

# Law Enforcement Stop Data Analysis

Criminal Justice Coordinating Council Meeting

August 8, 2023

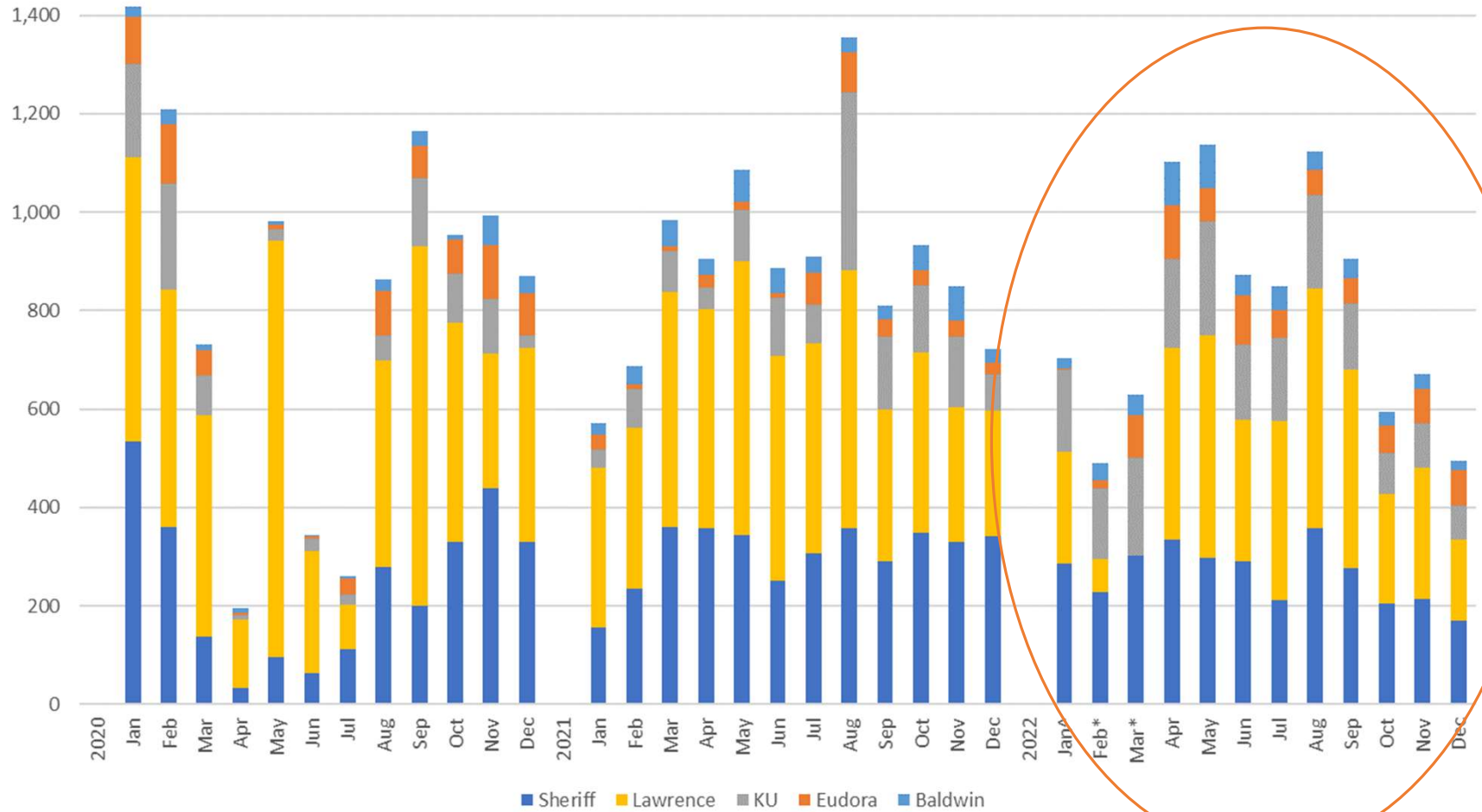
Matt Cravens, Ph.D.



# Updates to data collection

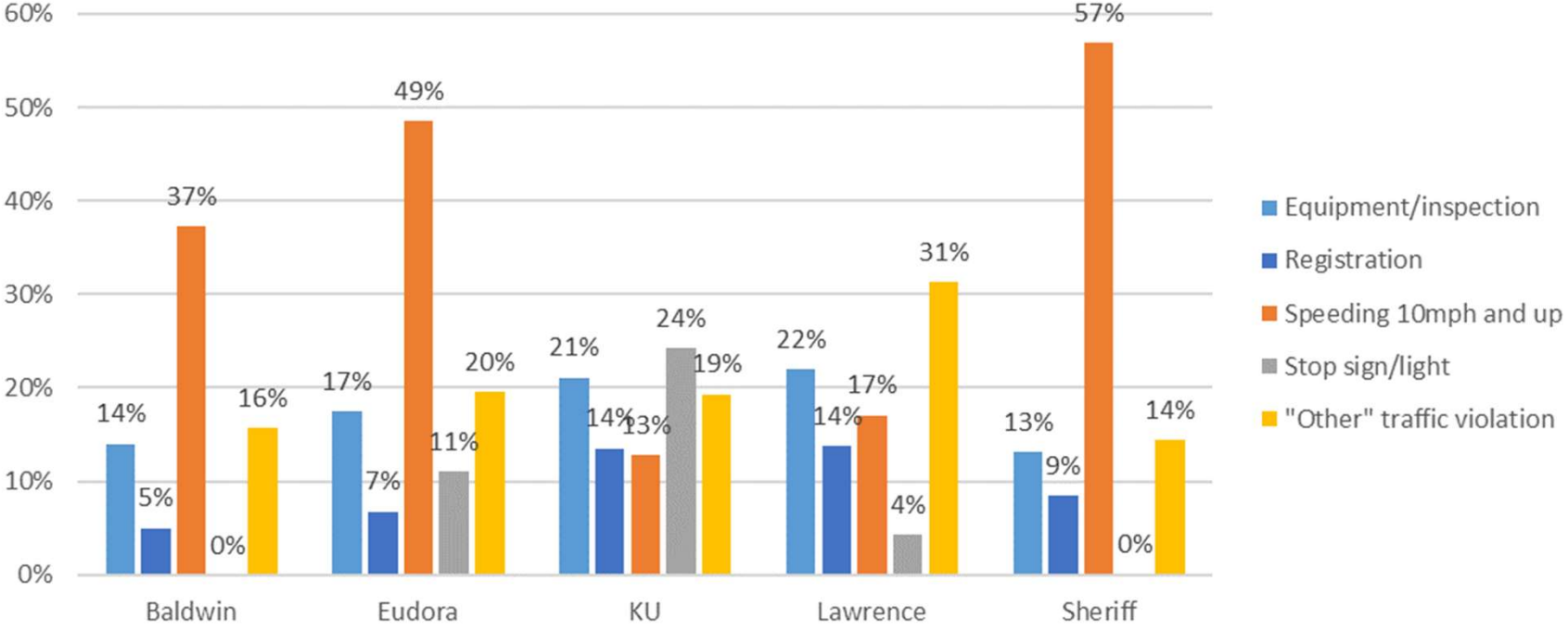
- The survey form was updated for all agencies in Spring 2023.
  - New options for basis for stop
  - New options for reason for search
- KU PD transitioned from paper to online data collection in June 2023.

## Number of Stops by Month

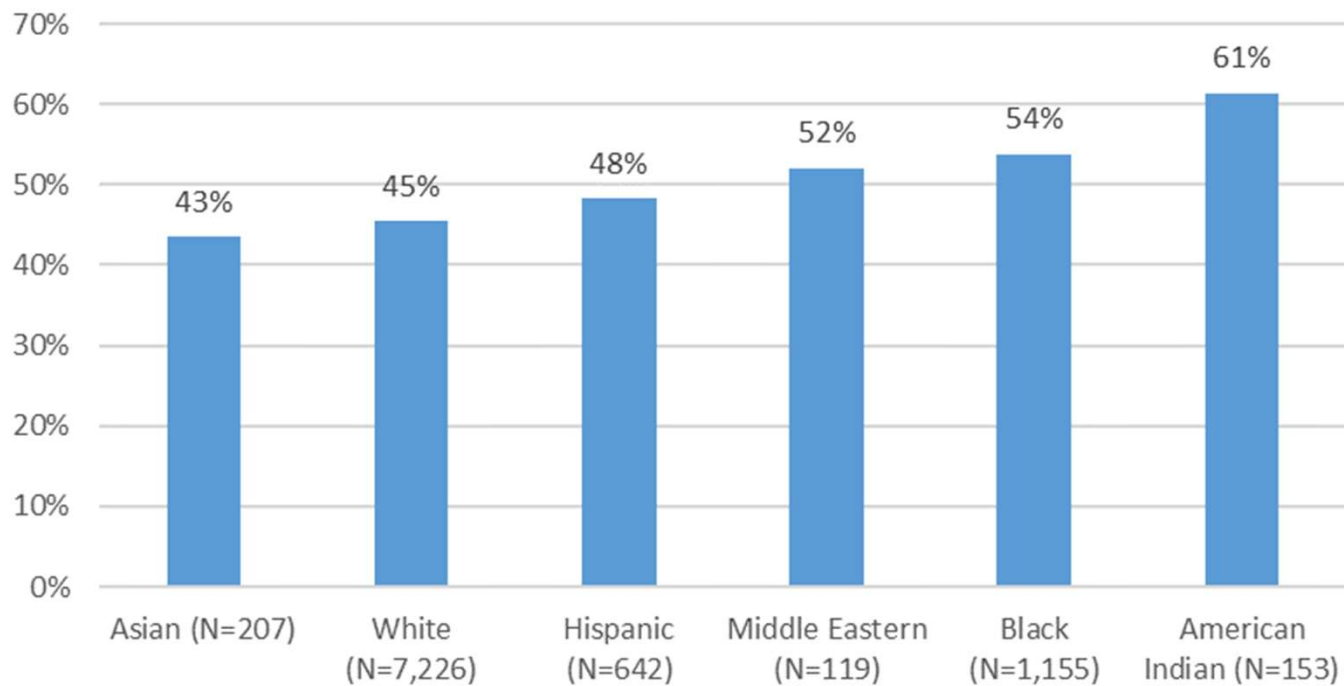


Notes: \* Lawrence PD did not collect data from 2/8/22 to 3/31/22. ^ Eudora PD did not collect data on all stops in January and February 2022.

