



# **Analysis of Traffic Citation Data for the Wichita Police Department (2019-2020)**

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## Executive Summary

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The purpose of this study is to describe the characteristics of citizens who received citations for the years 2019 through 2020 by Wichita Police Officers paying particular attention to the race and ethnic distribution. The analysis describes the citations in terms of the following variables:

- Race / ethnicity
- Citation trends over two years by quarter
- Citations issued by race / ethnicity
- Citations issued sorted by gender
- Most common citations issued
- Citations given at scene of accident by race
- Relative risk of receiving a citation Black and White citizens

### Key Findings:

- The Wichita Police Department issued 95,992 citations from 2019 through 2020.
- Out of the total 95,992 citations, 71,872 were unique citations. Unique citations are those stops where an officer issued a single citation, so multiple citations are not counted. This too controls for those stops where a passenger was issued a citation. Seventy-five (75) percent of the drivers received only one citation, while 25 percent received more than citation at the stop.
- White citizens received 58.5 percent, Blacks 21.0 percent, Hispanics 16.5 percent, and Asian, American Indian, and Other races received 4 percent of the citations issued. This finding is fairly consistent with the analysis conducted in 2020 by the Wichita State University Research Team.<sup>1</sup>
- Over the two years, males received more citations (59.4%) than females (40.5%). This finding is consistent with national trends. Note, in 0.2% of WPD citations, the gender was unknown or not listed.
- The risk of Black citizens receiving a citation in 41 of the 58 most common citation charges issued by police officers is two or more times that of White citizens.

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<sup>1</sup> See: Birzer, Michael, and Skinner, Thomas (2020, April). *Technical Report: Analysis of traffic citation data for the Wichita Police Department (2016-2018)*. Submitted to the Wichita Police Department.

## **Introduction and Background**

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On July 23, 2021, the Wichita Police Department (WPD) entered into a service agreement with Dr. Michael Birzer of Wichita State University (WSU) to conduct an independent analysis of the WPD's total traffic citation data for the years 2019 through 2020. Dr. Birzer acquired the services of Thomas Skinner, a Ph.D. candidate and graduate research assistant in the Community Psychology program at WSU to assist with this project.

The primary purpose of the analysis was to describe the characteristics of citizens who received a citation from a Wichita Police Officer during the two-year period. We were particularly interested in the racial characteristics. The analysis involved using descriptive statistics and a Relative Risk Index statistic.

## **Data and Analysis Methods**

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The Wichita Police Department released two years of citation data 2019 through 2020 to the researchers for analysis. The data was evaluated using *Excel*. The statistics used to analyze the citation data fall under two major branches:

Descriptive Statistics: The analysis included descriptive statistics in the form of raw numbers and percentages depicted in figures throughout the report.

Relative Risk Index (RRI) Statistic: We calculated RRI comparing White and Black citizens on 58 different citation charges issued to motorists. The RRI measures give an indication of the strength of association. It measures the standardized rate of occurrence of a specific event in a comparison population (i.e., White citizens) and compares it to the rate of occurrence in other populations (i.e., Black citizens). If the statistic equals 1.0 or is close to 1.0, it suggests no or little difference in the rate of occurrence. An RRI score greater than 1.0 suggests an increased risk of an outcome in the other group. It is also possible for the RRI ratio to be less than 1.0, which is associated with a reduction in risk. For example, if the RRI equals .5, then the rate of occurrence in the other group is only half of that of the comparison group.

## Citations by Year

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In 2019 the Wichita Police Department issued 49,265 citations to citizens. In 2020, they issued 46,463 citations to citizens. This represents just over a five percent decrease in citations written in 2019 compared to 2020.

