

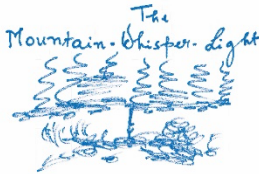


ILLINOIS

TRAFFIC AND PEDESTRIAN STOP STUDY

2021 ANNUAL REPORT
PEDESTRIAN STOP ANALYSIS

SUBMITTED BY
THE MOUNTAIN-WHISPER-LIGHT: STATISTICS & DATA SCIENCE



Illinois Traffic and Pedestrian Stop Study

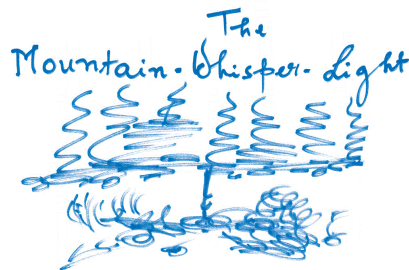
2021 ANNUAL REPORT: PEDESTRIAN STOP ANALYSIS

Part I Executive Summary and Appendices

Prepared for the Illinois Department of Transportation

By

The Mountain-Whisper-Light: Statistics & Data Science



In Cooperation with SC-B Consulting, Inc.



Acknowledgements

The Mountain-Whisper-Light Statistics and SC-B Consulting, Inc. gratefully acknowledge the contributions of Jessica Keldermans (Bureau Chief) and Sean Berberet, Bureau of Data Collection, Illinois Department of Transportation, and their associates at the IDOT. We are also grateful to the law enforcement agencies and their staff for their diligence and patience in collecting and processing the data used in this study.

2021 study team, Illinois Traffic and Pedestrian Stops Study

The Mountain-Whisper-Light: Statistics & Data Science

- Nayak L. Polissar, PhD, Principal Investigator
- Daniel S. Hippe, MS
- Nirnaya Miljadic, MS, PhD
- Rod Gullberg, MS

SC-B Consulting

- Sharie Carter-Bane, President
- Michele Shaffer, PhD

Table of Contents

Executive Summary	1
I. Background	1
II. Introduction.....	2
III. Guide to Using Pedestrian Tables.....	3
IV. Interpretation of Pedestrian Tables	7
V. Benchmarks.....	9
VI. Selected Findings	10
VII. Some General Comments	15
VIII. Looking Ahead.....	16
Appendix A. Pedestrian Stop Data Collection Form in use during 2021	17
Appendix B. Technical Notes on Rates, Percentages and Ratios	18
Appendix C. Technical Notes on Benchmarks	22
Appendix D. Additional Notes on the Law	36

Executive Summary

I. Background

In October 2019, The Mountain-Whisper-Light, Inc. (aka the Mountain-Whisper-Light: Statistics & Data Science, and hereafter, “TMWL”) was awarded a contract to conduct a statistical study of the traffic and pedestrian stop data provided by law enforcement agencies to the Illinois Department of Transportation (IDOT), pursuant to the Illinois Vehicle Code, 625 ILCS 5/11-212 Traffic and Pedestrian Stop Statistical Study. TMWL is carrying out the project in cooperation with SC-B Consulting Inc., an Illinois firm. Reports have already been issued on 2019 and 2020 traffic and pedestrian stops in Illinois and are available online at <https://www.idot.illinois.gov/transportation-system/local-transportation-partners/law-enforcement/illinois-traffic-stop-study>.

According to the IDOT website, “On July 18, 2003, Senate Bill 30 was signed into law to establish a four-year statewide study of data from traffic stops to identify racial bias. The study began on January 1, 2004, and was originally scheduled to end December 31, 2007. However, the legislature extended the data collection several times, and also expanded the study to include data on pedestrian stops. Public Act 101-0024, which took effect on June 21, 2019, eliminated the study's scheduled end date of July 1, 2019, and extended the data collection.”

Under that provision of the Illinois Vehicle Code, the Agency is responsible for providing a standardized law enforcement data compilation form (see Appendix A below) and analyzing the data and submitting a report of the previous year's findings to the Governor, General Assembly, the Racial Profiling Prevention and Data Oversight Board, and each law enforcement agency no later than July 1 of each year. In May 2022, TMWL and SC-B, in cooperation with IDOT's Bureau of Data Collection (BDC), have provided copies of statistical tables to 787 law enforcement agencies in the state of Illinois, based on data collection provided by the respective agencies on traffic and pedestrian stops. These 787 agencies reported at least one traffic or pedestrian stop. The agencies were invited to review and comment on the tables. Some agencies did provide comments and the comments from an agency are included with their tables in Part II of this report. Comments on the Traffic stops tables (or general comments) and comments on the Pedestrian stops tables are included in the Part II Traffic or Pedestrian tables, respectively.

We are pleased to submit this 2021 Annual Report for the Illinois Traffic and Pedestrian Stop Study.

II. Introduction

How is this report structured?

The report is presented in two parts. **Part I** is this Executive Summary, which includes appendices with detailed technical information on the statistical methodology and analysis. **Part II** includes extensive tables (one set of tables for each law enforcement agency that collected data for all stops conducted in 2021). The tables show stop rates for each racial group, along with other statistics that cover activity during the stops, such as citations or warnings, searches and contraband found.

To obtain the greatest benefit from this report, readers are encouraged to read the full Executive Pedestrian Traffic Table and a Guide to Using Pedestrian Tables that includes definitions of statistical terms used in this report and explanation of the data presented in each panel of the tables. We also include an Interpretation section with additional details on the numeric results presented in the tables and a plain-language description of how the analysis was implemented. Finally, the section on Selected Findings highlights some statewide results. The Appendices include technical material that describes the statistical methods and calculations in detail. The information is provided for readers who wish to have a deeper understanding of the methodology.

What is the source of the data?

As noted above, per Illinois law, officers from law enforcement agencies are required to fill in a report when they stop a driver or pedestrian. Separate templates are provided for traffic and pedestrian stops.

To follow the convention of previous reporting on the Illinois Traffic and Pedestrian Stop Study, we are submitting two separate reports, the Illinois Traffic Stop Study (ITSS) and the Illinois Pedestrian Stop Study (IPSS). The above-mentioned data collection templates (known as Traffic Stop or Pedestrian Stop Data Forms) are shown in Appendix A of the ITSS and IPSS. There is an instruction manual that accompanies the traffic stops data collection form — available online at <http://www.idot.illinois.gov/Assets/uploads/files/Transportation-System/Pamphlets-&-Brochures/Safety/2012TrafficStopDataSheetInstructions.pdf>

How were the data analyzed?

The results of the data collection are that 785 agencies generated data on 1,655,965 traffic stops and 283 agencies generated data on 7,261 pedestrian stops in 2021. A total of 787 agencies provided data on either traffic stops or pedestrian stops, with 549 agencies providing traffic stop data only, 2 agencies providing pedestrian stop data only, and 236 agencies providing both traffic and pedestrian stop data. Only 30 traffic stops (0.002% of stops) and zero pedestrian stops were missing the race designation. Further statistical analysis was carried out to provide data that may be helpful in determining if there is potential bias against minorities in initiating a stop or in the activities that occur during a stop.

As specified by Illinois statute for this study, the tables report on the stops and subsequent experience of individuals stopped. The stopped individuals are classified into one of six racial groups. The law

enforcement officer filling in the data collection form must use their judgment to classify an individual into one of the following groups.

- Black or African American
- Hispanic or Latino
- Asian
- American Indian or Alaska Native
- Native Hawaiian or Other Pacific Islander
- White

The data collection forms are extensive. There are more than 60 data items listed for traffic stops and more than 20 data items listed for pedestrian stops. Some items are left blank unless there are further actions beyond a stop, such as a search.

Data collected by local agencies for pedestrian stops include:

- Information about the pedestrian (including race) and the officer
- The location of the stop
- Reason for the stop
- Outcome of the stop
- Pat down/frisk or search activity and findings of contraband.

III. Guide to Using Pedestrian Tables

While many readers of this report previously reviewed traffic and pedestrian stop tables for their respective jurisdictions, here are some brief explanations of the statistical data.

Table 1 is included as an example to show stop rates, percentages and ratios. A ratio compares either a rate or a percentage for a minority to the corresponding rate or percentage for Whites. The ratios are intended to make it easier to determine the possibility of racial profiling. The word “possibility” is very important, because racial profiling cannot be proved by the numeric results in this report. Some of the inherent uncertainties and limitations of the statistics are explained later.

The following section includes an example of pedestrian tables and offers a guide to the numbers in the tables, explained panel by panel. The table reproduced here (Table 1) refers to all pedestrian stops reported in 2021 for the state of Illinois. The counts, rates, percentages and ratios are for purposes of illustration only and are not tied to any individual agency.

Before using the tables: Following the tables there is an important section on interpretation of the rates, ratios, percentages and 95% confidence intervals. Reading that section is important to enable users of this report to make a proper assessment of what the numbers represent.

Rates, percentages and ratios: The terms “rate,” “percentage” and “ratio” are used throughout this report. A brief explanation of the terms is provided here.

A **rate** in this context is the number of individuals (such as the number of individuals stopped) divided by the population the individuals came from, also known in this report as the “benchmark,” a term that will be used repeatedly. For example, in Illinois in 2021 there were 15,160 stops of pedestrians whom the officer assigned to the category “Hispanic or Latino.” The estimated benchmark population of Hispanic or Latinos aged 12-80 in Illinois in 2021 was 1,829,592. (As discussed later, individuals aged 12-80 in Illinois are considered to have a non-negligible risk of being stopped.) Dividing the 15,160 by 1,829,592 yields the stop rate of 0.0083. That is, there was an average of 0.0083 stops per member of the Hispanic or Latino population age 12-80. The decimal value 0.0083 does not mean that 0.83% of Hispanic or Latinos in the age range had a pedestrian stop. Some individuals may have been stopped more than once.

A **percentage** in this context has the usual meaning. For example, in Illinois in 2021 there were 7,366 stops of pedestrians whom the officer assigned to the category “White.” There were 1,855 of those stops with a pat down. The number of pat downs, 1,855, divided by the number of stops, 7,366, yields the decimal fraction 0.25. That fraction represented as a percentage is 25%. In Illinois in 2021, 25% of stops of pedestrians assessed as being White resulted in a pat down.

The **ratio** used in this report is either the ratio of a minority rate to a White rate or the ratio of a minority percentage to a White percentage. If the ratio is 2.0, for example, it means that the minority rate (or percentage) is twice the White rate (or percentage).

Table 1 shows the Illinois statewide results for illustration of pedestrian stop reporting. Following is a guide to each panel of the table.

Panel 1 (shaded rows) presents the pedestrian stops, benchmark, and stop rate by racial group, and stop rate ratio for each minority group compared to White pedestrians. Ninety-five percent confidence intervals are shown (in parentheses) for rates and rate ratios. The 95% confidence interval is explained in a short section with that heading, below.