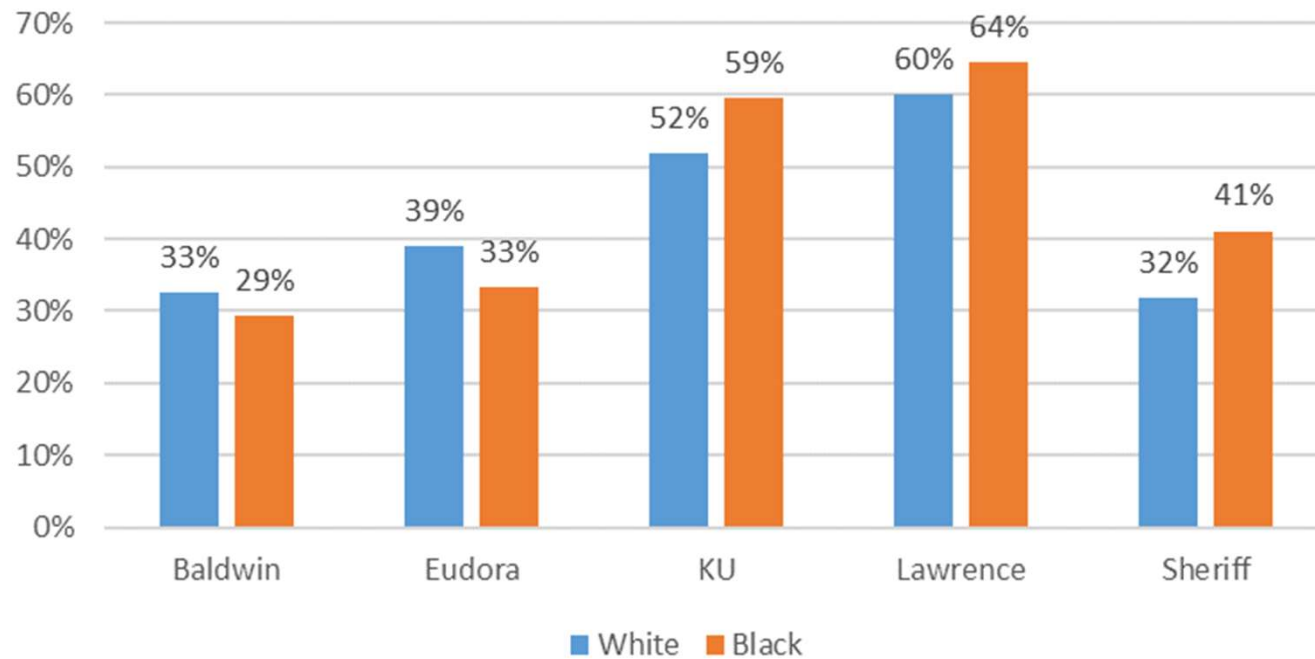
Common bases for stops (2022)



### Percent of Stops for Equipment, Registration, and "Other" Traffic Violations (2022)

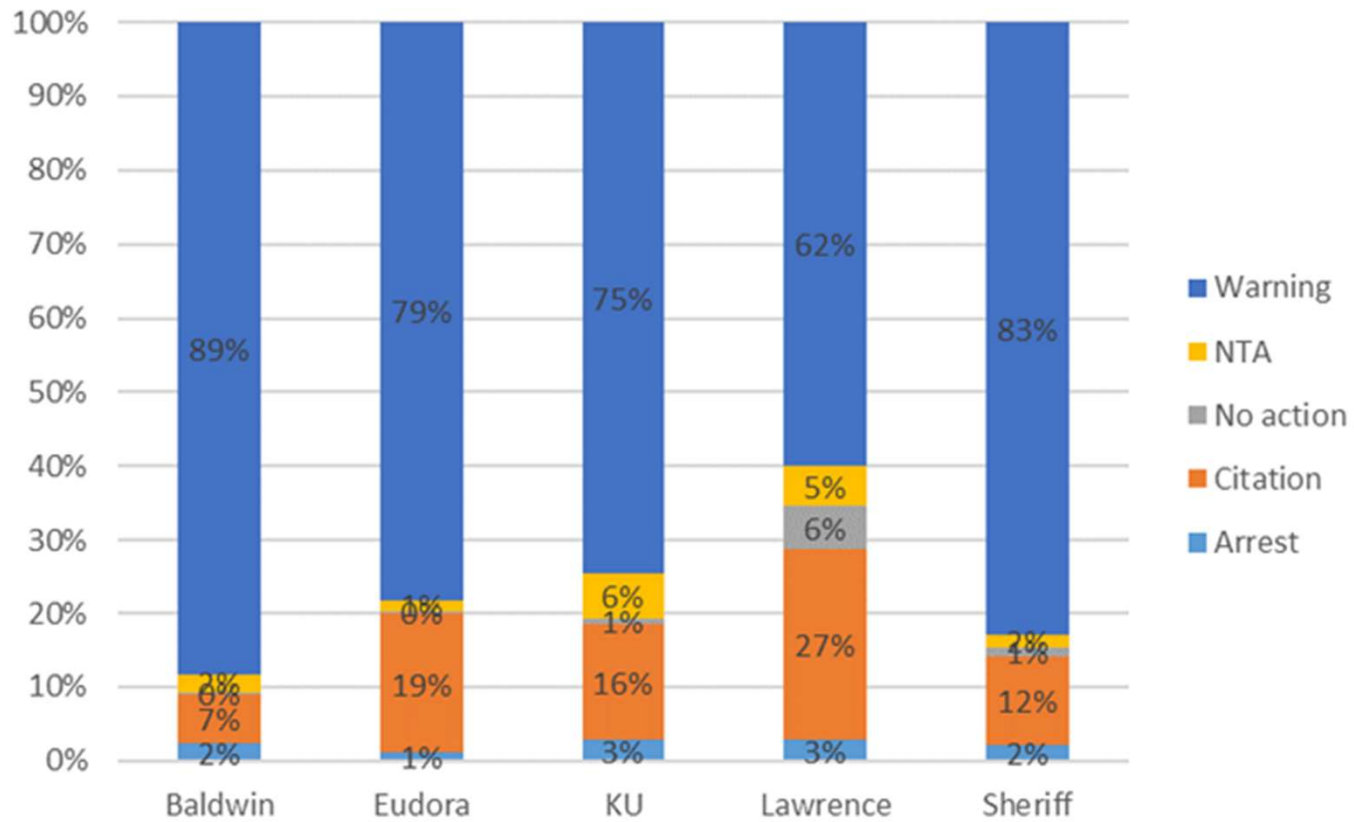


## Percent of Stops for Equipment, Registration, and "Other" Traffic Violations (2022)

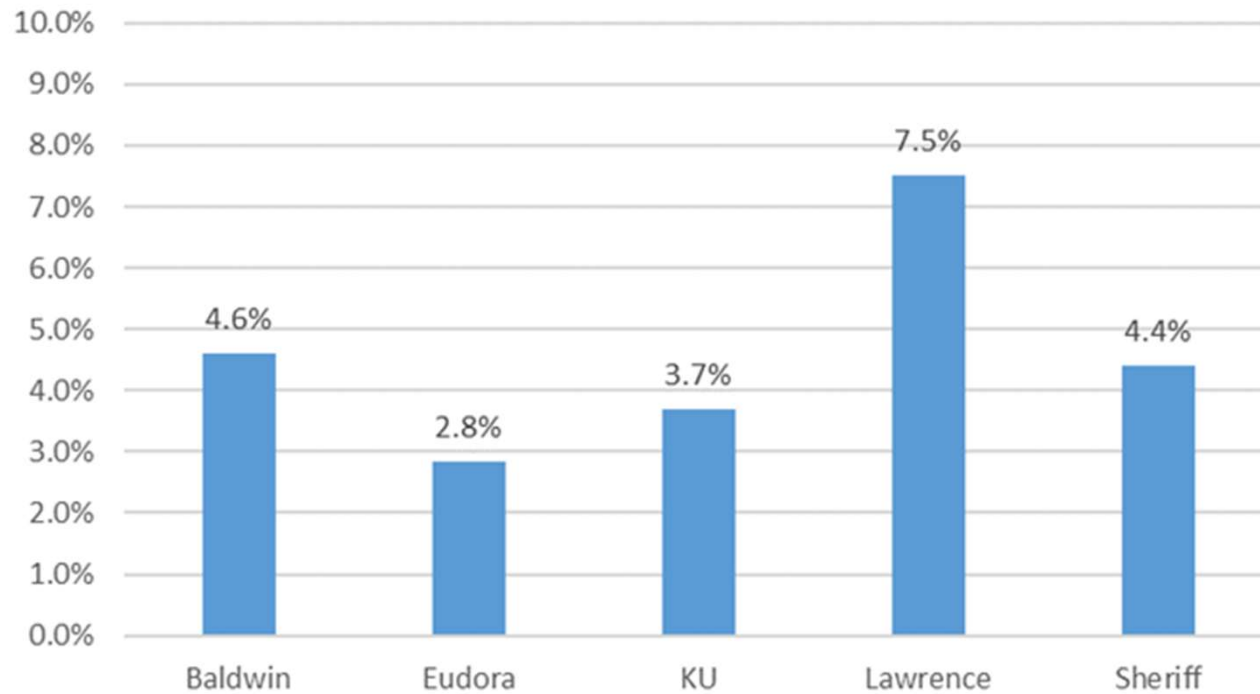


Notes: Only the Sheriff's Office had a Black-white disparity in each year from 2020 to 2022.

