



Demographic Disparity Analysis

Duluth Police Department

March 30, 2022

Bob Scales
Police Strategies LLC



BOB SCALES

CHIEF EXECUTIVE OFFICER

Bob is a former King County deputy prosecutor and Special Assistant United States Attorney for the Western District of Washington. He worked for 14 years for the City of Seattle as a public safety policy advisor to three Mayors. Bob represented the Seattle Police Department during the 2011 DOJ pattern or practice investigation and served as the Compliance Coordinator under the federal Consent Decree.



KATHRYN OLSON

PARTNER

Kathryn served as an EEOC attorney and the Director of the Office of Professional for the Seattle Police Department. She is a past-president of the National Association for Civilian Oversight of Law Enforcement Officers.



CHIEF MIKE SANFORD

PARTNER

Mike has over 30 years of law enforcement experience serving as Assistant Chief for the Seattle Police Department and Chief of Police for the cities of Wapato and Algona Washington. Mike was a patrol tactics trainer for the Washington State Criminal Justice Training Commission.



PROFESSOR MATT HICKMAN

DIRECTOR OF RESEARCH

Matt is Chair of the Criminal Justice Department at Seattle University and has an active research agenda focused primarily on issues in policing, quantitative research methodology, and the impact of forensic sciences on the administration of justice.

Deaths from Medical Errors

- Medical errors are the third leading cause of death in the United States
 - 1) Heart Disease (611,000 deaths)
 - 2) Cancer (584,000 deaths)
 - 3) Medical Errors (251,000 deaths)
- 251,000 deaths / 35 million hospitalizations = 0.7% death rate

Racial Disparities

- “Race and Surgical Mortality in the United States,” *Annals of Surgery*, 2006.
- Finding: Black patients were 50% more likely to die after surgery than White patients
- What benchmark was used to calculate the disparities?
 - Number of operations for Black and White patients
- What other factors were examined that may influence death rates?
 - Type of operation
 - Patient characteristics
 - Hospital characteristics
- Conclusion: “Black patients have higher operative mortality risks across a wide range of surgical procedures, in large part because of higher mortality rates at the hospitals they attend.”

Correlation vs. Causation

- A correlation between two variables means there is some type of relationship. The variables may move in the same direction or opposite direction (negative correlation).
- Example: Correlation between education level and salary
- Causation is when a change on one variable causes the other variable to change.
- Example: Sunlight causes temperatures to rise.
- A correlation between two variables does not mean that one variable is causing the other variable to change.
- Correlation between hospitals in predominantly Black neighborhoods and higher mortality rates after surgery. Without studying each hospital and collecting qualitative data on surgeries, unable to determine the cause of this observation.

Deaths from Police Uses of Force

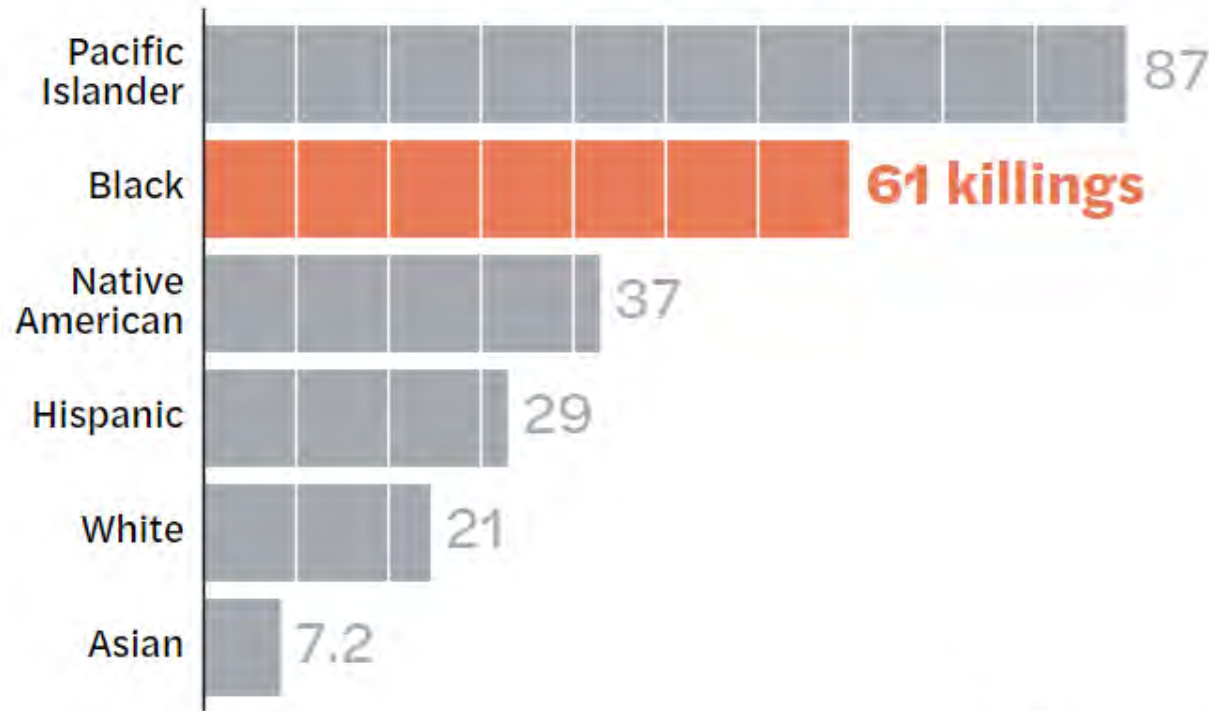
- 251,000 deaths / 35 million hospitalizations = 0.7% death rate in medicine
- 1,200 deaths / 10 million arrests = 0.01% death rate in policing
- 70 times more likely to die due to a medical error during a hospitalization than due to a police use of force during an arrest.

Deaths from Police Uses of Force

MappingPoliceViolence.org

Black people are **2.9x** more likely to be killed by police than white people in the U.S. ▼.