Panel 2 shows pat downs, searches beyond pat down, and outcomes of these searches for each racial group. The number, percentage (in parentheses), and 95% confidence interval [in brackets, like this] are shown for each outcome. The contraband-found percentage is calculated based on all searches beyond pat down. The ratio and 95% confidence interval (in parentheses) are shown, comparing each minority group to White pedestrians on percentage with contraband found among all searches beyond pat down.

Panel 3 shows outcomes of the pedestrian stops including warning/citation (one combined category) and custodial arrest for each racial group. The number, percentage (in parentheses), and 95% confidence interval [in brackets] are shown for each outcome. The percentages are based on all pedestrian stops for each minority group. The ratio of percentages and 95% confidence interval (in parentheses) comparing each minority group to White pedestrians is shown for custodial arrests.

The top-right corner of the table indicates the type of benchmark used. All pedestrian benchmarks are territory-based, meaning they are based on local population statistics from the U.S. census. The note at the bottom left of the table lists the primary area of the benchmark, which captures the jurisdiction of the agency. These areas can be one or more cities (or towns or villages), counties, or

the state of Illinois. All pedestrian benchmarks only include the population within the primary area, in contrast to traffic benchmarks, which include surrounding areas as well. Section V on benchmarks provides more information on how the benchmarks were constructed.

A ratio of 1.0 for Whites: For all rows showing comparisons of minority groups to Whites, a value of 1.0 is shown in the White racial group column, the reference group. In this column for Whites, the Whites are being compared to themselves, so the ratio of rates must be 1.0. The column is included to make it clear that the Whites are the reference group to which each minority is compared.

Zero stops or zero benchmark: For some agencies, the number of stops or the benchmark value or the number of outcomes may be zero for a racial group. When it is not possible to calculate a rate or percentage or ratio and an associated 95% confidence interval because of zero stops or zero benchmarks or zero outcomes, an “NA” is reported in the table. When reporting information such as searches following stops, or contraband found, sometimes all racial groups have entries of zero in the row. That is, there were no searches of any racial group, or no contraband found for any racial group. In that case, the row is omitted. Similarly, when making comparisons to Whites, if all minorities have counts of zero or the Whites have a count of zero, the ratios comparing each minority to Whites cannot be computed and the row of ratios is omitted.

Table 1. Example of a table of pedestrian stops: Counts, Rates, Percentages and Ratios

Summary of Pedestrian Stops for 2021 - ILLINOIS STATEWIDE RESULTS						Benchmark: Territory-based*
	White	Black or African American	Hispanic or Latino	Asian	American Indian or Alaska Native	Native Hawaiian or Other Pacific Islander
Panel: 1 Summary of Pedestrian Stops, Rates, and Rate Ratios with 95% Confidence Intervals. Total stops: 72,615. Total benchmark population: 10,501,312.						
Stops (% of Total)	7,366 (10%)	49,079 (68%)	15,160 (21%)	802 (1.1%)	88 (0.1%)	120 (0.2%)
Benchmark (% of Total)	6,412,926 (61%)	1,514,270 (14%)	1,829,592 (17%)	674,782 (6.4%)	63,901 (0.6%)	5,841 (0.06%)
Stop Rate (95% Confidence Interval)	0.00115 (0.00112 - 0.00118)	0.0324 (0.0321 - 0.0327)	0.0083 (0.0082 - 0.0084)	0.0012 (0.0011 - 0.0013)	0.0014 (0.0011 - 0.0017)	0.021 (0.017 - 0.025)
Stop Rate Ratio vs White (95% Confidence Interval)	1.0	28.2 (27.5 - 28.9)	7.2 (7 - 7.4)	1 (0.96 - 1.1)	1.2 (0.96 - 1.5)	18 (15 - 21)
Panel: 2 Summary of Pat Down Events - Number (Percentage for the Racial Group) [95% Confidence Interval]						
Pat Down (% of Stops)	1,855 (25%) [24% - 26%]	19,015 (38.7%) [38.2% - 39.3%]	5,047 (33%) [32% - 34%]	167 (21%) [18% - 24%]	12 (14%) [7% - 24%]	40 (33%) [24% - 45%]
Search Beyond Pat Down (% of Stops)	1,834 (25%) [24% - 26%]	22,530 (46%) [45% - 47%]	6,299 (42%) [41% - 43%]	201 (25%) [22% - 29%]	20 (23%) [14% - 35%]	34 (28%) [20% - 40%]
Contraband Found (% of Searches, preceding row)	601 (33%) [30% - 35%]	9,071 (40%) [39% - 41%]	2,568 (41%) [39% - 42%]	76 (38%) [30% - 47%]	7 (35%) [14% - 72%]	16 (47%) [27% - 76%]
Contraband Found Ratio vs White (95% Confidence Interval)	1.0	1.2 (1.1 - 1.3)	1.2 (1.1 - 1.4)	1.2 (0.9 - 1.5)	1.1 (0.43 - 2.2)	1.4 (0.82 - 2.4)
Panel: 3 Summary of Outcome of Stop - Number (Percentage of All Stops for the Racial Group with the Noted Outcome of the Stop) [95% Confidence Interval]						
Warning/Citation	1,689 (23%) [22% - 24%]	3,386 (6.9%) [6.7% - 7.1%]	1,224 (8.1%) [7.6% - 8.5%]	114 (14%) [12% - 17%]	14 (16%) [8.7% - 27%]	21 (18%) [11% - 27%]
Custodial Arrest	923 (12.5%) [11.7% - 13.4%]	7,098 (14.5%) [14.1% - 14.8%]	1,606 (10.6%) [10.1% - 11.1%]	86 (11%) [8.6% - 13%]	5 (5.7%) [1.8% - 13%]	14 (12%) [6.4% - 20%]
Custodial Arrest Ratio vs White (95% Confidence Interval)	1.0	1.15 (1.08 - 1.24)	0.85 (0.78 - 0.92)	0.86 (0.68 - 1.1)	0.45 (0.15 - 1.1)	0.93 (0.51 - 1.6)
*Benchmark Definition Benchmark Type: Territory-based Primary Benchmark Area (State): Illinois. 100% of the benchmark comes from zip codes within the primary area.						

IV. Interpretation of Pedestrian Tables

95% Confidence Interval

Table 1 presents a “95% confidence interval” for each rate, percentage or ratio. The 95% confidence interval reflects uncertainty in estimating the rate, percentage or ratio due to sampling variability. The 95% confidence interval provides a range of plausible values. The “95%” figure means that when various studies include such an interval, 95% of the studies, on the average, will include the *true* value in the interval. Because there is an element of chance involved in being stopped, being searched, etc., the true value of a rate or percentage or ratio is not known. The 95% confidence interval uses widely accepted methods and expresses some of the uncertainty in the estimated rate, percentage, or ratio. The uncertainty is often due to small numbers of stops or a small benchmark population in the geographic area used to calculate rates, percentages, or ratios.

Ratios

A ratio of rates or percentages with a value of 1.0 (one) indicates that the rates or percentages are equal between the minority group and Whites. Ratios above or below 1.0 show greater or lesser stop activity with minorities, respectively. Comparisons of minority groups to White drivers or White pedestrians where the 95% confidence interval lies above 1.0 (one) are **bolded** in the stops tables. When the ratio is **bolded**, one can say that the value of 1.0 does not fall within the 95% confidence interval of the estimated ratio. These **bolded** ratios are statistical deviations and may be the basis for further consideration of potential racial disparities related to stops. A **bolded** ratio does not prove that there is racial profiling. (See “Limitations,” below.) A **bolded** ratio may be taken as the basis for further inquiry. In addition to whether or not a ratio is bolded, the absolute magnitude of the ratio should be considered. For example, a **bolded** ratio of 5.0 is a higher priority to investigate than a small, **bolded** ratio of 1.2. A larger ratio implies the potential impact on individuals is larger, and it is less likely that the elevated ratio is only due to limitations of the chosen benchmark than when the ratio is closer to 1.0.

Limitations

There is a limitation in the use of ratios to determine potential racial disparities. The 95% confidence intervals for stop rates and stop rate ratios do not consider the error in estimating the driver and pedestrian benchmark populations. (The population of drivers or pedestrians who are considered the source of the persons stopped by an agency’s officers are a population, and that population is referred to as the “benchmark” for the agency.) Note that each law enforcement agency has a “jurisdiction,” which is the geographic area that the agency is responsible for policing. In this report “agency” and “jurisdiction” are sometimes used interchangeably.

For this study, the pedestrian benchmark populations have been estimated based on the population located in cities and counties of Illinois corresponding to each agency’s jurisdiction. Those population counts are available from the census and surveys carried out by the U.S. Census Bureau. However, the true pedestrian populations likely include persons who reside in communities both inside and outside of the specific area of jurisdiction of an agency. As the pedestrian benchmarks count only people who

reside within agency's jurisdiction, people who live outside of those communities but enter the jurisdiction and may be encountered by law enforcement officers are not included in those benchmarks.

Thus, the benchmarks have some error, and the extent of the error is unknown. If it were possible to estimate this error as it affects rates and rate ratios, the 95% confidence intervals would be wider and, thus, some confidence intervals might then include 1.0 (no racial disparity) and would not prompt bolding and the need for further inquiry. (The section labelled "**Benchmarks**", below, describes the methods used to estimate the population from which stopped individuals originated.)

The census and ACS surveys have been used to designate pedestrian benchmark populations for this study because they have readily available populations for cities and counties. The census city and county populations are virtually the only option for building pedestrian benchmarks within the resources available to this study to annually choose benchmarks for more than 800 law enforcement agencies. The city and county populations do have some validity as benchmarks because they include the jurisdiction of interest, and it is expected that a substantial fraction of pedestrians in the jurisdiction originate from the designated benchmark city (or cities) and county (or counties).

Another limitation that may affect the rates, percentages and ratios is the designation of race by the law enforcement officer conducting the stop. That designation of race might not correspond to the driver's or pedestrian's own racial identity. In addition, the stop rate for a racial group will depend on a) the assignment of beats (geographic surveillance area) to officers in a jurisdiction and b) the degree of overlap of those beats to the residential area of each racial group. If there is higher (or lower) surveillance of an area with a high residential concentration of a racial group, then that can lead to a higher (or lower) stop rate for the racial group, compared to areas where surveillance is constant across all racial groups.

Statistics based on stops only

The percentages and ratios of percentages in the tables are based on stop counts and stop activity only. The percentages and ratios of percentages do not depend on the estimated benchmark population, and they do not have the potential benchmark error noted above. Percentages based on stops will be a resource for any inquiry about potential racial profiling.

It is important to note that the percentages are calculated with reference to a specific activity. For example, in the pedestrian tables, the percentage of searches beyond pat down for a racial group is a percentage of *stops* leading to a search beyond pat down. The percentage of contraband found is the percentage of *pedestrian searches beyond pat down* leading to contraband found. For percentages, each row label (or the heading for the panel) indicates the basis for the percentage.

Can stop rates be compared across years?