## Outcomes of stops (2022)



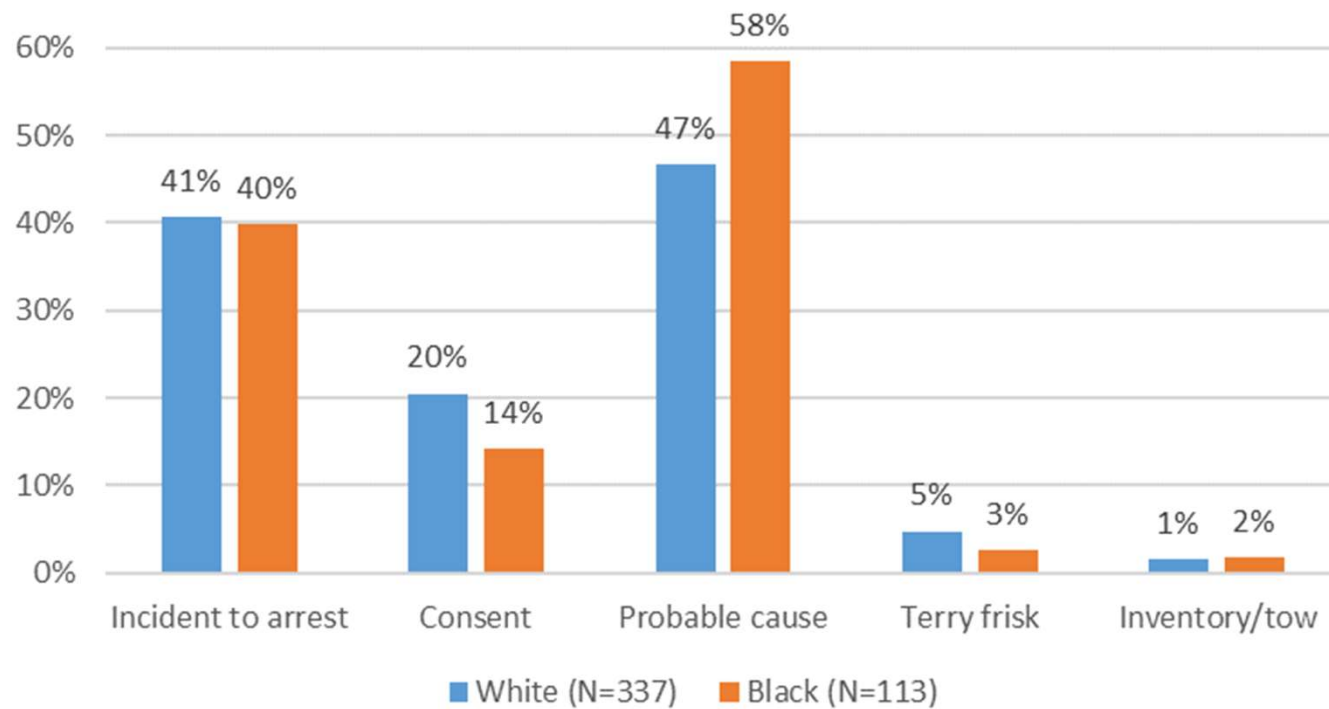
### Probability of any search (2022)



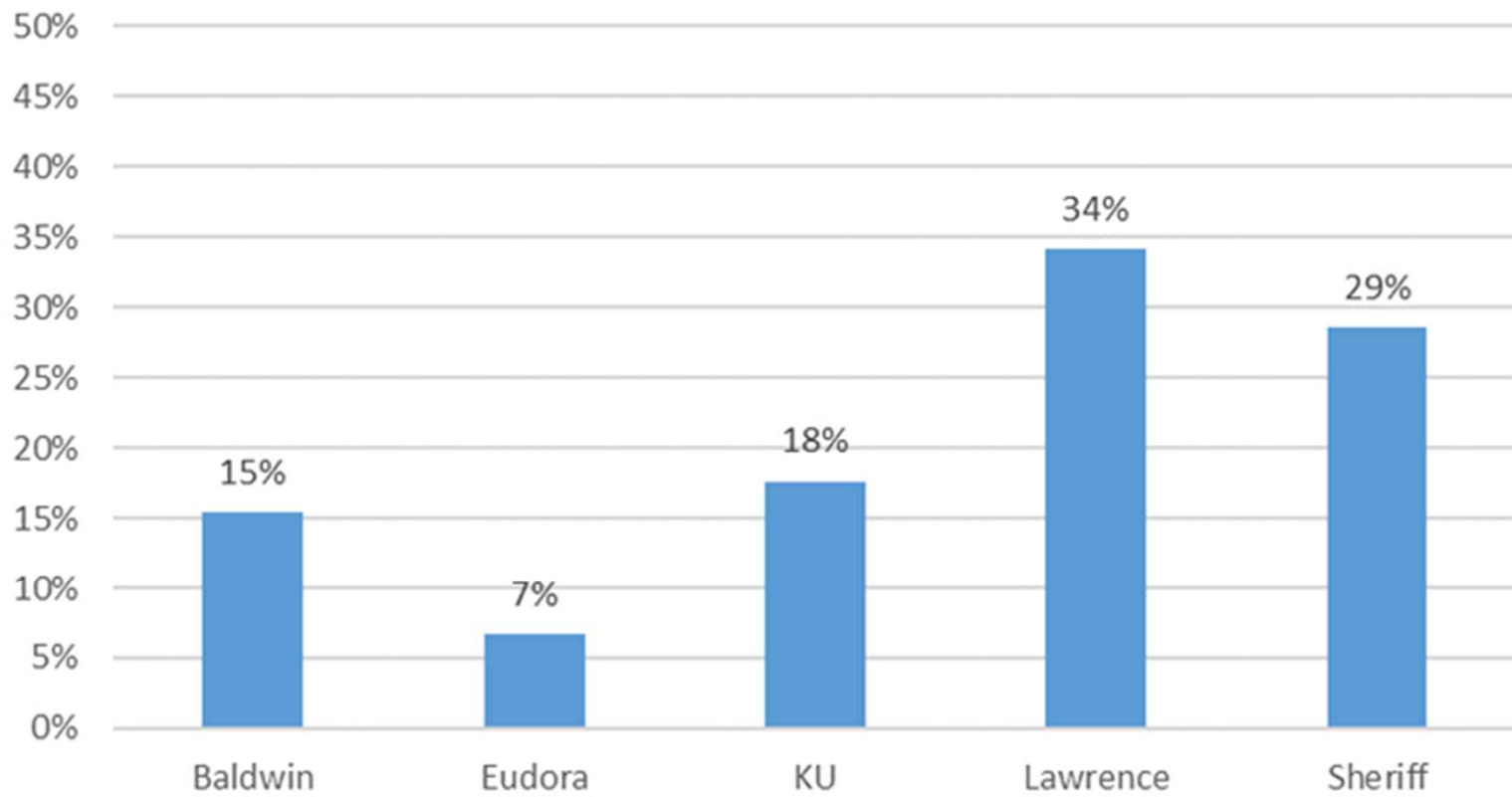
<b>Number of searches</b>	
Baldwin	24
Eudora	21
KU	67
Lawrence	250
Sheriff	140
<b>All agencies</b>	<b>502</b>