*Figure 1. Citations issued 2019 and 2020*

<b>Race/Ethnicity</b>	<b>2019</b>	<b>2020</b>	<b>Total</b>	<b>Percentage</b>
White	28437	27555	55992	58.5%
Black	10670	9460	20130	21.0%
Hispanic	8085	7705	15790	16.5%
Asian	1358	1057	2415	2.5%
Native American	162	137	299	0.3%
Unknown	553	549	1102	1.2%
<b>Total</b>	<b>49265</b>	<b>46463</b>	<b>95728</b>	

## Citations by Gender 2019 and 2020

Figure 2 below shows the total number of citations issued by gender for 2019 and 2020. Across both years, males received 18,078 more citations when compared to females. The fact that males received more citations is not surprising. National studies consistently find this trend.

*Figure 2. Citations issued by gender 2019 and 2020*

<b>Sex</b>	<b>2019</b>	<b>2020</b>	<b>Total</b>	<b>Percentage</b>
Male	28899	27918	56817	59.4%
Female	20286	18453	38739	40.5%
Unknown	80	92	172	0.2%
<b>Total</b>	<b>49265</b>	<b>46463</b>	<b>95728</b>	



## Results of All Citations Sorted by Race (N=95,728)

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In the remainder of this analysis we have combined the years 2019 and 2020. In all, for the years 2019 and 2020, there were a total of 95,992 citations issued to citizens by Wichita Police Officers. When taking into account the race / ethnicity of citizens receiving a citation, White citizens received 58.5 percent of citations, Black citizens received 21.0 percent of the citations, followed by Hispanics at 16.5 percent as shown below in Figure 1.

*Figure 3. Racial/Ethnic Breakdown of all Citations 2019-2020:*

<b>Race/Ethnicity</b>	<b>Total Citations</b>	<b>Percentage of Citations</b>	<b>Percentage of Population</b>
White	55992	58.5%	74.3%
Black	20130	21.0%	10.9%
Hispanic	15790	16.5%	17.2%
Asian	2415	2.5%	5.1%
Native American	299	0.3%	1.0%
Unknown	1102	1.2%	
<b>Grand Total</b>	<b>95728</b>		

## Citations Issued at Accident Sorted by Race

In this analysis, we also sorted citations specifically given as part of a motor vehicle accident investigation. Figure 2 shows the racial/ethnic characteristics of motorists who received a citation as the result of 33,037 motor vehicle accidents.

*Figure 4. Racial/Ethnic Breakdown of citations issued at Accidents 2019-2020:*

<b>Race/Ethnicity</b>	<b>Number of Accidents</b>	<b>Percentage of Accidents</b>	<b>Percentage of Population</b>
White	20288	61.4%	74.3%
Black	4374	13.2%	10.9%
Hispanic	4226	12.8%	17.2%
Asian	1084	3.3%	5.1%
Native American	94	0.3%	1.0%
Unknown	2971	9.0%	
<b>Grand Total</b>	<b>33037</b>		

## Citations Issued at Accident by Sorted By Gender

Table 5 shows the citations issued at an accident sorted out by gender.

*Figure 5. Gender and Citations Issued at Accidents*

Sex	Accidents	Percentage
Male	16565	50.1%
Female	14954	45.3%
Unknown	1518	4.6%
Total	33037	

## Unique Citations

Because the organization of the data is in the form of total citations, and not *unique* citations given, we sorted the data in order to examine *unique* citations. *Unique* citations are those stops where an officer issued a single citation, so multiple citations are not counted. This is important because in cases of some multiple citations, passengers were also issued citations. Out of the total 95,728 citations, 71,872 were unique citations. Therefore, about 25 percent of traffic citations in Wichita during the two-year period involved the writing of more than one citation at the stop.