The methodology used for calculating stop rates in this study (and for 2019-2020 stops) differs from studies of stops in 2018 and earlier. While the new methodology provides more accurate stop rates, the changes make it difficult to compare results from the 2021 stops analysis to the analyses in years prior to 2019. The 2021 stop statistics can be compared to 2019 and 2020, though there have been some

additional changes this year that should be considered. As explained in other sections of this report, the underlying population data was updated for each year in 2019-2021 to reflect the most recent data available. In 2021, there were also some changes in how individuals who reported multiple races were handled, which primarily impacted population counts for the American Indian or Alaska Native and Native Hawaiian or Other Pacific Islander groups.

These and other changes have improved the estimate of the benchmark populations and the accuracy of stop rates. Thus, any difference in rates between 2019-2021 stops reports and earlier stops reports (2018 and earlier) may be at least partly due to a change in methods rather than to a real change in stop rates. The new methods are intended to estimate the benchmark population more accurately. Another factor making it difficult to compare 2019-2021 stop rates to 2018 rates (and earlier) is that the 2019-2021 reports present rates, percentages and rate ratios separately for each of the six individual races—rather than with all minorities combined into one category, as used in the 2018 and earlier reports. Perusal of tables in Part II of this report will show the reader that the five minority races do have different stop rates. The statewide rates in Table 1, Panel 1, above, show a diversity of stop rates among the six races, and, also, among the five minority races.

Certain percentages will be comparable across years, because the percentages are based on stops data only, and percentages are calculated in the same manner as in previous years. However, to compare a percentage based on 2021 stops data to a percentage reported in a year prior to 2019, some additional calculations will be needed. This 2021 stops report and the 2019-2020 stops reports present results for each racial group, whereas reports prior to 2019 combined five races into one group: all minorities. In order to calculate a percentage for 2021 stops of all minorities, the user will need to add together (across the five minority racial groups) all of the numerators and, separately, all of the denominators and then divide the numerator sum by the denominator sum, then multiply by 100% to get the all-minority percentages. As noted earlier, this report presents results for each racial group separately, since the minority groups do have differing rates, percentages and ratios in some jurisdictions.

V. Benchmarks

The number of stops for each racial group and each agency is compared to a “benchmark” in order to calculate the agency’s stop rate for the racial group. The benchmark provides an estimated population count of each of the six racial groups. These population counts are then compared to the pedestrian stop counts of each racial group to assess and compare the stop rates (stops per unit of population) of each racial group. See Appendix C of this report, Technical Notes on Benchmarks, for a detailed discussion of benchmarks and associated calculations, including important limitations.

The methods for calculating the benchmark for each agency for this report are similar to the methods used for the report on 2020 stops, which rely primarily on local population statistics for the associated cities or counties based on data provided by the U.S. Census Bureau. However, the numeric values of the benchmarks for 2021 stops are generally different than those for 2020 stops for two reasons: 1) the underlying population statistics are updated annually to be as up-to-date as possible and 2) the methods for handling the “multiple races” category in U.S. Census were improved. The primary source for

population statistics in this report is the 2020 decennial census, the most recent release available. The 2020 stops report used the 2019 5-year American Community Survey (ACS) release, which is based on a combination of 5 years of the annual ACS survey, covering the years 2015-2019.

The methodology for handling the “multiple races” group is described in detail in Section C.3 and Section C.7 in Appendix C, but a brief overview is provided here. The census and ACS allow individuals to select multiple races while the Illinois stop form requires a single race, so some adjustment is needed to convert population statistics from the census/ACS into benchmarks for Illinois stops. In past years, the multiple races group in Illinois was very small and was excluded from calculations. Starting this year, as the multiple race group has grown over time, the multiple race group was reallocated to single race categories using equal fractions fractional allocation (see Section C.3). The primary impact of this change was to increase the number of individuals classified as American Indian/Alaska Native or Native Hawaiian/Other Pacific Islander compared to past years, as these two groups frequently reported another race in addition to the aforementioned races (see Section C.7). These groups are now better represented in the benchmarks than in past years, which should lead to better estimates of their stop rates.

Please note that the traffic stop and stop pedestrian benchmark methodologies differ more than in previous years because of the different data sources available to generate them. Thus, it is not unusual for there to be notable differences between the traffic and pedestrian benchmarks for the same agency.

VI. Selected Findings

This section of the report shows some tables and figures that present results on the agencies and their pedestrian stops from the entire state of Illinois for 2021. Some results are contrasted with their corresponding 2020 values.

Coronavirus Disease 2019 (COVID-19)

The COVID-19 pandemic in the United States continued to have a substantial impact on the number of stops made in 2021, as is apparent from multiple figures shown below. The first confirmed case of COVID-19 was detected in Illinois on January 23, 2020¹. On March 16 and 17, 2020, the Illinois State government closed bars, restaurants, and schools² and ultimately executed a statewide state-at-home order starting March 21, 2020³. Due to the impact of COVID-19, some patterns observed this year may be second-time events and some general year-to-year trends may be obscured.

¹ Ghinai I, McPherson TD, Hunter JC, et al. First known person-to-person transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in the USA. *Lancet*. 2020;395(10230):1137-1144. doi:10.1016/S0140-6736(20)30607-3

² Chicago Tribune. Mar 13, 2020. *Governor cancels Illinois schools statewide until March 30 to slow the spread of coronavirus.*

³ Chicago Channel 5 website. Published March 20, 2020. Updated on March 20, 2020, at 10:42 pm. *Illinois Governor Issues Stay-at-Home Order*. Accessed on June 1, 2021, at <https://www.nbcchicago.com/news/local/illinois-governor-expected-to-issue-stay-at-home-order-sources/2241118/>

Agency reporting status

Among the 1005 agencies that could submit stops data to IDOT, 23.7% of the agencies had stops and provided complete data for 2021 stops to IDOT (Table 2, top numeric row). A total of 174 agencies had no pedestrian stops (17.3%) and 59% of agencies did not submit any stops data (“Non-compliant”). The fraction of agencies non-compliant with pedestrian stops submission was close to three time larger than the corresponding non-compliant percentage (21.6%) for traffic stops submission.

Table 2. Agency status on reporting. Illinois, all agencies, Pedestrian stops, 2020 and 2021.

Status of Agency	2020		2021	
	Number of agencies	Percent of agencies	Number of agencies	Percent of agencies
Complete reporting ¹	300	29.8%	238	23.7%
Zero stops ²	290	28.8%	174	17.3%
Incomplete ³	0	0.0%	0	0.0%
Non-compliant ⁴	416	41.4%	593	59.0%
All agencies combined	1002	100%	1005	100%

¹Agency with one or more stops that were completely reported;

²Agency performed no stops over the year;

³Agency submitted some but not all of their stops for the year;

⁴Agency made stops, but no stops data was submitted.

Number of stops

The total number of reported pedestrian stops in 2021 was 72,615. Most agencies with pedestrian stops had very few stops—10 or fewer (over 74% of the 238 agencies with more than zero stops reported). The count of reported pedestrian stops was 4.4% as large as the count of reported traffic stops (1,655,935). The Chicago Police Department reported 94.4% of all the pedestrian stops.

Table 3. Number of Pedestrian stops for agencies with at least one stop. Illinois, all agencies, Pedestrian stops, 2019 and 2020.

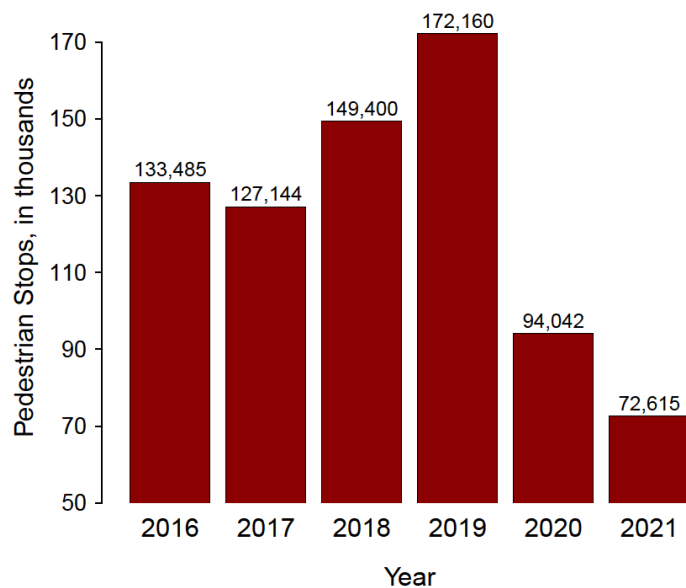
Number of stops	2020		2021	
	Number of agencies	Percent of agencies	Number of agencies	Percent of agencies
1-10	221	73.7%	177	74.4%
11-100	68	22.7%	53	22.3
101-1,000	8	2.7%	7	2.9
1,001-10,000	2	0.7%	0	0
10,001-100,000	1	0.3%	1	0.4
More than 100,000	0	0.0%	0	0
All compliant agencies with ≥ 1 stops	300	100%	238	100%

Notes:

- (1) Includes only agencies with at least one stop and complete reporting of their stops.
- (2) Chicago Police: 86,315 pedestrian stops in 2020; 68,556 in 2021. The Chicago pedestrian stops data are included in the table above.

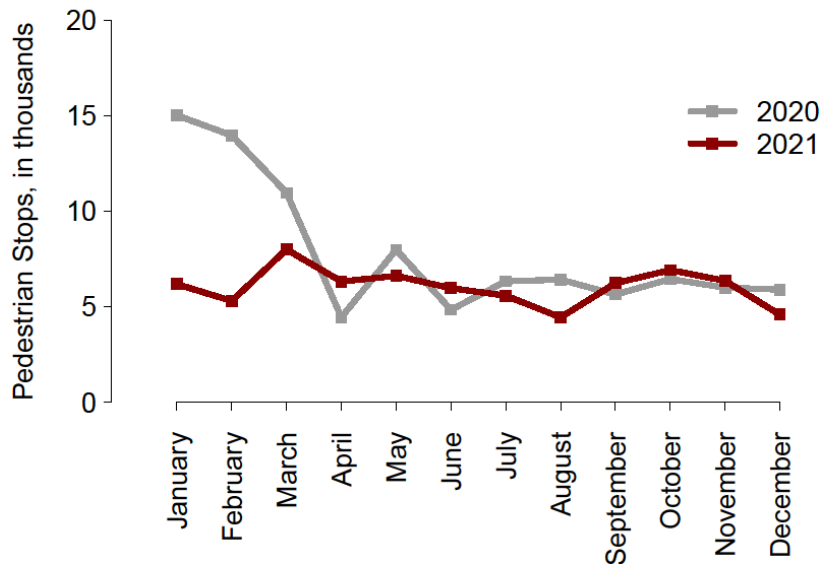
The counts in Figure 1a show that the number of pedestrian stops increased by nearly 30% from 2016 to 2019 while there was a sharp decrease in 2020 when the number of reported stops decreased 45% from the year before. In 2021, the number further decreased 29.5% from 2020.