### Search reason by race/ethnicity (2022)



## No evidence found in discretionary searches (2022)



# Stop Rate Disparities

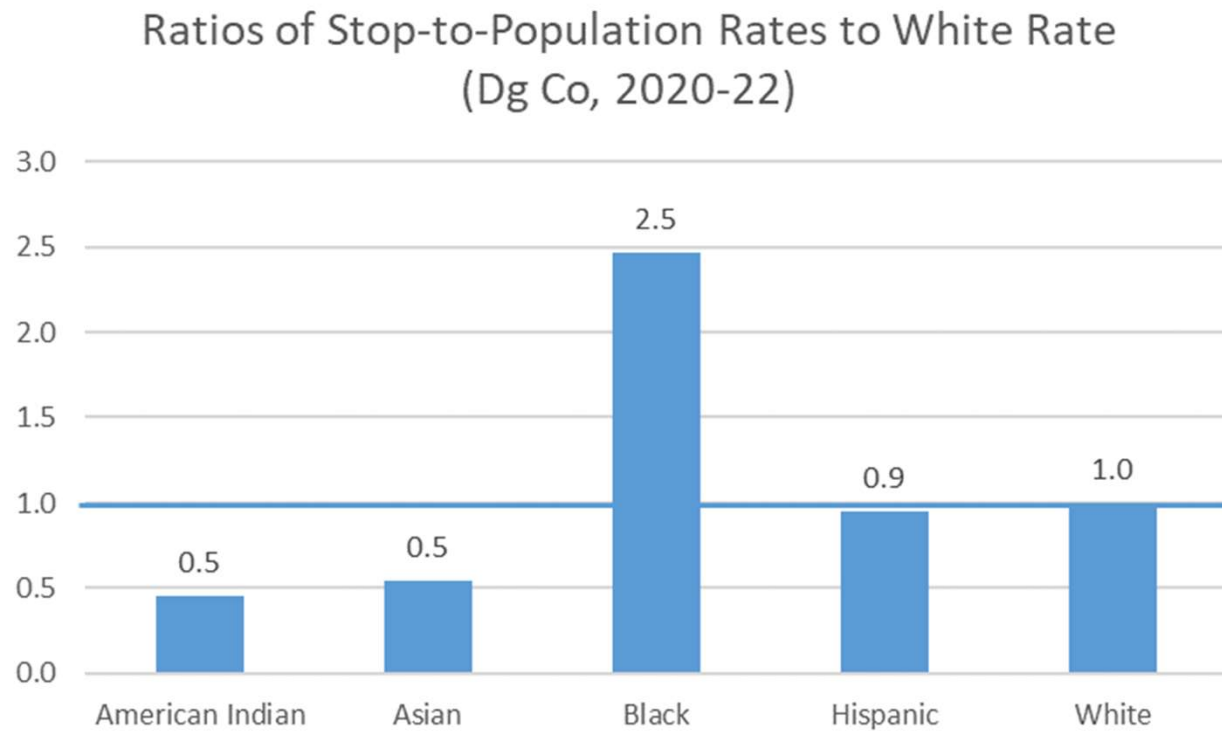
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An estimated 37% of Black driving-age Douglas County residents were stopped between 2020 and 2022. The comparable percentage for whites was 15%.

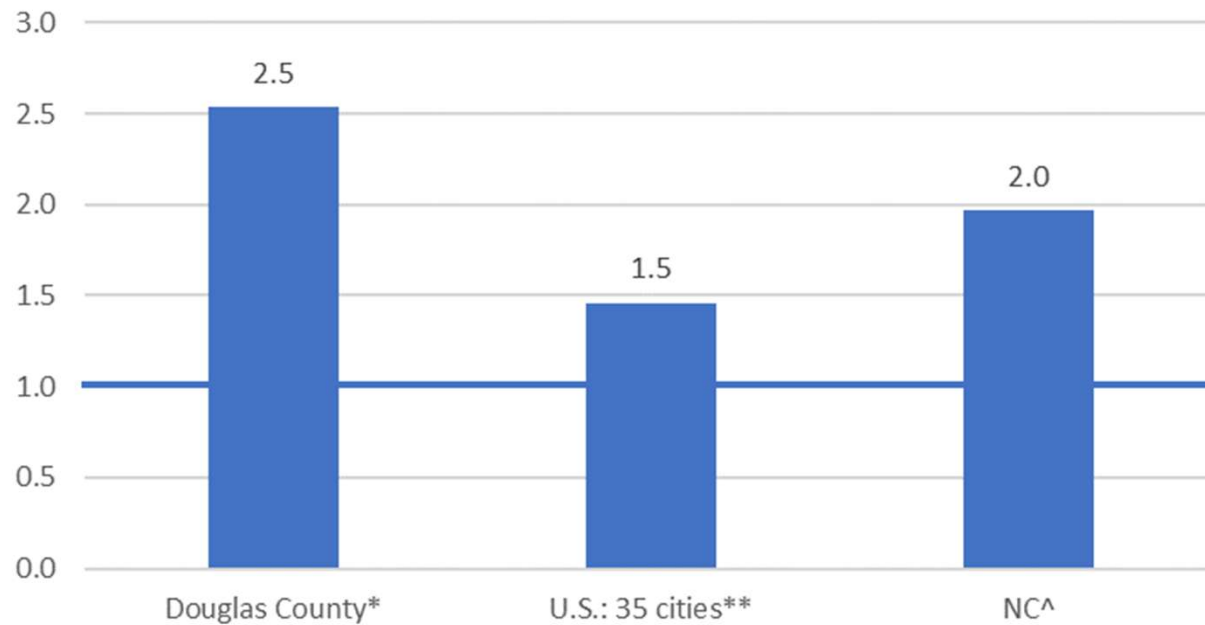
**Stop rate relative to residential driving-age population (stops of Douglas County residents only)**

	2020-2022			2022	
	Dg Co Stops	Rate	Ratio to White	Dg Co Stops	Ratio to White
American Indian	286	8%	0.5	96	0.5
Asian	471	9%	0.5	138	0.5
Black	2,167	43%	2.5	672	2.5
Hispanic	1,018	16%	0.9	341	1.0
White	14,023	17%	1.0	4,380	1.0
Total	18,371	18%	--	5,745	--

Black Douglas County residents were 2.5 times more likely to be stopped than white residents. The ratio has not changed from 2020 to 2022.



## Black-white stop rate ratios across jurisdictions



\* N=10,697 stops. Douglas County data are from 2021. To be comparable to the U.S. and NC data, the Douglas County data include stops for county residents and non-residents; rates are calculated using the all-ages Census population.

\*\* N=2.3 million stops per year. Includes a geographically diverse mix of mid-sized to large cities and multiple years of data per city. Stanford Open Policing Project, data available at: <https://openpolicing.stanford.edu/findings/>.

^ N=1.2 million stops per year. North Carolina data are from 2015-2020, available at: <https://fbaum.unc.edu/traffic.htm>.

# Citation Rate Disparities

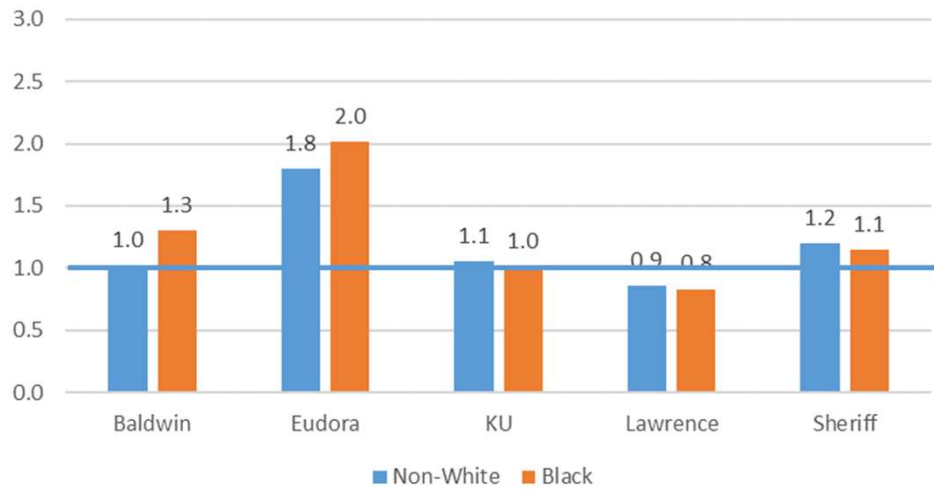
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**Racial Disparities in Probability of Citation (All Agencies, 2022)**

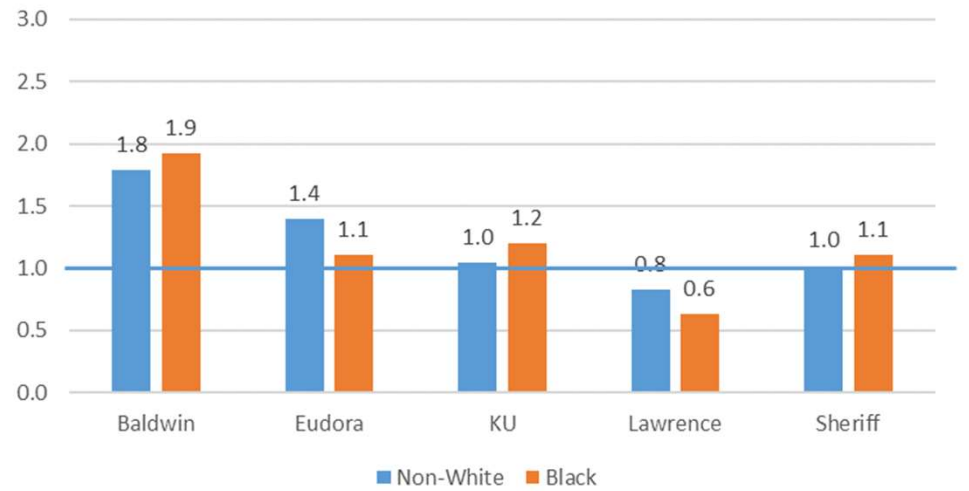
	<b>All Stops</b>	<b>Equipment Stops</b>	<b>Speeding 10+ mph Stops</b>	<b>"Other" Violation Stops</b>
<b>Probability of Citation</b>				
White	18%	7%	19%	15%
Non-White	18%	8%	24%	13%
Black	16%	10%	21%	9%
<b>Ratio</b>				
Non-White	1.0	1.1	1.2	0.9
Black	0.9	1.4	1.1	0.6