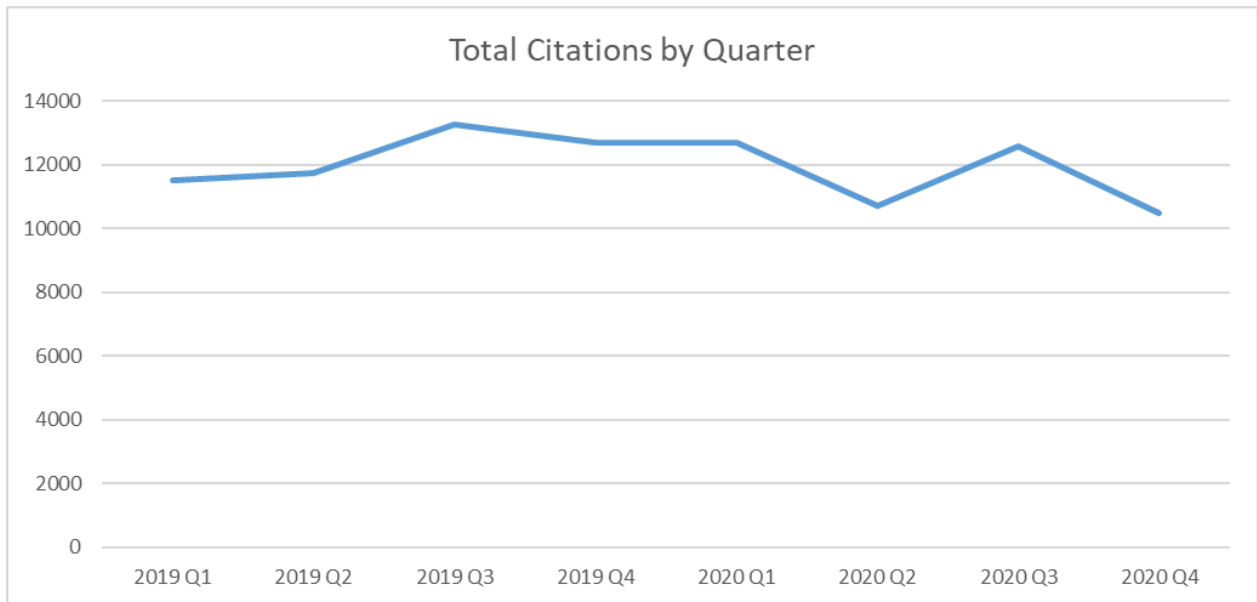
*Figure 6. Racial/Ethnic Breakdown of all Stops where a citation was issued (Unique Stops) 2019-2020:*

Race/Ethnicity	Total Stops w Ticket	Percentage of Stops	Percentage of Population
White	45552	63.4%	74.3%
Black	12594	17.5%	10.9%
Hispanic	10467	14.6%	17.2%
Asian	2046	2.8%	5.1%
Native American	215	0.3%	1.0%
Unknown	998	1.4%	
Grand Total	71872		

## Citations Issued By Quarter

When considering citations issued by quarter, quarter 3 in 2019 demonstrates the largest amount of citations issued over the two years. Likewise, quarters 2 and 4 in 2020 demonstrated the least amount of citations issued.

Figure 7. Trend Line - Total Citations by Quarter



## Most Common Citations Issued

The evaluators also sorted the citation data in order to see the most common citation type written by Wichita Police Officers. We started with the citations that were written at least 100 times. The next page depicts the most common citations and the number of times they were issued.

