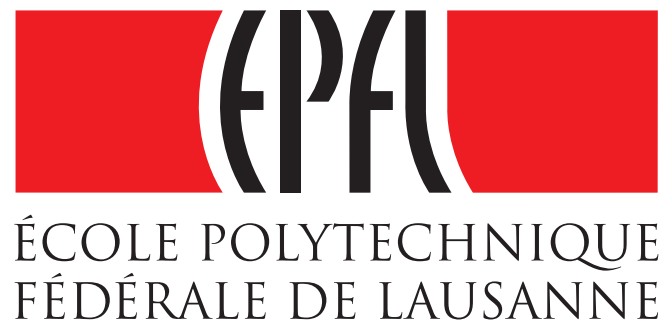




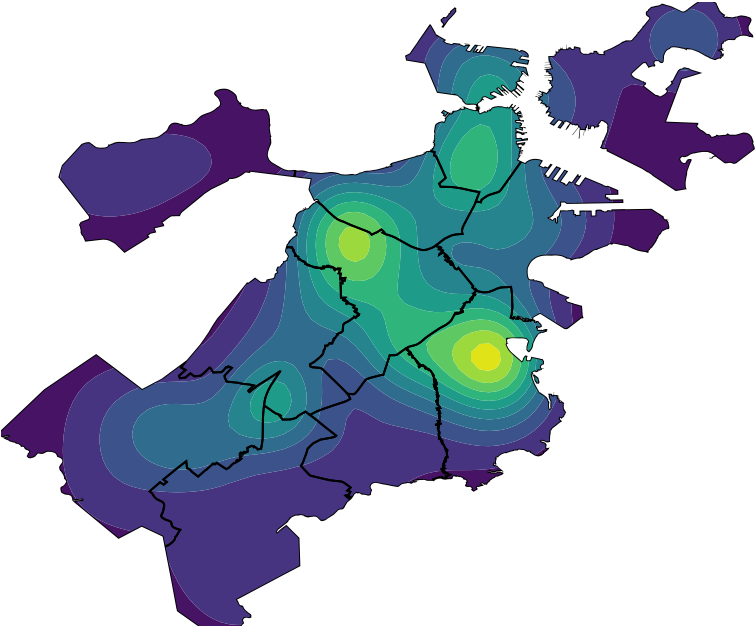
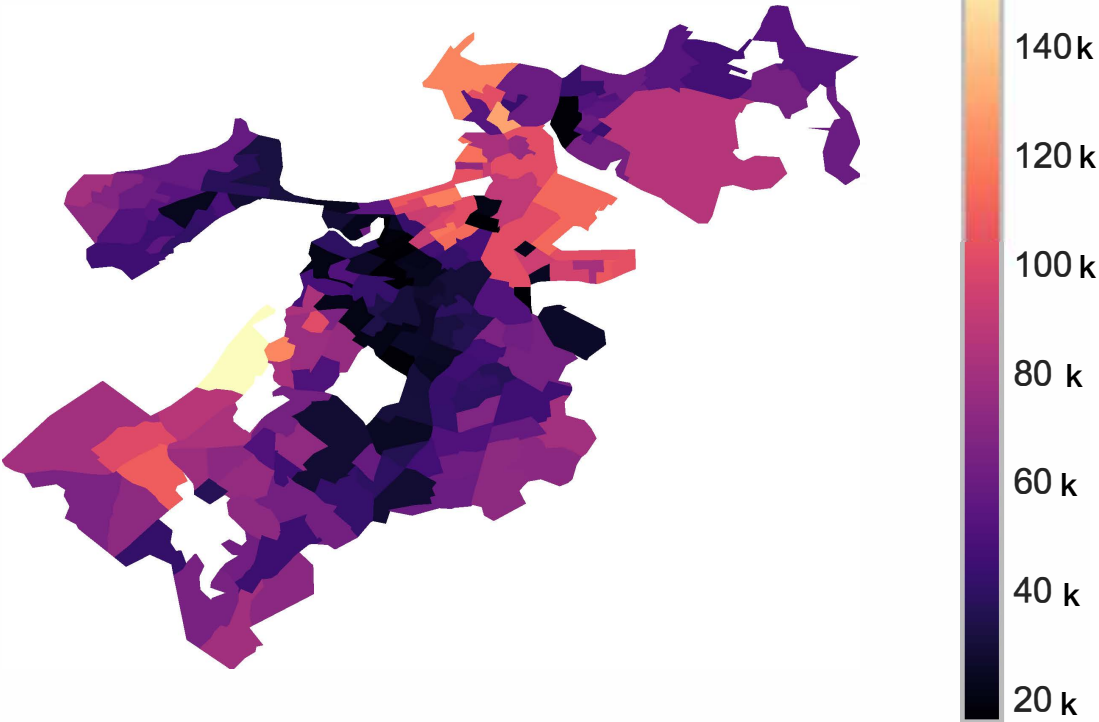
BIAS DETECTION IN POLICE ACTIVITIES

