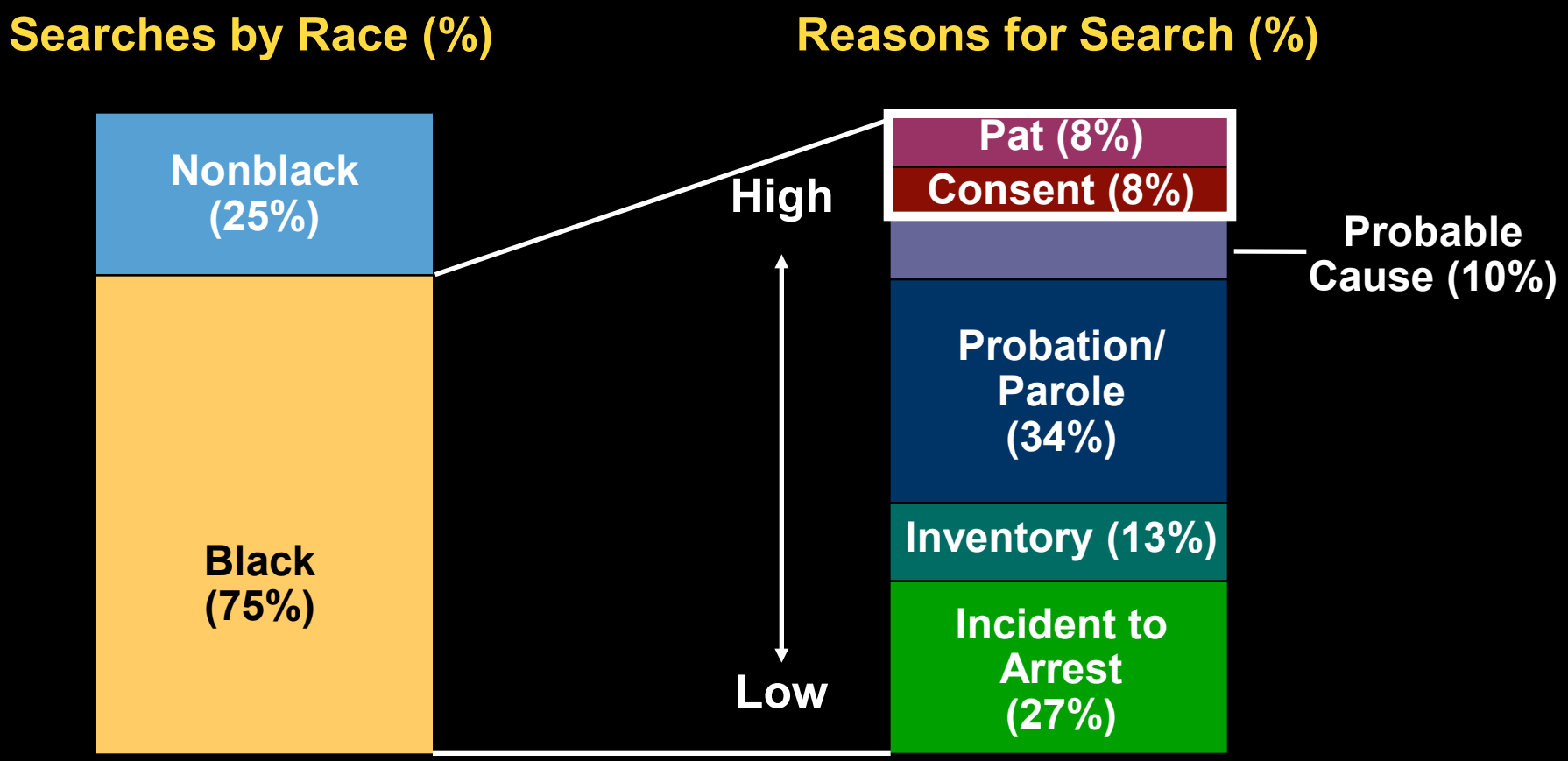
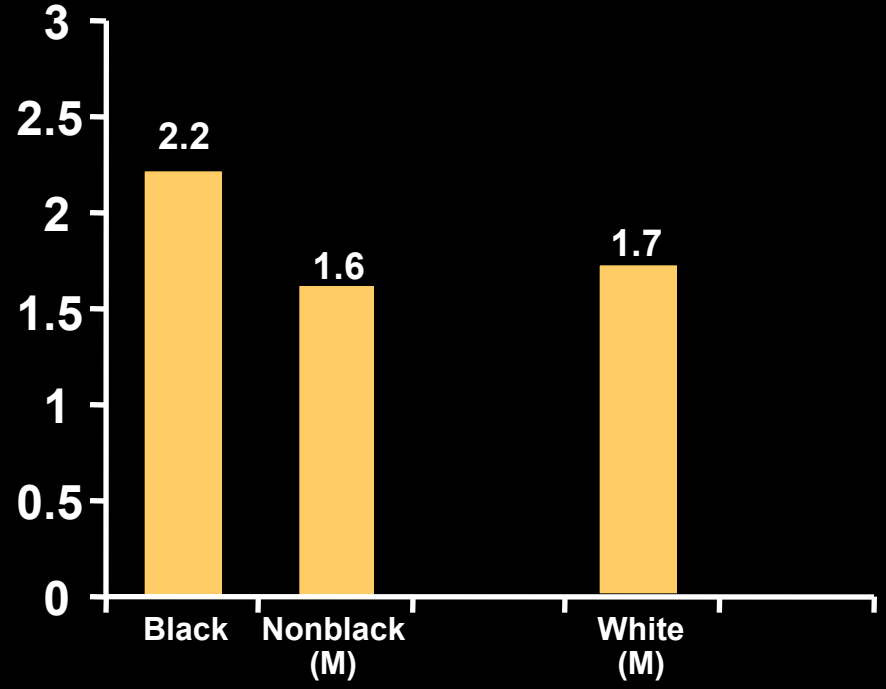