Citation	Number
SPEED OVER LIMIT	31917
NO PROOF OF INSURANCE	7690
DRIVE ON SUSPENDED/REVOKED/CANCELED/FRAUDULENT DRIVERS LICENSE	6676
NO VALID DRIVER'S LICENSE IN POSSESSION	5612
EXPIRED TAG/TAG REQUIRED/NOT TITLED TAG-VEHICLE-TRAILER	3663
SPEEDING IN A CONSTRUCTION AREA	3366
SEAT BELT REQUIRED - 18 OR OLDER	3293
INATTENTIVE DRIVING	3010
RUN RED LIGHT	2704
SPEED - 30 MPH	2176
RUN STOP SIGN	1794
IMPROPER LEFT TURN	1307
YIELD ROW - LEFT TURN	1262
DUI - INCAPABLE OF SAFELY OPERATING	1236
DEFECTIVE HEADLIGHT	1100
UNSAFE LANE CHANGE	868
IMPROPER RIGHT TURN	792
DUI - .08 OR GREATER	755
FOLLOW TOO CLOSE	696
KNOWINGLY DRIVE WITHOUT INSURANCE	619
SIGNAL TURN 100 FEET	608
TRANSPORT OPEN ALCOHOLIC BEVERAGES	579
CARELESS DRIVING - ENDANGER PERSON OR PROPERTY	575
FAIL TO SIGNAL TURN	557
DISPLAY ALTERED/FICTIOUS TAG	554
TEXTING WHILE DRIVING	528
ILLEGAL TAG	526
TAG ILLUMINATED	523
EMERGING FROM ALLEY, DRIVEWAY, BUILDING	473
CARELESS DRIVING - DRIVER ACTION	460
YIELD ROW - STOP SIGN	457
RENDER AID OR GIVE INFORMATION	456
DEFECTIVE TAILLIGHT	446
DISOBEY NO TURN SIGN	444
LIGHTS REQUIRED - SUNSET TO SUNRISE	388
DUI SECOND	348
RUN RED LIGHT - RIGHT TURN	263
LIGHTS REQUIRED - CERTAIN HOURS	262
HIT AND RUN - PARKED VEHICLE	254
SPEED EXCESS MAXIMUM LIMIT	248
VIOLATE DRIVERS LICENSE RESTRICTION	238
LIABILITY INSURANCE REQUIRED	211
DEFECTIVE BRAKE LIGHTS	204
FAIL TO REDUCE SPEED	186
WINDSHIELD CRACKED	186
DRIVE WRONG WAY/ONE WAY	181
INVALID ORDINANCE	171
DISOBEY TRAFFIC CONTROL DEVICE	163
CHILD RESTRAINT - UNDER 4 YEARS	158
FAIL TO REDUCE SPEED - HAZARDS	141
DISPLAY TAG IN PROPER PLACE	134
PEDESTRIAN USE MARKED CROSSWALK/LANE	133
CHILD RESTRAINT 4 - 7 YEARS	126
DUI - DRUG(S)	125
DRIVE RIGHT SIDE - 4 LANES	124
BICYCLE - LIGHTS CERTAIN HOURS	121
RECKLESS DRIVING	117
UNSAFE BACKING	108

## **Relative Risk of Receiving Citation by Black and White Race**

Next, we examine the citations and sort them by Relative Risk Index (RRI). Recall that the RRI is a statistic that measures the relative risk of getting a certain type of citation. In this analysis, we calculated the RRI for Black citizens compared to White citizens on 58 different traffic citation types issued by Wichita Police Officers.

We used Black citizens as the “at risk” population and White citizens are the “comparison group.” If the RRI calculation equals one or close to one, it means that Blacks and Whites are receiving citation numbers proportionate to their population. Put another way, if the RRI is one, the risk for Blacks and Whites is comparable. If the RRI is less than one, it means the risk is lower for Black citizens compared to White citizens. If the RRI is greater than one, it means that the risk is greater for Black citizens when compared to White citizens.

We removed cases where there were less than 100 overall citations in the course of two years due to their statistical meaninglessness which would make generalizations impossible. See figure 10 on next page RRI calculations. Please note, in figure 10, the total column will be greater than the sum of the citations received by Black and White citizens. The total columns depict all citations issued for all races/ethnicities. We were only concerned with calculating a RRI for Black citizens receiving certain violations and comparing to the White citizens – the comparison group.

