Analysis of Police Incidents by Race

Metro Transit
Research and Analytics
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Metro Transit
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Executive Summary

Metro Transit's Research and Analytics team conducted analysis of police incident data provided by the Metro Transit Police Department (MTPD). These data contained records of police incidents that resulted in either arrests, citations, or warnings for both juveniles and adults. First, analysis was conducted on 2014 and 2015 arrest and citation data provided to the ACLU. These data were limited to incidents classified as a gross misdemeanor or lower. A similar methodology previously used by ACLU (aclu.org/other/picking-pieces-methodology) was used to analyze these data.

Second, analysis was conducted on the full MTPD dataset which included both felonies and warnings to better understand differences in incident rates across racial groups, with specific emphasis on examining the likelihood to warn, cite or arrest. Next, analysis was conducted to identify if there are differences in the application of fare evasion policy enforcement across racial groups. Last, analysis was conducted to identify if there were differences in enforcements of first-time fare evasion procedure across racial groups in the 10 months following Green Line opening. During this time, a directive required officers to give warnings for all first-time fare evasion incidents.

Below are the key points from the analysis:

Analysis of Arrest and Citation Data Sent to ACLU

- Normalized to Transit rider demographics, ***Native Americans*** have the ***highest*** number of arrests and citations per 100,000 rides (13.83), ***followed by black persons*** (12.03), unknown race (2.42) and white persons (2.23).

- Regarding ***arrests*** specifically, ***Native Americans*** have the ***highest*** number of arrests per 100,000 riders (5.08), ***followed by black persons*** (4.07), and white persons (0.59).

- Since ***true incident rates*** by racial group ***are unknown***, this analysis cannot distinguish whether uneven enforcement rates are due to bias in enforcement or reflect differences in actual incident levels across racial groups.

Analysis of Full Dataset

- There are ***no significant differences*** between rates of warnings, citations, or arrests across racial groups ***for the most serious incidents*** (gross misdemeanors and felonies). The vast majority of these incidents result in arrests across racial groups.

- Regarding ***all incidents, black adults*** are estimated to be ***1.16 times (16 percent) more likely*** to be ***cited*** rather than warned when compared with white adults.

- ***Black adults*** are estimated to be ***1.38 times (38 percent) more likely*** to be ***arrested*** rather than warned when compared with white adults.

- ***Native American adults are estimated*** to be ***1.55 times (55 percent) more likely*** to be ***cited*** rather than warned when compared with white adults.

- *Native American adults* are estimated to be *1.93 times (93 percent)* more likely to be arrested rather than warned when compared with white adults.

- There are *no significant differences* in the likelihood of being cited rather than warned across racial groups for juveniles; however, it is noted that sample sizes are smaller. There is not enough data to estimate if there is a difference between the likelihood to be arrested across racial groups for juveniles.

Analysis of First- and Second-Time Fare Evasion Encounters

The third analysis examines whether enforcement of fare evasion policy is different across racial groups. First and second encounters with MTPD officers for fare evasion specifically are studied. Control variables include gender, number of misdemeanors or felonies associated with the incidents and the number of previous encounters for incidents other than fare evasions. Here is an overview of the results:

First-Time Encounters

- *Black adults* are estimated to be *1.26 times more likely* to be *cited* rather than warned when compared with white adults.

- *Native American adults* are estimated to be *2.52 times more likely* to be *cited* rather than warned when compared with white adults.

- There are *no significant differences* across racial groups in the *likelihood to be arrested* on a first-time fare evasion encounter; however, sample sizes are too small to make inferences.

- Regarding *juveniles*, there are *no significant differences* in the likelihood to be cited rather than warned across racial groups and there is insufficient data to make inferences regarding the likelihood to be arrested.

Second-Time Encounters

- There are *no significant differences* across racial groups in enforcements of fare evasions for adults. There is insufficient data to make inferences regarding differences in enforcements of fare evasions for juveniles.

