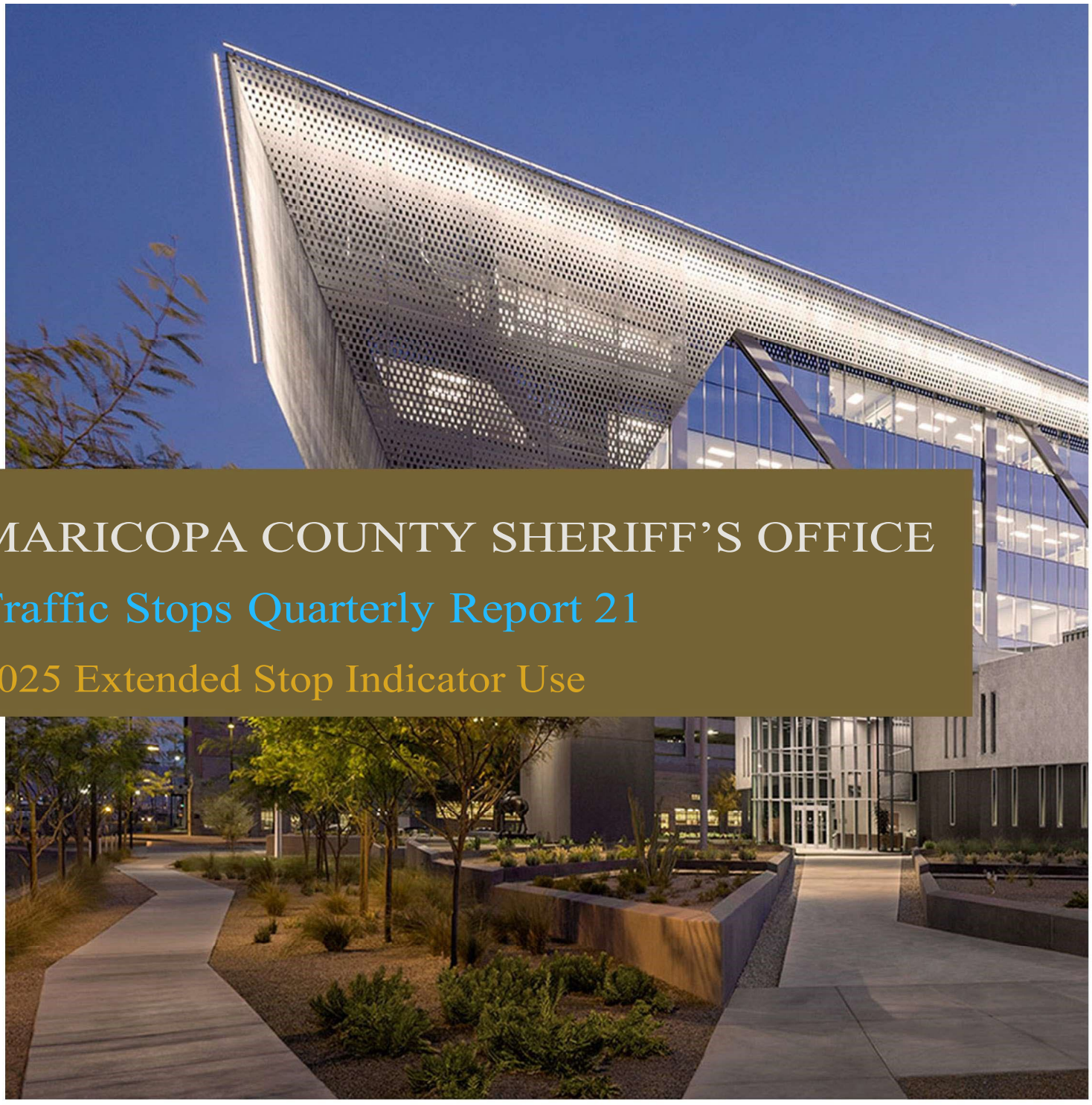

MARICOPA COUNTY SHERIFF'S OFFICE

Traffic Stops Quarterly Report 21

2025 Extended Stop Indicator Use

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March 2026

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Traffic Stops Quarterly Report 21: 2025 Extended Stop Indicator Use

March 2026

This study was developed and conducted by the Maricopa County Sheriff's Office (MCSO) Traffic Stop Analysis Unit of the Court Implementation Division. The developed methodology was approved by the Court Monitoring Team and Parties on February 7, 2026. This report is intended to meet the requirements of Paragraph 65 of the First Order, as Traffic Stop Quarterly Report for Quarter 1, 2026.

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EXECUTIVE SUMMARY

The results of the analyses presented in this report do not indicate that bias exists at MCSO nor do they directly represent discriminatory policing. In this report, we discuss "Extended Traffic Stop Indicators" (ETSIs), arrests, and searches[1] and the collection of data related to these events as recorded in the Vehicle Stop Contact Form (VSCF). ETSIs are used by deputies to document delays during traffic stops. While arrests and discretionary searches are analyzed as stop outcomes in the TSAR, TSMR and previous TSQR reports, ETSIs, arrests, and searches are utilized as control variables or accounted for by MCSO, when analyzing stop length in reviews of deputy conduct and many of the statistical analyses of stop length MCSO conducts each year.

Biased-free policing, as defined by the Monitoring Team, "means that race or Latino ancestry is not a factor in any law enforcement decisions except where allowed by law."[2] An unequal distribution of traffic stop delay documentation, as analyzed in this report, may result from a range of external factors outside of individual deputies' control or MCSO policies or practice. For example, drivers who do not possess valid licenses will delay a traffic stop because a deputy must identify the driver to confirm identity and that they are operating a motor vehicle while unlicensed. Relatedly, other delays may be related to Arizona law regarding licensing and vehicle tows (e.g., ARS 28-3151A, ARS 28-3511; see also TSQR 15), or driving behavior, as in the case with DUI investigations and arrests (see TSQR 20).

While stop length is not a traffic stop outcome, statistical differences in traffic stop outcomes or stop length should not be conflated with bias or interpreted as evidence of discriminatory policing, absent additional evidence demonstrating differential law enforcement action in practice or policy. Per Paragraphs 53, 64, 67, and 69 of the Supplemental Permanent Injunction, inequality identified by analyses conducted by MCSO are "indicia of possible racial profiling." Per Paragraph 70 of the Supplemental Injunction, MCSO investigates the findings from these analyses and will take appropriate action if racial profiling exists. Since MCSO began conducting the TSMR analyses (April 2021), neither MCSO nor the Monitor's team or parties (the DOJ and ACLU) have identified individuals, policy or practice as racial profiling.

This research examined the use of Extended Traffic Stop Indicators (ETSIs), and indicators of arrests, and searches in the 2025 MCSO traffic stop data. ETSIs are used by MCSO deputies during traffic stops to identify common reasons a traffic stop might take longer to complete. MCSO

[1]Arrests and searches were included in this analysis at the request of the Monitor's team because they extend the length of a traffic stop and are included as matching variables for analyses of stop length in the TSAR, TSMR and other TSQR research.

[2]Carnevale, John. 2014. Current Statistical Methodologies on Racial Profiling: Highlights from the Literature Warshaw and Associates. December 9, 2014: 3.

currently employs seven ETSIs and identifies when an arrest and/or search is made in the Vehicle Stop Contact Form (VSCF). In agreement with the Monitor's team and parties ETSIs (including searches and arrests) are accounted for in 13 of 15 statistical models in the TSAR. Identified delays available to deputies in the VSCF are not controlled for in TSMR analyses of stop length. The current ETSIs in the VSCF that document delays are Driving Documentation Issues, DUI Investigations, Language Barriers, Technical Issues, Vehicle Tows, Training Stops, and Other Delays. Descriptions of these ETSIs may be found in the main body of this report[3].

The purpose of the study was to describe the prevalence of delays during stops as documented by ETSIs and other VSCF information, to identify what types, and to what extant delays impact stop length during MCSO traffic stops. Most importantly, the research sought to determine whether ETSIs continue to be used appropriately and with fidelity by deputies when documenting delays during traffic stops.[4]

This research identified the use of the different ETSIs for the Office and for the Technical Issues ETSI, by vehicle number. We provide rates of ETSI use, by year and month, since the beginning of 2022. We also identify the use of ETSIs by race/ethnicity for traffic stops made in 2025. The research provides descriptive statistics for stop length for each ETSI. We identify citation and warning rates for stops with ETSIs and describe the relationship among ETSI use and citations identified in the data. The research modeled stop length using regression analysis as a function of ETSI-documented delays and race/ethnicity. The research closely investigated the use of the "Other Delay" and "Driving Documentation" ETSIs and used deputy comments in the VSCF and BWC footage to identify traffic stop delays associated with the use of these two indicators, respectively. Finally, the MCSO reviewed Body Worn Camera footage and VSCF comments from a random sample (n = 177) of traffic stops to determine whether deputies were employing ETSIs appropriately and with fidelity. Major findings from the research were as follows:

- MCSO deputies documented delays to traffic stops during 13,994 traffic stops in 2025 (56.78% of traffic stops).
- District 7 used ETSIs at the lowest rate (30.53% of traffic stops) and District 2 used ETSIs at the highest rate with over eighty percent of their stops documented with delays.
- The most common ETSI used for the Office and for all Districts was the Driving Documentation Issue.
- MCSO deputies documented delays for each ETSI at a statistically significant higher rate for Black, Hispanic, and Minority drivers than White drivers.
- Stops with Black, Hispanic, and Minority drivers experiencing Driving Documentation issues were longer than stops of White drivers experiencing the same issue. These

[3]For complete descriptions see section beginning on page 5.
[4]MCSO confirmed using 2022, 2023, 2024 traffic stop data that deputies' use of ETSI indicators to document delays during traffic stops was appropriate and that deputies utilized ETSI indicators with fidelity.

differences were statistically significant.

- Stops with cite and release/no custodial arrests were longer for Black, Hispanic, and Minority drivers when compared to White drivers. These differences were statistically significant.
- During 8,522 stops (34.58% of traffic stops), deputies documented delays using one ETSI alone and during 5,472 (22.20%) traffic stops, deputies identified multiple delays impacting stop length.
- Vehicle tows had the largest impact on stop length, with stops averaging almost 94 minutes when a vehicle tow was at least one documented delay during the stop.
- Delays associated with Driving Documentation and Technical Issues had the lowest impact on stop length, with stops extended by approximately 3 to 4 minutes when these ETSIs were used (while controlling for all documented delays).
- A majority of traffic stops with one or more delay documented, for each ETSI, had a higher citation rate than stops with no delays documented, with the exception of delays where Training and Technical Issues were at least one of the selected delays. The citation rate without documented delays was lower than the citation rate with documented delays.
- The Other Issue ETSI identified delays that could not be easily identified by other, more specific, ETSIs though these stops often included delays associated with other ETSIs and complex circumstances that delayed traffic stops.
- Reviews of BWC footage and driving documentation identified that the most common delay associated with driving documentation was providing drivers additional time to collect and provide licenses proof of insurance, and vehicle registration. Additional delays included drivers without driver's licenses or suspended licenses and/or plates.
- Review of BWC footage and VSCF comments revealed high agreement between the use of ETSIs by deputies and BWC footage. This review confirmed that deputies use ETSI indicators appropriately and with fidelity.
-

Following the research MCSO confirmed that current practices to improve data collection and documentation of delays have been effective for identifying delays during traffic stops. MCSO will continue the following practices:

- Review all stops for which the Other Issues ETSI was selected but for which there was no clear description of the delay in the VSCF and send out data refinements.
- Review stops and stop data for stops which have unusual stop lengths associated with ETSI use (e.g., or stops with very short stop lengths and any ETSI is selected)
- Continue the process implemented in January 2024 whereby reviews of stops where no

ETSI was selected, but which exceeded 20 minutes in length occur and data refinements sent out if ETSIs were determined to be appropriate.

- Conduct internal town halls with each district explaining the results of this research, reinforce proper use of the ETSIs and work with District commanders and patrol deputies to better understand each district's unique circumstances that delay traffic stops.
- Communicate with fleet management to inspect vehicles and equipment associated with a high proportion of stops experiencing technical issues.
- Discuss findings with the MCSO Internal Review Group to determine any additional actions MCSO Patrol may take.

INTRODUCTION

MCSO evaluates disparity in traffic stop length and outcomes for the office annually and reports the results in the Traffic Stop Annual Report (TSAR). Traffic stop length has been analyzed for the Office since 2014. MCSO also analyzes individual deputy stop activity for disparity in stop length in the Traffic Stop Monthly Report (TSMR). Disparity in stop length has been analyzed monthly in the TSMR since 2021. Stop length was originally cited in the first court order as deputies had been holding Hispanic drivers for extended lengths of time during traffic stops to determine whether the driver or passengers in the vehicle were undocumented.[5]

Absent deputy questions about immigration status, MCSO does not consider racial/ethnic inequality in Extended Traffic Stop Indicator use as indicia of potential bias as defined by the Second Order. ETSI use is not a stop outcome. Rather Extended Traffic Stop Indicators identify and document circumstances which extend the length of a traffic stop.

Stop length is analyzed in the TSAR and TSMR in different ways and the TSAR analysis seeks to account for race-neutral delays during the traffic stop that are considered reasonable or relevant to the deputy's law enforcement duties. The Monitor's team and parties first approved the exclusion of ETSI indicators in the analysis of stop length prior to the publication of TSAR 4 (3 models). ETSI indicators are included as statistical controls in nine additional models in the TSAR and three models in the TSAR do not account for ETSI-documented delays during traffic stops.

Traffic stops can be delayed for many reasons and MCSO has included Extended Traffic Stop Indicators (ETSIs) in the Vehicle Stop Contact Form (VSCF) to identify these delays and document when and why stops may be extended. Delays associated with arrests and searches during traffic stops are also accounted for in analyses of stop length in the TSAR and TSMR. Extended stops with ETSI indicators are not controlled for in TSMR analyses but are examined during in-depth reviews of deputies that are flagged for stop length disparity in the monthly

[5]MCSO deputies are explicitly forbidden by policy to ask about a driver's immigration status. Since reviewing traffic stops for stop length, including TSQR3, TSQR4, TSQR13, reviewing stops for follow-up to the TSQR 10, TSQR 12, TSQR 14, TSQR 15, TSQR 16, TSQR 17, TSQR 18, TSQR 19, and TSQR 20 and monthly TSMR reviews, MCSO had identified no traffic stops when a deputy has asked for a driver's immigration status.

analysis.

The Monitor's team and parties first approved the use of five ETSIs in 2017 after identifying the most common circumstances with extended stop lengths. In March of 2021 MCSO examined the use of ETSIs during 2020 traffic stops and published its findings in TSQR 3.[6] Following this research, MCSO analyzed long non-extended stops for their fourth quarterly report.[7] The results from that research indicated the need to incorporate two additional ETSIs into the VSCF (driving documentation issues and other delays). Following the publication of TSAR 8, MCSO received comments from the Monitor's team and Parties indicating an interest in investigating ETSI use again to determine if ETSIs were still being used with fidelity and to determine the prevalence of use of each indicator. Results of that analysis were published in TSQR 13[8] and confirmed that deputies used ETSI indicators appropriately and with fidelity. Following publication of the third analysis of ETSIs (TSQR 17[9]) and TSAR 10, MCSO received comments from the Monitor's team and parties indicating a continued interest in investigating ETSI use. This report is the fourth quarterly report on Extended Stop Indicator use and the fifth report documenting delays during traffic stops (TSQR 3, TSQR 4, TSQR 13, TSQR 17 and TSQR 22).

CONTINUED RESPONSE TO EXTENDED TRAFFIC STOPS[10]

Since the publication of TSQR 13 (Q1, 2024), and after the publication of TSQR 17 in the first quarter of 2025, MCSO has taken action to address disparity in traffic stop length and increase documentation of delays during traffic stops. These include:

1. Review stops for which "Other Delay" was selected but for which there is no clear description of the delay in the Vehicle Stop Contact Form (VSCF) and send out data validations as necessary.
2. Review stops and stop data for stops that have unusual stop lengths associated with ETSI use.
3. Review long non-extended stops (those that exceed 20 minutes) and send out data refinements as necessary.
4. Disseminate or publish guidelines, or "cheat sheet," on the appropriate use of ETSIs. Include use of ETSIs in TSAR training, including the appropriate use of the "Other" category.