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Available Datasets

<div><div>Police Data</div></div>	<div><div>Demographic Data</div></div>
<div><ul style="list-style-type: none">• 152,230 stops made by the Boston Police from January 2011 to June 2015• Officer data: ID, actions taken, deployment area• Citizen data: Behavior and race• Stop data: Timestamp, street id</div> <div><p><i>Boston Stops</i></p></div>	<div><ul style="list-style-type: none">• Set of sociodemographic indicators per track• Boston: 204 tracks (area $\approx 1.5 \text{ km}^2$)• SE Proxies: Income, unemployment rate per race and track</div> <div><p><i>Income Per Capita</i></p></div>

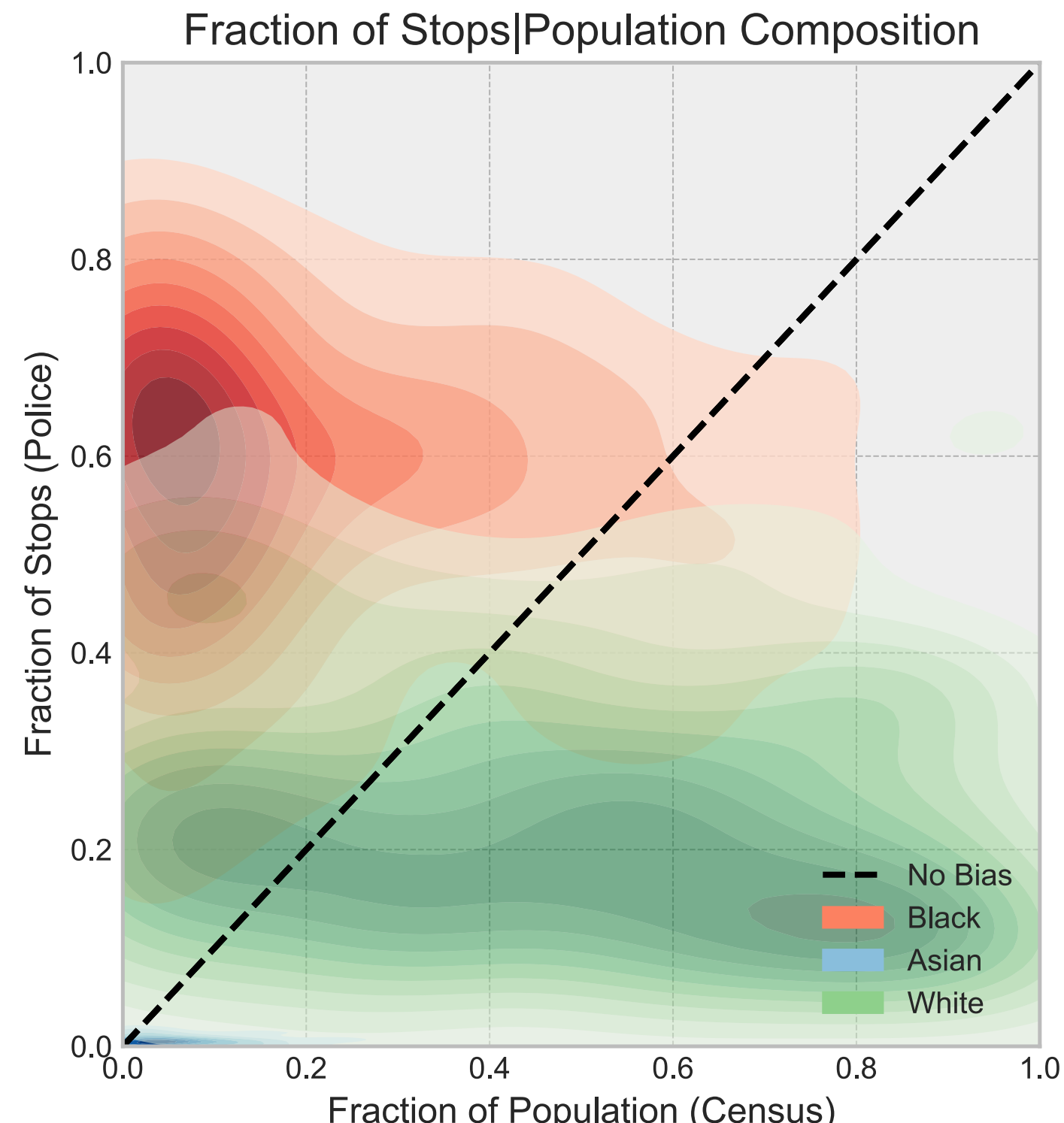


Police activities with demographic context



Bias Detection

H0 (no-bias): % of stops per race ~ % race in population

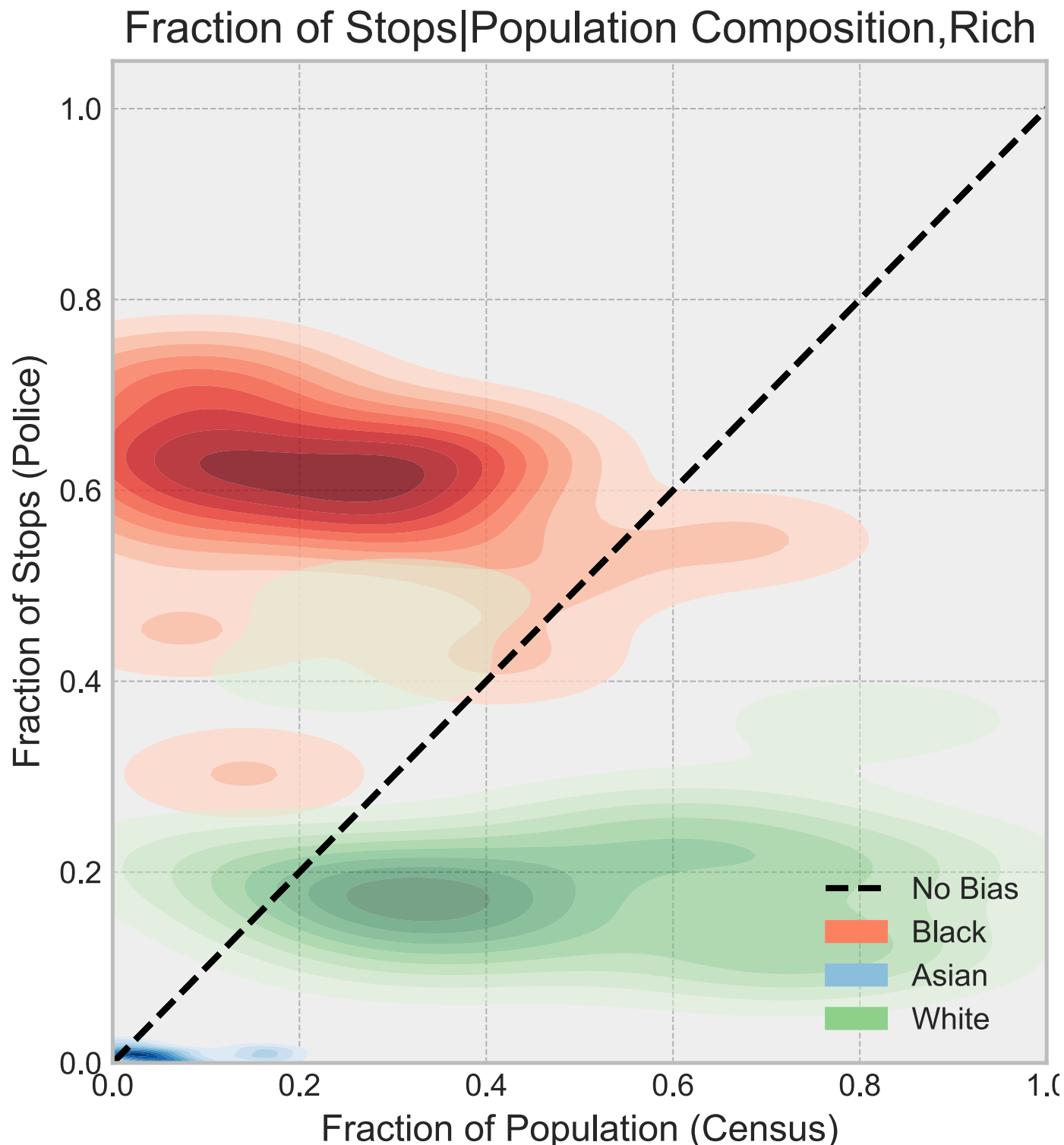


☒ **H0 Rejected**

☒ Black citizens are being stopped at rates greater than the rate at which they are present.