Analysis of First-Time Fare Evasions During Period after Green Line Opening

- There are no significant differences in the likelihood to cite rather than warn for black adults when compared with white adults.

- There is insufficient data during this period to draw conclusions regarding differences in enforcements of fare evasions for Native Americans.

Additional General Findings

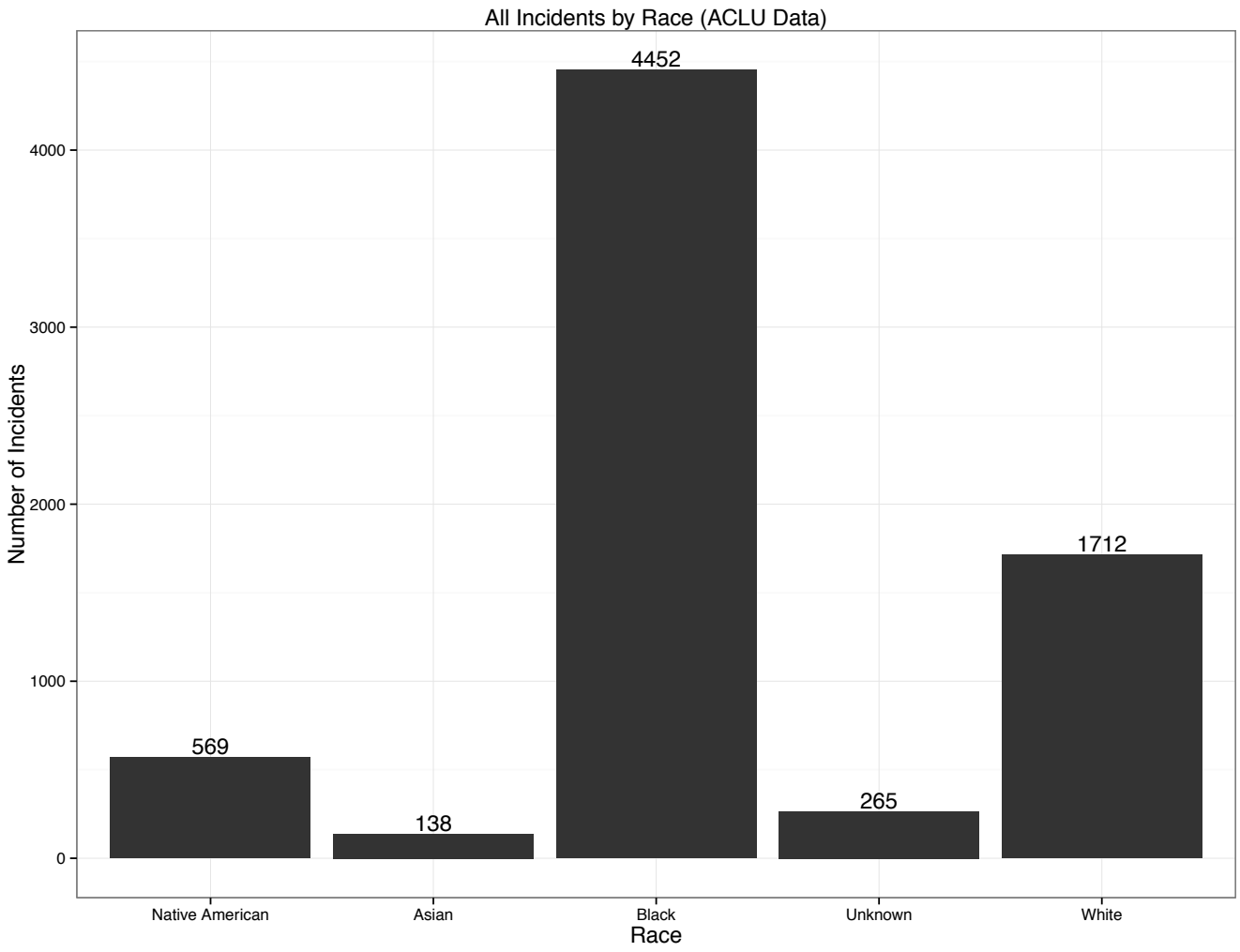
Differences in enforcements across racial groups are largest among alleged offenders whom police have not previously encountered and smallest among those whom police have previously encountered.