[6]TSQR 3 "Extended Stop Indicator Use," was published in March of 2021 and can be accessed here: https://www.mcsobio.org/_files/ugd/c866a6_f37279fd33394818bb370ab6af46820e.pdf
[7]TSQR 4 "Long Non-Extended Traffic Stops" was published in June of 2021 and can be accessed here: https://www.mcsobio.org/_files/ugd/c866a6_011aa6a557db4b5da212fac8c72f30dd.pdf
[8]TSQR 13 "2023 Extended Stop indicator Use," was published in March of 2024 and can be accessed here: https://www.mcsobio.org/_files/ugd/b6f92b_ac4262279ed84a10b0815b362e687837.pdf
[9] TSQR 17 "2024 Extended Stop Indicator Use" was published in March of 2025 and can be accessed here: https://www.mcsobio.org/_files/ugd/b6f92b_b8a448b652854dfebe00cb2c2109b283.pdf
[10]For a detailed explanation of the MCSO action resulting from TSQR 13 and status updates regarding these actions see "Response Plan TSQR 13 Quarterly Report," available here: https://www.mcsobio.org/traffic-stop-data

5. Conduct Internal Town Halls with each district reviewing the results of MCSO research to inform deputies of each district's unique circumstances that delay traffic stops.
6. Communicate with Fleet Management to inspect vehicles and equipment associated with a high proportion of stops experiencing technical issues that delay traffic stops.
7. Reinforce appropriate and consistent use of ETSI indicators with deputies via regular TSAU briefings with district personnel.
8. Discuss findings with the MCSO Internal Review Group to determine any additional actions MCSO Patrol may take to address any identified disparity in stop length.
9. Monthly review of deputies flagged for stop length disparity in the TSMR.

MCSO has been successfully increasing deputy documentation of delays during traffic stops over the last several years (see Tables 1, 2a-2b in this report). Through provision of published guidelines, reviews of traffic stops, regular communication with patrol deputies by TSAU, MCSO now documents delays during traffic stops for nearly 57 percent of traffic stops. Previous research (TSQR 3, TSQR 4, TSQR 13, and TSQR 17) has informed MCSO strategies to document delays during traffic stops.

DOCUMENTED TRAFFIC STOP DELAYS

Currently, MCSO has seven extended stop indicators available for use in the VSCF. These include:

- Driving Documentation
- DUI Investigations
- Language Barrier
- Technical Issues
- Vehicle Tow
- Training Stop
- Other Delay

In addition to these ETSIs, this research also examined the use of driver arrest indicators and search (vehicle or driver) indicators from VSCF data. The inclusion of arrests and searches was necessary because when searches or arrests occur, they extend the length of the traffic stop. For this report, we include arrests and searches as "ETSIs" although they are characteristically different from the seven ETSI indicators.[11]

Descriptions of these indicators and their uses are provided below.[12]

Arrests

Following the publication of TSQR 7[13] and TSQR 20[14] on MCSO arrest activity, MCSO identified that driver arrests are characteristically different from one another. MCSO collects information in the "Driver Arrest Type" field in the VSCF to capture the circumstances of the arrest. There are currently six types of arrests documented in the VSCF data. Arrest types differentially impact the length of a traffic stop.

- *Booked Arrests:* Booked arrests occur when a driver is arrested, charged with a crime, and booked into one of the seven Maricopa County jail facilities. Once arrested, defendants remain in the jail facility and have an arraignment with a judge to determine additional legal options for the defendant. These types of arrests occur with both misdemeanor and felony charges or may occur when a driver has an active warrant out of Maricopa County (as opposed to municipal warrants).
- *Cite and Release/Custodial Arrest:* Cite and Release Custodial Arrests occur when a driver is taken into custody and processed for charges related to the arrest. These arrests are common for DUIs when the driver is taken into custody and evidence is collected related to DUI charges (such as the collection biological samples) and questioned about their

[11]Note that both arrests and searches are analyzed as stop outcomes in the TSAR and the TSAR. Arrests, and searches are used as control variables in analyses of stop length in the TSAR and the TSMR. Stops with ETSIs are either excluded from analyses in the TSAR or ETSIs are used as control variables in the TSAR.
[12]Exact verbiage used in TraCS to describe these indicators is available in Appendix A of this report.[13]TSQR 7 "Arrest Activity," was published in June of 2022 and can be accessed here:
[13]TSQR 7 "Arrest Activity," was published in June of 2022 and can be accessed here: https://aea232ab-5659-4c2d-bc16-d074bd7f96e0.filesusr.com/ugd/c866a6_8bb2dabbd9fa4b0e8473184e32edf1f5.pdf
[14]TSQR 20 "2024 Arrest Activity" was published in December 2025 and can be accessed here: https://www.mcsobio.org/_files/ugd/b6f92b_6555aa3bd7b1470f9fb41be985d00c87.pdf

alcohol or drug consumption. Absent additional charges, drivers are released following processing at MCSO sub-stations.

- *Cite and Release/No Custodial Arrest:* Cite and Release/No Custodial Arrests are the most common arrest type effectuated by MCSO deputies (79.77% of all arrests in 2024). These arrests occur when the driver is charged with a misdemeanor offense and not taken into custody. In most cases, these arrests proceed like a typical traffic stop. The most common misdemeanor charge for cite and release/no custodial arrest by MCSO deputies was for criminal speed (86% of all arrests of this type were for criminal speed in 2025; N = 694). The second most common misdemeanor charge for cite and release/no custodial arrest was for driving on suspended license (ARS 28-3473A; 32% of cite and release/no custodial arrests, N = 346). When these arrests occur, drivers must see a judge to address the citation that was issued (instead of simply paying a fine).
- *Custodial Arrest/Pending Follow-up and/or Long Form:* Custodial Arrest/Pending Follow-up and/or long form arrests occur when a driver is taken into custody while deputies collect and/or process evidence related to the suspected crime. The majority of arrests in this category are DUI arrests.
- *Custodial Arrest/Released No Further Action:* Physical arrest, released with no further action (i.e. probable cause dispelled after further investigation, decision made not to charge due to Maricopa County Attorney's Office charging standards not met) or Other Agency declines to pick up on warrant.
- *Custodial Arrest/Released to Other Agency:* Custodial Arrest/Released to Other Agency arrests are arrests of drivers on warrants from another local jurisdiction.

Driving Documentation Issues

ETSIs for driving documentation issues are used when drivers have issues with driver's licenses, identification, registration, insurance, or license plates. These delays may be caused by drivers not having their driver's license, registration, or proof of insurance in their possession, and deputies must confirm the driver's identity using information provided by the driver (e.g., name, date of birth, address, etc.) When registration for the vehicle is absent, deputies must identify and record the VIN number from the vehicle and confirm licensing of the vehicle. When proof of insurance is not available, deputies may allow drivers to access this information on their smartphones or may confirm insurance coverage with the Arizona MVD. Delays associated with license plates are often the result of fictitious plates or license plates that have been suspended by the Arizona MVD for lacking insurance on the vehicle. In these cases, license plates are seized by the deputy. Many of the delays associated with driving documentation require deputies to enter driver and/or vehicle information into TraCS manually or deputies must take extra time to confirm information about the driver or vehicle. Finally, driving documentation delays occur when drivers take extra time to find and produce requested licenses, proof of insurance, and registration when deputies request these items at the beginning of the traffic stop. We investigated circumstances of driving documentation issues and provide findings from this investigation later in this report.

DUI Investigations

DUI investigations occur when deputies have reasonable suspicion and/or probable cause to suspect that a driver is under the influence of drugs or alcohol. Stops are delayed for DUI investigations because deputies must determine if it is possible the driver is under the influence and if so, conduct field sobriety tests with the driver to determine whether they are safe to drive. When a deputy selects the ETSI for a DUI, this does not necessarily mean that a DUI arrest has occurred. Rather, the stop was delayed to determine whether the driver may be under the influence of alcohol or drugs and safe to drive.

Language Barriers

Delays related to language barriers occur when a deputy cannot communicate with drivers due to language differences, or when communication with the driver is impeded by language. The most common language barrier delay occurs when the deputy and driver do not speak the same language. However, language barrier delays also occur when drivers may be deaf and communication between the deputy and driver must be accomplished using writing. In other situations, language barriers may be present during the stop, but the driver and deputy may be able to communicate, only less efficiently than if both the driver and deputy speak the same language fluently. In most cases, language barriers may be overcome with the use of the audio Voiance translation service used by MCSO deputies to translate between two different languages. In some situations, a bilingual deputy may arrive at the stop and translate for the primary deputy or a bilingual passenger may translate during the traffic stop.

Searches

Searches occur during traffic stops for many reasons and may be searches for drivers or vehicles. Most searches during MCSO traffic stops are searches that are incident to arrest or inventory searches for vehicle tows. These searches are non-discretionary and are dictated by MCSO policy. Other searches, which are considered discretionary, are not dictated by MCSO policy and occur when a deputy has reason to search a person or vehicle during a stop. Discretionary searches are analyzed in the search benchmark of the TSAR and TSMR process. Discretionary searches of vehicles or drivers are rare during traffic stops. MCSO evaluated searches in TSQR 10 and investigates search activity monthly as part of the audits and inspection process. Both discretionary and non-discretionary searches are included in the search indicator analyzed in this report.

Technical Issues

Delays caused by technical issues often occur during MCSO traffic stops when technology facilitating the deputy's duties inhibit the timely processing of the traffic stop. These delays may be caused by connectivity issues with computers or radios. They may also be caused by other equipment not functioning such as scanners for driver's licenses and vehicle registration. Deputies have documented situations where computers must be restarted, or situations where printers for citations and other contact receipts are not functioning, requiring the deputy to handwrite all paperwork. In previous research on ETSI use, MCSO determined that deputies would often select the technical issues ETSI when they needed to manually enter driver and vehicle information into their computers.

Vehicle Tow

Delays associated with vehicle tows contribute to very long traffic stops. Deputies first determine whether towing the vehicle is appropriate. When a vehicle is towed, deputies must produce additional paperwork (a tow receipt), conduct an inventory search of the vehicle and document valuables in the vehicle if the driver is unable to take the valuables with them. Deputies must wait for tow trucks to arrive at the scene of the traffic stop and work with tow-truck drivers to document the tow. This includes collecting driver's license information from the tow-truck driver and producing a tow receipt for the driver. Finally, in many cases, when a driver's vehicle is towed, deputies may wait with a driver until the driver is able to be picked up by a friend or family member, or the deputy may provide the driver with a courtesy ride to their home or a different location. This is especially common during the summer months when temperatures routinely exceed 115 degrees.

Training

Delays during training stops occur for several reasons. Deputies in training are unfamiliar with many aspects of a traffic stop and often require extra time to identify required processes, forms, ARS statutes, etc. During training stops the Field Training Officer (FTO) often provides guidance to the trainee (OIT) with instructions or answering questions the trainee may have.

Other Delays

The Other Delay ETSI was added to the VSCF in 2022. When a deputy determines that a traffic stop has been delayed for reasons other than what is available in the other ETSIs, they may select the Other Delay ETSI. When they do so, the VSCF prompts the deputy to identify the delay in the comments of the VSCF. The Other Delay ETSI was added to the VSCF because MCSO identified many situations occurring during stops that were beyond the control of the deputy but would require the addition of multiple ETSIs specific to unique situations. In the research below, we identify the common delays during traffic stops which deputies identify and indicate that the stop was delayed for "other" reasons. Examples include drivers who are talkative and ask many questions, drivers taking a long time to stop after deputies initiate the stop, deputies waiting for a safe place to initiate the stop after they have made the decision to stop, waiting for traffic lights to cycle, asking drivers to move their vehicles to a safer location to process the stop and situations with animals or children in the vehicle.

PURPOSE OF THE RESEARCH

This research examined the use of ETSIs in the 2025 MCSO traffic stop data. The research sought to determine whether ETSIs continue to be appropriately used by deputies to document delays during traffic stops. Researchers also reviewed the "Other Issue" and "Driving Documentation" ETSI comments to document common situations associated with the use of these two indicators. The research describes the prevalence of delays during stops as documented by ETSIs and identifies what types of delays impact stop length during MCSO traffic stops.

The organization of this report is as follows. In the next section we detail the methods used to investigate ETSI use throughout the remainder of the report and describe the data used for this research. Following this, we provide summary statistics for ETSI use over time since 2022 by year and by month (2022–2025). We identify ETSIs used by individual districts and disaggregate the different ETSIs and their use by District. Next, we analyze whether different racial/ethnic groups experience delays, documented by ETSIs, at a different rate. We then provide tabulations of ETSI use and summary statistics for stop length for all ETSIs. We provide regression analyses of stop length for different racial/ethnic groups using ETSI indicators as control variables. We then provide a detailed analysis of the relationship between citation outcomes and individual ETSIs. Next, we provide results from reviews of comments from stops for which deputies selected the Other Delay ETSI. We provide results of BWC reviews of stops for which deputies selected the Driving Documentation ETSI. Finally, we present the measure of agreement between BWC reviewers, VSCF comments, and deputies' selection of the ETSIs to confirm that deputies use ETSI indicators accurately and with fidelity.

Following the presentation of the results from this research we discuss limitations of the analyses and summarize the main findings of the research. We conclude the report with a summary statement and identify MCSO's response to the findings from the research.

METHODS

Data and Variables

Data for the analysis were obtained from MCSO's Traffic and Criminal Software (TraCS) database. The data includes a population of traffic stops made by MCSO deputies from January 2025 through December 2025 (N = 24,647). Several subsets of the data were used for different analyses in the report. The first consisted of a population of stops where at least one ETSI was used (N = 13,994). Second, we identified a random sample of stops for which deputies selected the "Other Delay" ETSI (n = 400). A third subset of data consisted of a random sample of stops with the Driving Documentation ETSI selected (n = 100). Fourth, we selected a stratified random sample of traffic stops identifying n = 106 traffic stops with at least one ETSI selected and identifying 71 traffic stops with no ETSI selected (n = 177).[15] Finally, in addition to the 2025 traffic stop data, we briefly utilized TSAR 8 (2022),TSAR 9 (2023) and TSAR 10 (2024) data to tabulate annual and monthly ETSI use for the years 2022–2025.

We employ a number of variables throughout the report. The variables used in the analyses were: district number, vehicle number, ETSI use (Yes/No), ETSI Type (Arrest, Driving Documentation, DUI, Language, Search, Technical, Tow, Training, and Other Delay), Driver Race/Ethnicity (Black, Hispanic, White, and non-White Minority drivers which included Asian, Black, Hispanic, and Native American drivers combined), Stop Length (in minutes), and Stop Outcome (Citation, Warning, and Incidental Contact). All variables were nominal, except for stop length, which was interval-ratio.

Analyses

In the first analysis presented below, we provide ETSI use for each ETSI type as a proportion of traffic stops annually for the years 2022–2025. We also provide ETSI use, for each ETSI type, as a proportion of traffic stops, by month, for the years 2022–2025. Following this, all analyses used 2025 traffic stop data only.

Using all 2025 traffic stop data, we provide the frequency and proportion of traffic stops with ETSI-documented delays for each of MCSO's districts.[16] These numbers are presented in aggregate (any ETSI selected) and by ETSI type. We then present an office-level analysis of the frequency and percentage of stops with an ETSI by race/ethnicity for all ETSIs and for each ETSI type. We employ the Fisher's Exact Test to test for racial/ethnic differences in ETSI use and employed a critical value of $p < 0.05$ to test the null hypothesis of whether ETSI use between White drivers and other racial/ethnic groups (Black, Hispanic, and Minority drivers) are equal.

[15]The sample was stratified based on the proportion of traffic stops for which each ETSI was selected (and no ETSI selected) in the 2025 data.

[16]The MCSO began motorcycle patrols in 2024. Motorcycle patrols are specific to traffic enforcement and traffic stops made by the motorcycle unit occurred throughout Maricopa County. MCSO ceased motorcycle patrols in 2025. We include motorcycle traffic stops as an administrative unit separate from other districts in this report.