Police killings per 1 million people in the U.S., 2013–2022



Populations via 2020 Census data

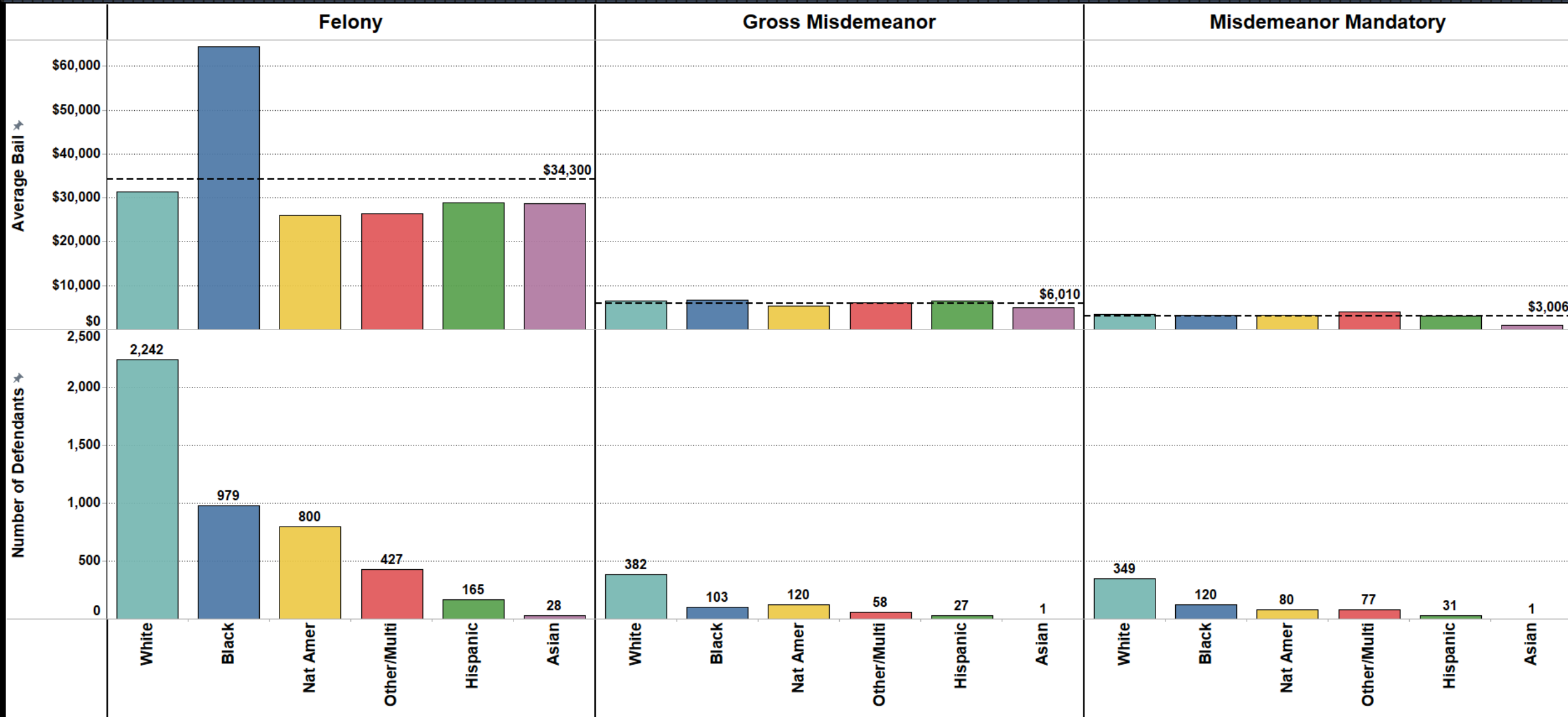
Race	Deaths 2021	Annual Rate
Pacific Islander	8	8.7
Black	266	6.1
Native American	14	3.7
Hispanic	187	2.9
White	479	2.1
Asian	8	0.7

Bail Amounts – Saint Louis County Courts

Factors Judges Use to Set Bail

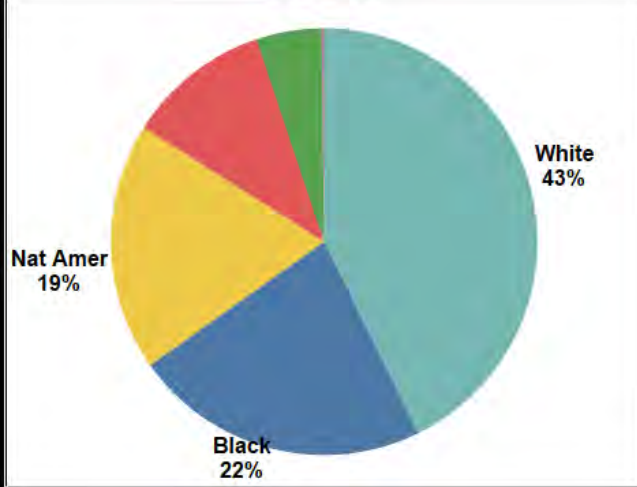
- 1) Level of Crime (Felony, Gross Misdemeanor, Misdemeanor)
- 2) Type of Crime (Murder, Assault, Burglary, Drugs, etc.)
- 3) Prior Failures to Appear
- 4) Flight Risk
- 5) Criminal History
- 6) Risk to Public Safety and/or Victim