Section 1
Analysis of Data Provided to ACLU

Summary of the Data Provided to ACLU

Following basic data cleaning, which included removing duplicate rows (rows in which all columns identically matched), there were a total of 7,136 arrests and citations in the data. These data included only arrests and citations for incidents classified as Gross Misdemeanor or lower spanning a period from January 2014 to August 2015. There were a total of 4,452 arrests and citations involving black persons, 1,712 involving white persons, 569 involving Native Americans, 138 involving Asians and 265 unknown (See figure 1).

Figure 1. Arrests and Citations by Race (not adjusted to ridership demographics)



Normalization of the Data

Since transit ridership is not equal across the racial groups, the data were normalized in order to obtain a better understanding of rates of incidents across demographic groups. The 2014 Metro Transit Customer Survey was used as the basis to normalize the police data to transit demographics. These demographics are as follows:

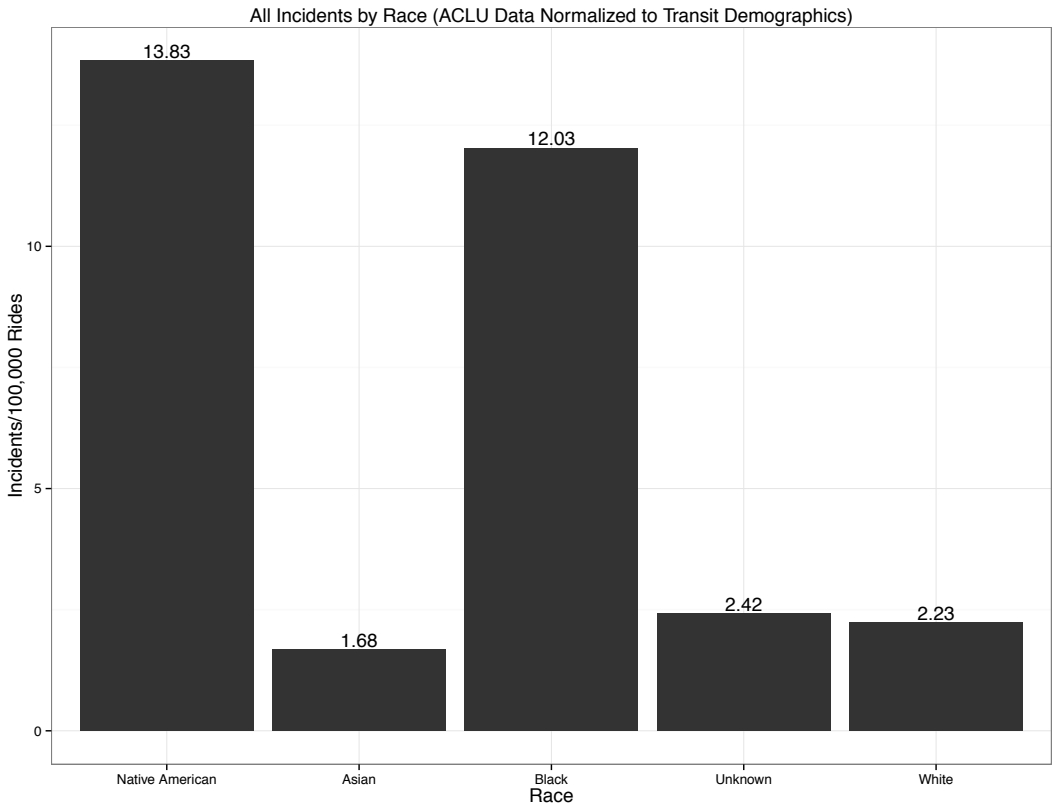
Caucasian: 56% Black: 27% Asian: 6% Native American: 3% Other: 8%