SES Aware Bias Detection

H0: Ok bias but because of SES inequalities

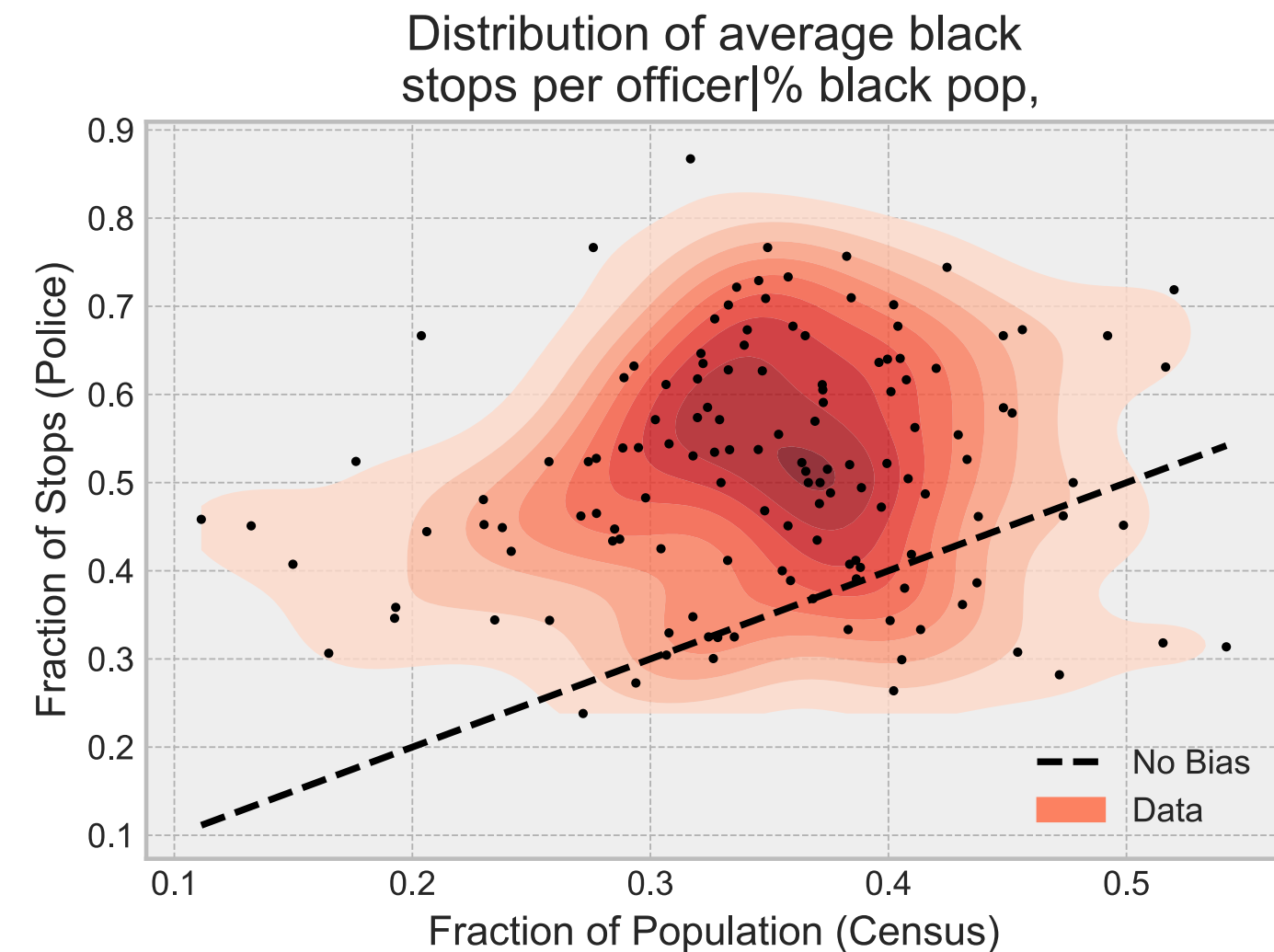


☒ **H0 Rejected**

☒ Black citizens are still being stopped in rich areas at rates greater than the rate at which they are present.

Structural Analysis of Bias

H0: Ok real bias but only by a few bad officers



☒ **H0 Rejected**

☒ Most officers stops reveal systemic bias

Yes, there is bias but other effects are also at play

Thank You !