***We focus on pat and consent searches***

# *Consent Searches Have Similar Rates, but Pat Searches More Likely for Blacks Than Whites*

## Consent Searches (%)

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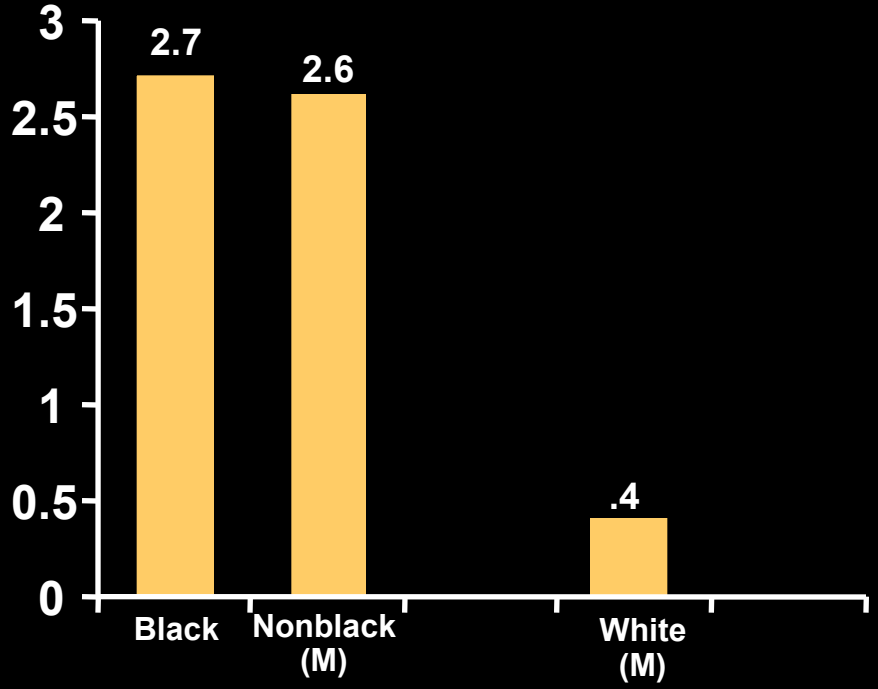
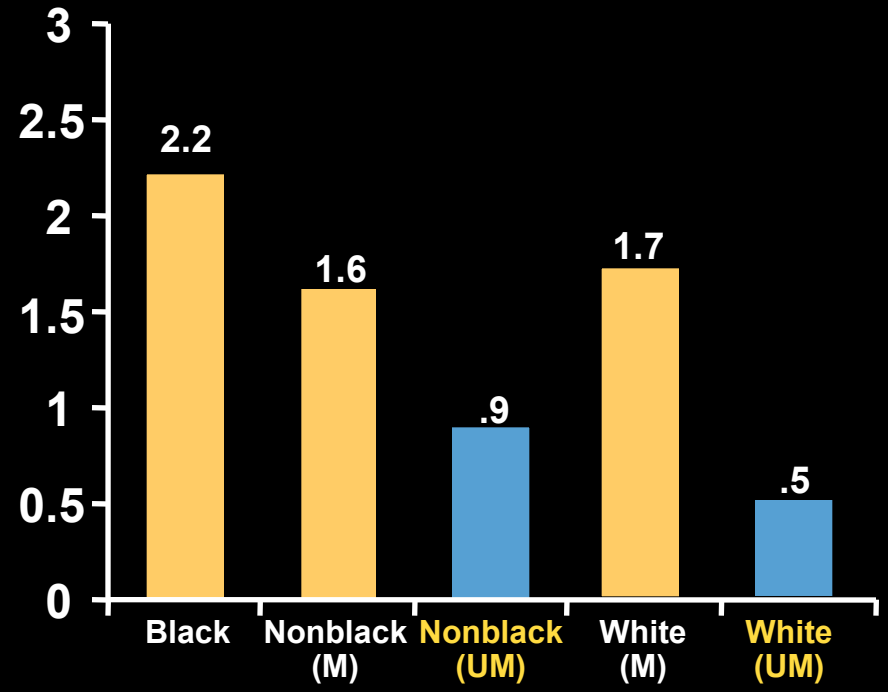