For this analysis, the total number of records by race was multiplied by 100,000 and divided by the ridership for each race to determine the number of incidents per 100,000 rides. This methodology follows a similar approach as ACLU's recent analysis of Minneapolis police data (available at: aclu.org/other/picking-pieces-methodology). As an example to illustrate the methodology, there were 4,452 arrests and citations involving black persons and approximately 137,100,000 transit rides during the study period. Black persons comprise 27 percent of transit riders. Therefore, the number of records involving black persons is normalized as:

(4,452 x 100,000) / (0.27 x 137,100,000) = 12.03 incidents/100,000 rides

Figure 2 depicts the total arrests and citations per 100,000 rides across demographic groups. As shown in the plot, the number of normalized incidents is highest for Native Americans and black persons, much higher than any other demographic group.

Figure 2. Arrests and Citations by Race (normalized to Transit Demographics)



Arrest and Citation Ratios

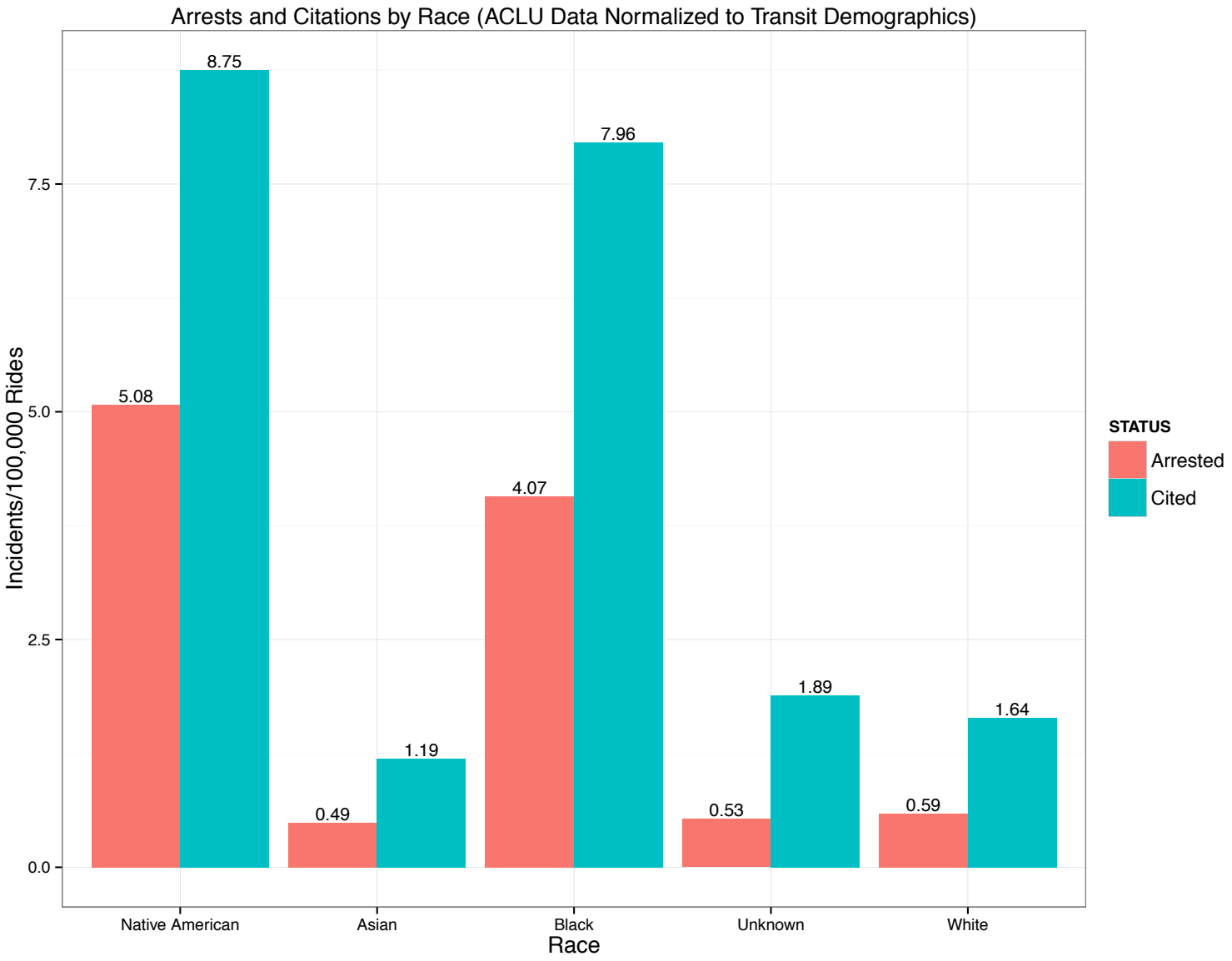
To maintain consistency with previous ACLU analysis of Minneapolis police records, the normalized arrest and citation ratios across demographic groups are compared. Specifically, the Native American/White and Black/White arrest and citation ratios were calculated and plotted. The ratios are calculated by dividing the normalized arrest or citation rate for black persons and Native Americans by the arrest and citation rates for white persons.