We provide descriptive statistics for stop length for each ETSI indicator and include the number of stops, the minimum and maximum stop length, the mean, median and standard deviation for stop length, and as a measure of skewness, the percentage of stops above the mean stop length. We present these statistics for all stops with a given ETSI (ETSI use was not mutually exclusive) and for stops with only one ETSI selected.

To address the impact identified delays have on stop length, we model racial/ethnic differences in stop length in two ways. First, we compare stop lengths with a single ETSI selected, for each ETSI type, to determine whether different racial/ethnic groups (Black, Hispanic, and Minority) have different stop lengths when compared to White drivers. To compare stop lengths, we used an independent samples t-test and employed a critical value of $p < 0.05$ to test the hypothesis of no difference in the average stop length between groups. Second, we provide a series of five regression models modeling stop length as function of ETSIs and race/ethnicity. For this analysis we disaggregate arrests into custodial and non-custodial arrests because of their unique impact on stop length.

Following our analysis of stop length, we provide a descriptive analysis of ETSI use and contact conclusions (citations v. warnings). For this analysis we identify the number of stops with each ETSI selected and provide the citation and warning rates for those stops. To identify how ETSIs and contact conclusions are broadly related we include a bivariate correlation matrix of the relationship among ETSI indicators and citation outcomes.

We conducted three analyses of subsets of stops and associated ETSI use to describe the uses of two ETSIs (Other Delay and Driving Documentation) and to confirm appropriate use of all ETSI indicators during stops. First, we qualitatively reviewed VSCF comments for a random sample of stops with the "Other Delay" ETSI selected (n = 400), categorized documented delays into 16 categories, and identified stops for which no delay was documented in the comments of the VSCF[17] We tabulated and provided a description of each type of delay. In the second analysis we reviewed BWC footage of a random sample of traffic stops with the Driving Documentation ETSI selected (n = 100). These reviews documented the specific delays associated with driving documentation. Delays associated with driving documentation were identified from BWC footage and confirmed with VSCF comments: 1) extra time needed to provide license, insurance, and registration, 2) suspended, cancelled, or revoked licenses, 3) no driver's license, and 4) other driving documentation delays. When reviewers identified other driving documentation delays, they identified and documented the source of delay (e.g., manual entry of driver or vehicle information). We include a description of all other driving documentation delays identified for these stops.

In the third analysis, MCSO reviewed BWC footage for n = 177 randomly selected traffic stops to evaluate the proper selection of ETSIs by deputies. Of these stops, 106 stops were selected for which deputies indicated at least one ETSI and 71 stops were selected for which no ETSI was

[17]Categories were derived from the analysis in TSQR 13. For a list of the categories, see Table 16.

selected. To evaluate whether deputies used ETSI indicators with fidelity, we conducted three analyses. The first analysis included a blind review of stops where reviewers had no prior knowledge of the types of delays (or lack thereof) that occurred during the stop. Reviewers documented observed delays during the stops and identified whether individual ETSI indicators were appropriate. Following BWC reviews, MCSO conducted an agreement analysis of delays identified in BWC footage with the ETSIs selected by deputies in the VSCF. A second analysis involved coding VSCF comments for the sample of stops to identify delays that were documented in writing by deputies. We conducted an agreement analysis between coded deputy comments and ETSI indicators selected in the VSCF. Finally, we identified whether BWC reviews or VSCF comments documented a delay during the stop and whether these documented delays were in statistical agreement with the ETSIs selected in the VSCF. For all analyses of agreement, we used Cohen's Kappa and a critical value of $p < 0.05$.

Organization of Findings

We first provide an overall description of ETSI use by the Office by Year and by Month. Following this, the descriptive analysis provides an overview of ETSI use by type for the Office and by District (Tables 3 and 4). An additional analysis of the frequency and percent of the Technical Issues indicator by Vehicles is included in the Appendix of this report. In the next section, ETSI use is disaggregated by the driver's perceived race/ethnicity and the results of Fisher's Exact Test for racial/ethnic differences in ETSI use are presented. Next, descriptive statistics for stop length (number of observations, minimum, maximum, mean, median, standard deviation, and percentage of cases above the mean) are provided for the use of each indicator, and indicators in combination with all others (ETSI use not mutually exclusive. This is followed by an analysis of ETSI use and stop outcome for each of the nine indicators. The next section includes results from evaluating the VSCF comments from a random sample of stops where deputies selected the Other Delay ETSI. Comments were coded into categories to identify common explanations for delays associated with the Other Delay ETSI.[18] Findings from this analysis are presented and specific delays discussed. Finally, we present the results of reviews of BWC footage and VSCF comments as a quality check on the use of ETSIs. We use Cohen's Kappa[19] as a measure of agreement between (a) deputy ETSI selection and reviewers' determinations of delays, (b) deputy ETSI selection use and VSCF comments, and (c) deputy selection and reviewer determinations of delays and VSCF comments combined.

[18] Saldaña, Johnny. 2016. *The Coding Manual for Qualitative Researchers.* Thousand Oaks, CA: Sage Publications.
[19]Cohen, J. 1960. "A Coefficient of Agreement for Nominal Scales." *Educational and Psychological Measurement* XX(1): 37-46.

FINDINGS

Frequency of ETSI Use Over Time

In Table 1 below we provide the proportion of traffic stops with documented delays, by year. Since the Driving Documentation ETSI was added to the VSCF in 2022, it has been indicated as the most common delay during traffic stops, impacting stop length of over forty percent of stops in 2025.

Table 1: ETSI use as a Proportion of Traffic Stops, by Year

	2022[20]	2023	2024	2025
Any ETSI (Includes Arrests and Searches)	29.38%	39.35%	52.43%	56.78%
Arrests	4.64%	5.47%	5.98%	6.28%
Driving Documentation	13.89%	24.69%	36.79%	43.64%
DUI Investigations	1.94%	1.93%	1.83%	1.69%
Language Barrier	1.96%	2.37%	2.70%	2.48%
Search	2.45%	2.69%	2.68%	2.46%
Technical Issues	6.91%	7.46%	10.44%	9.35%
Vehicle Tow	1.73%	1.99%	1.78%	1.80%
Training	5.91%	5.68%	5.93%	4.45%
Other Delay	3.35%	6.84%	12.51%	17.49%

[20]The Driving Documentation and Other Delay ETSIs were added to the VSCF after the 2022 data year began.

In Tables 2a–b we provide descriptive statistics for documented delays in traffic stops by month and ETSI for the years 2022-2025.

Table 2a: ETSI USE as a Proportion of Traffic Stops, by Month

		Arrest	Driving Docs	DUI	Language	Search	Tech	Tow	Training	Other Delay
2022	Jan.	5.37%	N/A	1.64%	1.90%	2.29%	5.18%	1.64%	1.97%	N/A
	Feb.	4.55%	0.07%	1.03%	2.62%	3.31%	5.10%	1.52%	2.00%	N/A
	March	4.45%	13.35%	2.52%	1.29%	2.31%	8.69%	1.39%	9.00%	4.02%
	April	4.60%	12.86%	1.65%	2.18%	2.12%	7.73%	1.83%	14.40%	3.30%
	May.	4.44%	15.16%	3.09%	2.42%	2.84%	7.43%	2.06%	14.08%	3.20%
	June	4.55%	17.40%	1.63%	1.81%	2.39%	6.60%	1.63%	8.76%	3.50%
	July	4.46%	14.87%	2.28%	1.83%	1.98%	5.80%	1.59%	3.92%	2.43%
	Aug.	4.74%	15.18%	1.18%	1.56%	2.26%	6.19%	1.67%	2.48%	4.04%
	Sept.	4.44%	15.46%	2.36%	1.67%	2.13%	7.61%	1.44%	1.21%	5.59%
	Oct.	4.35%	17.84%	1.35%	2.32%	2.32%	6.82%	1.50%	2.32%	3.67%
	Nov.	4.45%	20.49%	1.94%	2.02%	2.75%	7.77%	2.19%	4.53%	4.78%
	Dec.	5.39%	24.42%	2.17%	2.24%	3.01%	7.98%	2.45%	3.01%	5.67%
2023	Jan.	3.08%	23.81%	1.49%	2.13%	1.74%	8.38%	1.49%	7.24%	5.51%
	Feb.	4.41%	21.56%	1.10%	2.02%	2.51%	4.96%	1.90%	5.63%	4.78%
	March	4.80%	23.68%	1.71%	1.78%	3.03%	6.58%	2.04%	8.68%	7.50%
	April	4.80%	24.22%	2.36%	2.66%	2.73%	7.53%	2.22%	3.69%	7.90%
	May.	5.56%	26.37%	2.58%	2.97%	4.46%	9.08%	3.21%	5.40%	8.37%
	June	4.37%	26.15%	1.79%	3.37%	3.51%	7.66%	2.72%	6.23%	7.38%
	July	5.23%	26.13%	2.22%	3.80%	3.64%	7.84%	3.09%	7.76%	8.23%
	Aug.	5.56%	26.07%	0.87%	2.55%	1.91%	8.05%	1.39%	6.32%	6.14%
	Sept.	6.95%	23.32%	1.62%	2.46%	2.46%	8.63%	1.74%	4.32%	5.64%
	Oct.	6.80%	24.76%	0.71%	1.74%	1.90%	6.49%	1.19%	3.80%	7.44%
	Nov.	6.60%	24.59%	1.25%	1.65%	2.11%	6.86%	1.32%	5.35%	6.53%
	Dec.	7.55%	26.25%	4.90%	1.90%	3.00%	7.35%	2.15%	3.70%	7.85%

Since 2022 delays associated with arrests and searches have stayed relatively stable month-to-month. Documentation of delays related to driving documentation has increased steadily since 2022. Use of the DUI ETSI has been relatively stable since 2022. 1n 2025, delays related to DUI investigations were least common in October (0.88% of traffic stops) and most common in May (2.17% of traffic stops). Delays associated with language barriers have remained relatively stable month-to month since 2022, ranging between 2 to 3 percent. Monthly rates for searches have also remained similar since 2022. In 2025, searches were least common in February (1.92% of traffic stops) and most common in August (3.21% of traffic stops). Monthly use of the Technical Issues ETSI has increased since 2022. In 2025, the deputies documented technical issues least often in July (6.83% of traffic stops) and most often in March (11.11% of traffic stops).

Table 2b: ETSI USE as a Proportion of Traffic Stops, by Month

		Arrest	Driving Docs	DUI	Language	Search	Tech	Tow	Training	Other Delay
2024	Jan.	5.68%	30.48%	1.15%	1.59%	2.61%	8.16%	1.79%	3.95%	9.69%
	Feb.	5.27%	33.95%	1.05%	2.03%	2.27%	9.48%	1.22%	3.57%	10.78%
	March	4.84%	30.26%	1.99%	2.59%	2.72%	10.02%	1.66%	11.61%	9.95%
	April	6.01%	28.89%	1.37%	2.86%	2.40%	10.70%	1.54%	3.83%	10.81%
	May.	5.81%	30.51%	2.13%	2.65%	2.54%	10.28%	2.02%	3.89%	8.56%
	June	6.30%	37.74%	1.52%	1.94%	3.25%	8.66%	1.25%	4.71%	10.66%
	July	7.03%	39.62%	3.35%	3.24%	2.81%	9.89%	2.16%	2.86%	12.27%
	Aug.	5.96%	39.93%	3.26%	3.51%	2.91%	11.52%	2.05%	5.91%	15.33%
	Sept.	6.00%	38.23%	1.58%	3.41%	2.64%	11.95%	1.73%	4.83%	15.00%
	Oct.	4.77%	44.58%	1.00%	1.88%	2.06%	11.90%	1.35%	12.90%	14.25%
	Nov.	6.96%	42.39%	1.68%	2.61%	2.86%	10.57%	2.05%	8.33%	16.03%
	Dec.	6.81%	43.36%	1.22%	3.43%	3.03%	11.06%	2.15%	5.36%	15.37%
2025	Jan.	5.65%	46.35%	1.04%	3.32%	2.18%	10.11%	1.87%	4.92%	19.96%
	Feb.	4.60%	43.41%	0.91%	2.07%	1.92%	8.54%	1.47%	1.01%	17.99%
	March	5.74%	47.83%	1.66%	2.74%	2.63%	11.11%	1.77%	0.91%	21.79%
	April	6.74%	47.19%	1.86%	1.86%	2.55%	10.03%	1.59%	5.10%	20.70%
	May.	7.18%	46.23%	2.17%	3.00%	3.41%	10.80%	2.17%	5.73%	16.99%
	June	7.94%	46.10%	1.97%	2.81%	3.11%	8.23%	2.22%	4.88%	17.50%
	July	6.37%	34.57%	1.77%	1.89%	2.12%	6.83%	1.47%	2.47%	13.04%
	Aug.	6.46%	43.63%	2.43%	3.21%	2.99%	9.06%	2.56%	9.10%	16.85%
	Sept.	6.36%	42.47%	1.72%	2.56%	2.03%	9.09%	1.50%	4.94%	17.70%
	Oct.	5.85%	45.26%	0.88%	2.16%	2.11%	9.63%	1.52%	3.88%	20.39%
	Nov.	6.01%	42.35%	1.77%	2.04%	2.42%	9.77%	2.15%	5.90%	15.89%
	Dec.	6.31%	41.68%	1.98%	2.19%	2.14%	10.13%	1.37%	4.27%	12.77%

Month-to-moth variation in delays related to vehicle tows has been relatively stable since 2022. In 2025, monthly vehicle tows occurred for about 2 percent of traffic stops each month. Vehicle tows were least common in December (1.37% of traffic stops) and most common in June (2.22% of traffic stops). In contrast ETSI use documenting training stops varied each month in 2025, ranging from less than 1 percent in February to over 9 percent in August. Finally, monthly ETSI use documenting other delays have increased since 2022. In 2025, ETSIs documenting other delays were least common in December (12.77% of traffic stops) and most common in March (21.79% of traffic stops).

Frequency of ETSI Use by District[21]

In Table 3 below, we provide an overview of ETSI use by District for each of MCSO's districts. District 2 had the highest ETSI use rate when compared to other districts, with over half of all traffic stops delayed by a search, arrest, or documented extended stop circumstances. In contrast, District 7 deputies had the lowest proportion of stops delayed by arrests, searches, or documented traffic stop delays (30.53%). Over 80 percent of traffic stops made by District 2 deputies included documented delays during the stop. In total, over 50 percent (56.78%) of stops made by MCSO deputies were documented as delayed for arrests, searches, or by the ETSI circumstances.

Table 3: Number of Traffic Stops and Stops with ETSIs, by District

District	Number of Stops	Number of Stops with an ETSI	Percent Stops with an ETSI
1	3,809	2,588	67.94%
2	2,132	1,716	80.42%
3	2,034	1,109	54.52%
4	4,639	3,503	75.51%
5	7,096	3,560	50.17%
Motors Unit	217	76	35.02%
7	4,176	1,440	30.53%
MCSO	24,647	13,994	56.78%

In Tables 4a, 4b, and 4c we report documented delays for each ETSI and District. In Table 4a below, we identify ETSI use for Arrests, Driving Documentation, and DUIs. In 2025, MCSO had 1,547 traffic stops that involved the arrest of a driver.[22] This accounted for 6.28 percent of all MCSO traffic stops. District 5 had the highest rate of delays associated with arrests, with 7.22 percent of stops delayed for this reason. In contrast, working the Motors Unit made 6 arrests during traffic stops, accounting for 2.76 percent of Motors unit stops in 2025.

Delays caused by issues with driving documentation occurred during 43.64 percent of all MCSO

[21]We identify the Motors traffic unit as a separate administrative unit in 2025. The Motors unit operated across the Valley and was designated as dedicated traffic enforcement. The Motors unit is no longer in operation at MCSO.