Figure 1a. Illinois, number of Pedestrian stops, 2016-2021.



The monthly pattern of stops reveals the continued impact of COVID-19 on the number of pedestrian stops (Figure 1b). As the COVID-19 pandemic developed during the first quarter of 2020 in the United States, the number of stops decreased substantially until April 2020, then remained fairly steady throughout 2021.

Figure 1b. Illinois, number of Pedestrian stops per month, 2020 (gray line) and 2021 (dark red line).



Distribution of stop rate ratios

Table 4 shows the numbers of comparisons of stops rates of a minority racial group and Whites carried out in the pedestrian stops study. Any comparison yields a rate ratio—the minority stop rate divided by the White stop rate. Each agency might contribute up to five such comparisons (five minority groups, each compared to Whites on their stop rates). There would be fewer than five comparisons when one or more of the racial groups had zero stops in an agency.

The first column under “A” in Table 4 shows the counts of all comparisons (each minority/White rate ratio and all the ratios compiled across all agencies and then categorized in Table 4 by the magnitude of the rate ratio). The columns under “B” restricts the comparisons to those based on at least 10 White stops and 10 stops of the minority group compared. Having at least 10 stops provides a more precise estimate of the rate ratio than a smaller number of stops.

We note a drastic reduction — 30-fold from Panel A to Panel B — in the total number of rate ratios, from 1,015 (all comparisons) down to only 34 (more precise comparisons), and that this reduction comes mainly from eliminating the smallest ratios. From the more precise comparisons (Panel B, based on 10 or more stops of Whites and 10 or more stops of the minority group compared) we estimate that

in 73.5% of these rate ratios, minority pedestrians were stopped more than the White pedestrians relative to their proportion in the benchmark population (rate ratio > 1). This suggests (as a possibility but does not prove) that racial profiling was a factor in a number of pedestrian stops. The overall distribution between categories seems fairly robust with time, without much change from 2020 into 2021. The 95% confidence intervals provided in the tables of Part II should be used as a guide to the precision of rates, percentages and rate ratios when interpreting the numeric results. There are not enough pedestrian stops to extend this analysis to particular racial groups, as performed for the traffic stops report.

Table 4 Distribution of Pedestrian stop rate ratios. (Each non-White racial group compared to Whites for an agency). Illinois, Pedestrian stops, 2020 and 2021.

A. All agencies and racial groups*			B. Agencies and the racial groups with at least 10 stops**	
Rate ratios	2020	2021	2020	2021
<0.25	73.4%	79.5%	0	0
0.25 to <0.5	1.9%	1.1%	7.7%	8.8%
0.5 to <1.0	3.0%	2.8%	17.9%	17.6%
1.0 to <2.0	3.7%	4.2%	20.5%	20.6%
2.0 to <4.0	4.3%	3.3%	10.3%	23.5%
≥4.0	13.5%	9.1%	43.6%	29.4%
All ratios***	100%	100%	100%	100%

*All comparisons of Whites and a racial group for all agencies. Excludes ratios from agencies with zero stops of White pedestrians or a benchmark population value of zero for either racial group.

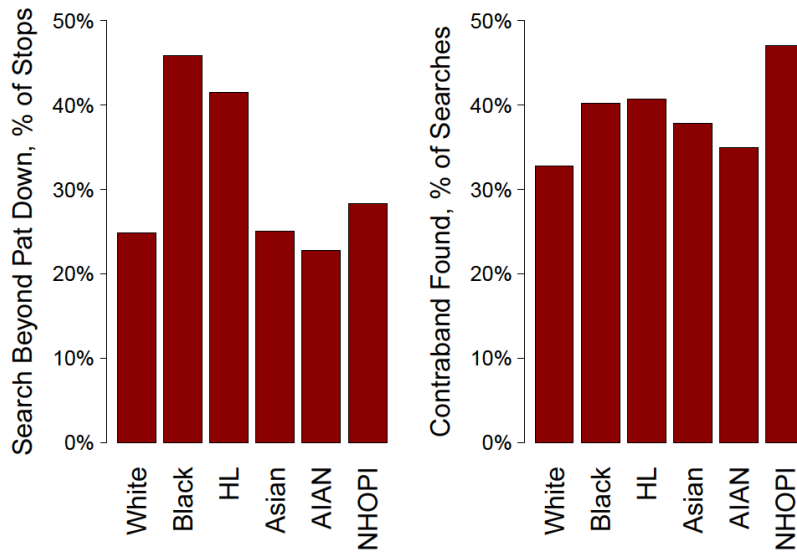
**All comparisons of Whites and a racial group for all agencies; all comparisons must have at least 10 stops of Whites and 10 stops of the compared racial group. Excludes ratios where either Whites or the compared racial group have less than 10 stops.

***The number of ratios (each involve a comparison of one non-White racial group vs. White for one agency) that were included in the analysis in columns A and B respectively, were 989 and 39 in 2020; 1,015 and 34 in 2020.

Searches and Contraband

Figure 2 shows that the rate of search beyond a pat down is substantial for all of the racial groups (approximately 23-46% of stops, left panel), and, given a search beyond pat down, the yield of contraband is also substantial (approximately 33-47% of searches beyond a pat down, right panel). There is diversity among the races' percentages in both panels.

Figure 2. Percentage of Pedestrian stops with a search beyond pat down; percentage of searches beyond pat down with contraband found. Illinois, Pedestrian stops, 2021.



Abbreviations for racial groups: Black = “Black or African American”, HL = “Hispanic or Latino”, AIAN = “American Indian or Alaska Native”, NHOPI.= “Native Hawaiian or Other Pacific Islander”.

VII. Some General Comments

More than half of all agencies (59%) were non-compliant in reporting their pedestrian stops. This substantial level of non-compliance raises some concern about results based on pooling compliant agencies together, such as in tables and figures of this “Selected Findings” section. Are the pooled compliant agencies representative of the whole State of Illinois and all its law enforcement agencies? A considerable number of agencies have a relatively small number of stops of one or more of the racial groups. The limited stop counts yield a wide 95% confidence interval, which means high uncertainty in the corresponding rate, percentage or ratio for the agency. The uncertainty from potential benchmark issues (discussed earlier) or race classification issues (also discussed earlier) add to the uncertainty implied by the confidence intervals. Any investigation of racial profiling that is initiated based on this report should consider all of the sources of uncertainty.

In Part II of this report (agency tables) each agency has ratios of rates or ratios of percentages. Some of them are bolded as a “statistical deviation.” The bolded ratios and their meaning and interpretation are topics covered elsewhere in this report. In addition to whether or not a ratio is bolded, the absolute magnitude of the ratio should be considered when interpreting the results, as discussed earlier.

If a ratio is not bolded, it does not prove that there is no racial profiling in the agency. It is worth looking at the upper and lower bound of the 95% confidence interval to see what the uncertainty is. That

interval quantifies the uncertainty and shows the largest ratio and the smallest ratio that are plausible, given the data.

For example, consider a ratio of **1.0** for a specific minority percentage of stops with a search, compared to the corresponding White percentage of stops with a search—in a particular agency. The ratio of 1.0 indicates that the percentage of stops with a search was the same for both the Whites and for the specific minority group. However, the counts of searches are very small in this example, and the 95% confidence interval for the ratio is **0.025** up to **5.8**. (This is similar to an actual agency result.) That is, it is plausible that the true search percentage of the minority group is anywhere from one-fortieth of the White percentage up to almost six times the White percentage.

Clearly, in a case like the one described above, we do not know enough about the ratio to draw any conclusion except that we are uncertain. Thus, a confidence interval for a ratio that includes 1.0 and is very wide (encompassing values well above the calculated ratio and also well below the ratio) usually means that presence or absence of potential racial profiling cannot be determined from the data in hand.

Lastly, while there is a considerable focus on the stop rate ratios reported in Panel 1 of the tables in Part II of this report (detailed tables), the other panels provide valuable complementary information on the outcomes of stops and how the outcome statistics compare between racial groups. As noted earlier, the stop outcome results are compared among individuals that were stopped and do not rely on any external population benchmark. This avoids some limitations of benchmarks. Ultimately, stop results for an agency should be interpreted holistically, considering all panels together; different panels may suggest different interpretations when viewed individually.

VIII. Looking Ahead

TMWL is continuing to review the current statistical methodology and consider refinements and improvements. See the “Looking Ahead” section of Part I (Executive Summary) of the traffic report.

Appendix A. Pedestrian Stop Data Collection Form in use during 2021



Illinois Department
of Transportation

Pedestrian Stop Data Sheet



Agency Code

Date of Stop (MM/DD/YYYY) Time of Stop (Military Time) Officer Name

Officer Badge Number Location of Stop Beat Location of Stop

Gender
1 Male 2 Female

Race
1 White 2 Black or African American 3 American Indian or Alaska Native 4 Hispanic or Latino
5 Asian 6 Native Hawaiian or Other Pacific Islander

----- **Reason for Stop** -----
Reason for Stop (Check all that apply)
 1 Actions indicative of engaging in drug transaction 2 Fits description from radio broadcast / Call for service
 3 Fits description of an offender as described by victim or witness 4 Actions indicative of "casing" victim or location
 5 Proximity to the reported crime location 6 Gang related enforcement 7 Suspicious Activity
 8 Other (Specify)

----- **Pat Down/Frisk** -----
Pat Down/Frisk Conducted? 1 Yes 2 No **Pat Down/Frisk Conducted by** 1 Consent 2 Reasonable Suspicion
Reason for Pat Down/Frisk (Check all that apply)
 1 Verbal threats of violence by suspect 2 Knowledge of suspect's prior criminal violent behavior/use of force/use of weapon
 3 Actions indicative of engaging in violent behavior 4 Violent crime suspected
 5 Suspicious bulge/object 6 Evasive, false or inconsistent response to officer's questions
 7 Other reasonable suspicion of weapon (Specify)

If a Pat Down/Frisk was conducted, did it lead to a search beyond the pat down/frisk? 1 Yes 2 No

----- **Search Beyond** -----
Search Beyond Pat Down/Frisk Conducted? 1 Yes 2 No **Search Beyond Conducted By**
 1 Consent 2 Probable Cause 3 Search Incident to Arrest
Reason for Search Beyond (Check all that apply)
 1 Drugs or drug paraphernalia found 2 Hard object felt during pat down 3 Firearm found during pat down
 4 Other weapon found during pat down 5 Other probable cause(Specify)

If a Search Beyond a Pat Down/Frisk was conducted, was contraband found? 1 Yes 2 No

If yes, what was found?
 1 Drugs 2 Drug Paraphernalia 3 Alcohol 4 Weapon 5 Stolen Property 6 Other

If the contraband found was drugs, what was the amount?
 1 <2 grams 2 2-10 grams 3 11-50 grams 4 51-100 grams 5 >100 grams

----- **Outcome of Stop** -----
Warning/Citation Issued 1 Yes 2 No **Arrest? (Person taken into custody)** 1 Yes 2 No

Violations/Charges

Appendix B. Technical Notes on Rates, Percentages and Ratios

B.1. Overview

This technical appendix includes a detailed explanation of the rate, post-stop outcomes, and ratio calculations used in constructing the statewide and agency tables for pedestrian stops. The tables appear in Part II of this report. We explain how comparisons of each minority group to White pedestrians are carried out. We also explain how the confidence interval is calculated based on known sources of uncertainty in the data⁴. Further, this section describes how an agency may be designated (by a bold font in the tables) as potentially standing out beyond an assumption of no racial profiling. An agency that is designated as standing out might use this report as a basis for further inquiry. As stated elsewhere and repeated here, there is nothing in this report which proves an agency is practicing racial profiling. We provide some limitations for interpreting the findings based on the available data and methods.