For example, the arrest rate for black persons is 4.07/100,000 rides while the white arrest ratio is 0.59/100,000 rides. Dividing 4.07 by 0.59 yields a ratio of 6.89. Table 1 includes arrest and citation ratios for each demographic group and Figure 3 shows the arrest and citation rates.

Table 1. Arrest and Citation Ratios

Demographic Group	Arrest Ratio	Citation Ratio
Black/White	6.89	4.85
Native American/White	8.61	5.33
Asian/White	0.83	0.72
Unknown/White	0.90	1.15

Figure 3. Arrest and Citation Rates by Demographic Group



Conclusions

Arrest and citation rates vary across racial groups. Specifically, Native Americans have the highest arrest and citation rates, followed by black persons. There are no substantive differences in arrest or citation rates between white persons, asians, or those with an unknown race. While the number of police enforcements by racial group is known, the actual incident rates by racial groups are unknown, so caution is advised when interpreting these results. Conclusions cannot be drawn about whether bias exists in police enforcements based on these data alone. Enforcements would need to be compared to known baseline incident rates by racial group in order to detect bias in enforcement.

Section 2
Analysis of Arrests, Citations and Warnings

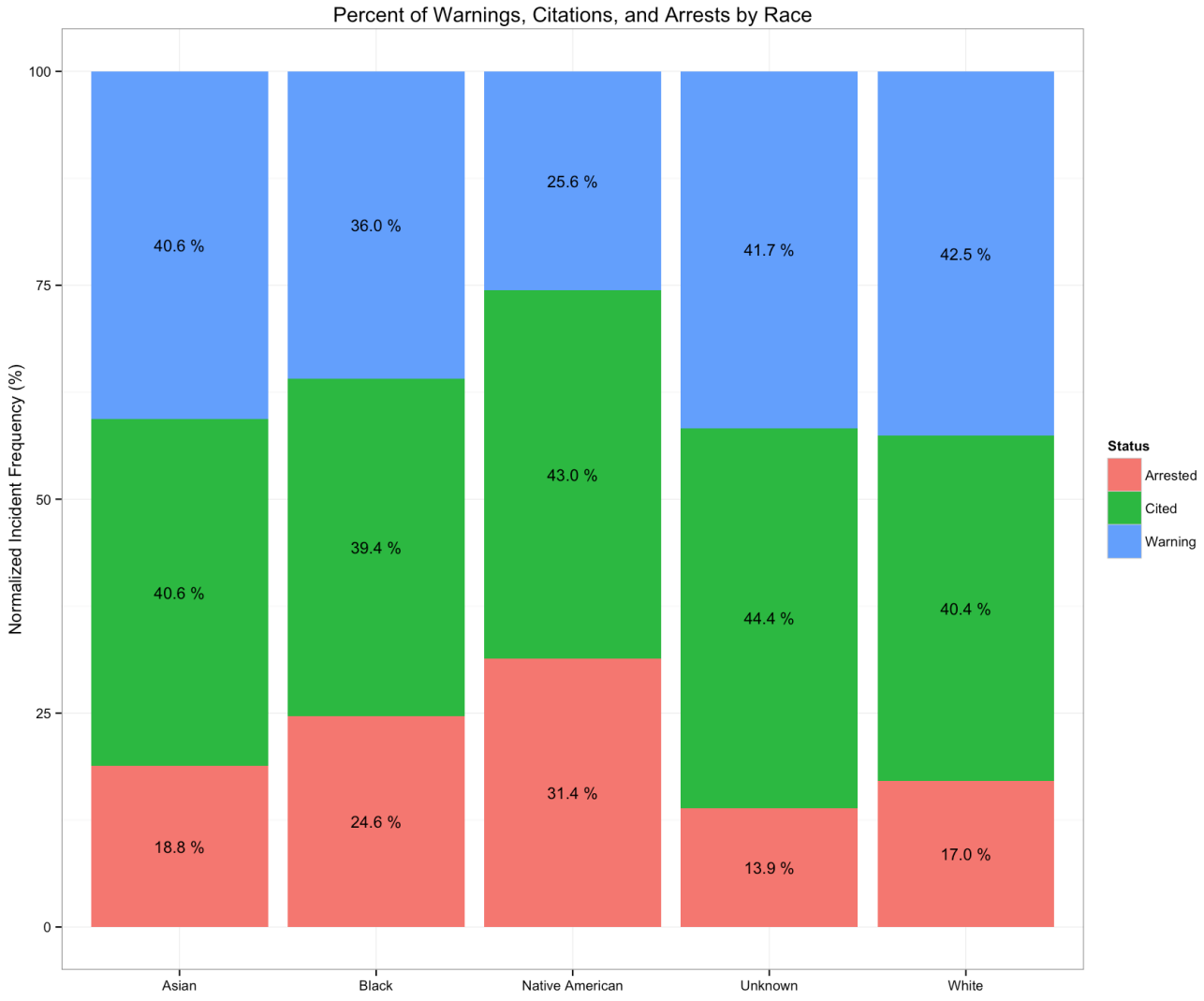
Introduction

Since there is no information regarding true rates of crime by demographic group, it is not possible to use these data to draw conclusions about whether crimes are disproportionately enforced by police. However, since there is information regarding outcomes of incidents (whether individuals were arrested, cited or warned), we can test if there are significant differences in outcomes across racial groups. In this analysis, the full MTPD records were analyzed which included felonies as well as warnings.

All Incidents

Figure 4 depicts the arrest, warning and citation rates for each demographic group for all incidents. It is noted that while 17 percent of incidents involving white persons result in arrests, 24.6 percent of all incidents with black persons and 31.4 percent of incidents with Native Americans result in arrests. Conversely, warning rates are higher for white persons (42.5 percent) than black persons (36.0 percent) or Native Americans (25.6 percent).