Average Minimum Bail/Bond from 2018 to 2020 - Saint Louis County Courts

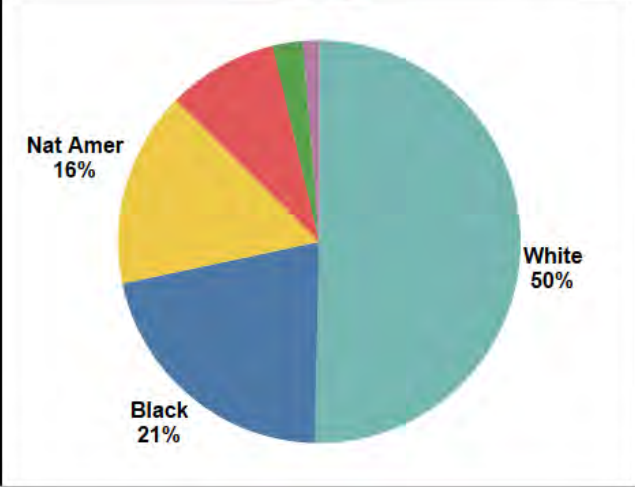


Type of Felony Crimes - Defendant's Race

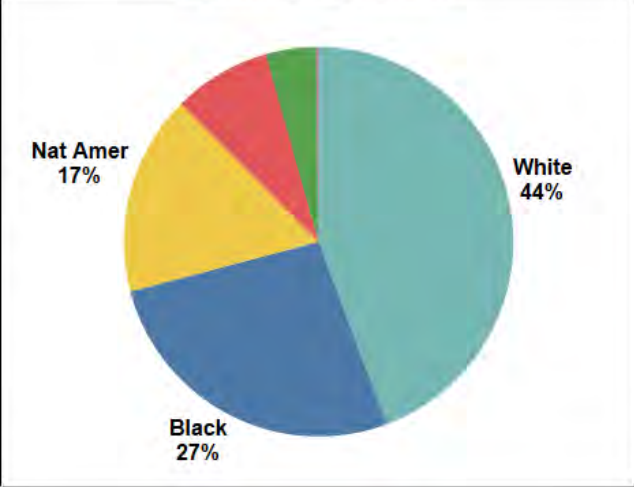
Person



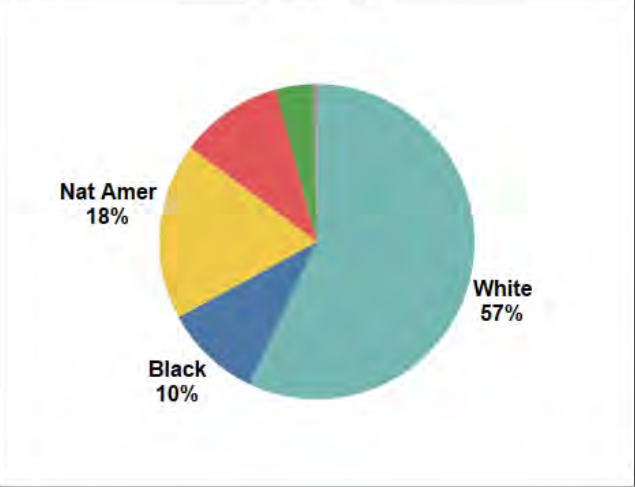