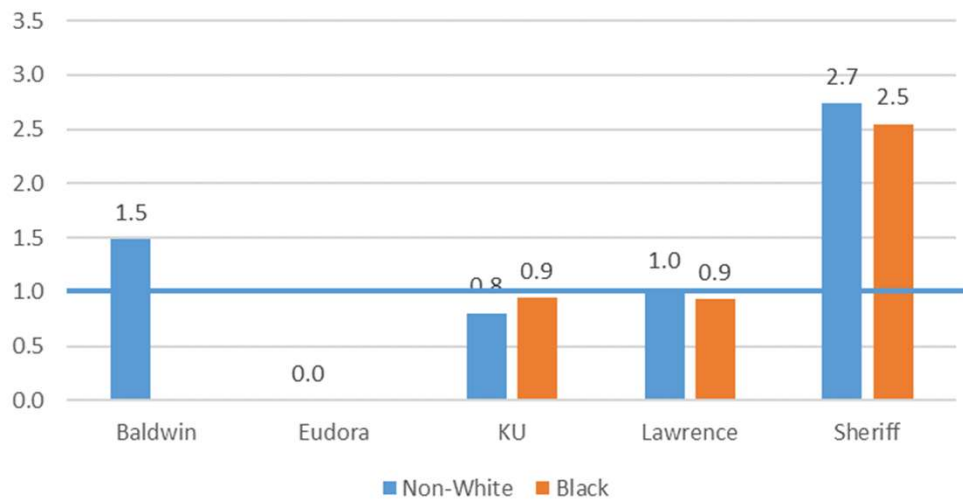
Ratios of Citation Rates to White Rates (2020-21)



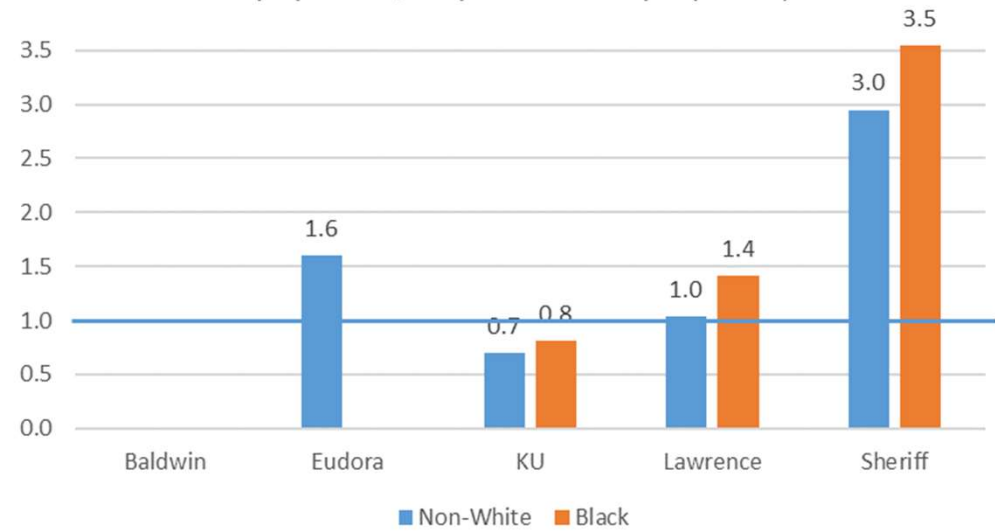
Ratios of Citation Rates to White Rates (2022)



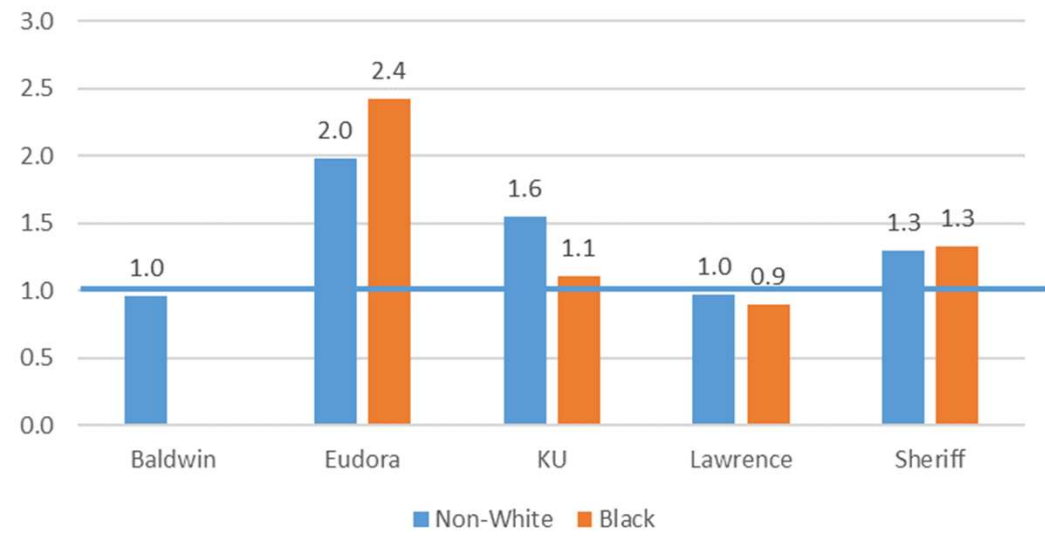
Ratios of Citation Rates to White Rates - Equipment/Inspection Stops (2020-21)



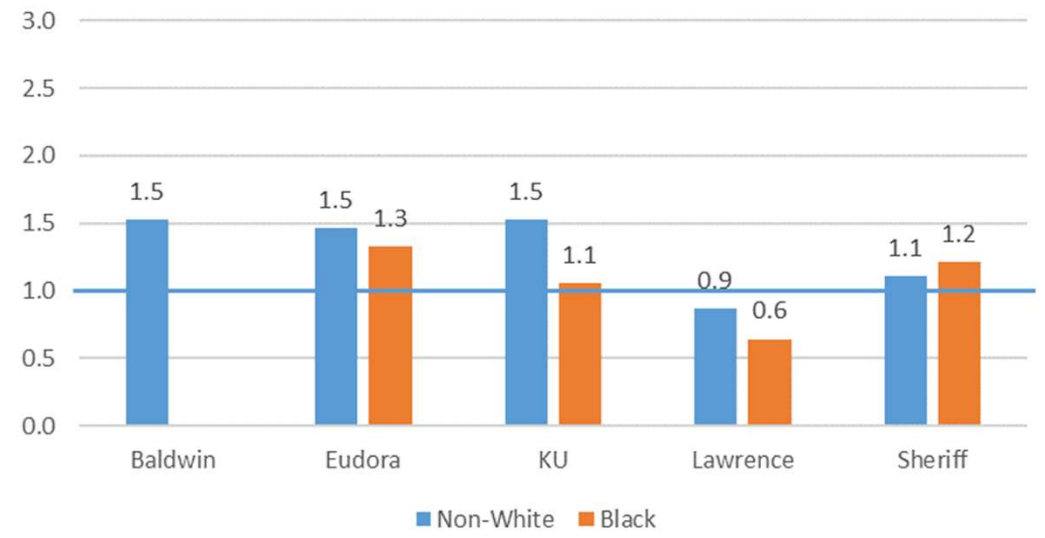
Ratios of Citation Rates to White Rates - Equipment/Inspection Stops (2022)



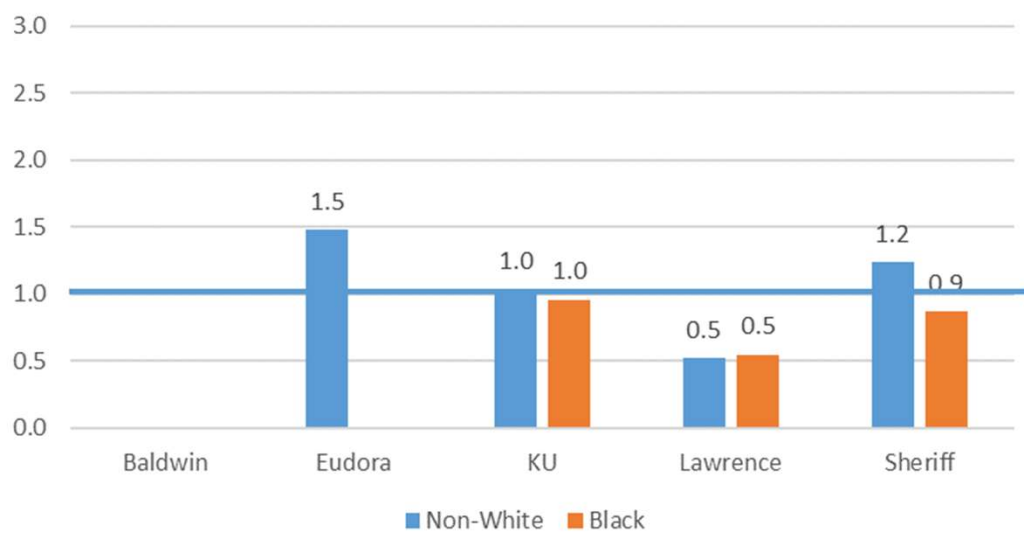
Ratios of Citation Rates to White Rates -  
Speeding 10mph+ Stops (2020-21)