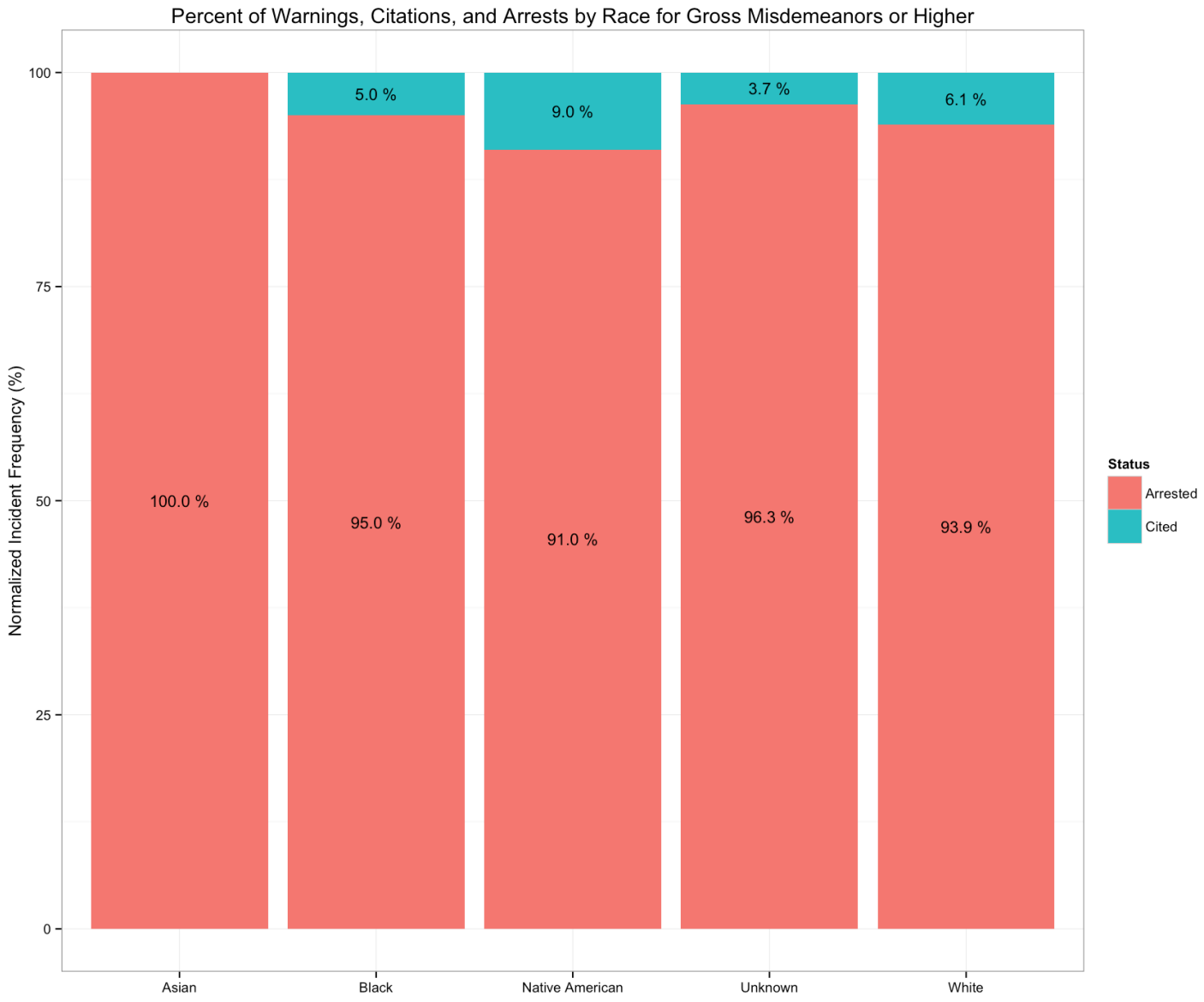
Figure 4. Arrest, Warning and Citation Rates by Race (all Incidents)



Rates for Most Serious Incident Types

Next, arrest, warning and citation rates are compared for different incident types. Figure 5 depicts the arrest, warning and citation rates across demographic groups for the most serious incidents (felonies and gross misdemeanors). Arrest, warning and citation rates are not different across demographic groups for these incident types. In all demographic groups, nearly all persons are arrested for these incidents.

Figure 5. Arrest, Citation and Warning Rates for Most Serious Incident Types



It is evident in these data that enforcement rates do not vary across race for the most serious incidents. It then follows that differences between incident rates across racial group must be driven by enforcements of lower level crimes.