[22]Arrests by MCSO deputies during traffic stops are effectuated in different ways and depend on the circumstance(s) of the stop. Cite and release arrests occur when drivers are issued a citation for a criminal violation. The most common arrest of this type are arrests for criminal speed. In these circumstances it is unlikely that a driver is detained but are issued a criminal citation during the stop. Custodial arrests occur when the driver is detained and processed for the arrest. These arrests occur during DUI stops, stops with other more serious violations, or when a driver possesses a warrant. Most arrests made by MCSO deputies during traffic stops are not custodial arrests. For more information on MCSO traffic stop arrest activity see TSQR 20 available at https://www.mcsobio.org/_files/ugd/b6f92b_6555aa3bd7b1470f9fb41be985d00c87.pdf

traffic stops made in 2025.[23] Driving documentation issues were most common in Districts 2 and 4, with over two-thirds of their traffic stops delayed for this reason (67.07% and 69.50%, respectively). In contrast, delays caused by driving documentation were least common in District 7 and for stops made by deputies working on the Motors Unit. In District 7, 17.98 percent of stops were delayed for driving documentation issues, and for stops made by deputies working on the Motors Unit, 19.35 percent of traffic stops were delayed for this reason.

Delays for DUI investigations occurred during less than 2 percent of all traffic stops (1.69%). Investigations for DUIs across all districts are relatively rare, except for District 5. District 4 had the lowest proportion of stops delayed for DUI investigations with less than one percent (0.69%) of stops delayed for this reason. Approximately two percent (1.94%) of stops in Districts 1 were delayed for DUI investigations. Delays associated with DUI investigations were most common in District 5 (3.57%). The higher rate of delays for DUI investigations in District 5 (Lake Patrol) is due, in part, to District management of the DUI Taskforce special assignments and that District 5 deputies patrol outdoor recreational areas in the County.[24] Throughout the year deputies are deployed to identify impaired drivers. These taskforces are deployed during special events, holidays, and in conjunction with DUI-specific municipal police operations.

Table 4a: Number and Percent of ETSI Use by District and Type (ETSI use not mutually exclusive)

	Arrest		Driving Document		DUI	
District	N ETSI	Percent of All Stops	N ETSI	Percent of All Stops	N ETSI	Percent of All Stops
1	373	9.79%	1,970	51.72%	74	1.94%
2	128	6.00%	1,430	67.07%	14	0.66%
3	152	7.47%	786	38.64%	30	1.47%
4	187	4.03%	3,224	69.50%	22	0.47%
5	512	7.22%	2,456	34.61%	253	3.57%
Motors	6	2.76%	42	19.35%	0	0.00%
7	189	4.01%	848	17.98%	24	0.51%
MCSO	1,547	6.28%	10,757	43.64%	417	1.69%

In Table 4b below, we identify ETSI use for Language Barriers, Searches, and Technical Issues. During all MCSO traffic stops, 612, or 2.48%, of stops involved delays associated with language barriers. The Language Barrier ETSI was most common in District 2, with 5.16 percent of stops

[23]Research on MCSO stop activity, presented in TSQR 13 and TSQR 17, identified that driving documentation was also the most common delay during traffic stops in 2023 and 2024, respectively. This research is available at https://www.mcsobio.org/traffic-stop-data

[24]Research on special assignment activity was conducted for TSQR 9 which explains the role the DUI Taskforce plays in MCSO's patrol activity. TSQR 9 can be accessed at https://www.mcsobio.org/_files/ugd/b6f92b_089d19c100b24f53a01ee1b453e40a79.pdf.

involving a delay caused by language communication issues. Districts 4 and 7 had relatively low instances of delays caused by language barriers. In District 4, only 82 stops (1.77% of all District 4 traffic stops) were delayed because of language barriers. In District 7, about one percent (1.04%, N = 49) of traffic stops were delayed due to a language barrier. No stops made by the Motors unit experienced delays associated with language barriers.

Delays due to searches[25] occurred during 2.46 percent of all MCSO traffic stops. Like other types of delays, certain districts have higher rates of delays from searches. District 1 had the highest overall search rate in 2025, with 4.38 percent of traffic stops involving a search of some kind. In contrast, District 4 had the lowest incidence (N = 51) and rate (1.10 %) of searches when compared to other districts. No stops made by the Motors unit were delayed for searches in 2025.

Technical issues delayed 9.35 percent of all MCSO traffic stops in 2025. The number of delays due to technical issues was highest in District 5 (N = 568), although District 2 had the highest rate of technical delays with 19.47 percent (N = 415) of traffic stops delayed because of technical issues. District 7 had the lowest rate of technical issues of any district. In District 7 only 230 (4.88%) traffic stops involved a delay for technical issues. The Motors unit identified only 23 (10.60%) traffic stops delayed because of technical issues.

Table 4b: Number and Percent of ETSI Use by District and Type (ETSI use not mutually exclusive)

	Language		Search		Technical	
District	N ETSI	Percent of All Stops	N ETSI	Percent of All Stops	N ETSI	Percent of All Stops
1	158	4.15%	167	4.38%	477	12.52%
2	110	5.16%	70	3.28%	415	19.47%
3	55	2.70%	68	3.34%	234	11.50%
4	82	1.77%	51	1.10%	357	7.70%
5	158	2.23%	187	2.64%	568	8.00%
Motors	0	0.00%	0	0.00%	23	10.60%
7	49	1.04%	63	1.34%	230	4.88%
MCSO	612	2.48%	606	2.46%	2,305	9.35%

In Table 4c below, we identify delays caused by Vehicle Tows, Training Stops, and Other documented delays that cannot be readily captured by the other ETSI indicators. Delays for vehicle tows were most common in Districts 1 and 5. District 1 had 117 vehicle tows, which accounted

[25]Note that these searches include both discretionary and non-discretionary searches. Non-discretionary searches are searches which are required by MCSO policy. Non-discretionary searches include searches incident to arrest, inventory searches for vehicle tows, and consent searches for courtesy rides. Discretionary searches occur when a deputy has reason to search a person or vehicle during consensual or investigative contact but is not required by MCSO policy. Discretionary searches may include Terry Frisk, Protective Sweep, Plain View, and Consent Search.

for 3.07 percent of District 1's traffic stops. In District 5, 133 traffic stops involved a vehicle tow (1.87% of District 5 traffic stops). In contrast, District 4 had lowest percentage (1.21%) of stops with vehicle tows compared to all other districts. MCSO overall made vehicle tows (N = 444) during 1.80 percent of traffic stops conducted in 2025.

Overall, 4.45 percent of MCSO traffic stops involved training. Delays from training were most common in District 1, where 336 stops involved training (8.82% of District 1 traffic stops). District 2 had the largest proportion of traffic stops delayed for training. District 7 had the fewest training stops compared to all other districts, with only 34 stops involving delays related to training (0.72% of District 7 stops). There were no delays related to training identified by deputies making stops on the Motors unit.

Lastly, MCSO deputies selected the Other Delay ETSI during 17.49 percent of traffic stops. District 1 used this ETSI at the highest rate (25.12%) when compared to other districts. Whereas District 7 deputies selected this ETSI during 9.05 percent of their stops. Note that when deputies select the Other Delay ETSI, they are prompted to identify the delay in the comment field in the VSCF. An analysis of these comments is available in the "Other Delays ETSI Comments" section below.

Table 4c: Number and Percent of ETSI Use by District and Type (ETSI use not mutually exclusive)

	Tow		Training		Other Delay	
District	N ETSI	Percent of All Stops	N ETSI	Percent of All Stops	N ETSI	Percent of All Stops
1	117	3.07%	336	8.82%	957	25.12%
2	55	2.58%	288	13.51%	449	21.06%
3	40	1.97%	127	6.24%	353	17.35%
4	56	1.21%	68	1.47%	995	21.45%
5	133	1.87%	244	3.44%	1,108	15.61%
Motors	1	0.46%	0	0.00%	22	10.14%
7	42	0.89%	34	0.72%	427	9.05%
MCSO	444	1.80%	1,097	4.45%	4,311	17.49%

Use of ETSIs by Race/Ethnicity

Tables 5a and 5b provide the overall use of ETSIs by race/ethnicity for all stops during the study period. Fischer's Exact Test probability values are provided for differences in ETSI use for Hispanic, Black, and Minority drivers, with White drivers as the comparison group. The Exact Test is used to determine the empirical association between categorical variables (e.g., race/ethnicity and ETSI use). Differences in ETSI use are notable for each ETSI type at the $p < 0.05$ level.[26] Table 5a provides the overall difference in ETSI use for all ETSIs by race/ethnicity. Overall, delays documented by ETSIs impacted Black, Hispanic, and Minority drivers at a higher rate when compared to White drivers. Deputies documented at least one ETSI during 51.04 percent of stops with White drivers, whereas documented delays for Black drivers during 67.79 percent of stops. Deputies documented delays for Hispanic and Minority drivers during 68.96 percent and 67.60 percent of their stops, respectively.

Table 5a: Frequency and percent use of ETSIs (ETSI use not mutually exclusive)

ETSI Type	Race/Ethnicity	Number of Stops	N ETSI	Percent ETSI By Race	Fisher's Exact p-value
All ETSIs	Black	1,835	1,244	67.79%	<0.05*
	Hispanic	5,745	3,962	68.96%	<0.05*
	Minority	8,541	5,774	67.60%	<0.05*
	White	16,106	8,220	51.04%	

Statistically significant differences in Arrest, Search, and all other ETSIs used (Table 5b) were present for all comparisons.

White drivers were arrested during 4.99 percent of stops whereas Black, Hispanic, and Minority drivers were arrested at rates above 8 percent. Black drivers were arrested during 9.32 percent of stops; Hispanic drivers were arrested during 8.81 percent of stops; and Minority drivers were arrested during 8.70 percent of stops.

Black, Hispanic, and Minority drivers experienced delays related to driving documentation at higher rates than White drivers. White drivers experienced delays due to driving documentation issues during 38.65 percent of stops. In contrast, Black drivers experienced driving documentation delays during 54.06 percent of stops. Hispanic drivers experienced delays associated with driving documentation issues during 54.33 percent of their stops. Finally, Minority drivers, as a group, experienced delays with driving documentation issues during 53.06 percent of traffic stops.

Stops with DUI investigations occurred during 1.27 percent of stops of White drivers. In contrast, 2.29 percent of traffic stops of Black drivers involved a DUI investigation. Hispanic drivers

[26]Reported *p*-values can be interpreted as the probability there is a relationship between race/ethnicity and ETSI use when no relationship exists. *P*-values do not demonstrate that the differences in ETSI use are caused by the race/ethnicity of the driver, only that the observed difference are greater than chance.

experienced a DUI investigation 2.63 percent of the time. Finally, Minority drivers, as a group, experienced delays associated with DUI investigations during 2.48 percent of traffic stops.

Hispanic drivers were impacted by language barrier delays more than any other racial/ethnic group. While only 30 (0.19%) White drivers experienced delays due to a language barrier, 517 traffic stops of Hispanic drivers (9.00% of stops) were delayed due to language barriers. Language barriers occurred during 17 stops of Black drivers (0.93%). Minority drivers, as a group, experienced delays due to language barriers during 6.81 percent of stops.

Delays associated with searches differed for all groups when compared to White drivers. White drivers experienced searches during 1.24 percent of traffic stops. In contrast, Black drivers experienced searches during 3.87 percent of traffic stops, while Hispanic drivers experienced searches during 5.40 percent of traffic stops. Finally, Minority drivers, as a group, experienced delays associated with searches during 1.24 percent of traffic stops.

White drivers were delayed by technical issues during 1,348 traffic stops, accounting for 8.37 percent of traffic stops of White drivers. Black drivers were delayed for technical issues during 10.84 percent of traffic stops. Hispanic drivers experienced delays associated with technical issues during 11.87 percent of their traffic stops. Finally, Minority drivers as a group experienced delays from technical issues during 11.20 percent of stops.

Table 5b: Frequency and Percent Use of ETSIs (ETSI use not mutually exclusive)

ETSI Type	Race/Ethnicity	Number of Stops	N ETSI Within Type	Percent ETSI By Race	Fisher's Exact p-value
Arrest	Black	1,835	171	9.32%	<0.05*
	Hispanic	5,745	506	8.81%	<0.05*
	Minority	8,541	743	8.70%	<0.05*
	White	16,106	804	4.99%	–
Driving Documentation	Black	1,835	922	54.06%	<0.05*
	Hispanic	5,745	3,121	54.33%	<0.05*
	Minority	8,541	4,532	53.06%	<0.05*
	White	16,106	6,225	38.65%	–
DUI	Black	1,835	42	2.29%	<0.05*
	Hispanic	5,745	151	2.63%	<0.05*
	Minority	8,541	212	2.48%	<0.05*
	White	16,106	205	1.27%	–
Language	Black	1,835	17	0.93%	<0.05*
	Hispanic	5,745	517	9.00%	<0.05*
	Minority	8,541	582	6.81%	<0.05*
	White	16,106	30	0.19%	–
Search	Black	1,835	71	3.87%	<0.05*
	Hispanic	5,745	310	5.40%	<0.05*
	Minority	8,541	407	4.77%	<0.05*
	White	16,106	199	1.24%	–
Technical	Black	1,835	199	10.84%	<0.05*
	Hispanic	5,745	682	11.87%	<0.05*
	Minority	8,541	957	11.20%	<0.05*
	White	16,106	1,348	8.37%	–
Tow	Black	1,835	47	2.56%	<0.05*
	Hispanic	5,745	261	4.54%	<0.05*
	Minority	8,541	327	3.83%	<0.05*
	White	16,106	117	0.73%	–
Training	Black	1,835	105	5.72%	<0.05*
	Hispanic	5,745	390	6.79%	<0.05*
	Minority	8,541	536	6.28%	<0.05*
	White	16,106	561	3.48%	–
Other	Black	1,835	447	24.36%	<0.05*
	Hispanic	5,745	1,270	22.11%	<0.05*
	Minority	8,541	1,895	22.19%	<0.05*
	White	16,106	2,416	15.00%	–

*$p < 0.05$

White drivers experienced a vehicle tow during 0.73 percent of their traffic stops (N = 117), while Black driver vehicle tows occurred during 2.56 percent of stops (N = 47). Hispanic drivers had the highest rate of vehicle tows, with 4.54 percent of Hispanic stops involving a vehicle being towed (N = 261). Minority drivers experienced a vehicle tow during 3.83 percent of their traffic stops (N = 327).

This research found statistically significant differences in delays caused by training between all racial/ethnic groups when compared to White drivers. White drivers experienced delays associated with training during 3.48 percent of traffic stops. In contrast, Black drivers experienced delays associated with training during 5.72 percent of their traffic stops. Training stops were identified during 6.79 percent of stops of Hispanic drivers and 6.28 percent of stops of all Minority drivers.

Finally, "other" delays documented during traffic stops impacted all racial/ethnic groups at a higher rate when compared to White drivers. Deputies documented that White drivers were delayed for other issues during 15.00 percent of stops. In contrast, Black drivers were delayed during stops for other issues during 24.36 percent of stops. Hispanic drivers were delayed for other issues during 22.11 percent of traffic stops, while Minority drivers, as a group, were delayed during 22.19 percent of stops. Discussion of the other issues ETSI is provided in greater depth in the "Other Delays ETSI Comments" section below.

ETSI Descriptive Statistics for Stop Length

In the section below, we identify ETSI use by type of ETSI and report summary statistics for stop length that include the minimum and maximum length of stop observed for stops with each ETSI type, median stop length, the mean and standard deviations for each ETSI and, as a measure of skewness, we provide the percent of cases whose stop lengths are above the mean.