Drug



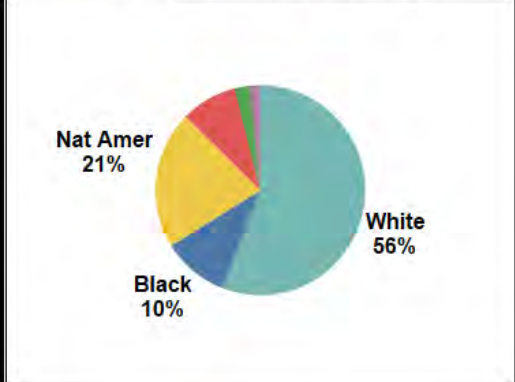
Domestic Assault



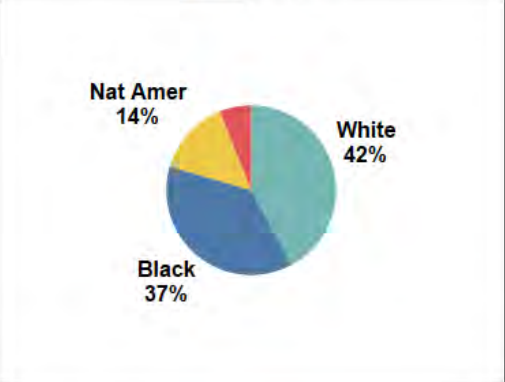
Property



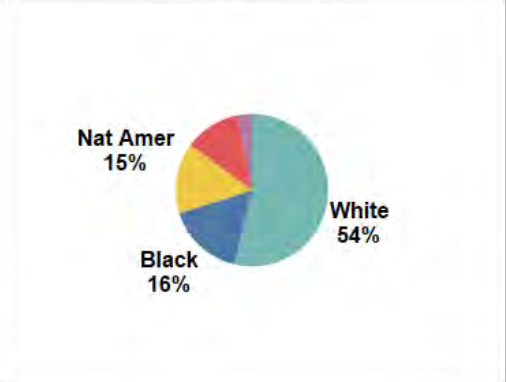
Miscellaneous Felony



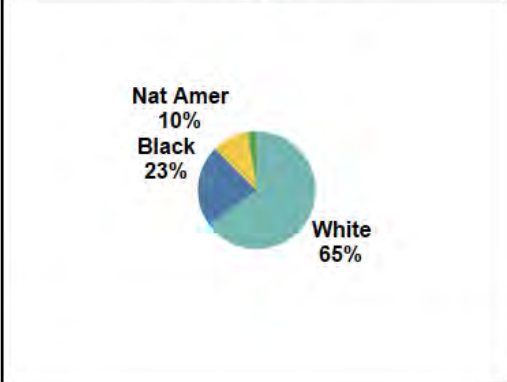
Weapons