B.2. Stop rates, post-stop outcomes, and ratio calculations

We performed all calculations for the entire state of Illinois and for each agency.

B.2.1 Stop rates and rate ratios

We calculated stop rates separately for each racial group by dividing the number of stops in the racial group by the benchmark estimate of the pedestrian population in the racial group. (A description of the methods used to estimate the benchmark populations is included in Appendix C.)

We assumed the number of stops followed a Poisson distribution, used in previous examination of racial disparities in traffic stops (Gelman et al. 2007, Ridgeway 2007) and calculated 95% confidence intervals for the rates using exact methods (Garwood 1936). When the benchmark estimate of the population was zero, no rate or confidence interval could be calculated. A benchmark population of zero for a specific minority group happens when the census population estimate for the minority is zero.

We compared each minority group to White pedestrians using the ratio of the minority group stop rate to the White group stop rate. We calculated a 95% confidence interval for each rate ratio by conditioning on the sum of the numbers of stops in the two racial groups being compared. Assuming the number of stops in each group followed a Poisson distribution, conditioning on the sum of the number of stops creates a binomial variable and an exact confidence was calculated using binomial methods (Lehmann and Romano 2005). If it was impossible to calculate a rate because of a zero benchmark, or if the number of stops in the White group was zero, no rate ratio or confidence interval was reported.

⁴ The estimated benchmark population is an example of a component of the methodology that has uncertainty that could not be quantified for this study. Benchmark technical details are included in Appendix C.

A rate ratio of 1.0 indicates the minority group and White pedestrians had equal rates of stops. If the 95% confidence interval lies entirely above 1.0, the rate ratio is statistically significantly greater than 1.0 and may require agency inquiry. These statistically significant rate ratios are bolded in the summary tables. These bolded ratios are statistical deviations, and the basis for further consideration of potential racial disparities. Comparisons of minority groups to White pedestrians where the 95% confidence lies below 1.0 (one) are not bolded because the intent of this study is to identify potential racial profiling that discriminates against minority pedestrians.

For all calculations, we assumed the benchmark accurately captured the population of pedestrians. The benchmark used to calculate each rate is itself an estimate of the population of pedestrians for a racial group. Confidence intervals of rates and rate ratios assumed only sampling error and thus do not account for this additional source of error in benchmark estimates. Accounting for benchmark error would increase the width of the confidence intervals reported for rates and rate ratios and would likely reduce the number of agencies that appear to stand out as needing further inquiry.

B. 2.2 Post-stop outcomes

We calculated post-stop outcome percentages (such as searches) separately for each racial group. Table B1 shows the type of numerator and denominator used to calculate each percentage shown in the pedestrian tables.

Table B1. Numerators and denominators for pedestrian stop outcomes

Category	Outcome	Numerator	Denominator
Pat Downs and Searches Beyond Pat Down			
	Pat down	Number of pat downs	Number of stops
	Search beyond pat down	Number of searches beyond pat down	Number of stops
	Contraband found	Number of searches beyond pat down where contraband was found	Number of searches beyond pat down
Outcomes of Stop			
	Warning/Citation	Number of warnings/citations	Number of stops
	Custodial Arrest	Number of custodial arrests	Number of stops

We assumed that percentages follow a binomial distribution and can be approximated by a Poisson distribution (Serfling 1978), and we calculated confidence intervals for the rates using exact methods (Garwood 1936). When the denominator of the percentage was zero (for example, an agency had a benchmark of zero for a specific racial group), no percentage or confidence interval could be calculated.

For selected outcomes we compared each minority group to White pedestrians using the ratio of the minority group percentage to the White group percentage. We calculated a 95% confidence interval for each ratio using exact methods (Lehmann and Romano 2005). If it was

impossible to calculate a percentage because of a zero denominator, or if the numerator of the White group percentage was zero, no ratio or confidence interval was reported.

B.3 Limitations

For all calculations, we assumed that the pedestrian was assigned to the correct racial group. However, an officer's assessment of the race of a pedestrian may be in error. Because police officers made the racial group assignment, there is a potential misclassification bias of pedestrians. If misclassification resulted in a minority pedestrian frequently being categorized in a different minority group, the stop rates of some minority groups may be underestimated, while others are overestimated. Consequently, the rate ratios of some minority groups may be underestimated, while others are overestimated. This is a limitation that would be difficult to correct based on the available information.

Some of the alerts to rate ratios (**bolded font** in the tables) may be "false positives." This can happen as follows. Within the statewide or individual agency tables for pedestrian stops, we calculated five minority group comparisons with the White group. There were five of these comparisons for each ratio analysis. For example, there are five ratios comparing the stop rate for each of the five minorities to the stop rate for Whites⁵. Thus, we constructed five 95% confidence intervals—one each for the five stop-rate ratios. That is, each agency was checked for profiling in each of five minority groups. For each minority comparison with White pedestrians there was the potential to make a type I error. That is, we may have, by chance, incorrectly indicated the potential need for inquiry for profiling. While we set a 5% type I error rate for each minority comparison, the multiple comparisons inflate the possibility of making such an error overall to more than 5%. We chose not to correct for these multiple comparisons, viewing each minority comparison to Whites as an independent examination of profiling.

⁵ There may be fewer than five ratios depending on the occurrence of zero stops for Whites or zero benchmark for a minority. These are cases where a ratio cannot be calculated.

References (for Appendix B)

Garwood, F (1936). Fiducial limits for the Poisson distribution. *Biometrika*, Vol. 28, Issue 3-4: 437-442.

Gelman, A, Fagan, J, and Kiss, A (2007). An analysis of the New York City Police Department's 'stop-and-frisk' policy in the context of claims of racial bias. *Journal of the American Statistical Association*, Vol. 102, No. 479, 813–823.

Lehmann, EL, and Romano, JP (2005). *Testing Statistical Hypotheses*, Third edition. Springer: New York.

Ridgeway, G. (2007). *Analysis of Racial Disparities in the New York Police Department's Stop, Question, and Frisk Practices*. Santa Monica, CA: RAND Corporation. https://www.rand.org/pubs/technical_reports/TR534.html.

Serfling, RJ (1978). Some elementary results on Poisson approximation in a sequence of Bernoulli trials. *SIAM Review*, Vol. 20, No. 3, 567-579.

Appendix C. Technical Notes on Benchmarks

C.1. Overview

In the analysis to detect racial profiling, the number of stops by each agency of each racial group is compared to a “benchmark” population of the racial group. The rate of stops per benchmark population for the racial group can be compared to the same rate for Whites. The benchmark provides an expected racial distribution of the population and would be an expected racial distribution of the stops, if the stops were conducted in a uniform way across races. That is, the stop rates calculated using an ideal benchmark would be approximately constant across all racial groups if there were no profiling.

Details on the data sources used for benchmarks, how racial categories were defined, how benchmark regions were determined, and other benchmark calculations are covered below. In addition, differences in benchmark methodology employed this year compared with prior years is described in **Section C.7** and limitations and strengths of the methodology are described in **Section C.8**.

C.2. Data Sources

Multiple data sources were combined to calculate benchmarks, including multiple datasets provided by the U.S. Census Bureau. The datasets used include those from the decennial census, the American Community Survey (ACS), and Gazetteer files, depending on the year and type of benchmark (traffic stops or pedestrian stops).

The ACS is an ongoing survey conducted by the U.S. Census Bureau that collects information on the U.S. population in all 50 states, the District of Columbia and Puerto Rico⁶. The information collected is similar to that collected by the U.S. decennial census, but the ACS results are released on an annual basis rather than every 10 years. Another difference between the ACS and census is that the ACS is based on a random sample of about 3.5 million individuals while the census attempts to reach every person living in the U.S. and its territories.

Besides the 1-year (1Y) ACS releases, there are also 5-year (5Y) releases. These 5Y releases combine 5 consecutive years, primarily to increase the sample size of relatively small areas or groups of individuals. It would be challenging to estimate the population of small communities reliably with only one survey-year of data. In addition to standard tabulations, the ACS also provides individual-level data, referred to as the public use microdata sample (PUMS). The PUMS data allows more detailed and complex analyses involving multiple variables. Due to privacy concerns, there are restrictions on the level of geographic identification provided with each type of release of ACS data.

⁶ <https://www.census.gov/programs-surveys/acs>. Last accessed 5/15/22.

The Gazetteer files provide geographic information, such as geographic area, latitude, and longitude, for different relevant regions in the U.S., including ZIP codes, places (a city, town or village, referred to simply as city hereafter), counties, and states⁷. These files are updated annually.

The U.S. Census Bureau approximates ZIP codes (defined by the U.S. Postal Service) with ZIP code tabulation areas (ZCTAs)⁸. Throughout this report, the term “ZIP code” will be used to refer both to ZCTAs and U.S. Postal Service ZIP code for simplicity.

Table C.1 lists the U.S. Census Bureau datasets used for different purposes, for both the traffic and pedestrian stop benchmarks. More detail on traffic stop benchmarks can be found in the corresponding Illinois traffic stops study report, 2021 stops, Part I. Of note, as can be seen from the table, different datasets were used for traffic and pedestrian benchmarks, which is different than past years. The primary reason is that pedestrian benchmarks are still based on city-, county-, or state-level population statistics, as described below, while the traffic stop benchmarks are now based on ZIP-code-level population statistics, as of the 2021 stops report.

Table C.1. U.S. Census Bureau datasets used for benchmarks.

Information Needed	Traffic Stop Benchmarks	Pedestrian Stop Benchmarks
Age distribution in Illinois	1Y ACS PUMS 2020	N/A
Age distribution by race/ethnicity*	5Y ACS PUMS 2016-2020	5Y ACS PUMS 2016-2020
Individual race groups to reallocate residents with more than one race*	5Y ACS PUMS 2016-2020	DEC 2020
Population counts for each race/ethnicity		
By ZIP code†	5Y ACS 2016-2020	5Y ACS 2016-2020
By city	N/A	DEC 2020
By county	N/A	DEC 2020
For Illinois	N/A	DEC 2020
Geographic area of each city in Illinois	Gazetteer Files 2021	N/A
Geographic area of each county in Illinois	Gazetteer Files 2021	N/A
Latitude and longitude of each ZIP code	Gazetteer Files 2021	Gazetteer Files 2021

1Y = 1-year; 5Y = 5-year; ACS = American Community Survey; DEC = decennial census; PUMS = public-use microdata sample; *Includes Illinois and 24 states within 400 miles of Illinois; †ZIP codes approximated using ZIP code tabulation areas (ZCTAs) defined by the U.S. Census Bureau.