Citation	Black Citations	White Citations	Total	Black RRI
CHILD RESTRAINT - UNDER 4 YEARS	71	39	158	12.40955
CHILD RESTRAINT 4 - 7 YEARS	55	41	126	9.144104
TRANSPORT OPEN ALCOHOLIC BEVERAGES	217	209	579	7.077433
DISPLAY ALTERED/FICTIOUS TAG	234	235	554	6.787507
DRIVE ON SUSPENDED/REVOKED/CANCELED/FRAUDULENT DRIVERS LICENSE	2704	2815	6676	6.547728
NO VALID DRIVER'S LICENSE IN POSSESSION	1626	1700	5612	6.519795
ILLEGAL TAG	191	232	526	5.611871
KNOWINGLY DRIVE WITHOUT INSURANCE	214	274	619	5.323847
LIABILITY INSURANCE REQUIRED	76	102	211	5.078971
LIGHTS REQUIRED - SUNSET TO SUNRISE	119	169	388	4.799794
LIGHTS REQUIRED - CERTAIN HOURS	73	110	262	4.523686
NO PROOF OF INSURANCE	2316	3674	7690	4.296964
TAG ILLUMINATED	146	240	523	4.146713
RENDER AID OR GIVE INFORMATION	141	235	456	4.089908
BICYCLE - LIGHTS CERTAIN HOURS	38	64	121	4.047305
DRIVE RIGHT SIDE - 4 LANES	34	62	124	3.738088
SIGNAL TURN 100 FEET	172	316	608	3.710254
DEFECTIVE TAILLIGHT	123	238	446	3.52282
WINDSHIELD CRACKED	53	103	186	3.507526
RECKLESS DRIVING	30	59	117	3.466024
DISPLAY TAG IN PROPER PLACE	36	71	134	3.45626
FAIL TO SIGNAL TURN	145	303	557	3.262028
EXPIRED TAG/TAG REQUIRED/NOT TITLED TAG-VEHICLE-TRAILER	964	2105	3663	3.121672
PEDESTRIAN USE MARKED CROSSWALK/LANE	37	81	133	3.113716
DEFECTIVE HEADLIGHT	266	586	1100	3.094185
UNSAFE BACKING	25	57	108	2.989699
DUI - INCAPABLE OF SAFELY OPERATING	278	674	1236	2.811559
VIOLATE DRIVERS LICENSE RESTRICTION	52	128	238	2.769209
UNSAFE LANE CHANGE	193	477	868	2.758044
YIELD ROW - STOP SIGN	101	251	457	2.7429
DEFECTIVE BRAKE LIGHTS	44	116	204	2.585574
DUI SECOND	77	206	348	2.54792
HIT AND RUN - PARKED VEHICLE	50	136	254	2.506071
INVALID ORDINANCE	38	106	171	2.443656
CARELESS DRIVING - ENDANGER PERSON OR PROPERTY	108	329	575	2.23764
DRIVE WRONG WAY/ONE WAY	32	100	181	2.181284
SEAT BELT REQUIRED - 18 OR OLDER	655	2103	3293	2.12307
RUN STOP SIGN	305	994	1794	2.091586
RUN RED LIGHT	488	1618	2704	2.055908
DUI - .08 OR GREATER	135	450	755	2.044954
DUI - DRUG(S)	25	84	125	2.028724
SPEED - 30 MPH	362	1281	2176	1.92629
FAIL TO REDUCE SPEED - HAZARDS	24	85	141	1.924663
YIELD ROW - LEFT TURN	222	792	1262	1.910689
EMERGING FROM ALLEY, DRIVEWAY, BUILDING	85	307	473	1.887308
FAIL TO REDUCE SPEED	32	121	186	1.802714
IMPROPER RIGHT TURN	135	511	792	1.80084
FOLLOW TOO CLOSE	102	462	696	1.504945
RUN RED LIGHT - RIGHT TURN	38	174	263	1.488664
DISOBEY NO TURN SIGN	65	306	444	1.447952
INATTENTIVE DRIVING	414	1980	3010	1.425271
SPEED OVER LIMIT	4460	21872	31917	1.38998
DISOBEY TRAFFIC CONTROL DEVICE	23	113	163	1.387432
CARELESS DRIVING - DRIVER ACTION	63	317	460	1.354701
TEXTING WHILE DRIVING	63	360	528	1.19289
SPEEDING IN A CONSTRUCTION AREA	386	2368	3366	1.111138
IMPROPER LEFT TURN	130	990	1307	0.895098
SPEED EXCESS MAXIMUM LIMIT	22	191	248	0.785148