# *Once Again, Naïve Comparisons Can Distort the Findings*

## Consent Searches (%)

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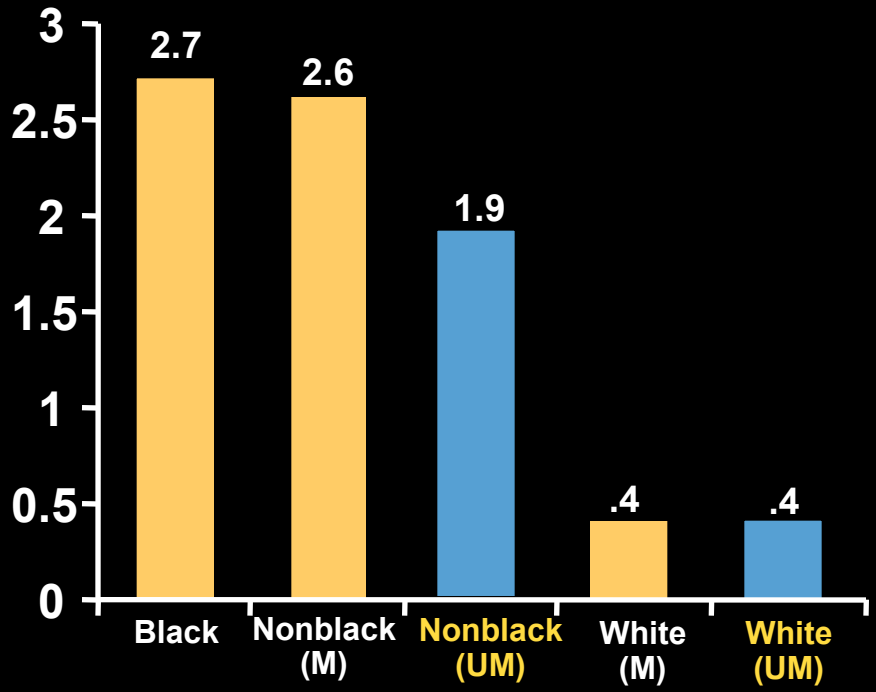

# *Summary: Is There Racial Profiling in Oakland?*

## Post-Stop Activity

**Decision to Stop**

**No evidence of racial profiling in decision to stop**

**Whether to Cite**

**Might be a race disparity in citation rates for black drivers**

**Whether to Search**

**Frequency of pat searches is greater among black drivers than against similarly situated white drivers**

# *Broader Conclusions*

- It is possible to do more credible analyses of racial profiling
  - Objective analyzer using credible approach
- Naïve analysis methods can exaggerate (or even understate) the effect of racial bias
- Importance of credible analyses increases as data collection becomes mandated

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- It is possible to do more credible analyses of racial profiling
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***We will be testing approach with data from other cities***