The 2020 decennial census was used for city-, county-, and state-level population statistics instead of the 5Y ACS because it a more complete count (a census vs. a survey sample) and more recent (the 5Y ACS includes years 2016-2020). However, the 5Y ACS PUMS was used to estimate the age distribution of each race/ethnicity group, as described in **Section C.4**, because this required individual-level data not yet available from the 2020 decennial census.

⁷ <https://www.census.gov/geographies/reference-files/time-series/geo/gazetteer-files.html>. Last accessed 5/14/22.

⁸ <https://www.census.gov/programs-surveys/geography/guidance/geo-areas/zctas.html>. Last accessed 5/21/22.

C.3. Racial Categories

The U.S. decennial census and ACS collect self-identified race and ethnicity information based on the U.S. Census Bureau's definitions. The primary racial categories provided by the census are White alone, Black or African American alone, American Indian and Alaska Native alone, Asian alone, Native Hawaiian and Other Pacific Islander alone, some other race alone, and two or more races. The primary ethnicity categories provided by the census are "Hispanic or Latino" and "Not Hispanic or Latino." Race and ethnicity are collected using two separate questions and the respondent can select any racial group along with any ethnicity.

From Illinois Public Act 101-0024, the law enabling this study, the following racial categories are collected based on the police officer's subjective determination of the race of the person being stopped. These include American Indian and Alaska Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, or White. Only a single race may be selected.

Besides the difference between the census/ACS's self-identified race and the Illinois law's officer-identified race, there are other differences between the census/ACS and Illinois law's categories. The primary differences are 1) in the census/ACS, Hispanic or Latino is an ethnicity instead of the Illinois law's designation of Hispanic or Latino as a race; 2) the census/ACS allows for multiple races to be selected while the Illinois law does not; and 3) the census/ACS allows the "some other race" option while the Illinois law does not.

To make the different racial categories compatible between the census/ACS data used for benchmarks and the stops data using the Illinois racial categories, we made three major adjustments. The first adjustment was to use Hispanic or Latino as the assigned race for benchmarking if the census/ACS ethnicity was listed as Hispanic or Latino, regardless of race. The second adjustment involved reallocating the "multiple races" group into multiple single race groups using equal fractions fractional allocation⁹. For example, an individual who self-identified as White, American Indian or Alaska Native, and Asian would be treated as 1/3 White, 1/3 American Indian or Alaska Native, and 1/3 Asian for the purpose of calculating total race/ethnicity distributions. The 2020 decennial census race and ethnicity table for Illinois was used to calculate state-level reallocation factors, as shown in **Table C.2**. The third adjustment was that individuals listing some other race alone in the census/ACS data were excluded from the process of defining a benchmark population. In the 2020 decennial census, 414,855/12,812,508 (3.2%) of Illinois residents self-identified as not Hispanic or Latino and more than one race and were fractionally reallocated to multiple single race categories. Additionally, 45,080 (0.4%) identified as not Hispanic or Latino and some other race and were excluded from benchmark calculations.

⁹ Parker JD and Makuc DM. Methodologic implications of allocating multiple-race data to single-race categories. *Health Services Research*. 2002;37(1):201-213.

Table C.2. Equal fractions fractional reallocation factors for Illinois residents who self-identify as not Hispanic or Latino and more than one race, based on the 2020 decennial census. The factors were used to calculate the effective number of individuals with a single race category as a proportion of the multiple race category, e.g., single race count = (single race fraction) x multiple race count. The fractions sum to 1 (rounded from 0.999) so all multiple race individuals are included.

Race/Ethnicity	Fraction
Not Hispanic or Latino White	0.547
Not Hispanic or Latino Black	0.178
Not Hispanic or Latino American Indian or Alaska Native	0.138
Not Hispanic or Latino Asian	0.126
Not Hispanic or Latino Native Hawaiian or Other Pacific Islander	0.010

C.4. Adjusting for Age

Population counts by race from the census/ACS were adjusted to reflect the number of potential pedestrians with at least some real risk of being stopped. This was done by estimating the proportion of the Illinois state population of each race who were 12-80 years of age using the 5Y ACS PUMS. **Table C.3** shows the estimated proportion of population included in the pedestrian benchmark counts. The age adjustment was performed by multiplying the population count for each race by the factor in the table. While those younger than age 12 or older than 80 are technically at risk of being stopped, the risk is expected to be very low, so they were excluded from the benchmark estimates. Illinois pedestrian stop records do not contain age information, so we examined data from the New York City “Stop, Question and Frisk” program¹⁰. Between 2016-2019, when the number of stops per year were relatively stable, stops of suspect-reported ages outside of the 12-80 year ranged represented <0.2% of stops performed. Note that the New York City data were used only to determine that age 12 is a reasonable minimum age to define a population of persons with non-trivial risk of being stopped. There is no implication that the stop rates are similar between Illinois and New York City.

Table C.3. Estimated proportion of the population included in the pedestrian benchmark based on ACS data.

Race	Proportion*
White	0.83
Black or African American	0.82
Hispanic or Latino	0.78
Asian	0.84
American Indian and Alaska Native	0.86
Native Hawaiian or Other Pacific Islander	0.83

*Proportion of population 12-80 years of age.

¹⁰ <https://www1.nyc.gov/site/nypd/stats/reports-analysis/stopfrisk.page>. Last accessed 5/15/22.

C.5. Estimating Regional Population Sizes

The starting point for estimating regional population sizes was the 2020 decennial census race and ethnicity tables for the cities, counties and state of Illinois and the 5Y ACS race and ethnicity tables for ZIP codes, as described in **Section C.2**.

As described in **Section C.4**, these population sizes for the ZIP codes, cities, counties and state of Illinois were adjusted for age by multiplying by a factor derived for each racial group. The adjusted population counts formed the building blocks for the agency benchmark calculations, described in the next section.

C.6. Calculating Agency Benchmarks

The regional population sizes calculated and adjusted in **Section C.5** were used and sometimes combined to derive a benchmark for each agency. There was a standard approach used for most agencies with a number of adjustments made for certain cases. Each situation is covered below. The geographic regions chosen for each agency are listed at the end of this appendix in **Table C.4**.

C.6.1. Standard Approach

The standard approach, similar to past years of the IPSS (Illinois Pedestrian Stop Study), was to use the city as representing an approximate radius for pedestrians¹¹. Based on this approximation, the city population and its racial sub-populations served as the “default” benchmark populations for most agencies. As described later, this approach has a number of weaknesses, though the approach also has some practical advantages.

C.6.2. Agencies Covering Areas Larger than a City

When an agency had a jurisdiction spanning more than a small number of cities, most commonly an entire county or the state of Illinois, that county or state population was used for the benchmark population. Common examples of agencies where the county was used as the benchmark agencies are county sheriff agencies and county park district police agencies. An example of an agency where the state of Illinois was used as the benchmark is the Illinois State Police.

¹¹ Illinois Traffic and Pedestrian Stop Study 2018 Annual Report. Pedestrian Stop Analysis. Available at <http://www.idot.illinois.gov/Assets/uploads/files/Transportation-System/Reports/Safety/Traffic-Stop-Studies/2018/2018%20IPSS%20Executive%20Summary.pdf> . Last accessed 5/15/22.

C.6.3. Agencies Covering Multiple Cities or Counties

When an agency's jurisdiction covered multiple cities or counties, the populations of these areas were combined. The most common examples of these are university or college police agencies with multiple campuses.

C.6.4. Chicago

Due to its size, multiple benchmarks were produced for Chicago. The entire city of Chicago was used for the primary benchmark of the Chicago Police. In addition, separate benchmarks were generated corresponding to each of the 22 Chicago Police Districts¹². To generate these benchmarks, ZIP codes contained within or overlapping with each Chicago Police District's boundaries were identified¹³. The benchmark of each district was calculated as the sum of the pedestrian populations of these ZIP codes, weighted by the proportion of each ZIP code area contained within the district's boundary. Each proportion was estimated by randomly selecting 25,000 points within the ZIP code and calculating the proportion of those points that were also within the district boundary.

C.6.5. Example of Detailed Calculation

To help illustrate the benchmark method, the calculations for one agency, Oak Park Police, were worked out in detail for the White and Black/African American benchmarks.

Based on the 2020 decennial census, the city of Oak Park has a total of 54,583 residents, with 32,846 White residents, 10,200 Black/African American residents, and 3,187 residents with "more than one race." As described in **Section C.3**, the group with multiple races was reallocated to the other race groups by multiplying by the factors in **Table C.2**. Thus the 3,187 residents with multiple races were fractionally reallocated into 1,744.5 White residents ($3,187 \times 0.547390$) and 567.3 Black/African American residents ($3,187 \times 0.178$) (the values in the **Table C.2** are rounded, so they differ slightly from the values stated here). At this point, the total number of White and Black/African American residents became 34,590.5 ($32,846 + 1,744.5$) and 10,767.3 ($10,200 + 567.3$), respectively. Lastly, these population counts were adjusted for age using the factors in **Table C.3**. This produced 28,809 White residents ($34,590.5 \times 0.83287$) and 8,816 Black/African American residents ($10,767.3 \times 0.81877$), corresponding to pedestrians potentially at risk of being stopped. These are the final values used for the benchmark.

¹² <https://home.chicagopolice.org/about/police-districts/>. Last accessed 5/15/22.

¹³ <https://data.cityofchicago.org/Public-Safety/Boundaries-Police-Districts-current-/fthy-xz3r>. Last accessed 5/21/22.

C.7. Methodological Differences with Past Reports for Stops in 2019-2020

While the methodology used for this report has some similarities with the 2019-2020 reports, including using adjusted population counts of associated cities and counties to define benchmark populations, there are some important differences. These should be considered when comparing stops from 2019-2020 to stops in this report. The 2019 and 2020 stops reports also describe differences with their methodologies compared with reports from 2016-2018.

One important difference is that in this report is that the 2020 decennial census was used for population counts while the 5Y ACS was used in 2019-2020 reports. Both of these data sources are collected and released by the U.S. Census Bureau and will usually provide similar results, but the 2020 census is the most contemporary release at this time, so it is expected to be the most accurate for comparison with 2021 stops. Because the 5Y ACS is—effectively—an average of five years, the 2019 report population counts are closest to 2017 numbers (average of 2015-2019 ACS surveys), 3 years older than the 2020 census population counts used in this report. While the ACS surveys were the best available population data sources for our 2019-2020 stops reports, the 2020 census is the best available population data source for this report. There may be relatively large changes to benchmark population counts just due to this change in population data sources.