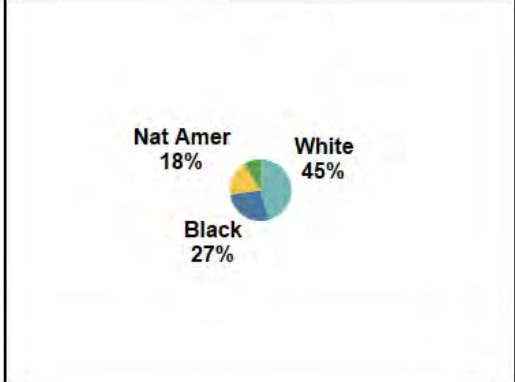
Sex Crimes



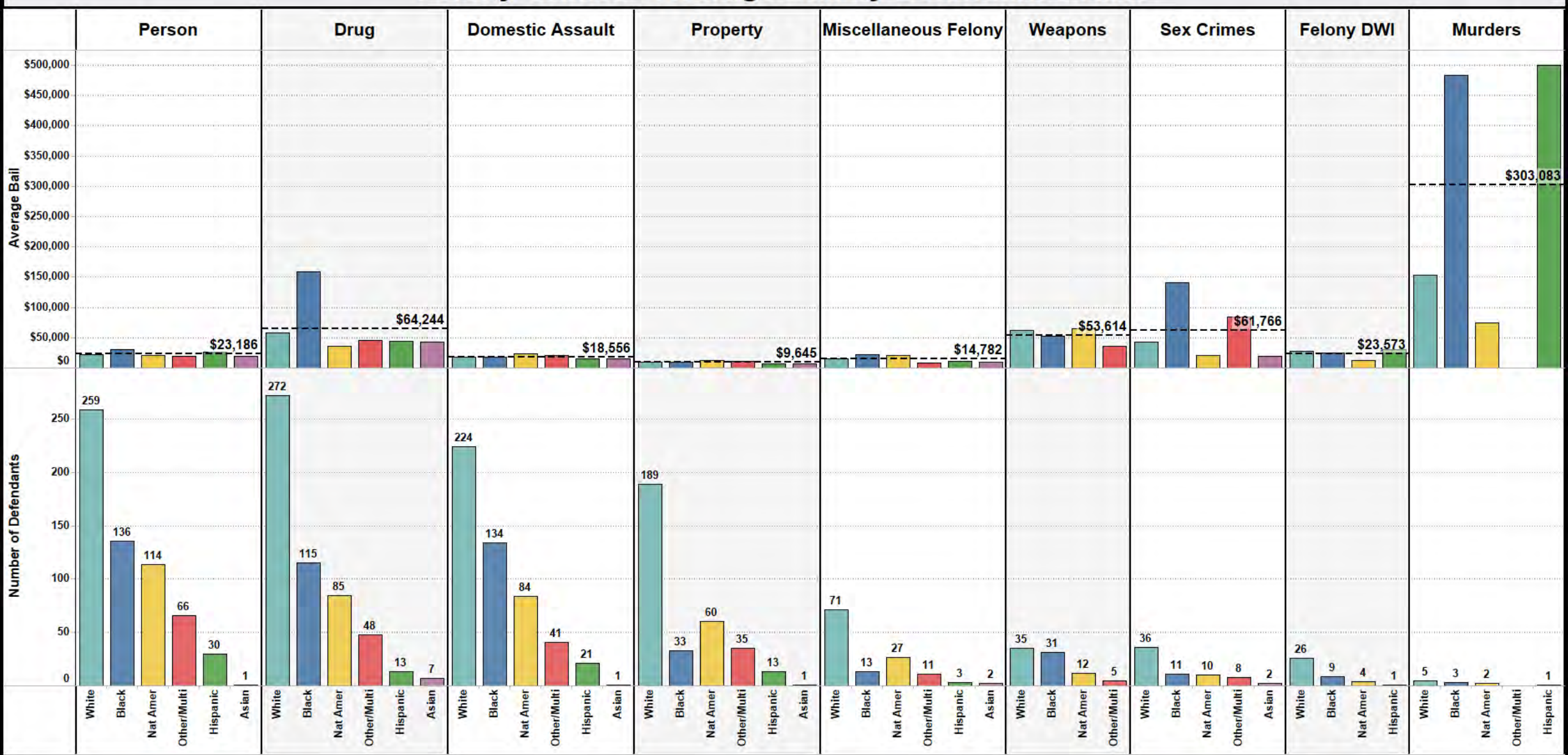
Felony DWI



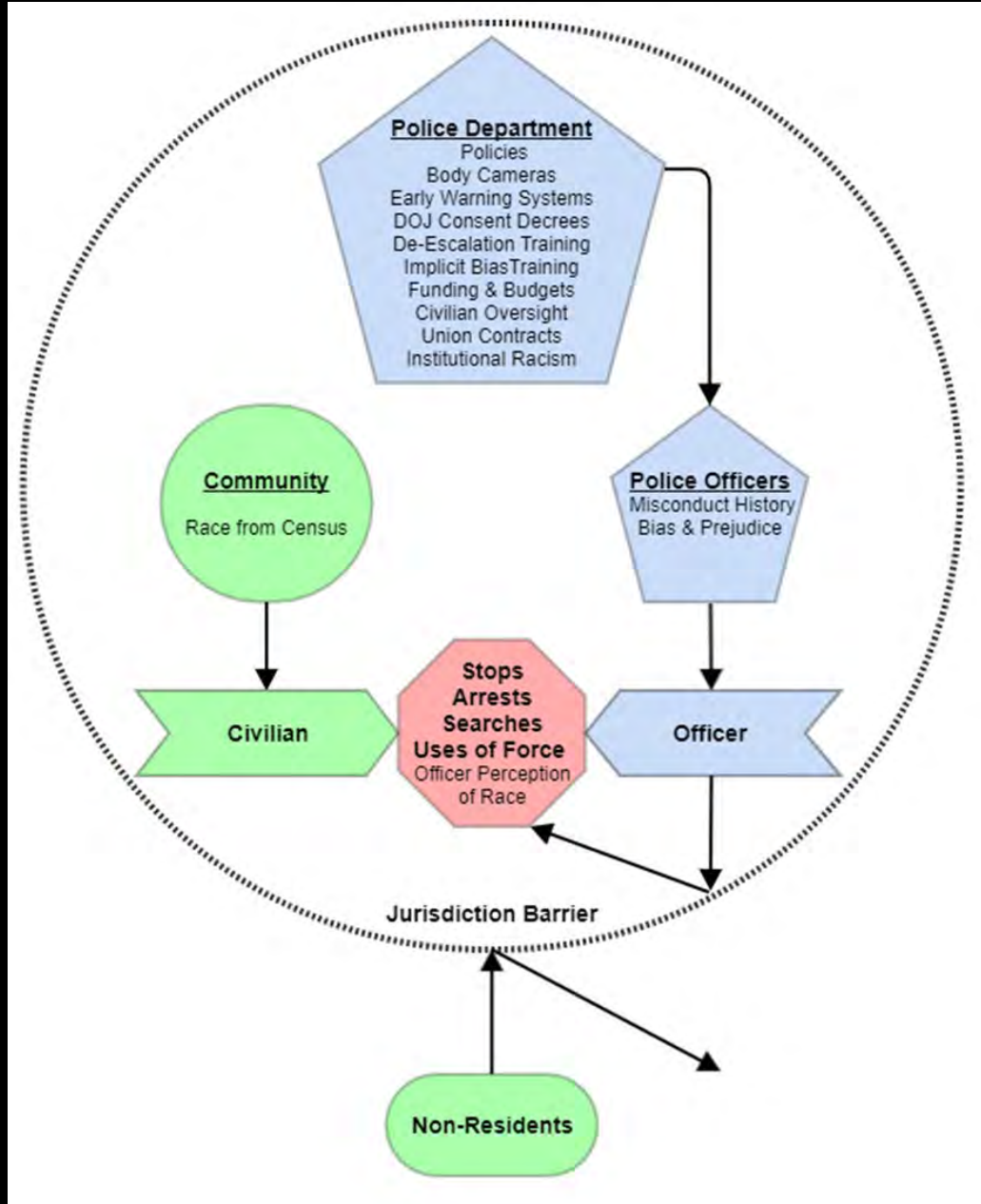
Murders



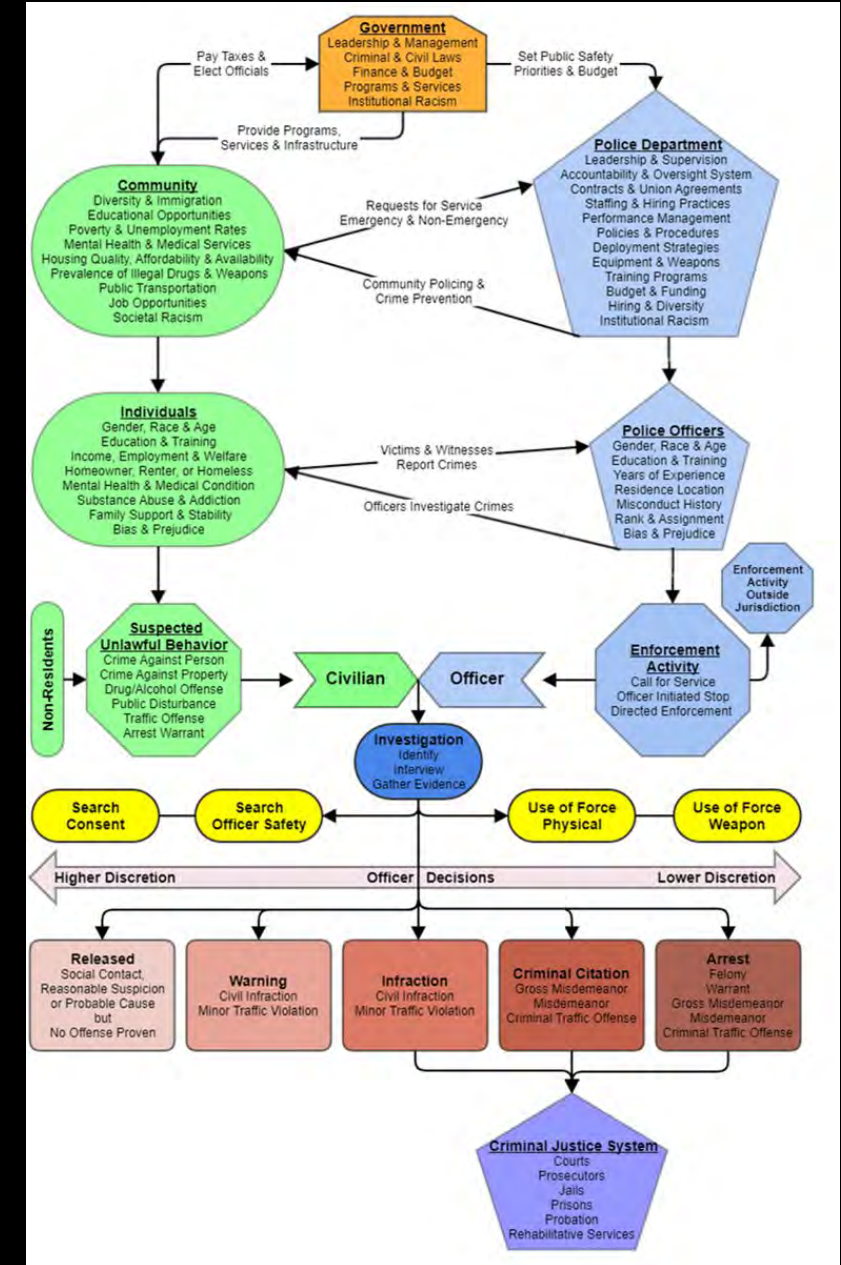
Felony Crimes - Average Bail by Defendant's Race