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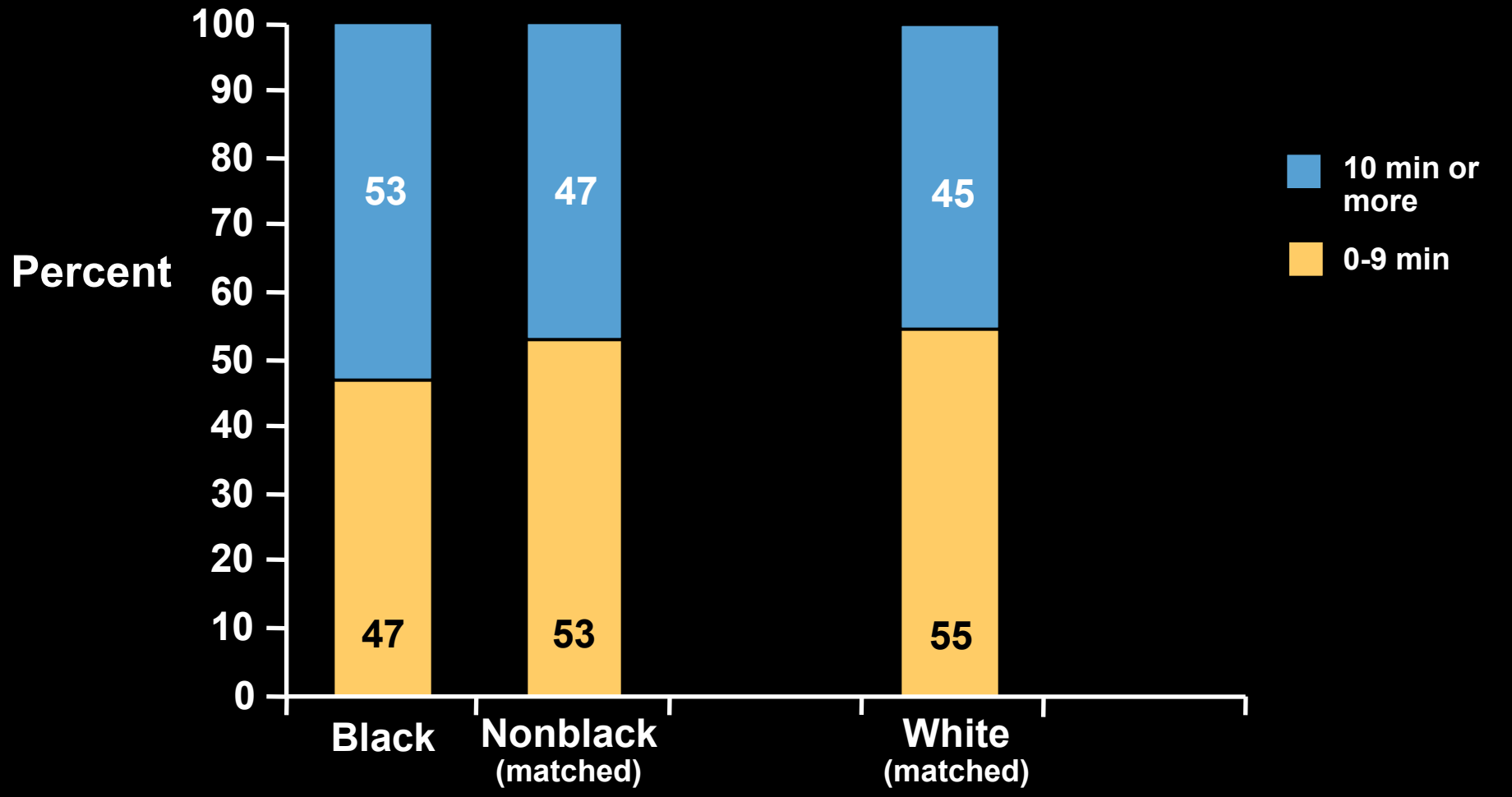
# Black Drivers Seemed More Likely to Have Longer Stops Than Nonblack or White Drivers