Taking into account the RRI calculations, the top three citations with the greatest risk disparity when comparing Black and White citizens are (1) *Child Restraint – Under 4 years old*, (2) *Child Restraint 4-7 years old*, and (3) *Transport Open Alcoholic Beverages*. The risk of Black motorists receiving a traffic citation for *Child Restraint – Under 4 years old* is 12 times that of White citizens. The risk of Black citizens receiving a traffic citation for *Child Restraint 4-7 Years Old* is 9 times that of White citizens. The risk of Black citizens receiving a traffic citation for *Transport Open Alcoholic Container* is 7 times that of White citizens.

We point out that social and economic disadvantages among many racial and ethnic minorities may factor into why they receive a disproportionate number of several types of citations. For example, A Child Restraint violation, which demonstrated the most disparity among Black and White citizens in this study, is a primary violation in which a law enforcement officer can stop a motorist when a child is not sitting in such a device. This is a violation often easily visible to a police officer. However, it is possible that socioeconomic factors (i.e., poverty) play a role in the disparities found with some Black citizens concerning child restraint citations. Some people can afford child car seats and some cannot.

The RRI calculations reported in this report made use of U.S. Census data for population counts by race and ethnicity in Wichita. We caution that U.S. Census data has limited validity when used as a *benchmark* estimate. In short, it is not an accurate estimate of the *motoring* public or for that matter the race of the motoring public across different times and locations. As biased based research has evolved in recent years population benchmarks are used with caution due to their measurement error. The reader should be mindful of this when examining the RRI calculations reported in this report. *See Appendix for discussion on the limitations of using U.S. Census data as a benchmark in biased based policing.*

We also to point to recent research in Wichita and across Kansas that found racial minority citizens, especially Black citizens report they are frequently stopped for “minor violations” that they believe are a pretext used to profile them. These minor violations include: equipment violations, tinted windows, tag light violations, failing to use turn signal within 100 feet, cracked windshield and the like.<sup>2</sup>

You will note in this report that Black citizens receiving a citation for “tag illumination” is 4.1 times that of White citizens. A Black citizen receiving a citation for “failing to signal turn 100 feet of intersection” is 3.7 times that of White citizens. Black citizens receiving a citation for “cracked windshield” is 3.5 times that of White citizens. Black citizens receiving a citation for “defective taillight” is 3.5 times that of White citizens. Again, these are the types of traffic charges that racial minority citizens are suspicious of, and we should take the statistics, combined with the perception that these are reported pretenses for bias based policing, seriously.

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<sup>2</sup> See: Birzer, Michael (2013). *Racial profiling: They stopped me because I'm ---!* CRC Press.

See: Birzer, Michael (2013). *The phenomenology of racial profiling in Kansas* (Report No. 1922-13). Highway Safety Project: The Governor’s Task Force Report on Racial Profiling.