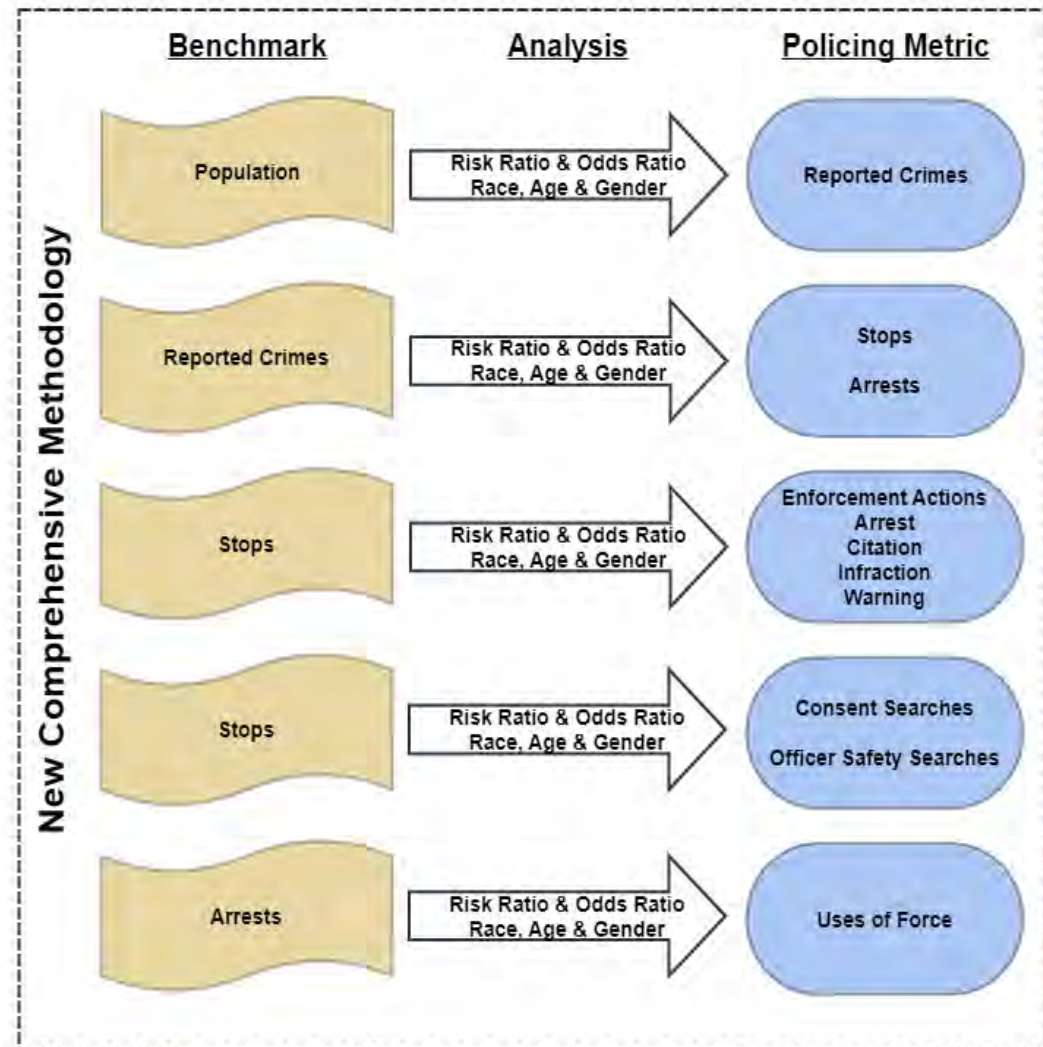
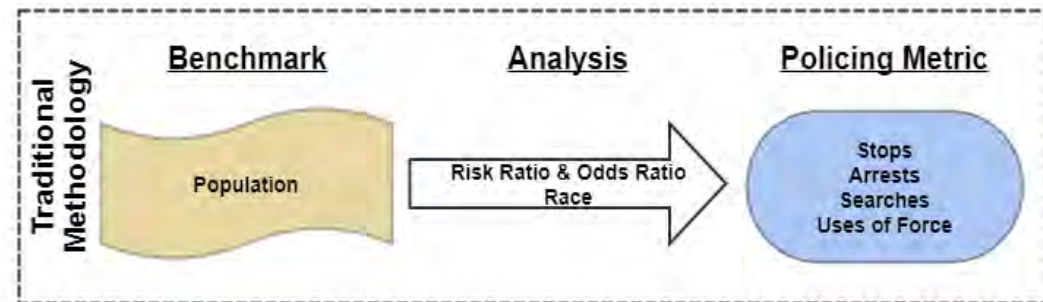
Traditional Methodology



New Methodology



Population-Based vs Activity-Based Benchmarks



Data Sources Used for Duluth PD

	Name	Time Period	Total Records
Census	US Census Population Estimates	2019	85,618
CFS	Victims and Offenders Identified in Calls for Service	Jan 2017 to May 2021	43,226
CAD	Computer Aided Dispatch System Arrests	Jan 2017 to Feb 2020	23,660
CAD	Computer Aided Dispatch System All Calls	Jan 2017 to Dec 2020	403,289
UOF	IAPro/BlueTeam Use of Force Incidents	2018 to 2020	281

Table 40: Risk Ratios Based Upon the Traditional Disparity Methodology – Population-Based Benchmarks – Duluth Police Department

Data Source	Census	CAD	CAD	UOF
Total Records	85,618	24,564	23,660	281
Benchmark		Population	Population	Population
	Population	Reported Offenders	Arrests	Uses of Force

Sex	Female	51.3%	0.7	0.6	0.4
	Male	48.7%	1.3	1.4	1.7

Race	White	94.1%	0.6	0.7	0.5
	Black	2.4%	8.9	6.9	11.5
	Nat Amer	1.9%	9.5	8.2	11.6
	Asian	1.7%	0.3	0.4	0.0

Age	0-17	17.2%	0.5	0.4	0.5
	18-29	25.8%	1.4	1.6	1.6
	30-39	13.4%	2.3	1.9	2.0
	40-49	10.8%	1.3	1.2	1.5
	50+	32.9%	0.3	0.4	0.2