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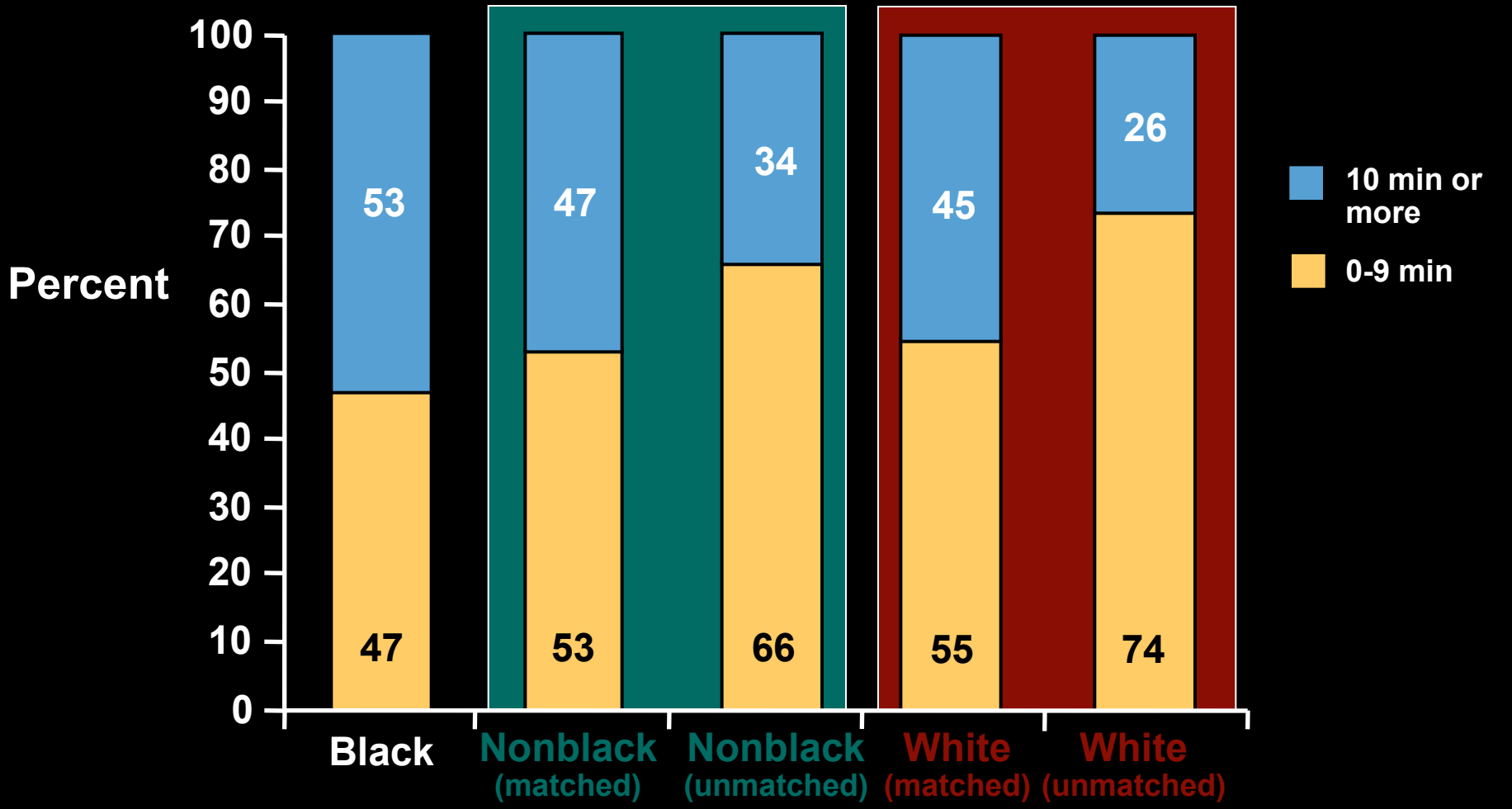
# Naïve Comparisons Considerably Overstate the Problem



# *Sensitivity Analysis Tests Show the Findings Are Robust*

| Issue | Analysis Result |
|---|---|
| Could still be racial bias if many fewer black drivers were at risk of being stopped during the day | • But to change finding, difference in exposure would need to change by 10 percentage points<br>• Unlikely given control for clock time |
| Could still be racial bias if there were seasonal changes in racial distribution over June–December period | • But repeating analysis using only October and November data does not change the finding |
| Could still be racial bias because stops are under-reported in the data | • But approach is robust to some kinds of underreporting, even if reporting rates differ for black/nonblack drivers |

# *Approaches to Dealing with "Benchmarking" Problem Are, in Turn, Problematic*

| Approach | Problem |
|---|---|
| Using census data | |
| Using traffic surveys | |
| Using only outcomes of the stop | |

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| Using traffic surveys | • Are expensive<br>• Validity may fail in multi-ethnic environments<br>• Provide only limited measure of driver care |
| Using only outcomes of the stop | • Avoids the challenging problem of detecting bias in the decision to stop |


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