## Overarching Conclusions

We commend the Wichita Police Department for their continued response to citizen concerns about racial profiling. This analysis will assist the police department in better understanding the characteristics of motorists receiving traffic citations from 2019 through 2020 along with the frequencies and types of traffic citation charges issued to motorists. This analysis resulted in the following conclusions:

1. The Wichita Police Department issued 95,992 citations from 2019 through 2020. There was a five percent decrease in citations issued in 2020 compared to 2019.
2. Over the two years, males received more citations (59.4 percent) than females (40.5 percent). This finding is not surprising and consistent with national trends.
3. Over the two years, White citizens received 58.5 percent, Blacks 21.0 percent, Hispanics 16.5 percent, and Asian, American Indian and Unknown/Other Race received about 4.0 percent of the citations issued.
4. The risk of Black citizens receiving a citation in 41 of the 58 citation charges is two or more times that of White citizens. Additional in-depth research needs to be conducted in order to further evaluate these risk disparities. We are sorely limited in drawing meaningful conclusions based on citation data alone. It is noted that many of these risk scores have lowered for Black citizens since the past evaluation by this research team in 2020. This includes the top three citations (child restraint – under 4 years, Child restraint 4-7 years, and Transport open alcoholic beverages).
5. Several traffic citation charges issued to Black citizens had high RRI scores, and are the types of stops associated with what many Black citizens feel are used as a pretext to profile and stop them. Black citizens were 3 or more times that of White citizens to receive for example: “a defective taillight,” “failing to signal turn 100 feet of intersection,” “cracked windshield” and the like.
6. Wichita Police Department Policy 903 defines racial or other biased-based policing as:

“The unreasonable use of race, ethnicity, national origin, gender or religion by a law enforcement officer in deciding to initiate an enforcement action. It is not racial or other biased-based policing when race, ethnicity, national origin, gender or religion is used in combination with other identifying factors as part of a specific individual description to initiate an enforcement action.”

We cannot determine or conclude based on the analysis of the citation data the presence or extent of racial profiling within the Wichita Police Department. More in-depth analysis is needed using a variety of benchmarking and observational techniques in order to better understand the racial and ethnic disparities observed in the citation data.



# **APPENDIX**

## Appendix 1 of 1

### Benchmarks

Establishing a valid benchmark is crucial in identifying both disparate and racially discriminatory police practices. A benchmark is an estimate of the demographics (i.e., race and ethnicity) of the drivers at risk or available to be stopped by the police. Suppose it was determined that 20 percent of citizens stopped by the police are racial and ethnic minorities. What should 20 percent be compared to? Moreover, what percentage would indicate discriminatory police practices?

In the past, it was common for researchers to use official population census information from the U.S. Census as a benchmark. Census benchmarking involves comparing the citation data to the demographic profile of the residents of the community as measured by the U.S. Census. For example, let us say it was determined that 20 percent of citations issued during a specific period were to Black citizens. Suppose that a check of the U.S. Census data for the community revealed the population of Black citizens is 12 percent. Twelve percent is the benchmark for comparison purposes. When these two racial distributions are different, there is a tendency to assume there is racially biased policing. This would be an erroneous assumption and it is difficult to draw a definitive conclusion regarding racially biased policing. Universally, police researchers recognize that population benchmarks are the *least valid benchmark* and pose challenges to drawing any meaningful conclusions.

*In our analysis of the Wichita Police Department citation data, we generally try to avoid using population benchmarks and only use them sparingly. Again, we warn about the limitations in drawing conclusions about racially biased policing based on comparing demographic characteristics of citizens receiving traffic citations to U.S. Census data. These limitations center on the following problems:*

- Census data does not take into account the number or demographics of actual drivers or traffic violators in the community. This information would yield a more effective benchmark.
- This data does not provide the number of people that drive through a jurisdiction and do not actually live there.
- Aggregate U.S. Census data do not reflect racial or ethnic population density found in many communities.

- This data does not account for different police deployment strategies throughout the community. Some areas of the community experience disproportionately higher crime rates when compared to others, which may lead to increased police observation and deployment in those areas, and likely result in more car stops and police – citizen contacts.
- The historic underreporting into the U.S. Census by some racial and ethnic minorities may skew estimates (Sullivan, 2020).<sup>3</sup>

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<sup>3</sup> See: Sullivan T.A. (2020). *Census 2020: Understanding the issues*. Switzerland: Springer.