Risk Ratios - Calls for Service and Officer Initiated Contacts

FBI Crime Category	White	Black	Nat Amer	Asian	Total Calls	% of Total
Theft	0.7	8.1	9.6	0.3	4,098	18.7%
Assault	0.6	12.1	9.2	0.2	3,832	17.5%
Domestic	0.6	7.9	10.8	0.4	3,812	17.4%
Other	0.6	9.5	10.9	0.2	3,397	15.5%
Vandalism	0.9	3.8	3.1	0.7	1,099	5.0%
Fraud	0.6	8.9	9.8	0.2	1,063	4.9%
Burglary	0.6	10.5	8.9	0.8	1,041	4.8%
Sex Crime	0.7	9.5	8.3	0.3	700	3.2%
Disturbance	0.6	8.2	10.9	0.3	713	3.3%
Drugs	0.7	6.3	9.5	0.4	588	2.7%
DUI	0.8	3.2	11.1	0.2	566	2.6%
Auto Theft	0.6	8.6	11.5	0.1	475	2.2%
Liquor Laws	0.7	7.0	10.6	0.8	238	1.1%
Robbery Kidnap	0.5	17.2	4.4	0.5	122	0.6%
Weapon	0.3	17.1	16.5	0.5	110	0.5%
Homicide	0.4	17.4	13.4	0.0	12	0.1%
Total Calls	0.6	8.9	9.7	0.3	21,866	100%
Duluth Population	94.1%	2.4%	1.9%	1.7%		

Arrest Rates – Arrests/Calls

FBI Crime Category	Total Calls	Arrest Rate
		Total
Theft	10,782	3.2%
Assault	6,896	17.0%
Domestic	5,041	1.2%
Other	4,631	21.9%
Vandalism	3,163	2.7%
Fraud	2,325	1.2%
Burglary	2,029	4.5%
Drugs	1,293	44.2%
Sex Crime	1,531	1.7%
DUI	1,265	46.4%
Disturbance	1,459	15.4%
Auto Theft	911	3.0%
Liquor Laws	583	3.3%
Robbery Kidnap	366	13.7%
Weapon	254	28.3%
Homicide	22	4.5%

Arrest Rate by Race of Subject			
White	Black	Nat Amer	Asian
2.5%	4.7%	6.6%	2.4%
17.5%	15.2%	18.0%	8.3%
1.0%	1.1%	1.5%	3.3%
20.5%	22.5%	26.3%	11.1%
2.0%	4.4%	7.0%	5.9%
0.9%	1.5%	3.3%	0.0%
3.3%	9.1%	9.5%	3.6%
42.8%	42.0%	50.9%	58.8%
1.5%	1.4%	2.2%	10.0%
46.2%	49.6%	43.3%	56.3%
14.8%	15.4%	16.6%	42.9%
2.4%	3.6%	6.4%	0.0%
3.6%	6.4%	0.8%	0.0%
11.8%	16.5%	15.9%	0.0%
30.1%	26.6%	24.3%	50.0%
11.1%	0.0%	0.0%	0.0%

Demographic Percentages

Data Source		Census	CFS	CAD	CAD	UOF
Total Records		85,618	43,226	24,564	23,660	281
Benchmark			Population	Population	Reported Offenders	CAD Arrests
		Population	Victims	Reported Offenders	Arrests	Uses of Force
Sex	Female	51.3%	1.0	0.7	0.9	0.6
	Male	48.7%	1.0	1.3	1.1	1.2
Race	White	94.1%	0.8	0.6	1.1	0.8
	Black	2.4%	4.7	8.9	0.8	1.7
	Nat Amer	1.9%	5.0	9.5	0.9	1.4
	Asian	1.7%	0.3	0.3	1.4	0.0
Age	0-17	17.2%	1.3	0.5	0.9	1.2
	18-29	25.8%	1.0	1.4	1.1	1.0
	30-39	13.4%	1.4	2.3	0.8	1.0
	40-49	10.8%	1.2	1.3	0.9	1.3
	50+	32.9%	0.6	0.3	1.3	0.5

NIBRS Reported Violent Crime Suspects – 38 Minnesota Agencies

			Reported Violent Crimes		
Demographics		Minnesota Population	Reported Offenders	Risk Ratio	Odds Ratio
Sex	Female	50.2%	14.6%	0.3	1
	Male	49.8%	85.4%	1.7	5.9
Race	White	86.0%	24.7%	0.3	1
	Black	7.2%	68.5%	10	33
	Nat Amer	1.4%	5.6%	4	14
	Asian	5.4%	1.2%	0.2	0.8
Age	0-17	23.1%	12.9%	0.6	
	18-29	15.5%	47.7%	3.1	
	30-39	13.7%	22.8%	1.7	
	40-49	11.8%	8.8%	0.7	
	50+	35.8%	7.7%	0.2	

Risk Ratios for All Arrests in Minnesota – 2018 to 2020

		Risk Ratios = % Arrests / % Population									
Offense	Total Arrests	Arrestee Sex		Arrestee Race				Arrestee Age			
		Female	Male	White	Black	Native Amer	Asian	0 - 17	18 to 35	35 to 50	50+
Larceny	58,634	0.9	1.1	0.7	4.6	4.5	0.4	0.6	2.3	1.3	0.3
Aggravated Assault	11,509	0.4	1.6	0.6	5.5	5.0	0.5	0.4	2.4	1.4	0.3
Burglary	6,114	0.3	1.7	0.7	4.3	4.2	0.4	0.7	2.4	1.3	0.2
Motor Vehicle Theft	4,326	0.4	1.6	0.5	5.3	5.9	1.3	1.2	2.4	0.9	0.1
Robbery	3,256	0.3	1.7	0.2	10.2	4.2	0.2	1.5	2.3	0.5	0.1
Rape	1,790	0.1	2.0	0.8	3.8	2.0	0.4	0.8	2.3	1.1	0.3
Arson	340	0.4	1.6	0.8	3.3	1.3	0.7	1.3	1.7	1.2	0.3
Murder	326	0.2	1.8	0.4	7.4	5.4	0.6	0.4	2.7	1.2	0.2
Human Trafficking	321	0.2	1.8	0.7	4.3	1.9	1.6	0.0	2.4	1.7	0.4