Statistical Models

In this section, statistical models are used to determine if the differences in the outcome of incidents are statistically significant. Multinomial logistic regression models are used to estimate the differences in the likelihood of an incident resulting in an arrest, citation, or warning by racial group. In all cases, control variables included the gender of the suspect, the number of misdemeanors and felonies associated with the incident, and the number of previous encounters with MTPD.

The first model estimated the effect of race across all incidents for adults only. The second model estimated the effect of race across all incidents for juveniles. The third and fourth models examine enforcement of fare evasions across racial groups for adults and juveniles respectively. Fare evasions are examined specifically because they are a low-level crime and are typically the first interaction Transit Police have with the riding public – equivalent to a traffic stop. The model results are summarized below.

Model 1. All Incidents (Adults)

- *Black adults* are estimated to be *1.16 times (16 percent) more likely* to be cited rather than warned when compared with white adults.
- *Black adults* are estimated to be *1.38 times (38 percent) more likely* to be arrested rather than warned when compared with white adults.
- *Native American adults* are estimated to be *1.55 times (55 percent)* more likely to be cited rather than warned when compared with white adults.
- *Native American adults* are estimated to be *1.93 times (93 percent)* more likely to be arrested rather than warned when compared with white adults.
- There are no significant differences in the likelihood of being arrested, cited, or warned when comparing Asian adults with white adults.

Model 2. All Incidents (Juveniles)

- There are no significant differences in the likelihood of being cited rather than warned across racial groups for juveniles.
- There is not enough data to estimate if there is a difference between the likelihood to be arrested across racial groups for juveniles.

Enforcement of Fare Evasions

Next, enforcements of fare evasions are specifically examined. In these models, first and second-time encounters for fare evasions with MTPD are examined. For the first model, we only considered the first occurrence of fare evasion for each individual and compared outcomes of those incidents across racial groups. Control variables included gender, number of misdemeanors or felonies associated with the incident and number of previous incidents not related to fare evasion. The analysis was conducted for

both adults and juveniles. The analysis was then conducted on the incidents occurring during the first ten months after Green Line opening. During this period, MTPD Officers were required by directive to warn, rather than cite for first-time fare evasion offenses.

First Time Encounters

- *Black adults* are estimated to be *1.26 times (26 percent) more likely* to be cited rather than warned when compared with white adults.
- *Native American adults* are estimated to be *2.52 times (152 percent) more likely* to be cited rather than warned when compared with white adults.
- There are *no significant differences* across racial groups in the likelihood to be *arrested* on a first time fare evasion encounter, however sample sizes are too small to make strong inferences.
- Regarding juveniles, there are no significant differences in the likelihood to be cited rather than warned across racial groups and there is insufficient data to make inferences regarding the likelihood to be arrested.

Second-Time Encounters

- There are no significant differences across racial groups in enforcements of fare evasions for adults. There is insufficient data to make inferences regarding differences in enforcements of fare evasions for juveniles.

First-Time Encounters During Period After Green Line Opening

- There are *no significant differences* in the likelihood to cite rather than warn for *black adults* when compared with white adults.
- There is *insufficient data* during this period to draw conclusions regarding differences in enforcements of fare evasions for *Native Americans*.

Conclusions

The data indicate there are differences in rates of incidents by race. Specifically, Native Americans and African Americans have disproportionately higher rates of incidents than other races. Additionally, the data indicate some statistically significant differences in the likelihood to arrest or cite rather than to warn by race. Caution is advised in interpreting the results of this report as true incident rates by demographic group are not known. Therefore, incident rates by demographic group cannot be directly compared to known baselines. Additional caution is advised in the statistical analysis. While it is known whether an incident resulted in a warning, citation or arrest, the full circumstances of the arrest or citation may not be fully accounted for in this analysis. Lastly, when a warn-first procedure for first-time fare evasion incidents is in effect, there are no significant differences in enforcements for fare evasions across demographic groups.