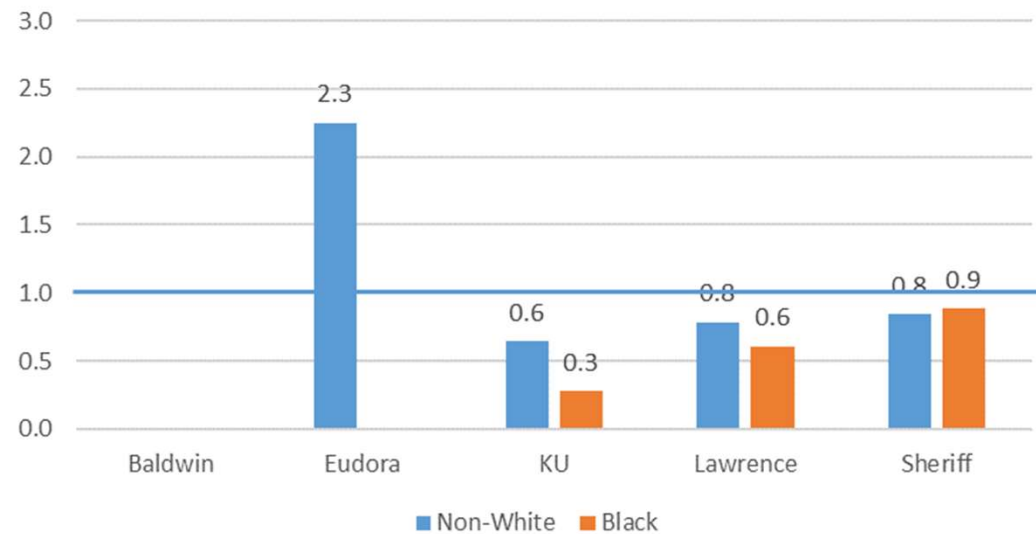
Ratios of Citation Rates to White Rates -  
Speeding 10mph+ Stops (2022)



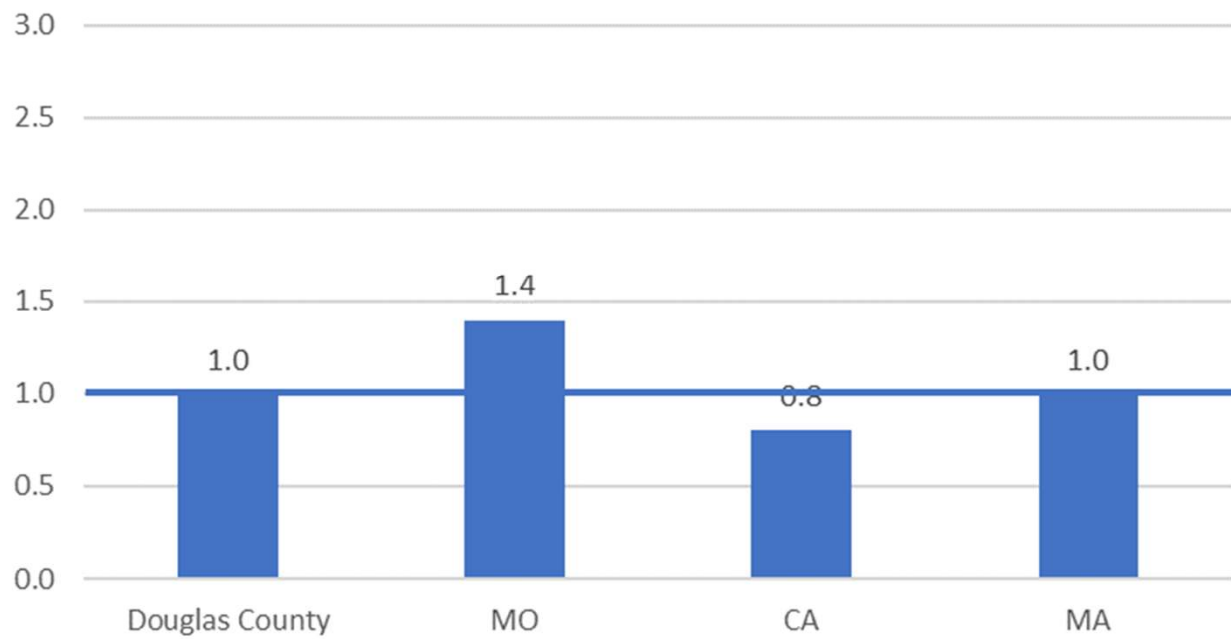
Ratios of Citation Rates to White Rates -  
"Other" Violation Stops (2020-21)



Ratios of Citation Rates to White Rates -  
"Other" Violation Stops (2022)



### Citation rate disparities across jurisdictions



# Search Rate Disparities

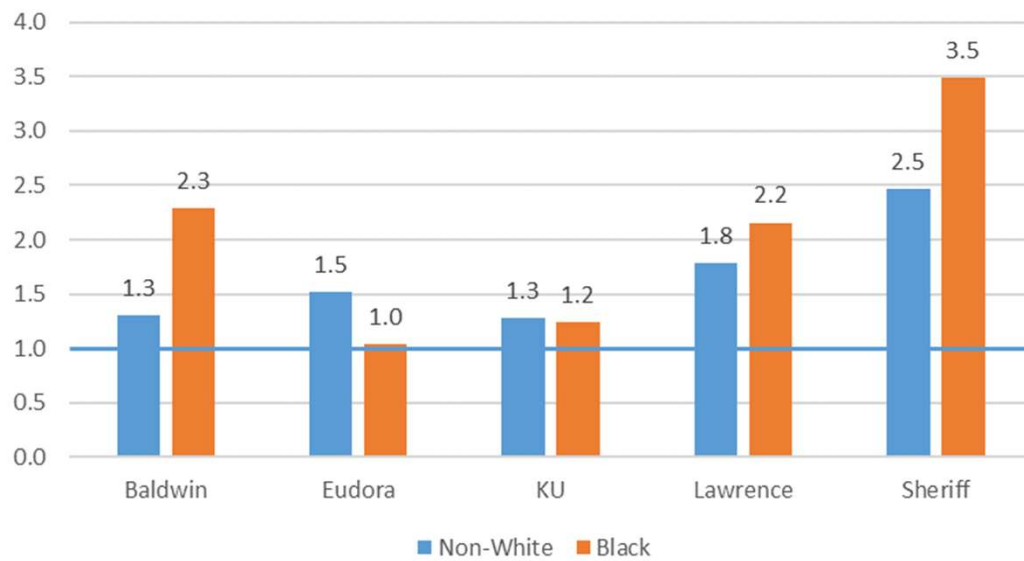
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## **Racial Disparities in Probability of a Discretionary Search (2022)**

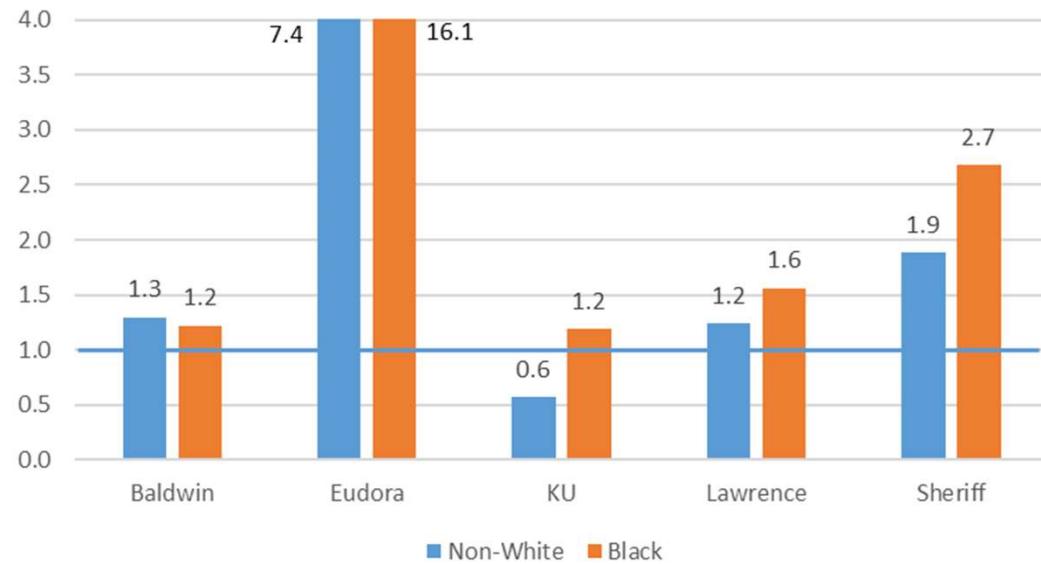
	<b>Baldwin</b>	<b>Eudora</b>	<b>KU Lawrence</b>	<b>Sheriff</b>	<b>Agencies</b>	<b>All</b>
<b>Probability of Disc. Search</b>						
White	2.4%	1.0%	1.1%	4.7%	2.2%	2.7%
Non-White	3.1%	7.2%	0.6%	5.8%	4.1%	4.2%
Black	2.9%	15.7%	1.3%	7.3%	5.9%	5.9%
<b>Ratio</b>						
Non-White	1.3	7.4	0.6	1.2	1.9	1.5
Black	1.2	16.1	1.2	1.6	2.7	2.2

Note: Discretionary searches exclude searches incident to arrest and tow/inventory.