Because multiple ETSIs may be selected during any given stop, we provide summary statistics for stop length when the ETSI is selected but other ETSIs may also be selected (e.g., ETSIs are not mutually exclusive) in Table 6 below. In contrast, we provide summary statistics for stop length when only one ETSI was selected on the VSCF in Table 7 (e.g., ETSIs are mutually exclusive)

Table 6: Descriptive Statistics for Stop Length (in minutes; ETSI use not mutually exclusive)

Type of Stop	N	Min	Max	Median	Mean	Standard Deviation	Percent Above Mean
No ETSI	10,653	1	39	9.00	9.54	2.51	44.03%
Any ETSI Used	13,994	1	473	14.00	19.44	23.49	24.38%
Arrest	1,547	6	473	22.00	47.05	56.37	27.80%
Driving Documentation	10,757	3	473	14.00	19.26	21.95	25.82%
DUI	417	8	473	40.00	78.22	72.09	41.73%
Language Barrier	612	3	258	21.50	32.14	31.99	25.82%
Search	606	6	359	76.00	95.95	63.29	37.62%
Technical Issue	2,305	6	267	16.00	19.19	15.22	30.50%
Tow	444	7	359	73.50	93.64	60.17	34.68%
Training	1,097	1	473	19.00	26.19	34.03	24.34%
Other Delay	4,311	1	347	16.00	23.38	28.54	24.05%

Table 7: Descriptive Statistics for Stop Length (ETSIs use is mutually exclusive)

Type of Stop	N	Min	Max	Median	Mean	Standard Deviation	Percent Above Mean
No ETSI	10,653	1	39	9.00	9.54	2.51	44.03%
All Stops with One ETSI	8,522	2	82	12.00	13.33	5.82	36.44%
Arrest	351	6	45	11.00	11.34	3.72	36.47%
Driving Documentation	5,881	3	82	12.00	13.20	5.80	34.26%
DUI	51	10	41	17.00	17.94	6.23	45.10%
Language Barrier	104	3	36	14.00	15.02	6.05	33.65%
Search	5	14	64	32.00	39.40	22.91	40.00%
Technical Issue	625	6	63	12.00	13.45	5.08	39.36%
Tow	3	7	52	48.00	35.67	24.91	66.67%
Training	330	2	36	14.00	14.57	5.00	46.06%
Other Delay	1,172	3	78	13.00	13.63	6.18	42.23%

Modeling Stop Length from ETSIs

In Table 8 below we compare stop lengths for stops with a single ETSIs selected. We used White drivers as the comparison group for all comparisons. We found statistically significant differences in stop length for Black, Hispanic, and Minority drivers for stops with the Driving Documentation ETSI selected and for stops with cite and release non-custodial arrests. We found statistically significant differences between White and Hispanic drivers and between White and Minority drivers for stops delayed for training. There were no other statistically significant differences in stop length when a single ETSI was selected.

Table 8: Stop Length Comparison with one ETSI selected

	White drivers	Black Drivers	Hispanic Drivers	Minority Drivers
Custodial Arrest	N/A	45.00 (n = 1)	N/A	45.00 (n = 1)
Cite and Release Non-Custodial Arrest	10.73 (n = 233)	13.25* (n = 20)	11.87* (n = 79)	12.27* (n = 117)
Driving Documentation	12.52 (n = 3,828)	14.84* (n = 478)	14.51* (n = 1,340)	14.48* (n = 2,053)
DUI	17.19 (n = 36)	26.00 (n = 4)	17.67 (n = 9)	19.73 (n = 15)
Language	20.00 (n = 3)	17.50 (n = 2)	14.81 (n = 85)	14.87 (n = 101)
Search	N/A	N/A	33.25 (n = 4)	39.40 (n = 5)
Technical	13.37 (n = 423)	13.35 (n = 42)	13.61 (n = 132)	13.62 (n = 202)
Tow	N/A	N/A	27.50 (n = 2)	35.67 (n = 3)
Training	13.98 (n = 219)	13.94 (n = 18)	16.59* (n = 80)	15.74* (n = 111)
Other Delay	13.45 (n = 774)	13.74 (n = 104)	14.08 (n = 249)	13.97 (n = 398)
No ETSI	9.46 (n = 7,886)	9.94 (n = 591)	9.71 (n = 1,783)	9.77 (n = 2,767)

*$p < 0.05$ for independent sample t-test for difference in means with White drivers as the comparison group

MCSO researchers wished to identify the overall impact on stop length for each type of delay indicated by the ETSI used, independent of other ETSIs.[27] In Table 9 below we provide two regression equations identifying the impact of delays indicated by ETSIs, searches, and arrests. In Model 1, we use the ETSIs described and used throughout this report (Arrest, Driving Documentation Issues, DUI Investigations, Language, Search, Technical Issues, Vehicle Tows, Training, and Other Delay). In this model, the Constant can be interpreted as the stop length, in minutes, for traffic stops where no ETSI, search, or arrest, was indicated in the VSCF. In this case stops without documented delays lasted about 9.17 minutes. All variables in this model were statistically significant. The coefficients for each ETSI can be interpreted as the average number of minutes added to the Constant, when these delays occurred. Some notable patterns in Model 1 are that all arrests combined contribute over 15 minutes to traffic stops, on average, when holding other ETSI indicators constant. Searches had the largest impact on stop length, according to this model, adding 50 minutes to a traffic stop, absent other delays. The variables used in Model 1 explained about 60 percent ($R^2 = 0.603$) of the variation in stop length for MCSO traffic stops in 2025.

Because the coefficient for arrests was low in Model 1, we also modeled stop length as a function of ETSIs and arrests disaggregated as custodial arrests and cite and release/non-custodial arrests.[28] Like Model 1, all predictors used in Model 2 were statistically significant. Based on Model 2, we found that cite and release/non-custodial arrests add about 5 minutes and 35 seconds to a traffic stop, when holding other predictors constant and that custodial arrests add an average of almost 65 minutes to a traffic stop. The variables used in Model 2 explain 67 percent ($R^2 = 0.670$) of variation in stop length for MCSO traffic stops in 2025.

As discussed above, we recognize that the traffic stop delays documented in the VSCF are often related to one another and likely interact in different ways.[29] For example, in comparing these two models the reader can observe the impact of disaggregating the arrest type has on effect of DUI investigations on stop length. As the goal of the analysis presented in Table 9 was to model the impact of the ETSI-documented delays on stop length, independent of one another, thus coefficients are additive. We did not explore how different delays interact with each other and acknowledge that interactions among certain events during traffic stops play an important role in predicting how long a traffic stop might last. However, Variance Inflation Factor statistics did not indicate a high degree of multicollinearity for any regression model in this report. We explore co-occurrence of traffic stop delays more below.

[27]MCSO calculated mean stop lengths for stops with no ETSI selected. Stops of White drivers averaged 9.46 minutes; Stops of Black drivers averaged 9.94 minutes; Stops of Hispanic drivers averaged 9.71 minutes; And stops of Minority drivers averaged 9.77 minutes. Using White drivers as the comparison group, all differences in average stop lengths for stops with no ETSIs were statistically significant ($p < 0.05$) using White drivers as the comparison group.
[28]Custodial arrests comprised 25.47% (N = 394) of arrests during traffic stops in 2025 while cite and release/non-custodial arrests accounted for 74.53% (N = 1,153) of arrests during traffic stops in 2025.
[29]Post-hoc examination of variance inflation factors found no predictors with VIF scores above 4.0 for Models 1-5.

Table 9: Regression Equations Predicting Stop Length from ETSI Indicators

ETSI Predictors	Model 1	Model 2
	B (Standard Error)	B (Standard Error)
All Arrests	12.41* (0.34)	–
Cite & Release/No Custodial Arrest	–	5.58* (0.32)
Custodial Arrest	–	64.37* (0.80)
Driving Documentation	3.54* (0.15)	3.80* (0.14)
DUI	29.64* (0.62)	17.84* (0.59)
Language	5.62* (0.48)	7.06* (0.44)
Search	50.01* (0.75)	18.49* (0.82)
Technical Issue	2.90* (0.26)	3.04* (0.24)
Tow	20.50* (0.82)	30.83* (0.76)
Training	7.97* (0.36)	7.66* (0.33)
Other Delay	4.56* (0.20)	4.37* (0.18)
Constant (No ETSI)	9.17* (0.10)	9.34* (0.09)
N	24,647	24,647
F	4,162.78*	5,000.26*
R^2	0.603	0.670

*$p < 0.05$

In Table 10 below we provide three models examining the effect of race on stop length while controlling for situations documented using the ETSI indicators.[30] Difference in stop length were statistically significant for each racial/ethnic group. Model 3 indicated that when controlling for ETSIs stops of Black drivers lasted about 82 seconds longer, on average, when compared to White

[30]Racial/ethnic differences in stop length are investigated more thoroughly using Propensity Score Matching in the TSAR annual report.

drivers. The variables used in Model 3 explain about 65 percent of the variation in stop length for Black and White drivers ($R^2 = 0.651$).

Table 10: Regression Results using ETSI Predictors and Race/Ethnicity

	Model 3	Model 4	Model 5
	B (Standard Error)	B (Standard Error)	B (Standard Error)
Black	1.38* (0.24)	–	–
Hispanic	–	1.07* (0.17)	–
Minority	–	–	1.06* (0.15)
Cite & Release/No Custodial Arrest	4.98* (0.36)	5.30* (0.35)	5.49* (0.32)
Custodial Arrest	57.32* (1.03)	64.41* (0.87)	64.47* (0.80)
Driving Documentation	3.37* (0.15)	3.50* (0.15)	3.71* (0.14)
DUI	16.97* (0.68)	17.36* (0.63)	17.80* (0.59)
Language	4.74* (1.38)	6.40* (0.48)	6.49* (0.45)
Search	21.37* (1.11)	20.19* (0.89)	18.30* (0.82)
Technical Issue	3.08* (0.26)	2.98* (0.25)	3.00* (0.24)
Tow	37.15* (1.04)	30.06* (0.82)	30.71* (0.76)
Training	7.75* (0.38)	7.55* (0.35)	7.54* (0.33)
Other Delay	4.14* (0.20)	4.38* (0.20)	4.29* (0.18)
Constant (No ETSI)	9.23* (0.10)	9.12* (0.10)	9.06* (0.10)
N	17,941	21,851	24,647
F	3,035.50*	4,004.18*	4,559.77*
R^2	0.651	0.668	0.671

*$p < 0.05$

In Model 4, we compare stop lengths of White and Hispanic drivers when controlling for ETSI indicators. In this model, stops of Hispanic drivers were about 64 seconds longer, on average, than stops of White drivers. The variables used in Model 4 explain about 67 percent of the variation in stop length for Hispanic and White drivers ($R^2 = 0.668$).

Finally, in Model 5 we compared stop lengths of White and Minority drivers while controlling for ETSI indicators. Based on this model, traffic stops of Minority drivers were about 64 seconds longer, on average, than stops of White drivers while controlling for ETSI indicators. The variables used in Model 5 explain about 67 percent of the variation in stop length for Minority and White drivers ($R^2 = 0.668$).

In the next section, we investigate stop outcomes (citation/warning) and their association with the ETSI indicators.

Contact Conclusion and Extended Stop Indicator Use

In this section we identify the contact conclusion of citations and warnings for stops with ETSIs documented in the VSCF. For comparison, we include contact conclusion information for stops where no ETSI was indicated. Table 11 provides stop outcome (citation, warning, incidental contact) rates for stops with ETSIs (multiple ETSI may be selected for these stops). Overall, the citation rate for stops with at least one ETSI indicated was slightly higher than stops with no ETSI indicated (60.53% and 56.73%, respectively). However, several patterns in the relationships between stop outcomes and ETSIs are notable. Only two of the nine delays were associated with a lower citation rate than stops with no ETSIs indicated. Stops where technical issues were documented resulted in citations 48.59 percent of the time, and stops with training resulted in citations 43.21 percent of the time.

Table 11: Percent Distribution of Contact Conclusion for ETSI stops (ETSIs use not mutually exclusive)

Contact Conclusion	N Stops	N Citation	Percent Citation	N Warning	Percent Warning	N Incidental Contact	Percent Incidental Contact
All Stops	24,647	10,524	56.73%	10,524	42.70%	141	0.57%
No ETSI	10,653	5,512	51.74%	5,081	47.70%	60	0.56%
Any ETSI	13,994	8,470	60.53%	5,443	38.90%	81	0.58%
Arrest	1,547	1,510	97.61%	37	2.39%	0	0.00%
Driving Docs	10,757	6,690	62.19%	4,024	37.41%	43	0.40%
DUI	417	296	70.98%	119	28.54%	2	0.48%
Language	612	376	61.44%	232	37.91%	4	0.65%
Search	606	551	90.92%	55	9.08%	0	0.00%
Technical	2,305	1,120	48.59%	1,177	51.06%	8	0.35%
Tow	444	434	97.75%	10	2.25%	0	0.00%
Training	1,097	474	43.21%	605	55.15%	18	1.64%
Other Issue	4,311	2,699	62.61%	1,570	36.42%	42	0.97%

The relationship between stop outcomes and ETSIs largely reflects the circumstances of the stop and MCSO would expect that certain ETSIs be unrelated to citation/warning outcomes while other ETSIs are directly related to citations/warnings. For example, when an arrest was made, 97.61 percent of drivers were issued citations, and citations for criminal driving offenses and arrests are concurrent. For custodial arrests, MCSO policy dictates that drivers are searched prior to being placed in a patrol vehicle. For drivers who were arrested and issued warnings (N = 37), 33 were arrested on warrants, while three drivers were arrested for possession of dangerous drugs and one driver was arrested for a DUI. In these cases, warnings for the initial traffic violations were issued.

Similarly, the high citation rate of 90.42 percent when a search occurred and the high citation rate of 97.50 percent when a tow occurred are, in part, a result of ARS 28-3511A.1.a-c. This statute dictates that a deputy shall tow the vehicle when a person's driving privilege is revoked for any reason, the person has not ever been issued a driver's license or permit issued by this state or any other jurisdiction, or the person is subject to ignition interlock device and is operating the vehicle without one. These violations are almost universally cited, and searches of vehicles are required when a tow occurs.

To illustrate how the ETSIs are related to one another we have produced a correlation matrix for the ETSIs used during traffic stops (Table 12) and included citations in this matrix. The strongest relationships among ETSIs, citations, and warnings were between DUI investigations and arrests ($r = 0.250$); between searches and arrests ($r = 0.406$); between vehicle tow and arrests ($r = 0.279$); between citations and arrests ($r = 0.213$), and conversely, between warnings and arrests ($r = -0.213$); between DUI investigations and searches ($r = 0.359$); between DUI investigations and vehicle tows ($r = 0.252$); and between vehicle tows and searches ($r = 0.729$). The correlation between driving documentation and other delays was $r = 0.201$.

Table 12: Correlations Among ETSIs and Citations[31]

	Arrest	Driving Docs	DUI	Language	Search	Technical	Tow	Training	Other Issue
Driving Docs	0.076	–	–	–	–	–	–	–	–
DUI	**0.250**	0.026	–	–	–	–	–	–	–
Language	0.020	0.099	0.040	–	–	–	–	–	–
Search	**0.406**	0.084	**0.359**	0.118	–	–	–	–	–
Technical	**–0.292**	0.127	0.002	0.023	–0.010	–	–	–	–
Tow	**0.279**	0.089	**0.252**	0.147	**0.729**	–0.005	–	–	–
Training	0.023	0.056	0.034	0.029	0.036	0.106	0.027	–	–
Other Issue	0.113	**0.201**	0.052	0.040	0.115	0.075	0.073	–0.015	–
Citation	**0.213**	0.096	0.038	0.015	0.109	–0.054	0.112	–0.057	0.057

[31]Excluded from the correlation analyses are stops with outcomes other than a citation or warning. Correlations among ETSIs and warnings are the inverse of the correlation of the ETSI and a citation (e.g., the correlation between Arrest and Warning is –0.213).

In Table 13 below we provide contact conclusion rates for stops with ETSIs when only one ETSI was selected. Citation rates for stops with only one ETSI selected were overall comparable to stops with No ETSI, both having citation rates of about 57 percent. When only the single ETSI was selected, stops with one of four different ETSIs were selected had a higher citation rate than stops with no ETSIs documented. For stops with only an arrest, the citation rate was 100.00 percent. Of these stops, 330 citations were for criminal speed. For citations issued during these stops, other violations included criminal traffic violations such as driving on a suspended license or reckless driving. Of these arrests, 350 were "cite and release/no custodial arrest" type arrests (99.72%). There three stops when only the Vehicle Tow ETSI was selected, two of which concluded in a citation. Stops where only driving documentation issues and searches were selected resulted in citations for 59.48 percent and 80 percent of the stops, respectively.