The other important difference is that, in this report, individuals who reported multiple races on the census/ACS were reallocated into single race groups, while in past reports (2016-2019), those with multiple races were excluded from benchmark calculations. In past years, the multiple race group was usually less than 2% of Illinois's population while in the 2020 census this group was larger, 3.2% of the population. Furthermore, while the absolute percentage is still relatively low, this group disproportionately includes residents who identify as American Indian/Alaska Native or Native Hawaiian/Other Pacific Islander as one of their races. After reallocating the multiple races as described in **Section C.3.**, the number of American Indian or Alaska Native residents of Illinois (based on the 2020 census) increased from 16,561 (0.1% of the population) to 73,933 (0.6% of the population) and the number of Native Hawaiian or Other Pacific Islander increased from 2,959 (0.02% of the population) to 7,053 (0.06% of the population). These groups are now better represented in the benchmarks than in past years, which should lead to better estimates of their stop rates.

C.8. Limitations

The use of the census or ACS to compute benchmarks has a number of known limitations^{14,15}. The benchmarks are constructed to correspond to the racial distribution of a city or county, but people from outside the designated benchmark area travel through and may be stopped. This discrepancy may be particularly pronounced in areas with major freeways, along major commuting routes between large cities, or with popular attractions that draws people from a wide area. On the average, different groups may spend different amounts of time on the road or on the street, and the time of day of their activities may vary, potentially leading to different levels of exposure to being stopped than reflected by local population estimates. There may also be seasonal variation in the population, due to festivals, holidays, etc., which cannot be captured in static population estimates.

In order to address some of the limitations several alternative benchmarking methods have been proposed. One benchmark method is to carry out observational studies where people and their race are counted by sight at different times and places to estimate the population composition. Another benchmark method is to analyze traffic accident data (crashes) and use the race of the not-at-fault driver to estimate the relevant racial composition of drivers. Illinois crash report data was used for traffic stop benchmarks in 2021, but no similar dataset for characterizing pedestrians was available. Yet another method is to mathematically model traffic flows between different cities and regions to merge their racial distributions to better reflect the racial distribution encountered by law enforcement officers.

Despite these limitations, the benchmarking method we have used has a number of strengths, primarily feasibility and transparency. There are close to 1,000 law enforcement agencies in Illinois, many with small jurisdictions. The census or ACS provides relatively contemporary data in a uniform fashion across the state, while alternative methods would require a tremendous volume of resources to acquire specialized data to construct a customized benchmark for each agency. The method used for this report is also transparent in that the concept of using local population data is easy to understand, and all of our adjustments are relatively straightforward and can be itemized. The ACS is conducted annually, so the underlying data for all agencies are able to remain relatively current and reflect demographic composition.

Besides the general limitations of the methodology described above, there are some other important limitations to consider when interpreting the benchmarks and stop rate ratios. Most importantly, the benchmarks are based on census or ACS tabulations of race, which are provided by the respondent. Illinois stop data used race as recorded by the police officer, which may differ from what the individual being stopped would report. Therefore, some differences between the racial distribution of the stop data and the corresponding benchmark racial distribution may be due to racial misclassification.

¹⁴ Fridell, L. A. (2004). By the numbers: A guide for analyzing race data from vehicle stops. Washington, DC: Police Executive Research Forum. <https://www.ncjrs.gov/App/Publications/abstract.aspx?ID=209827> . Last accessed 5/25/21.

¹⁵ Alpert G.P., Dunham R.G., Smith M.R. (2007). Investigating Racial Profiling by the Miami-Dade Police Department: A Multimethod Approach. *Criminology & Public Policy*;6(1):25-56. <https://www.ncjrs.gov/App/Publications/abstract.aspx?ID=239772> . Last accessed 5/25/21.

Another challenge is that the census and ACS collect race in a different way than defined by the Illinois state law for the stops study, so some adjustments had to be made for compatibility, as described in Section **C.3**, above. This approach may have induced some differences in racial distributions between the stops (with race assigned by the officer) and corresponding benchmarks (based on self-assigned race). Lastly, the ACS data is based on a survey that takes a random sample of the population. There is some error in survey estimates due simply to sampling variability. In particular, this can impact estimates of population counts of smaller groups. For example, the number of American Indian or Alaska Native and Native Hawaiian or Other Pacific Islanders were relatively small in a number of regions, so these counts may be more uncertain for some jurisdictions. Improvements in counting those groups were made in 2021, but the equal-fractions fractional allocation method that was used for handling “multiple races” is only a pragmatic approximation that could still differ from both self-identified and officer-identified primary race. Thus, while the study has strengths, there are some limitations as well. That is why the narrative in this report emphasizes that if a stop rate ratio comparing a racial group to Whites differs substantially from 1.0 (that is, differs from racial equality), that may be the basis for further inquiry but does not prove that there is racial profiling.

Table C.4. Geographic region or regions used in the Pedestrian Study for each agency that made stops and completely reported them. All regions are either one or more cities (or Chicago Police Districts), one or more counties, or the state. As described in **Section C.6.4**, Chicago was divided into the 22 Chicago Police Districts based on ZIP codes. As described in the text, the populations of these regions were adjusted in multiple ways to better match the pedestrian population.

Agency	ID	Primary Benchmark Area
Adams County Sheriff	13054	County: Adams
Addison Police	13245	City: Addison
Aledo Police	13664	City: Aledo
Alton and Southern Railway Police	14143	City: East St. Louis
Alton Police	13626	City: Alton
Anna Police	13883	City: Anna
Antioch Police	13463	City: Antioch
Arcola Police	13243	City: Arcola
Arlington Heights Police	13212	City: Arlington Heights
Auburn Police	13829	City: Auburn
Barrington Police	13465	City: Barrington
Batavia Police	13414	City: Batavia
Belleville Police	13795	City: Belleville
Bellwood Police	13209	City: Bellwood
Bensenville Police	13247	City: Bensenville
Bethalto Police	13625	City: Bethalto
Bloomington Police	13248	City: Bloomington
Bloomington Police	13581	City: Bloomington
BNSF Railroad Police	13205	County: Cook
Bolingbrook Police	13955	City: Bolingbrook
Bradley Police	13446	City: Bradley
Bradley University Police	13711	City: Peoria
Bridgeview Police	13204	City: Bridgeview
Brookfield Police	14065	City: Brookfield
Burbank Police	13200	City: Burbank
Cahokia Heights Police	13793	City: Cahokia Heights
Campton Hills Police	14114	City: Campton Hills
Carbondale Police	13387	City: Carbondale
Carpentersville Police	13415	City: Carpentersville
Cary Police	13564	City: Cary
Caseyville Police	13792	City: Caseyville
Centralia Police	13633	City: Centralia
Champaign Police	13111	City: Champaign
Channahon Police	13953	City: Channahon
Charleston Police	13143	City: Charleston
Chicago Heights Police	13196	City: Chicago Heights
Chicago Metra Police	13195	County: Cook, Lake, McHenry, Kane, DuPage, Kendall, Will
Chicago Police	13194	City: Chicago
Chicago Police (1st District - Central)	13194.01	City: Chicago 1st District (Central)
Chicago Police (2nd District - Wentworth)	13194.02	City: Chicago 2nd District (Wentworth)
Chicago Police (3rd District - Grand Crossing)	13194.03	City: Chicago 3rd District (Grand Crossing)
Chicago Police (4th District - South Chicago)	13194.04	City: Chicago 4th District (South Chicago)
Chicago Police (5th District - Calumet)	13194.05	City: Chicago 5th District (Calumet)
Chicago Police (6th District - Gresham)	13194.06	City: Chicago 6th District (Gresham)
Chicago Police (7th District - Englewood)	13194.07	City: Chicago 7th District (Englewood)
Chicago Police (8th District - Chicago Lawn)	13194.08	City: Chicago 8th District (Chicago Lawn)
Chicago Police (9th District - Deering)	13194.09	City: Chicago 9th District (Deering)

Agency	ID	Primary Benchmark Area
Chicago Police (10th District - Ogden)	13194.1	City: Chicago 10th District (Ogden)
Chicago Police (11th District - Harrison)	13194.11	City: Chicago 11th District (Harrison)
Chicago Police (12th District - Near West)	13194.12	City: Chicago 12th District (Near West)
Chicago Police (14th District - Shakespeare)	13194.14	City: Chicago 14th District (Shakespeare)
Chicago Police (15th District - Austin)	13194.15	City: Chicago 15th District (Austin)
Chicago Police (16th District - Jefferson Park)	13194.16	City: Chicago 16th District (Jefferson Park)
Chicago Police (17th District - Albany Park)	13194.17	City: Chicago 17th District (Albany Park)
Chicago Police (18th District - Near North)	13194.18	City: Chicago 18th District (Near North)
Chicago Police (19th District - Town Hall)	13194.19	City: Chicago 19th District (Town Hall)
Chicago Police (20th District - Lincoln)	13194.2	City: Chicago 20th District (Lincoln)
Chicago Police (22nd District - Morgan Park)	13194.22	City: Chicago 22nd District (Morgan Park)
Chicago Police (24th District - Rogers Park)	13194.24	City: Chicago 24th District (Rogers Park)
Chicago Police (25th District - Grand Central)	13194.25	City: Chicago 25th District (Grand Central)
Chillicothe Police	13710	City: Chillicothe
Cicero Police	13191	City: Cicero
Clarendon Hills Police	13251	City: Clarendon Hills
Coal Valley Police	13766	City: Coal Valley
Colona Police	13363	City: Colona
Cook County Forest Preserve Police	13189	County: Cook
Cook County Sheriff	13188	County: Cook
Cowden Police	13843	City: Cowden
Crest Hill Police	13952	City: Crest Hill
Crystal Lake Park District Police	14010	City: Crystal Lake
Crystal Lake Police	13563	City: Crystal Lake
CSX Transportation Railroad Police	14147	City: East St. Louis
Danville Police	13897	City: Danville
Darien Police	13253	City: Darien
Decatur Park District Police	13589	City: Decatur
Deerfield Police	13469	City: Deerfield
DeKalb Police	13233	City: DeKalb
Des Plaines Police	13184	City: Des Plaines
Dixon Police	13526	City: Dixon
Dolton Police	10011	City: Dolton
Downers Grove Police	13254	City: Downers Grove
DuPage County Forest Preserve Police	14043	County: DuPage
East Alton Police	13623	City: East Alton
East Dundee Police	13416	City: East Dundee
East Moline Police	13764	City: East Moline
Eastern Illinois University Police	13141	City: Charleston
Elburn Police	13417	City: Elburn
Elgin Police	13419	City: Elgin
Elk Grove Village Police	13180	City: Elk Grove Village
Elmhurst Police	13256	City: Elmhurst
Elmwood Park Police	13179	City: Elmwood Park
Elmwood Police	13709	City: Elmwood
Elsah Police	13397	City: Elsau
Energy Police	13965	City: Energy
Evanston Police	13178	City: Evanston
Fairfield Police	13913	City: Fairfield
Fairmont City Police	13786	City: Fairmont City
Fairview Heights Police	13785	City: Fairview Heights
Fairview Police	13318	City: Fairview
Forest Park Police	13174	City: Forest Park
Forest Preserve District of Will County Police	13932	County: Will
Fox Lake Police	13470	City: Fox Lake