Ratios of Discretionary Search Rates to White Rates  
(2020-21)



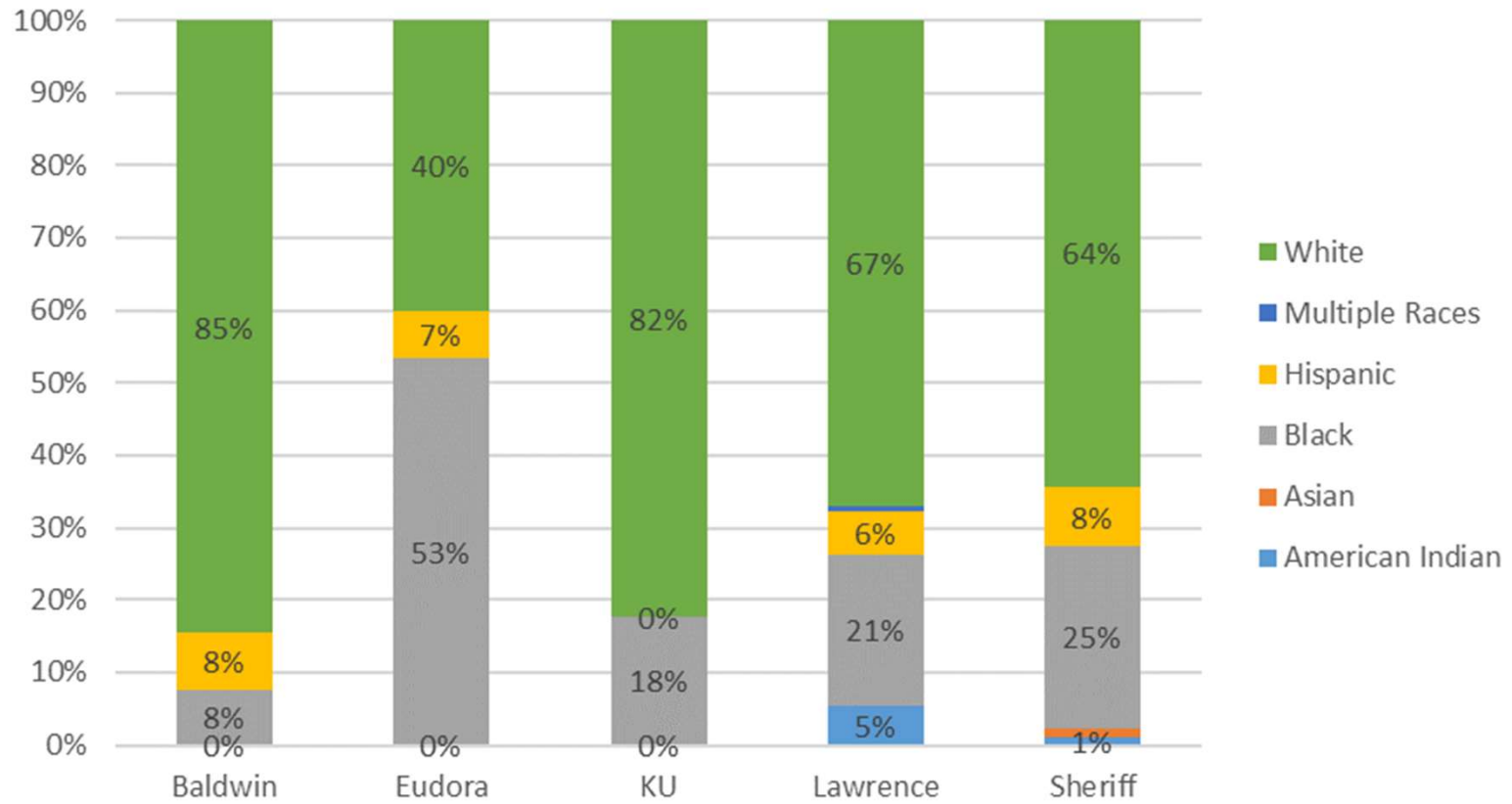
Ratios of Discretionary Search Rates to White Rates  
(2022)



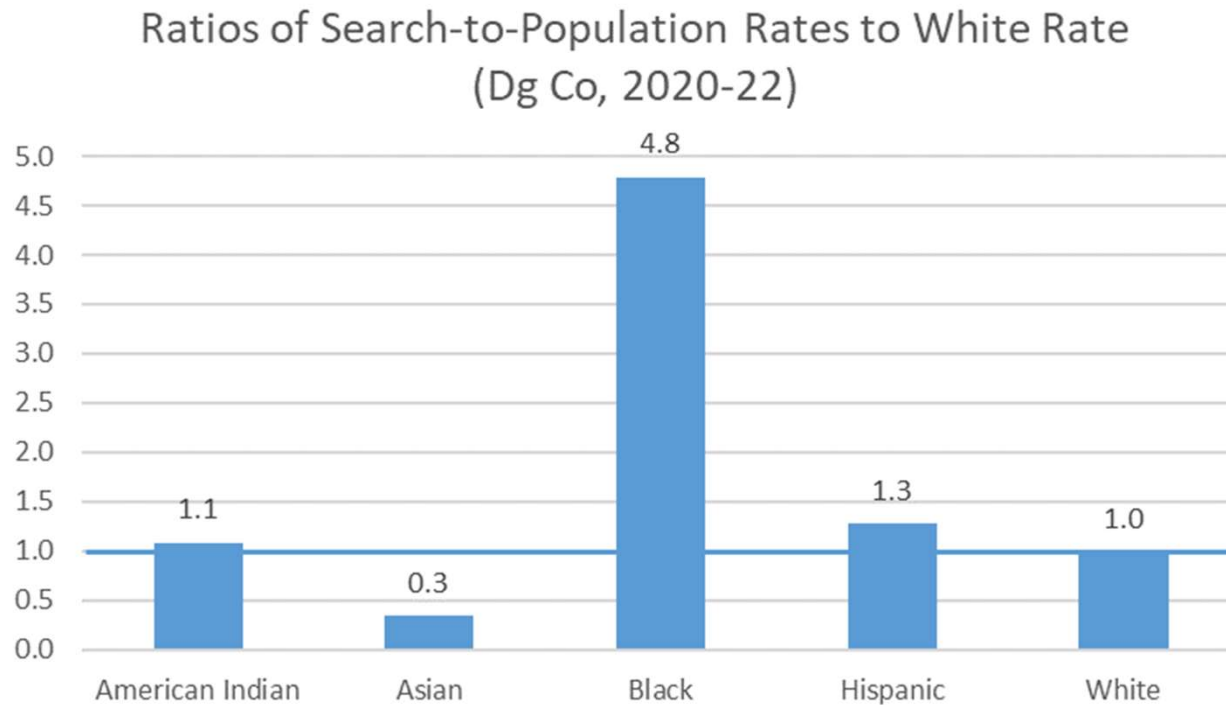
Note: Eudora PD values are above the displayed y-axis values.



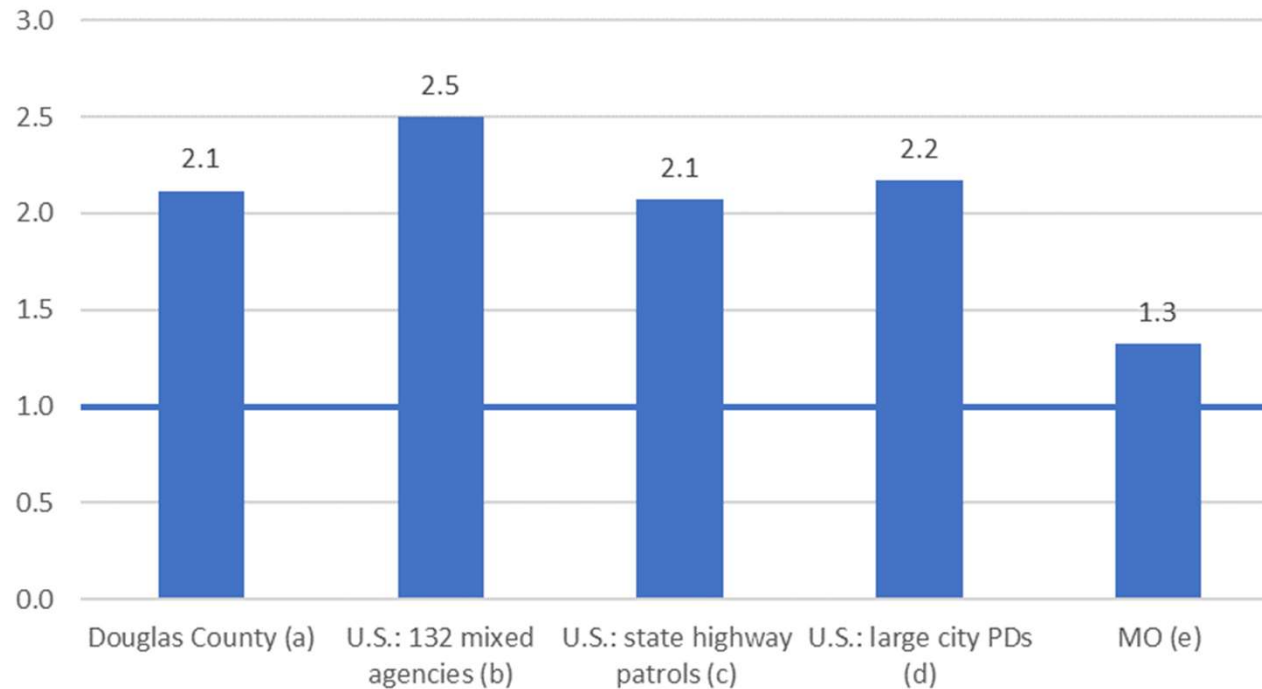
## Race/ethnicity of subjects of discretionary searches (2022)



Black Douglas County driving-age residents were 4.8 times more likely to be searched than white residents. The ratio is similar for discretionary searches (5.1).