Table 13: Percent Distribution of Contact Conclusion for ETSI stops (ETSIs use mutually exclusive)

Contact Conclusion	N Stops	N Citation	Percent Citation	N Warning	Percent Warning	N Incidental Contact	Percent Incidental Contact
All Stops	24,647	10,524	56.73%	10,524	42.70%	141	0.57%
No ETSI	10,653	5,512	51.74%	5,081	47.70%	60	0.56%
Any ETSI	8,522	4,869	57.13%	3,598	42.22%	55	0.65%
Arrest	351	351	100.00%	0	0.00%	0	0.00%
Driving Docs	5,881	3,498	59.48%	2,362	40.16%	21	0.36%
DUI	51	27	52.94%	24	47.06%	0	0.00%
Language	104	47	45.19%	54	51.92%	3	2.88%
Search	5	4	80.00%	1	20.00%	0	0.00%
Technical	625	242	38.72%	380	60.80%	3	0.48%
Tow	3	2	66.67%	1	33.33%	0	0.00%
Training	330	101	30.61%	223	67.58%	6	1.82%
Other Issue	1,172	600	51.19%	550	46.93%	22	1.88%

In the next section we address the question of how the Other Delay ETSI has been used by deputies and present an analysis of what common delays were experienced during traffic stops when the Driving Documentation ETSI was selected. We conclude with an analysis of agreement between deputy ETSI use and traffic stop reviewers to determine whether deputies have been using ETSI indicators appropriately and with fidelity.

Other Delay ETSI Comments

In 2022 an ETSI was added to the VSCF to capture delays in traffic stops that were not available with the existing ETSIs. When deputies select "Other Delay" in the VSCF, they are prompted to document the circumstances of the delay in the comments field of the VSCF. In May of 2025 the VSCF form was altered to require that deputies document the delay when the Other Delay ETSI was selected in the form. In 2025, there were 4,315 stops where deputies selected the Other Delay ETSI (17.49% of MCSO traffic stops). In most of these stops (N = 3,139, 72.81%) deputies also selected additional ETSI indicators. There were 1,172 stops where the only ETSI that was selected was Other Delay.

MCSO identified a random sample of n = 400 stops for which the Other Delay ETSI was selected in the VSCF and qualitatively coded the comments associated with these stops to determine the circumstance for which deputies considered the Other Delay as appropriate. As with the other stops with ETSI indicators selected, these traffic stops included circumstances where multiple delays occurred and were documented using ETSI indicators and the comments field in the VSCF. This was a common theme in most of the stops where a deputy used the Other Delay ETSI. Comments indicated that delays associated with technology, arrests, searches, driving documentation, etc. would necessitate the use of existing ETSIs. Additionally, after coding the comments associated with the Other Delay ETSIs, multiple delays, not available in existing ETSIs, were common. The diverse circumstances during the traffic stops reviewed using 2025 data were similar to circumstances during previous years review of "Other Delay" ETSI stops.

In Table 16 below, we have provided a tabulation of categories that were apparent in the VSCF comments documenting the use of the Other Delay ETSI. Note that in addition to existing ETSI indicators, these multiple other delays associated within these different categories were documented in the VSCF comments. If delays were not identified in VSCF comments, BWC videos were reviewed to confirm a delay occurred. We discuss these categories and their contents below.

Table 16: Categories of Delays from Qualitative Reviews of Stops with Other Issue ETSIs, Categories not mutually exclusive (n = 400)

	N	Percent Other Delay Stops
Assisting Driver	12	3.00%
Communication/Education	125	31.25%
Complex Stop	30	7.50%
Commercial Vehicles	0	0.00%
Driver Pick-Up	2	0.50%
Dispatch Issue	16	4.00%
Firearm	12	3.00%
Investigation	6	1.50%
Manual Entry	56	14.00%
Multiple Vehicles	6	1.50%
Passenger Contact	9	2.25%
Physical/Mental Health	6	1.50%
Seized Plates	55	13.75%
Stop Process Issues	121	30.25%
Warrant	9	2.25%
No Issue Indicated	6	1.50%
Other Issue	92	23.00%

Assisting Driver delays occurred when deputies assisted drivers in a variety of circumstances. Common delays identified in this category included deputies providing directions for drivers and deputies assisting drivers with issues with their vehicles. Other examples included drivers who were stopped with no headlights. Deputies determined the drivers did not know how to turn the headlights on (because they were new or rental vehicles) and would help drivers with their equipment so they could drive away safely. Similarly, there was one recorded interaction where the deputy helped a driver re-fuel the driver's car after it ran out of gas. Courtesy rides were classified in this category. Deputies also noted assisting drivers merging back into traffic at the end of the traffic stop.

Communication/Education delays occurred when drivers were especially talkative during the stop, asked multiple questions, or wished to discuss topics with the deputies unrelated to the traffic stop. In some cases, drivers were argumentative with deputies about citations or details about the traffic stop. For example, several drivers requested to see the radar/laser gun reading related to the

speeding violation as evidence they were speeding. Additional delays for communication occurred when drivers evidenced distress and deputies worked to de-escalate situations.

Educational conversations were common when deputies used the Other Delay ETSI. During these circumstances, deputies often explained different laws and consequences related to specific violations, the difference between civil and criminal speeding violations or drivers would have multiple questions about the citation or processes to address the citation (such as how to mitigate license/plate suspension order or update vehicle insurance/registration). In many cases, drivers asked for directions and deputies spent extra time explaining where to go.

Complex Stops occurred when comments indicated multiple delays that were often related to one another or occurred in fluid situations that clearly departed from what might be considered a "normal" traffic stop. Many of these delays were documented by existing ETSIs, however, this research identified the circumstances for complex stops documented in the VSCF comments as exceptional. Several complex stops involved traffic collisions coupled with DUI arrests and necessary traffic control measures. Complex stops included DUI or drug investigations, firearms present in the vehicle and warrant arrests concurrently. These stops sometimes included medical issues, multiple driving documentation issues (e.g., no license or identification, no insurance, no registration, no license plate on the vehicle concurrently), delays associated with, children in vehicles during DUI investigations/arrests, multiple persons in the vehicle, and/or contacting parents when the driver was a juvenile. Delays for complex stops were well-documented in incident reports or extensive comments in the VSCF.

Commercial Vehicle stops did not occur in the sample that was selected for reviews.

Driver Pick-Up delays occurred when deputies remained with drivers who were stopped while awaiting the arrival of another driver or vehicle. Circumstances common in this category of delay were drivers who could not legally drive the vehicle away because of a suspended/revoked/cancelled license, no license, or suspended license plates. In several cases, deputies also provided courtesy rides to drivers who were unlicensed or had suspended licenses.

Dispatch Issues were identified in the comments of 16 stops. Common delays associated with dispatch included miscommunications between the deputy and the dispatcher and when a deputy would require the dispatcher to identify information about the vehicle or driver. These delays also included deputies waiting for dispatch because of higher-than-usual radio traffic. Deputies who documented delays from CAD (computer aided dispatch) were included in this category.

Firearm delays occurred when deputies or drivers identified that a firearm was present in the vehicle or was on the driver's person. In these situations, deputies would take possession of the firearm, process the traffic stop, and return the firearm to the driver.

Investigation delays occurred when deputies identified that the traffic stop involved investigation into other crimes unrelated to the traffic stop itself or in some cases DUIs (e.g., ATL for reported drunk drivers).

Manual Entry delays were the third most common delay identified in VSCF comments when the Other Delay ETSI was selected. Manual entry delays occurred when deputies were required to enter driver and/or vehicle information into TraCS to process the traffic stop. Circumstances leading to manual entry included drivers not providing appropriate driving documentation (license, registration, and/or proof of insurance) or when the driving documentation would not scan information into a deputy's computer, which was common with out-of-state licenses and registration or with rental vehicles. Additional delays associated with manual entry included deputies indicating the need to locate and process the VIN number from the vehicle.

Multiple Vehicle stops were not common in the VSCF comments. However, these stops included 2-4 vehicles stopped at the same time which clearly extended stops. In most of these cases the vehicles were OHV vehicles or motorcycles with drivers riding in groups and violations associated with each of the drivers. In these situations, deputies were required to create contact receipts (citations/warnings/incidental contact) for each driver. Some multiple vehicle stops initially involved one vehicle but other vehicles would arrive at the stop and required the deputy's engagement which extended the stop. Often, when another vehicle approached the deputy during a stop it was to notify the deputy of a different incident nearby.

Passenger Contact delays were caused by deputies interacting with passengers. In some cases, passengers would initiate conversations with deputies, asking questions about the stop or engage in conversation with the deputy as he processed the traffic stop. For some passenger contacts, deputies knew the passenger and because of an ongoing investigation or because they knew there was an active warrant for their arrest. During several stops, deputies made contact with children in the vehicle to give them Junior Deputy Badges.

Physical/Mental Health delays occurred during several stops when the Other ETSI was selected, and drivers evidenced mental or physical health limitations or deputies assisted drivers with health emergencies. In some stops emergency medical personnel were contacted to perform evaluations on drivers. Some drivers were transported to hospitals. During several stops drivers indicated the need to use the restroom and deputies allowed drivers to do so before processing the traffic stop.

In several situations, drivers were on their way to hospital emergency rooms and deputies would escort the drivers to their destinations.

Seized Plates delay traffic stops for several reasons. Based on the comments reviewed when Other Delay was selected, deputies seized fictitious license plates or license plates that had been suspended by the Arizona MVD for lack of mandatory insurance. Prior to the seizures, deputies would take time to confirm that the plate was fictitious or suspended. Deputies would use a screwdriver or other tool to remove the plate from the vehicle. When plates are seized, drivers are provided with a property receipt which takes additional time.

Stop Process Issues included delays associated with additional steps for the stop that are typically routine. Examples included correcting paperwork during the stop (most common), taking time to research correct ARS codes for the violations, or identifying the proper court for the citation. One other common stop process delay included traffic stops where a deputy requested drivers to relocate their vehicles to a safe location before continuing (e.g., move away from freeway ramps, busy intersections, entrances to a building, or heavy traffic) or drivers taking a long time to stop the vehicle. Drivers who took a long time to stop were sometimes residents of other countries and were unaware that they should stop and pull to the right side of the road for emergency vehicles. In several cases, deputies indicated the need to hand-write citations or warnings.

Warrants: When drivers were stopped and possessed warrants for their arrest, deputies spent time to determine whether warrants were extraditable and would spend time confirming that the warrant was valid. Drivers were not always arrested when possessing a warrant due to the nature of the circumstances (e.g., municipal police could not receive the driver for processing, warrants were non-extraditable, etc.). When drivers were not arrested, deputies indicated discussing warrants with drivers and advising them on how to address the warrants.

No Issue Indicated: When reviewing VSCF comments, reviewers identified a small number of stops where deputies did not explain the circumstances justifying the use of the "Other Issue" ETSI. For these cases MCSO is in the process of following up with deputies to identify what delays occurred during these stops and reinforced the use of comments for "Other Issue" use via data refinements.

Other Issues included traffic stop delays that could not be categorized as one of the previously discussed reasons for delays. Comments for these stops often indicated that other ETSIs were relevant in delaying the stop and other ETSIs were often selected in the VSCF. These commonly included technological issues and delays associated with driving documentation. Deputies commonly indicated that drivers took extra time accessing driving documentation information (license, insurance, and registration) or that drivers did not possess a license, proof of insurance, or registration. Often delays were co-current, with multiple situations leading to delays occurring during the stop.

Other issues documented for these delays were often unique. Several stops in this category included law enforcement from other agencies arriving at the stop. Deputies sometimes indicated the need to contact the AZ MVD, supervisors, or the MCSO help desk. One deputy noted that a bee entered his vehicle during the traffic stop and this caused a slight delay.

An additional insight gained from evaluating the comments from stops with the Other ETSI selected was that it was typical that deputies documented their stops thoroughly, allowing reviewers to identify reasons stops were delayed and importantly allowed supervisory review of stops that exceeded typical stop times (stops with the Other Delay ETSI selected averaged almost 24 minutes in length, over two times longer than stops with no ETSI selected, see Table 6 above). Stops with the Other Delay ETSI selected where no clear rationale was provided for the delay

comprised less than one percent of stops with the Other Delay ETSI selected in the sample used for this investigation.

Body Worn Camera Analysis and Driving Documentation

For this quarterly report MCSO reviewed a random sample of 100 Body Worn Camera videos for stops when deputies selected the Driving Documentation ETSI. The purpose of this analysis was to identify the common situations that prolonged the stop when the Driving Documentation ETSI was selected. During 54 stops, reviewers identified deputies providing drivers with extra time to collect their license, insurance, and/or vehicle registration. During 12 stops, drivers were identified as having suspended, cancelled, or revoked driver's licenses or expired registration. During 4 stops drivers did not possess a valid driver's license. Reviewers also identified 21 stops with drivers not possessing the necessary paperwork (license, insurance and/or registration) in their vehicle. When drivers do not possess the necessary paperwork, deputies must manually enter driver's license and/or insurance registration into the VSCF and the citation or warning form. For two additional stops, deputies identified "manual entry" in the VSCF comments field. Deputies identified delays with dispatch when checking required driving documentation during two stops. Drivers identified four stops where vehicles displayed rental, dealer, or temporary license plates that required confirmation with the Arizona Motor Vehicle Department. Deputies identified problems with motor vehicle records during five traffic stops. Finally, deputies identified licenses plates suspended for mandatory insurance during eight stops. When vehicles display a license plate that has been suspended by the MVD for no insurance, deputies seize the plate (per ARS 28-4139) and issue the driver a property receipt.

A common theme across all reviews was that drivers often had multiple driving documentation issues concurrently. For all BWC footage reviewed with Driving Documentation ETSIs, reviewers were able to confirm driving documentation issues that impacted the length of the stop.

Body Worn Camera and ETSI Comment Analysis

Body Worn Camera footage was reviewed for a sample of n = 177 traffic stops to determine the appropriateness of deputy-selected ETSI indicators. Social interactions and the circumstances of the stop were observed to determine whether stop activities were consistent with the use of any of the ETSIs. Reviewers also made note of any other activity that could have delayed the stop. Additionally, MCSO reviewed VSCF comments from each stop to determine if an explanation for the ETSI was available to verify its use. Videos were randomly assigned to reviewers and reviewers had no knowledge of the delays. The sample size for the reviews was N = 177. Forty percent of stops in the sample had no ETSI selected in the VSCF. In Table 17 we report the results of the analysis of the agreement between a) reviewers' observations of delays and deputy-selected ETSIs in the VSCF, b) Deputy VSCF comments documenting the delay and deputy-selected ETSIs in the VSCF, and c) reviewers' observations of delays and VSCF comments documenting the delay combined and deputy-selected ETSIs in the VSCF.

We found high and statistically significant agreement for all deputy-selected ETSIs and reviewers' determinations of delays. For all possible selections from the 177 stops (with 9 possible ETSI selections each) there were a total of 1593 possible ETSI selections in the sample. The overall agreement between reviewers and deputy-selected ETSIs was 93.53 percent, and this level of agreement was statistically significant. Agreement between ETSIs and VSCF comments was 98.31. Finally, agreement between ETSIs and reviewers/comments combined was 94.79. We discuss findings for each type of ETSI below.

Table 17: Agreement Analysis Results for BWC Reviews and VSCF Data

VSCF Items	Reviewer/ETSI Agreement	VSCF/IR Comments and ETSI Agreement	Reviewer and VSCF/IR Comments Combined and ETSI Agreement
Arrest	100.00% (K = 1.000*)	99.44% (K = 0.960*)	100.00% (1.000*)
Driving Documentation	72.32% (K = 0.457*)	97.74% (K = 0.954*)	78.53% (0.587*)
DUI	99.44% (K = 0.854*)	100.00% (K = 1.000*)	100.00% (1.000*)
Language	98.87% (K = 0.794*)	99.44% (K = 0.886*)	98.87% (0.794*)
Search	100.00% (K = 1.000*)	100.00% (K = 1.000*)	100.00% (1.000*)
Technical	93.22% (K = 0.564*)	98.87% (K = 0.931*)	97.18% (0.849*)
Tow	100.00% (K = 1.000*)	100.00% (K = 1.000*)	100.00% (1.000*)
Training	98.87% (K = 0.894*)	97.74% (K = 0.704*)	98.87% (0.894*)
Other Delay	79.10% (K = 0.457*)	91.53% (K = 0.688*)	79.66% (0.486*)
Any ETSI	75.14% (K = 0.455*)	95.48% (K = 0.907*)	79.66% (0.545*)
All ETSIs	93.53% (K = 0.692*)	98.31% (K = 0.905*)	94.79% (0.764*)

*$p < 0.05$

Arrests

There were a total of 14 stops in the sample for which a deputy indicated an arrest occurred during the stop. We found 100 percent agreement between BWC reviewers and VSCF documentation of arrests. For one stop, a deputy did not indicate an arrest in the comments field of the VSCF but indicated that an arrest was made in the VSCF options for an arrest (99.44% agreement). Overall, the inspection of arrest outcomes in the sample identified arrests accurately at a statistically significant level for all comparisons.