Risk Ratios for All Arrests in Duluth

		Risk Ratios = % Arrests / % Reported Crimes									
		Arrestee Sex		Arrestee Race				Arrestee Age			
FBI Crime Category	Total Arrests	Female	Male	White	Black	Nat Am	Asian	0 - 17	18 - 29	30 - 49	50+
Assault	1,579	1.3	0.8	0.9	1.1	1.1	0.7	1.5	0.8	0.8	1.8
Other	1,192	1.0	1.0	0.9	1.0	1.3	0.6	0.5	0.9	1.0	1.6
DUI	703	0.9	1.0	1.4	0.5	0.4	3.1	0.3	1.1	0.8	1.9
Drugs	628	0.9	1.0	0.9	1.0	1.1	3.5	0.3	1.0	1.1	1.2
Theft	397	1.0	1.0	1.0	0.7	1.2	1.2	0.4	1.0	0.9	1.9
Disturbance	272	1.1	1.0	1.0	1.0	1.1	2.7	0.7	0.8	0.9	2.4
Burglary	122	1.2	0.9	0.9	1.0	1.2	2.2	1.3	0.9	0.8	2.0
Vandalism	108	1.0	1.0	1.0	0.8	1.3	2.4	1.1	0.9	0.8	2.0
Domestic	93	1.4	0.8	0.8	1.1	1.5	3.4	4.9	0.6	0.6	0.9
Weapon	82	0.9	1.0	0.9	1.4	0.7	2.8	0.4	1.0	0.8	2.2
Robbery Kidnap	54	1.1	0.9	0.8	1.4	1.2	0.0	1.8	0.8	0.8	1.9
Fraud	39	1.2	0.9	1.0	0.5	1.5	0.0	0.6	1.0	0.9	1.6
Sex Crime	36	1.0	1.0	1.0	0.7	1.3	7.7	2.0	0.6	0.9	2.0
Auto Theft	32	1.1	0.9	1.0	0.7	1.2	0.0	0.4	0.9	1.0	1.9
Liquor Laws	22	1.1	0.9	1.3	0.7	0.3	0.0	0.5	1.4	0.7	1.4
Homicide	3	1.3	0.8	1.7	0.0	0.0	0.0	4.0	0.0	0.7	3.4
Violent Crime	1,672	1.2	0.9	0.9	1.1	1.1	0.8	1.6	0.8	0.8	1.8
Property Crime	698	1.0	1.0	1.0	0.8	1.2	1.4	0.7	1.0	0.9	1.9
Other Crime	2,992	1.0	1.0	1.0	0.9	1.0	2.1	0.6	1.0	1.0	1.7
Total Arrests	5,362	1.1	1.0	1.0	0.9	1.1	1.6	0.9	0.9	0.9	1.7
All Reported Crimes		38%	62%	61%	21%	18%	0.5%	8%	37%	45%	10%

Odds Ratios for All Arrests in Duluth

		Odds Ratios					
FBI Crime Category	Total Arrests	Arrestee Sex		Arrestee Race			
		Female	Male	White	Black	Nat Am	Asian
Assault	1,579	1	0.7	1	1.1	1.2	0.7
Other	1,192	1	1.0	1	1.1	1.4	0.6
DUI	703	1	1.1	1	0.4	0.3	2.3
Drugs	628	1	1.1	1	1.1	1.2	3.7
Theft	397	1	1.0	1	0.7	1.1	1.1
Disturbance	272	1	0.9	1	1.0	1.1	2.8
Burglary	122	1	0.7	1	1.1	1.2	2.3
Vandalism	108	1	1.1	1	0.8	1.4	2.4
Domestic	93	1	0.6	1	1.3	1.8	4.2
Weapon	82	1	1.1	1	1.5	0.7	3.0
Robbery Kidnap	54	1	0.8	1	1.8	1.6	0.0
Fraud	39	1	0.7	1	0.5	1.4	0.0
Sex Crime	36	1	1.0	1	0.8	1.4	8.1
Auto Theft	32	1	0.8	1	0.7	1.2	0.0
Liquor Laws	22	1	0.8	1	0.6	0.2	0.0
Homicide	3	1	0.6	1	0.0	0.0	0.0
Violent Crime	1,672	1	0.7	1	1.1	1.2	0.9
Property Crime	698	1	0.9	1	0.7	1.2	1.4
Other Crime	2,992	1	1.0	1	0.9	1.0	2.1
Total	5,362	1	0.9	1	0.9	1.1	1.6
All Reported Crimes		38%	62%	61%	21%	18%	0.5%

Discretionary Levels – Disparity Matrix

			Officer Discretion Level				
			Very Low	Low	Medium	High	Very High
Incidents			4,199	2,363	2,839	5,949	10,316
All Incidents			Arrests for Violent & Weapon Crimes & Warrants	Arrests for Non-Violent Crimes	Other Actions for Felonies & Violent Misdemeanors	Other Actions for Non-Violent Misdemeanors	Other Actions for Traffic Offenses
Sex	Female	51.3%	0	0	0	0	0
	Male	48.7%	0	0	0	0	0
Race	White	94.1%	0	0	0	0	0
	Black	2.4%	0	0	++	0	-
	Nat Amer	1.9%	++	+	0	+	-
	Asian	1.7%	0	0	0	0	0
Age	0-17	17.2%	-	-	++	++	-
	18-29	25.8%	0	0	0	0	0
	30-39	13.4%	0	0	0	0	0
	40-49	10.8%	0	0	0	0	0
	50+	32.9%	0	0	-	0	+

Symbol	Disparity	Risk Ratio
++	Positive	> +50%
+	Positive	+25% to +50%
0	None	-25% to +25%
-	Negative	-25% to -100%

**Table 35: Demographics of Arrests, Uses of Force and Use of Force Rates –
Duluth PD – 2018 to 2020**

		Arrests	Uses of Force	UOF Rate
Sex	Female	920	39	4.2%
	Male	2,949	156	5.3%
Race	White	2,193	100	4.6%
	Black	749	55	7.3%
	Nat Amer	899	40	4.4%
	Asian	19	0	0.0%
Age	0-17	161	22	13.7%
	18-29	1,484	83	5.6%
	30-39	1,203	47	3.9%
	40-49	579	29	5.0%
	50+	445	12	2.7%
Total		3,869	195	5.0%

Questions?

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