## Black-white search rate ratios across jurisdictions

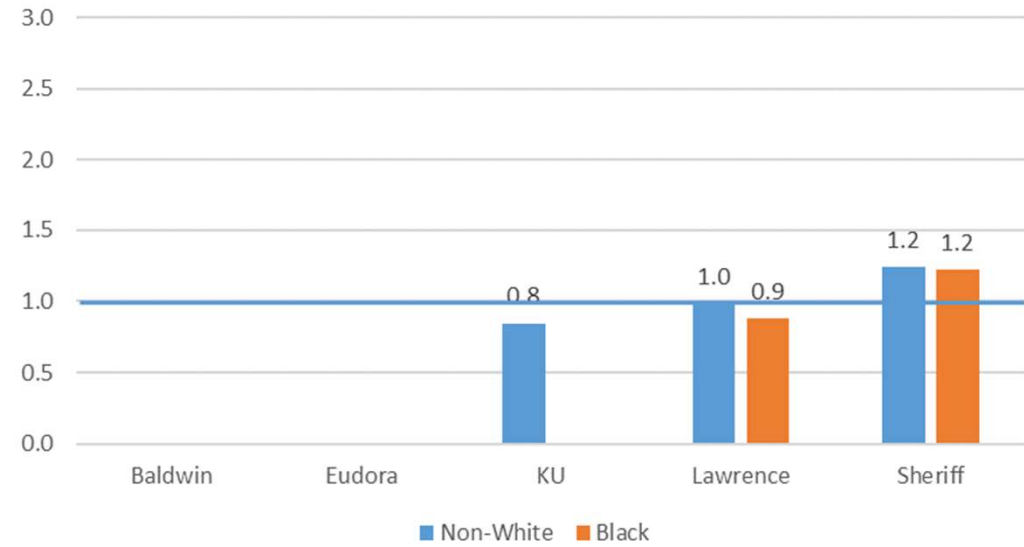


- (a) N=30,262 stops. Douglas County data are from 2020-2022 and indicate the percentage of stops resulting in any search (discretionary or non-discretionary).
- (b) N=11.3 million stops per year. Data are from 132 law enforcement agencies across 16 states, an average of 4.9 years of data per agency, from Baumgartner et al. (2017): <http://fbaum.unc.edu/articles/RacialDisparitiesInTrafficStops.pdf>. The Black-white ratio of 2.5 is the average ratio across agency-years.
- (c) N=3.5 million stops per year. Includes state highway patrols for 21 states, multiple years of data per agency, Stanford Open Policing Project data: <https://openpolicing.stanford.edu/findings/>.
- (d) N=776,000 stops per year. Includes all city divisions within Nashville, New Orleans, Philadelphia, Plano TX, San Diego, and San Francisco, with multiple years of data per city (Stanford Open Policing Project data).
- (e) N=4.9 million stops. MO data are from 2021, available at: <https://ago.mo.gov/docs/default-source/vsr/2021-vsr/2021-vsr-final/2021-vehicle-stops-annual-report.pdf>.

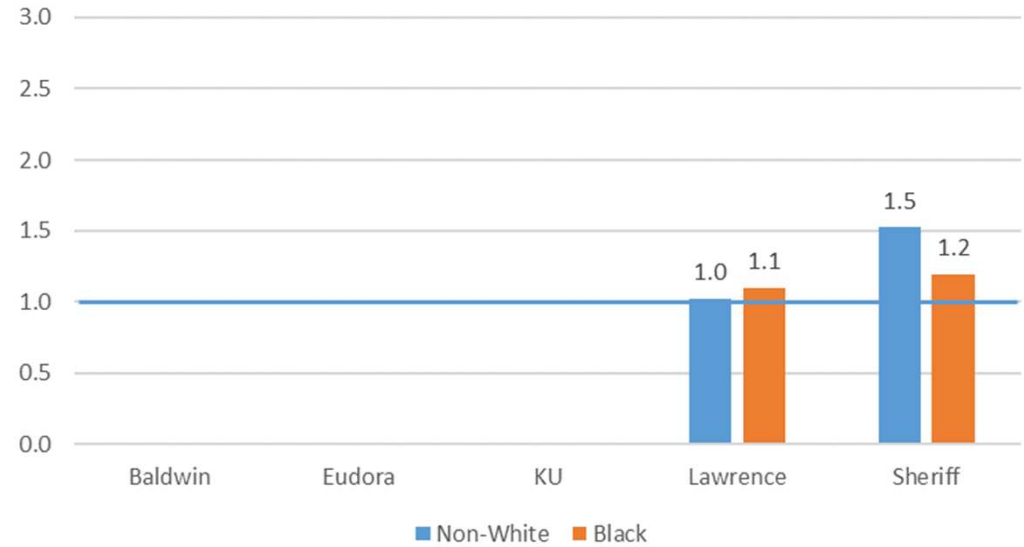
# Contraband Hit Rate Disparities

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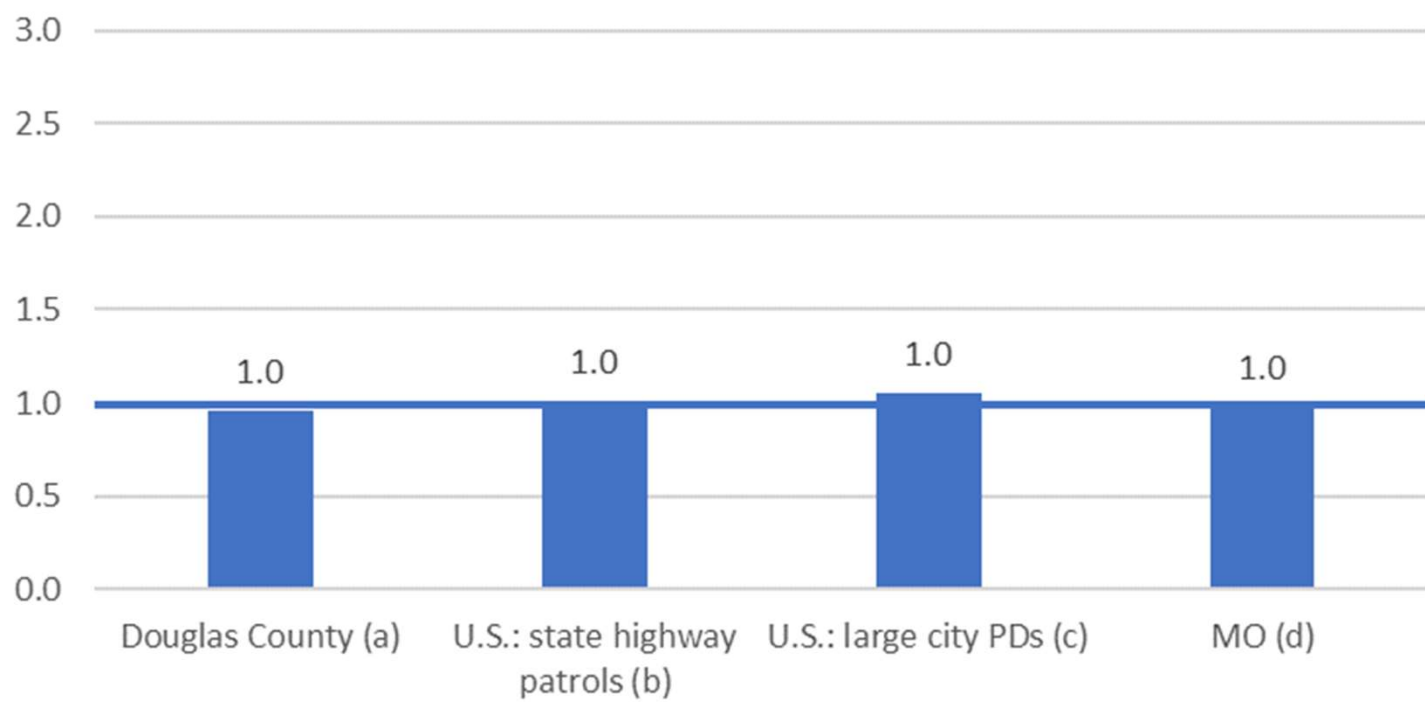
Ratios of No Contraband Rates to White Rates  
(Discretionary Searches, 2020-21)



Ratios of No Contraband Rates to White Rates  
(Discretionary Searches, 2022)



## Black-white contraband hit rate ratios across jurisdictions



# Recommendations

## 1. Ensure high-quality data collection

- All agencies would benefit from conducting internal checks at the end of each month using their own records, like KU PD.
- Ensure that surveys are always completed. Eudora PD had multiple months of inconsistent data collection in 2022.

## 2. Review officer-level statistics

- Reviewing and reducing disparities for a few officers can have large effects. The Sheriff's Office Black-white ratio for discretionary searches could be one-third lower if a handful of deputies with the largest disparities eliminated those disparities.
- Disparity does not necessarily equal discrimination.

## 3. Prioritize safety stops and moving violations; limit low-level, high-discretion stops

- Minority stop rates are high in Douglas County compared to other jurisdictions.

## 4. Use the same standards in all search decisions

- Right now, officers are over twice as likely to search a Black driver as a white driver.
- Provide additional training to officers with low contraband hit rates.

## 5. Consider not citing drivers for equipment violations

- Agencies in some jurisdictions give out free repair vouchers (e.g., "Lights On!" vouchers)

# Agency Updates

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# Agency Practice Changes

- Increased retention period of body cam footage for stops; supervisory review of some stops.
- Initial discussions of agency stop data with command staff and supervisors.
- Additional documentation of searches when no contraband is found.
- Implementation of data quality control practices to ensure accuracy of data submitted (KU PD).