Driving Documentation

There were 74 stops in the sample for which deputies selected the Driving Documentation ETSI in the VSCF. Agreement between BWC reviewers and VSCF indicators was Driving Documentation ETSIs at 72.32 percent. This level of agreement was statistically significant. Reviewers were more likely to indicate delays related to driving documentation than were deputies. For 37 stops, reviewers indicated that there were delays for driving documentation when deputies did not indicate this delay using the ETSI indicator. In contrast, deputies selected the Driving Documentation ETSI for 12 stops for which reviewers did not identify a delay associated with driving documentation. Of the 37 stops, deputies selected the "Other Delay" ETSI for 9 stops and identified delays related to driving documentation in VSCF comments. When deputies identified delays related to driving documentation using the Driving Documentation ETSI, they used the VSCF comment field to document the delays during 97.74 percent of stops.

DUI Investigations

There were 4 stops in the sample that deputies selected the DUI ETSI in the VSCF. Agreement between BWC reviewers and deputy selected ETSIs was 99.44 percent. During one stop, a deputy selected the DUI ETSI and reviewers did not indicate a delay related to a DUI investigation. For this stop, the deputy indicated "negative for DUI" in the comments of the VSCF. Agreement between the VSCF comments and the DUI ETSI was 100 percent.

Language Barrier

There were 5 stops in the sample which deputies selected the Language Barrier ETSI. Agreement between BWC reviewers and deputy selected ETSIs was 98.87 percent for the Language Barrier ETSI. For one stop, the deputy selected the Language barrier ETSI while the reviewer did not identify a language barrier delay during this stop. The VSCF comment field for this stop indicated the driver was "hearing impaired." For a second stop, the BWC reviewer indicated that the driver was hearing impaired. For this stop, the deputy did not select the Language Barrier ETSI in the VSCF although he noted that the driver "did not hear well in the VSCF comment field.

Searches

There were 7 stops in the sample for which the deputy selected that a search was conducted in the VSCF. This included searches for both vehicles and drivers. We found 100 percent agreement between BWC reviews and deputies when a search was indicated on the VSCF. Deputies consistently indicated in comments in VSCF or IR forms that vehicles or drivers were searched.

Technology Delays

There were 17 stops in the sample for which deputies indicated delays related to technology with an ETSI. Agreement between BWC reviewers and deputy-selected ETSIs for technology was 93.22 percent. For 8 stops deputies selected the Technology ETSI and BWC reviewers did not identify a delay related to technology and for 1 stop reviewers identified a delay related to technology when the deputy did not. Agreement between deputy-selected ETSIs and VSCF comments related to delays with technology was 98.31 percent. Lastly, agreement between deputy-selected ETSI indicators and deputy comments/reviewers was 97.18 percent. All comparisons for agreement were statistically significant.

Vehicle Tow

There were 4 stops in the sample for which deputies selected the ETSI that indicated a tow occurred during the stop. There was 100 percent agreement between BWC reviewers and deputy selected ETSIs for this traffic stop delay. Delays related to vehicle tows were documented extensively by BWC videos, VSCF documentation, and Incident Reports.

Training

There were 9 stops in the sample for which deputies selected an ETSI associated with training. Agreement between BWC reviewers and deputy-selected ETSIs for training was 98.87 percent. For two stops, BWC reviewers identified deputies in training during the stop when the deputy did not select the training ETSI in the VSCF. Agreement between the deputy-selected ETSI indicator for training and VSCF/IR comments was 97.74 percent. There were four stops where training was confirmed by BWC footage and deputy-selected ETSIs for training when the deputy did not enter a comment on delays for training in the VSCF.

Other Delay ETSI

There were 33 stops in the sample for which the Other Delay ETSI was selected. Agreement between reviews of BWC footage and deputy-selected ETSIs was 79.10 percent. Agreement between the Other Delay ETSI and VSCF comments was 91.53 percent and was statistically significant. Agreement between deputy-selected ETSIs and VSCF comments and BWC reviews combined was 79.66 percent and was statistically significant.

Any ETSI

For the final analysis we identified if any ETSI was selected by reviewers and whether any ETSI was selected by deputies and identified agreement. Agreement between reviewers and ETSIs was 75.14 percent and this agreement was statistically significant. Agreement between ETSIs and VSCF comments was 95.48 percent. Finally, agreement between ETSI indicators and VSCF comments/reviewers was 79.66 percent.

In the next section we discuss limitations related to reviews of BWC footage as well as limitations to other analyses presented in this report.

LIMITATIONS

Limitations to this research must be acknowledged. Deputies select extended stop indicators based on their perception of the circumstances that delay the stop. These perceptions can often be subjective and influenced by many factors that may be routine to one deputy, yet out of the ordinary for another. The language barrier ETSI provides a good example for this point. If a deputy stops a driver who speaks only Spanish and the deputy is Spanish-English bilingual, there would be no language barrier. If a deputy speaks only English and the driver speaks only Spanish, it is clear there is a language barrier that would delay the stop and that use of the Voiance translation service or receiving assistance from a bilingual deputy would be appropriate. However, many residents of Maricopa County have both "working" English and/or Spanish language skills which would allow communication between a deputy and a driver. In these circumstances a deputy may facilitate the stop in a normal fashion but must determine whether the language differences impacted the stop length.

A similar limitation exists for the use of the Driving Documentation ETSI, the Technical Issues ETSI and the Other Delay ETSI. When drivers present deputies with driving documentation with bar codes that will not scan, deputies are required to enter driver information into TraCS by hand. The deputy is delayed during the stop because of this but must make a subjective decision about whether this is a Technical Issue, Driving Documentation issue, or Other Delay ETSI. As we found in TSQR 3, TSQR 13, and TSQR 17, deputies often selected the Technical Issue ETSI in this circumstance and during the course of BWC reviews and review of the Other Issue ETSI comments, we identified deputies using different ETSIs in these situations. What remains encouraging is that deputies are documenting these delays when they occur with at least one ETSI, allowing MCSO to identify circumstances outside of the deputy's control that impact stop length.

An additional limitation in BWC reviews must be acknowledged. For delays associated with the Driving Documentation and Other Delay ETSIs, reviewers were more likely to identify that a delay occurred than deputies. This lowered the overall agreement between reviewers and deputies for these stops. Furthermore, for stops with no ETSI selected, reviewers were also more likely to identify a delay when deputies did not.

The analysis of racial/ethnic differences in ETSI use as presented in this report identified differences in ETSI use, searches, and arrests by race. This analysis only identified that a difference existed but did not investigate other correlates of delays during traffic stops that may have impacted these stops. Most relevant to this comparison are the racial/ethnic differences in arrests and searches. This research did not identify types of arrests that may impact stop length such as warrant or DUI arrests or arrests that resulted from other investigations that occurred during the traffic stop. Regarding searches, MCSO distinguishes types of searches in the VSCF and identify searches of drivers and vehicles. Furthermore, MCSO identifies searches as discretionary and non-discretionary in their analyses of searches in the TSAR and TSMR. These distinctions were not

investigated in this quarterly.[32] Finally, the regression analysis of stop length presented in this report excluded many variables that are used as statistical controls in the annual propensity score matching analyses of stop length in the TSAR. While, we find the regression analysis presented here informative regarding ETSI use, a more robust analysis of racial/ethnic differences in stop length is necessary and will be conducted using this data for the TSAR 11.

SUMMARY OF FINDINGS

In this section, we provide a summary of the major findings identified by analyses of this report and draw attention to patterns of ETSI use which MCSO considers important. Delays during traffic stops are common and MCSO uses the ETSI options in the VSCF to document these delays as stop length is one of the major benchmarks used in the TSAR, TSMR, and TSQR reports as indicia of potential bias, which MCSO is required to investigate based on the dictates of the Second Order.

Frequency of ETSI use over Time

Examination of the use of ETSIs over time revealed their increased use since 2022. In 2022 deputies documented delays during approximately 27 percent of all traffic stops. In 2025, deputies documented delays during over 56 percent of all traffic stops. Deputies increasingly documented driving documentation, technical, and other delays between the beginning of 2022 and the end of 2025. The largest increase in documented delays have been for driving documentation, technology, and for uncategorized other delays. The Driving Documentation and Other Delays ETSIs were added to the VSCF in March of 2022 and in 2022, delays associated with driving documentation were identified for 13.89 percent of traffic stops. In 2025, deputies documented delays related to driving documentation during 43.64 percent of traffic stops. Deputies documented delays due to technical issues during 5.91 percent of stops in 2022. In 2025, deputies identified technical issues during 9.35 percent of stops. Finally, in 2022, MCSO deputies identified 3.35 percent of traffic stops as delayed for other reasons while in 2025 deputies documented other delays during 17.49 percent of traffic stops.

Office and District-Level Differences in ETSI Use

MCSO deputies documented delays during nearly 57 percent of traffic stops in 2025. The most common delay during traffic stops was a delay associated with driving documentation (see Table 1). This delay was the most common delay across all districts (Tables 2a-2c). However, this delay

[32]Research on MCSO arrests and searches has been conducted using previous years' data in TSQR 7 and TSQR 10, respectively. MCSO also recently investigated 2024 arrests in TSQR 20 Furthermore, monthly investigation of racial/ethnic disparity in arrests and searches is conducted with the TSMR and annual analyses of disparity in searches and arrests are conducted each year in the TSAR. Finally, analyses of searches and arrest activity at the district level has been conducted in four quarterly reports, TSQR 5, TSQR 12. TSQR 14, and TSQR 18. Future analyses of arrests and searches at the office and district-level will be conducted for TSAR 11 and TSQR 22, respectively. All published annual and quarterly reports are available at:
https://www.mcsobio.org/traffic-stop-data.

impacted stops differentially by district with some districts experiencing delays associated with driving documentation during approximately 67–70 percent of their stops (67.07% in District 2; and 69.50% in District 4) while stops made by deputies from other districts were delayed for driving documentation issues at less than one-third of that rate (17.98% of traffic stops; District 7).

Similar to previous years, at the district level, arrest rates were highest in District 1 (9.79%). Districts 4 and 7 had the lowest arrest rates at 4.03 percent and 4.01 percent, respectively. Stops with DUI investigations were most common in District 5 (3.57% of traffic stops). Delays associated with language barriers were most common in District 1 (4.15%) and District 2 (5.16%). Delays associated with searches of vehicles or drivers were most common in District 1 (4.38%) and District 3 (3.34%). Deputies indicated delays associated with technical issues most commonly in District 2 (19.47%), District 1 (12.52%), and District 3 (11.50%). Delays associated with vehicle tows were most common in District 1 (3.07%) and District 2 (2.58%). Training stops were most common in District 2, with over 13 percent of stops involving training (13.51%). District 1 and District 3 also had a relatively high proportion of stops with delays associated with training at 8.82 percent and 624 percent of stops, respectively. Finally, the Other Issue ETSI was most frequently used in District 1, with 25.12 percent of stops delayed due to circumstances identified by deputies as some other delay.

Racial/Ethnic Differences in ETSI Use

MCSO compared rates across all ETSIs, searches, and arrests and found that these documented delays were more common for Black, Hispanic, and Minority drivers than they were for White drivers. In most cases the magnitude of the racial/ethnic differences in documented delays were high, as was the case with Arrests, Driving Documentation issues, Language Barriers, Searches, Vehicle Tows, and Other Issues. For example, over half (53.06%) of stops involving Minority drivers involved documented delays with driving documentation issues, while 38.65 percent of stops of White drivers involved delays of this type. The racial/ethnic difference in delays associated with language barriers were expected based on previous research and the cultural/demographic composition of Maricopa County. Differences in vehicle tows and searches have been documented in previous MCSO research and are, in part, a product of ARS 28-3151A (driver's license requirement), suspended licenses (ARS 28-3473A) and ARS 28-3511 (requirement to tow vehicles for certain license violations). Additional investigation is necessary for MCSO to better understand the racial/ethnic differences identified in this report for delays for DUI, Technical Issues, Training, and Other Issues. In regard to training issues, MCSO has previously documented that training stops are most common in Districts 1 and 2, which are Districts with the highest proportion of stops of Hispanic drivers (See TSQR 14 and TSQR 18).

Descriptive Statistics on ETSI Use

MCSO provided summary statistics for stop length for all ETSIs, arrests, and searches identified by deputies in 2025 (Tables 6 and 7). One challenge to this analysis was identifying the impact on

stop length not only when a single ETSI was used, but also when ETSIs were used in combinations. To address this MCSO provided a regression analysis predicting stop length as a function of ETSI indicators searches and arrests. By modeling stop length in this way, MCSO could identify the cumulative impact of additional delays documented during traffic stops. Of all ETSIs indicated by deputies, custodial arrests had the largest impact on the length of a stop. This was true when only one ETSI was selected or when an arrest was indicated in combination with other documented delays.

Contact Conclusion and ETSI Use

MCSO identified citation and warning rates for stops identified as extended (Table 11). Without accounting for whether multiple delays were experienced during the stop (e.g., multiple ETSIs used), we found that citation rates were higher for stops associated with each ETSI compared to those with no ETSIs indicated, with the exception of stops with technical issues and training stops. These findings were similar to previous years. When evaluating the relationship between ETSI use and citation activity, we identified that certain ETSIs are commonly used together (See Table 14). Highly correlated ETSI use was identified for the following ETSI combinations: Vehicle Tow/Searches, Arrests/Searches, DUI/Searches, and DUI/Vehicle Tow. These patterns were also similar to previous years. The strongest correlation between citations/warnings and ETSIs involved arrests. While findings from the analysis of ETSI use and citation activity cannot be conclusive, the relationships identified with this analysis identifies that stop length (and delays during the stop) and arrests are indeed related. Several examples underscore this point. When the only delay indicated in the VSCF was that an arrest was made (N = 351), every driver was cited for a criminal traffic offense. Furthermore, stops with DUI arrests are often delayed for DUI investigations, searches, and vehicle tows. Similarly, because MCSO policy requires inventory searches of vehicles prior to a tow, which often coincides with custodial arrests, these delays often occur during the same stop.

The Other Delay ETSI

MCSO reviewed VSCF comments from a sample of n = 400 stops where deputies utilized the "Other Issue" delay in the VSCF to identify common delays when the Other Issue ETSI was selected. Results were similar to previous investigations of the Other Delay ETSI (see TSQR 17). In 2025 there were 4,311 stops where deputies indicated that some other delay was present during the stop. All comments from the sample stops were reviewed and coded based on delays described in the comments. A total of 16 categories for Other Delay ETSI were used in this process. Note that deputies often identified multiple delays during these stops that included existing ETSIs as well as different delays identified by the 16 categories. Based VSCF comments, the most common delay associated with the Other Delay ETSI was communication/education. These delays included talkative drivers or extra time needed to educate drivers about their driving behavior (31.25% of reviewed stops). The second most common Other Delay that was indicated in VSCF comments included stops with "stop process issues". (30.25% of reviewed stops). Stop process delays

included correcting paperwork, relocating vehicles after the stop was made, and drivers taking a long time to stop the vehicle. Fourteen (14%) percent of VSCF comments from "Other Issue" stops included some discussion of delays associated with manual entry of a driver or vehicle information into TraCS. Similar to data analyzed for TSQR 17, an overarching theme in the review of comments from the "Other Issues" stops was that deputies would identify multiple delays during the stops. This was most apparent in stops that were coded as "Other Issue" or "Complex Stop"," where circumstances during the stop could not be captured using single existing ETSIs or simple narratives. For these stops, deputies identified delays in comments and often selected other ETSI indicators in the VSCF. For 1.5 percent of stops reviewed with the Other Delay ETSI selected, MCSO could not identify a clear reason why the stop was delayed. This differed from the previous year's analysis which identified 5.6 percent of stops without an explanation for the Other Delay ETSI.