Agency	ID	Primary Benchmark Area
Frankfort Police	13949	City: Frankfort
Franklin County Sheriff	13307	County: Franklin
Franklin Park Police	13172	City: Franklin Park
Freeport Police	13852	City: Freeport
Geneva Police	13421	City: Geneva
Gibson City Police	13299	City: Gibson City
Gillespie Police	13599	City: Gillespie
Glencoe Dept. of Public Safety	13171	City: Glencoe
Glendale Heights Police	13259	City: Glendale Heights
Glenview Police	13170	City: Glenview
Granite City Police	13620	City: Granite City
Grayslake Police	13471	City: Grayslake
Greenville Police	13065	City: Greenville
Gurnee Police	13473	City: Gurnee
Hanover Park Police	13168	City: Hanover Park
Hanover Police	14048	City: Hanover
Hartford Police	13618	City: Hartford
Hickory Hills Police	13163	City: Hickory Hills
Highland Park Police	13474	City: Highland Park
Highland Police	13617	City: Highland
Hinsdale Police	13260	City: Hinsdale
Hoffman Estates Police	13048	City: Hoffman Estates
Huntley Police	13558	City: Huntley
Illinois Department of Natural Resources Police	13823	State: Illinois
Illinois State Police	13991	State: Illinois
Illinois State University Police	13573	City: Normal
Iuka Police	14019	City: Iuka
Jo Daviess County Sheriff	13402	County: Jo Daviess
Johnsburg Police	13557	City: Johnsburg
Johnson County Sheriff	13409	County: Johnson
Joliet Police	13945	City: Joliet
Kane County Forest Preserve Police	13424	County: Kane
Kankakee County Sheriff	13441	County: Kankakee
Kankakee Police	13440	City: Kankakee
Kendall County Sheriff	13453	County: Kendall
Kenilworth Police	13044	City: Kenilworth
Lake Forest Police	13481	City: Lake Forest
Lake Zurich Police	13483	City: Lake Zurich
Lansing Police	13041	City: Lansing
Lemont Police	13944	City: Lemont
LeRoy Police	13572	City: LeRoy
Lincolnwood Police	13040	City: Lincolnwood
Lockport Park District Police	14087	City: Lockport
Lockport Police	13943	City: Lockport
Lyons Police	13038	City: Lyons
Macoupin County Sheriff	13597	County: Macoupin
Mahomet Police	13106	City: Mahomet
Marengo Police	13554	City: Marengo
Marseilles Police	13511	City: Marseilles
Marshall Police	13124	City: Marshall
Mascoutah Police	13779	City: Mascoutah
Matteson Police	13036	City: Matteson
Mattoon Police	13139	City: Mattoon
McHenry County Conservation District Police	14004	County: McHenry
McHenry County Sheriff	13553	County: McHenry

Agency	ID	Primary Benchmark Area
McHenry Police	13552	City: McHenry
McLean County Sheriff	13570	County: McLean
Melrose Park Police	13033	City: Melrose Park
Minooka Police	13336	City: Minooka
Moline Police	13759	City: Moline
Monee Police	13940	City: Monee
Morton Grove Police	13027	City: Morton Grove
Morton Police	13867	City: Morton
Mount Prospect Police	13026	City: Mount Prospect
Mount Vernon Police	13392	City: Mount Vernon
Mundelein Police	13488	City: Mundelein
Nashville Police	13908	City: Nashville
Niles Police	13025	City: Niles
Normal Police	13568	City: Normal
North Pekin Police	13866	City: North Pekin
North Riverside Police	13023	City: North Riverside
Northeastern Illinois University Police	13021	City: Chicago 17th District (Albany Park)
Northfield Police	13020	City: Northfield
Northlake Police	13019	City: Northlake
Northwestern University Police	13018	City: Evanston, Chicago 18th District (Near North)
Oak Brook Police	13265	City: Oak Brook
Oak Park Police	13014	City: Oak Park
Oakwood Hills Police	13551	City: Oakwood Hills
Okawville Police	13907	City: Okawville
Olney Police	13754	City: Olney
Orland Park Police	13011	City: Orland Park
Oswego Police	13451	City: Oswego
Palos Heights Police	13009	City: Palos Heights
Palos Hills Police	13008	City: Palos Hills
Park City Police	13490	City: Park City
Park Forest Police	13006	City: Park Forest
Park Ridge Police	13005	City: Park Ridge
Parkland College Police	13105	City: Champaign
Peoria Police	13704	City: Peoria
Plainfield Police	13937	City: Plainfield
Posen Police	13003	City: Posen
Prairie du Rocher Police	13746	City: Prairie du Rocher
Princeton Police	13077	City: Princeton
Quincy Police	13058	City: Quincy
Rantoul Police	13104	City: Rantoul
Richton Park Police	13001	City: Richton Park
River Forest Police	13000	City: River Forest
Robbins Police	12996	City: Robbins
Rochelle Police	13696	City: Rochelle
Rock Island Police	13756	City: Rock Island
Rockton Police	13974	City: Rockton
Romeoville Police	13935	City: Romeoville
Roscoe Police	13973	City: Roscoe
Rosemont Police	12994	City: Rosemont
Round Lake Police	13495	City: Round Lake
Roxana Police	13611	City: Roxana
Rushville Police	13833	City: Rushville
Salem Police	13628	City: Salem
Schaumburg Police	12992	City: Schaumburg
Schiller Park Police	12991	City: Schiller Park

Agency	ID	Primary Benchmark Area
Secretary of State Police	13809	State: Illinois
Shorewood Police	13934	City: Shorewood
Silvis Police	13755	City: Silvis
Skokie Police	12990	City: Skokie
South Beloit Police	14070	City: South Beloit
South Holland Police	12988	City: South Holland
South Roxanna Police	13610	City: South Roxana
Southern Illinois University Carbondale Police	13381	City: Carbondale
Southern Illinois University Edwardsville Police	13609	City: Edwardsville
Sparta Police	13742	City: Sparta
Spring Valley Police	13075	City: Spring Valley
Springfield Police	13805	City: Springfield
St. Charles Police	13430	City: St. Charles
St. Clair County Sheriff	13772	County: St. Clair
Steger Police	13161	City: Steger
Sterling Police	13922	City: Sterling
Sullivan Police	13692	City: Sullivan
Swansea Police	13771	City: Swansea
Thornton Police	13156	City: Thornton
Union County Sheriff	13879	County: Union
University of Chicago Police	14057	City: Chicago 2nd District (Wentworth)
University of Illinois Chicago Police	13152	City: Chicago 12th District (Near West)
University of Illinois Urbana-Champaign Police	13101	City: Champaign, Urbana
Urbana Police	13100	City: Urbana
Vermilion County Sheriff	13885	County: Vermilion
Vernon Hills Police	13497	City: Vernon Hills
Vienna Police	13408	City: Vienna
Villa Park Police	13268	City: Villa Park
Warrenville Police	13269	City: Warrenville
Washington County Sheriff	13905	County: Washington
Washington Police	13860	City: Washington
Waubensee Community College Police	13432	City: Sugar Grove, Aurora
West City Police	13303	City: West City
West Dundee Police	13433	City: West Dundee
Western Springs Police	13149	City: Western Springs
Wheaton Police	13273	City: Wheaton
Wheeling Police	13148	City: Wheeling
Will County Sheriff	13931	County: Will
Williamson County Sheriff	13957	County: Williamson
Willisville Police	14110	City: Willisville
Wilmette Police	13146	City: Wilmette
Winfield Police	13275	City: Winfield
Winnebago Police	13971	City: Winnebago
Winnetka Police	13145	City: Winnetka
Winthrop Harbor Police	13500	City: Winthrop Harbor
Wood River Police	13605	City: Wood River
Woodstock Police	13546	City: Woodstock
Zion Police	13501	City: Zion

Appendix D. Additional Notes on the Law

The Illinois General Assembly has promulgated laws that require the collection and analysis of data on traffic and pedestrian stops by Illinois law enforcement agencies. See the Compiled Statutes of the Illinois General Assembly, 625 ILCS 5/11-212, effective 6/21/2019. See also Public Act 101-0024.

Section 11-212 of the Illinois statute authorizes the “Traffic and pedestrian stop statistical study”. This section also requires that when a police officer stops an individual, a specific set of information is to be recorded. This information includes: name, address, gender, race (six specific categories: White, Black or African American, Hispanic or Latino, Asian, American Indian or Alaska Native and Native Hawaiian or Other Pacific Islander), the violation, vehicle information, date, time, location, search information, whether contraband was found, disposition of the stop (warning, citation or arrest—arrest recorded only for pedestrian stops¹⁶) and the name and badge number of the officer. This information is to be obtained whether the police officer makes a traffic stop or a pedestrian stop and either issues a citation or a warning (or arrest for a pedestrian stop). In addition, the length of the contact in minutes is to be recorded for traffic stops. These data items are recorded using the data collection form included in Appendix A. The law further specifies that the collected data are to be sent to the Illinois Department of Transportation by a specific date each year for the stops data collected in the preceding year.

The Illinois Department of Transportation is further directed by statute to analyze the data and submit summary reports to the Governor, the General Assembly and the Racial Profiling Agency. The Illinois Department of Transportation is authorized to contract with an outside entity for the analysis of the data. That analysis is the purpose of this report. Moreover, the reporting entity is directed to scrutinize the data for evidence of “statistically significant aberrations.” An illustrative list of possible aberrations recorded in the statute include: (1) a higher-than-expected number of minorities stopped, (2) a higher-than-expected number of citations issued to minorities, (3) a higher-than-expected number of minorities stopped by a specific police agency, and (4) a higher-than-expected number of searches conducted on minority drivers or pedestrians.

The relevant statute, 625 ILCS 5/11-212 and subsection (a) provides that the law enforcement officer “...shall record at least the following...”. The statute seems to suggest the current data collection form includes a minimum level of information, and leaves open the possibility of gathering additional information in the future. The study team will propose changes to the data collection forms in the future.

There are additional data items that could be collected during pedestrian stops to enhance the analysis effort. Data items might include: (1) officer’s race (which has been shown to affect stop rates; see Ba et al. *Science*. 2021 Feb 12:696-702) and (2) latitude and longitude of the stop (which can be used to more precisely determine the benchmark for pedestrians, but it might need some technological changes).

¹⁶ The pedestrian stop data collection form in use during 2021 has provision for recording an arrest. The traffic stop data collection form in use during 2021 does not provide a means of recording an arrest.