Appropriate Use of ETSI Indicators

In the final analysis presented in this report, MCSO utilized a random sample of traffic stops that employed ETSI indicators and a selection of stops that had no ETSI selected. We reviewed BWC footage and VSCF comments to determine whether deputies were appropriately using extended stop indicators. Analysis of agreement from the initial reviews showed high, statistically significant, agreement between reviewers and deputy documentation with agreement between deputies and reviewers exceeding 93 percent for all possible ETSI selections. This agreement was statistically significant. Agreement between reviewers and VSCF data were also statistically significant for all ETSI indicators. MCSO also coded comments from these stops to identify whether deputies documented delays associated with the ETSIs selected int the VSCF. We identified agreement between deputy comments and ETSIs selected in the VSCF to exceed 90 percent for each ETSI indicator and over 98 percent for all combinations of ETSI selections. Agreement between VSCF comments and ETSI indicators was statistically significant for all ETSI indicators. Finally, MCSO investigated whether there was agreement between VSCF comments and reviewers' evaluations of delays with deputy-selected ETSI indicators. We identified high and statistically significant agreement between these two measures with agreement exceeding 78 percent for each ETSI indicator and agreement was 94.6 percent for all possible ETSI selections. Based on this analysis, MCSO concludes that deputies use ETSI indicators appropriately and with fidelity when documenting delays during traffic stops.

CONCLUSION AND MCSO RESPONSE

The use of extended stop indicators is not a legal outcome, but a documentation measure used by a deputy when he/she encounters circumstances that delay their "normal' traffic stop. This research sought to document and describe the use of extended stop indicators used by deputies to identify circumstances during traffic stops that led to delays during the stop and validate that MCSO deputies are using ETSI's appropriately when delays occurred. MCSO found high levels of agreement between deputy-reported delays and secondary review of traffic stops. **We conclude that ETSI's are being used appropriately by deputies in the field.**

Another purpose of the research was to examine the use of the "Other Delay" ETSI and determine How deputies use the Other Delay ETSI during traffic stops. They capture delays from complex stops that include current ETSIs and situations that are relatively rare but taken together capture dynamic and fluid situations which deviate from a "typical" traffic stop. Furthermore, MCSO investigated the use of the Driving Documentation ETSI to identify common circumstances that occur during stops with these types of delays. We identified that the most common delay during a traffic stop when the Driving Documentation ETSI was selected was allowing drivers to collect and provide their license, insurance, and registration. This delay was observed during 75 percent of stops that were reviewed with the Driving Documentation ETSI selected. Driving documentation delays were observed in 100 percent of BWC reviews of stops for which the Driving Documentation ETSI was selected. Extended stop indicators are used as matching variable in the TSAR stop length benchmark, consequently MCSO is far more concerned about deputies selecting ETSI's when none are present as opposed to reviewers identifying circumstances appropriate for their use after the fact. The 100 percent agreement of blind BWC reviews in which the Driving Documentation ETSI was selected by deputies is testament that the field is not selecting ETSI's when they do not occur. This research has led to additional recommendations to further improve our data collection and understanding of traffic stop delays at MCSO. In addition to addressing the findings of this report with our internal review group, a multidisciplinary group including policy, patrol, and compliance staff to determine recommendations for additional actions in the next quarter, we welcome any suggestions from the parties or monitor to consider as well. As of now we are going to continue many of the items we have done previously to ensure accurate data collection.

- Review all stops for which the Other Issues ETSI was selected but for which there was no clear description of the delay in the VSCF and send out data validations.
- Review stops and stop data for stops which have unusual stop lengths associated with ETSI use (e.g., stops with very short stop lengths and any ETSI is selected)
- Continue the new process implemented in January 2024 whereby reviews of stops where no ETSI was selected, but which exceeded 20 minutes in length occur and data refinements be sent out if determined to be appropriate.
- Conduct internal town halls with each district explaining the results of this research and

work with District commanders to better understand each district's unique circumstances that delay traffic stops.

- Communicate with fleet management to inspect vehicles and equipment associated with a high proportion of stops experiencing technical issues.
- Discuss findings and any received suggestions from the monitor, parties and CAB with the MCSO Internal Review Group to determine any additional actions MCSO Patrol may take.

APPENDICIES:

In Appendix A we provide definitions supplied to deputies in the Vehicle Stop Contact form for Extended Traffic Stop Indicators. In Appendix B we supply a tabulation of the use of Technical Issue ETSIs by patrol vehicles to identify if any vehicles may need additional service to prevent traffic stop delays for technical issues. Note that we only list vehicles that had at least one Technical Issue ETSI selected in the VSCF.

Appendix A: Vehicle Stop Contact Form Definitions/Instructions for Extended Stop Indicators

Included below are the descriptions of the extended stop indicators provided in TraCS to assist deputies while filling out the VSCF.

Driving Documentation: Were driver's license/registration/insurance verification issues experienced during the stop? Select "Yes" if the stop was delayed due to license/registration/insurance issues. (Example: driver required additional time to produce documents or documents required additional time for verification)

DUI: Did the stop involve a DUI investigation? Select "Yes" if stop involved a DUI Investigation. (Note any specifics in the "Comments" box.)

Language: Was there a language issue experienced on the stop? Select "Yes" if stop involved a DUI investigation. (Note any specifics in the "Comments" box.)

Technical Issues: Were there any technological issues during the stop? Select "Yes" if there were technological issues during the stop. (Technological issues would include, but not be limited to MDC, TraCS, Scanner, Printer failures/resets, etc.)

Vehicle Tow: Was the Vehicle Towed from the scene? Select "Yes" if a vehicle was towed from the scene. (Note any specifics in the "Comments" box.)

Training: Did the traffic stop involve training? Select "Yes" if stop duration was impacted due to MCSO personnel training/learning. (Note any specifics in the "Comments" box.)

Other Delays: Select "Yes" if the stop was delayed due to other issues (Examples may include deputy error, education conversation, license plate seizure, traffic issues, or unspecified investigation. Note: Issue must be specified in the comments)

Search: Not technically an ETSI, this is indicated whenever a deputy indicates a search was conducted either on a person or vehicle.

Arrest: Not technically an ETSI, an arrest is marked anytime a custodial restraint or temporary custody of a person occurs. Various types of arrest are counted in this category, they are as follows:

Booked - Custodial arrest and transported/in jail

Cite and Release/Custodial Arrest - Physical custody, later released with criminal citation.

Cite and Release/No Custodial Arrest - No physical custody, released with criminal citation

Custodial Arrest/Pending Follow-Up and/or Long Form - Physical custody, released

pending follow-up/ (i.e. evidence examination/testing/collection, witness statements, etc.)

Custodial Arrest/Released Other Agency - Physical arrest, turned over to another agency (i.e. city warrant)

Custodial Arrest/Released No Further Action - Physical arrest, released with no further action (i.e. Probable cause dispelled after further investigation, decision made not to charge due to Maricopa County Attorney's Office charging standards not met).

Appendix B: Technical ETSI Use by Vehicle

Table B1: Number of Technical ETSIs per Vehicle (Percent of Stops)

Vehicle	Number (Percent)	Vehicle	Number (Percent)	Vehicle	Number (Percent)
311422	1 (10.00%)	312072	23 (8.07%)	312295	26 (10.40%)
311427	1 (100.00%)	312132	5 (15.63%)	312296	25 (4.31%)
311625	3 (13.64%)	312136	13 (15.12%)	312315	14 (4.86%)
311626	2 (4.08%)	312138	6 (15.79%)	312316	5 (4.85%)
311642	2 (5.13%)	312040	39 (33.91%)	312326	11 (61.11%)
311645	3 (15.79%)	312042	4 (13.33%)	312327	6 (50.00%)
311649	1 (100.00%)	312043	4 (18.18%)	312352	2 (7.41%)
311652	2 (8.70%)	312053	3 (100.00%)	312359	16 (7.66%)
311653	1 (11.11%)	312060	15 (37.50%)	312417	1 (9.09%)
311701	3 (6.38%)	312065	1 (100.00%)	312420	32 (24.43%)
311702	3 (2.48%)	312067	3 (100.00%)	312421	1 (25.00%)
311707	3 (30.00%)	312071	15 (15.96%)	312425	4 (4.76%)
311708	1 (100.00%)	312072	23 (8.07%)	312429	5 (15.52%)
311723	5 (5.32%)	312132	5 (15.63%)	312430	3 (18.75%)
311725	5 (17.86%)	312136	13 (15.12%)	312431	3 (20.00%)
311743	12 (4.71%)	312138	6 (15.79%)	312432	5 (1.60%)
311789	4 (2.60%)	312144	7 (21.88%)	312435	11 (10.00%)
311790	7 (4.55%)	312145	7 (31.82%)	312438	5 (62.50%)
311791	59 (26.46%)	312146	12 (24.49%)	312439	1 (50.00%)
311792	8 (17.39%)	312151	7 (58.33%)	312442	18 (41.86%)
311909	9 (11.48%)	312228	1 (14.29%)	312443	2 (6.06%)
311915	3 (37.50%)	312271	5 (71.43%)	312445	4 (18.18%)
311960	3 (9.68%)	312272	6 (10.53%)	312448	1 (100.00%)
312013	15 (5.12%)	312274	1 (50.00%)	312450	1 (33.33%)
312014	7 (50.00%)	312278	7 (5.93%)	312453	3 (3.90%)
312019	1 (2.38%)	312279	4 (5.26%)	312454	4 (26.67%)
312021	3 (1.36%)	312280	18 (26.87%)	312455	4 (30.77%)
312025	2 (7.41%)	312281	5 (10.87%)	312456	6 (3.92%)
312027	1 (10.00%)	312282	3 (25.00%)	312457	1 (2.56%)
312029	1 (2.22%)	312283	28 (8.00%)	312477	14 (20.59%)
312037	4 (20.00%)	312284	15 (10.00%)	312479	3 (18.75%)
312038	3 (10.34%)	312285	10 (1.80%)	312492	14 (8.33%)
312040	39 (33.91%)	312286	18 (8.53%)	312493	1 (2.94%)
312042	4 (13.33%)	312287	10 (15.87%)	312928	1 (100.00%)
312043	4 (18.18%)	312288	8 (7.55%)	321214	1 (100.00%)
312053	3 (100.00%)	312289	18 (10.29%)	321405	2 (100.00%)
312060	15 (37.50%)	312290	6 (2.91%)	321420	3 (50.00%)
312065	1 (100.00%)	312292	28 (10.33%)	321438	1 (50.00%)
312067	3 (100.00%)	312293	7 (2.65%)	321439	2 (100.00%)
312071	15 (15.96%)	312294	1 (11.11%)	321444	2 (66.67%)

Table B2: Number of Technical ETSIs per Vehicle (Percent of Stops)

Vehicle	Number (Percent)	Vehicle	Number (Percent)	Vehicle	Number (Percent)
321511	2 (20.00%)	322109	1 (25.00%)	322313	13 (15.54%)
321516	1 (100.00%)	322110	3 (17.65%)	322314	15 (36.59%)
321534	3 (33.33%)	322111	7 (0.94%)	322315	4 (12.50%)
321652	1 (50.00%)	322112	3 (7.69%)	322316	27 (36.00%)
321707	2 (50.00%)	322114	51 (23.83%)	322317	12 (9.16%)
321822	3 (3.23%)	322116	3 (5.08%)	322318	6 (7.32%)
321825	23 (2.73%)	322117	4 (22.22%)	322319	4 (12.12%)
321836	9 (33.33%)	322118	6 (14.63%)	322320	14 (5.74%)
321840	10 (40.00%)	322119	10 (10.75%)	322321	12 (14.12%)
321843	4 (33.33%)	322120	13 (24.53%)	322324	1 (100.00%)
321848	1 (20.00%)	322132	1 (100.00%)	322325	10 (15.15%)
321852	3 (33.33%)	322134	14 (15.73%)	322326	17 (18.89%)
321853	1 (25.00%)	322135	16 (14.68%)	322327	6 (4.92%)
321860	6 (50.00%)	322136	7 (12.07%)	322328	3 (27.27%)
321862	21 (25.93%)	322137	6 (14.63%)	322329	14 (18.42%)
321866	4 (11.43%)	322139	5 (6.49%)	322330	13 (9.77%)
321867	2 (2.06%)	322140	28 (40.08%)	322331	13 (22.81%)
321906	4 (33.33%)	322141	5 (8.77%)	322332	4 (18.18%)
321908	8 (18.60%)	322142	11 (57.89%)	322333	4 (4.82%)
321909	21 (33.33%)	322143	5 (6.67%)	322334	1 (50.00%)
321912	14 (25.00%)	322144	9 (17.65%)	322337	3 (75.00%)
321913	41 (59.42%)	322145	64 (27.71%)	322338	3 (42.86%)
321915	1 (100.00%)	322146	1 (27.71%)	322339	36 (21.43%)
321921	10 (4.05%)	322148	4 (20.00%)	322342	25 (6.78%)
321928	4 (36.36%)	322149	1 (33.33%)	322343	5 (5.88%)
321929	18 (75.00%)	322150	1 (100.00%)	322402	3 (100.00%)
321930	7 (2.86%)	322153	5 (2.43%)	322403	25 (13.97%)
321933	1 (8.33%)	322154	2 (2.82%)	322404	4 (12.12%)
321935	4 (5.06%)	322158	11 (18.97%)	322406	1 (2.56%)
321938	2 (4.76%)	322165	1 (100.00%)	322412	1 (25.00%)
321940	2 (4.76%)	322169	1 (1.47%)	332108	1 (12.50%)
321943	2 (3.17%)	322170	1 (100.00%)	332304	1 (100.00%)
321944	12 (10.71%)	322306	4 (26.67%)	332401	3 (4.76%)
321947	5 (11.11%)	322307	10 (4.15%)	332403	12 (20.34%)
322007	13 (33.33%)	322308	12 (6.45%)	332404	10 (13.51%)
322008	2 (18.18%)	322309	25 (25.00%)	332405	5 (15.63%)
322009	4 (2.78%)	322310	15 (21.13%)	332406	5 (7.25%)
322010	9 (3.93%)	322311	4 (4.40%)	332407	16 (7.69%)
322106	8 (14.81%)	322312	11 (8.59%)	332408	5 (3.97%)

Table B3: Number of Technical ETSIs per Vehicle (Percent of Stops)

Vehicle	Number (Percent)	Vehicle	Number (Percent)	Vehicle	Number (Percent)
332411	2 (20.00%)	712338	6 (21.43%)	3122172	11 (68.75%)
332412	11 (14.67%)	712341	4 (28.57%)	3122173	11 (34.38%)
332413	5 (12.82%)	712342	8 (33.33%)	3122183	1 (100.00%)
332414	3 (8.11%)	712343	6 (7.14%)	3122186	6 (1.75%)
332415	2 (7.14%)	3122125	21 (16.54%)	3122206	85 (73.91%)
332416	24 (25.00%)	3122131	3 (27.27%)	3122210	10 (83.33%)
332418	8 (26.67%)	3122132	2 (5.71%)	3122213	7 (3.85%)
332420	24 (23.53%)	3122138	14 (9.15%)	3122222	9 (52.94%)
332421	11 (15.71%)	3122150	22 (10.14%)	3122246	1 (100.00%)
332422	2 (18.18%)	3122155	2 (66.67%)	3214111	1 (11.11%)
332423	9 (19.15%)	3122157	1 (100.00%)	3214112	5 (27.78%)
332424	11 (36.67%)	3122162	2 (66.67%)	3214113	1 (50.00%)
332425	2 (16.67%)	3122169	16 (11.59%)	PM2301	5 (100.00%)
512101	13 (0.70%)	3122170	3 (11.54%)	PM2302	3 (3.33%)
512102	42 (2.84%)	3122171	4 (50.00%)	PM2305	15 (12.71%)